

Kansas Farmer



- **Newest Things in Poultry Feeding.....**Page 10
- **Are Your Income Taxes High Enough?** Pages 5 and 51
- **Sitting Pretty in Lyon County.....**Page 21

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WHOSE WORD WILL YOU TAKE?


Sure, any tractor tire can claim that it bites deeper, cleans better and pulls heavier loads. But what you want is proof. So just remember:


Year after year, national surveys show that more farmers prefer Goodyear Super-Sure-Grips than any other make—by a tremendous margin! Why? Because farm experience proves they deliver "the greatest pull on earth"!

There's a down-to-earth, grass-roots verdict you can't ignore. Why take less than best — when Goodyears cost no more?

3 REASONS WHY GOODYEAR'S YOUR BUY!

 **STRAIGHT LUGS!**—Goodyear lugs are ruler-straight and come closer together at the shoulders—providing the time-proved, wedge-like bite that holds the soil in place and gives this tire more traction—gives your tractor more pulling power!

 **O-P-E-N C-E-N-T-E-R** pioneered by Goodyear. Most widely imitated of all tractor tread designs because farm experience proves it the most efficient — *when combined with straight lugs.*

 **NO WEAR SPOTS!** — Goodyear straight lugs work against the soil evenly, pull evenly, wear more evenly — *to lengthen tire life and make your tire dollars go farther.*

FIRST in Traction! FIRST in Long Wear!
FIRST in Popularity!



GOOD YEAR

Super-Sure-Grip Tractor Tires

First Showing!

THE GREAT NEW 1952 INTERNATIONAL HARVESTER



Refrigerators

with Exclusive
Tri-Matic
DEFROSTING



DEFROSTS ITSELF AUTOMATICALLY
EVERY NIGHT, OR YOU CAN DEFROST
IT ANY WAY, ANY TIME YOU LIKE

Simple as A-B-C

A. AUTOMATIC

Fully automatic defrosting. Nothing to do. Frozen foods stay brick-hard!

B. BY MANUAL CONTROL

Fast, electric defrosting any time you want it. A welcome convenience!

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Defrost slowly if you wish. Handy when you clean refrigerator interior!

Color Inside—Color Outside—they're *feminineered*!

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8 SIZES
8 PRICES from **\$229⁹⁵**

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Two Successful Poultrymen

... Their ideas differ, which just proves poultry management can be flexible enough to fit most Kansas farms

By Dick Mann

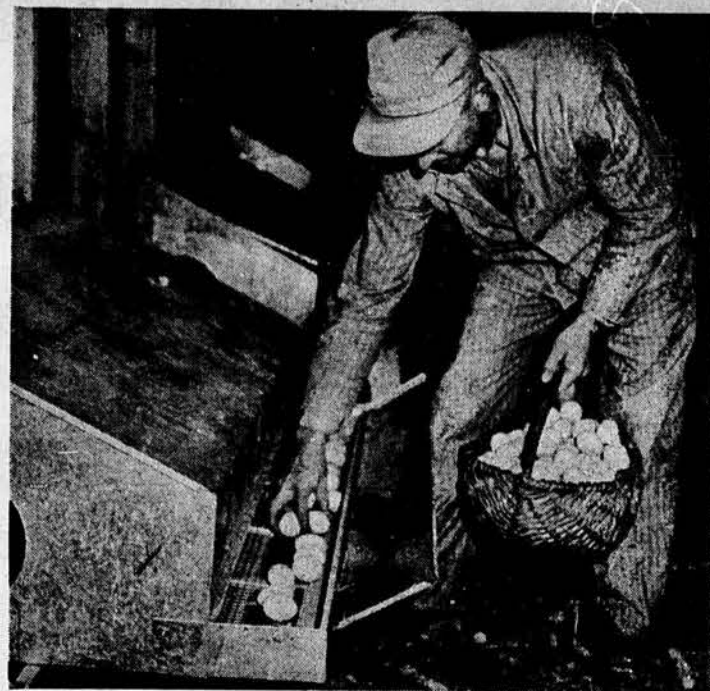
GOOD poultrymen don't all follow the same rules of management. We were impressed with this fact recently when we talked to C. G. Steele, Jr., of Washington county, and Carl Swenson, of Cloud county. Both young men are successful poultrymen and are keeping abreast with latest information of flock management. Yet they differ in many details of management.

Perhaps that is a good thing, because it means poultry management can be flexible enough to fit conditions on your farm. Let's see what ideas are being used by Mr. Steele and Mr. Swenson. Then, you can compare what they are doing with your experience.

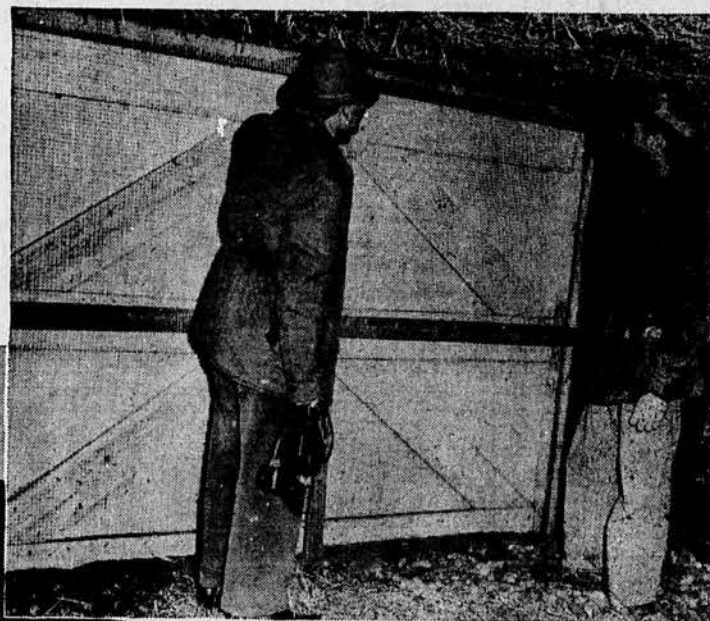
Three years ago Mr. Steele built a new 26- by 70-foot henhouse with a 10-foot feed room in the center and an egg cellar under the feed room. "I built this house," he says, "on the theory you must have enough chickens to justify the time they take, or drop poultry as a farm project." The new house is of straw-loft type.

Here, briefly, is the management program on the farm as outlined by Mr. Steele: "We get our chicks early—between March 15 and April 1—never later than April 1. That means they often start laying the latter part of August or early in September, and we get advantage of a high egg market during fall.

"An electric brooder is used for chicks. Range shelters on clean ground are a 'must.' To save labor while birds are on range we use automatic waterers and self-feeders outside shelters for feeding home-grown grains. [Continued on Page 53]



ROLL-AWAY COLONY nests, 3-times-a-day egg gathering, and an egg cellar help Carl Swenson market a high percentage of top-quality eggs from pullets purchased in February and housed before harvest. "We do this to get them out of the way and to insure top egg production during fall months," says Mr. Swenson.

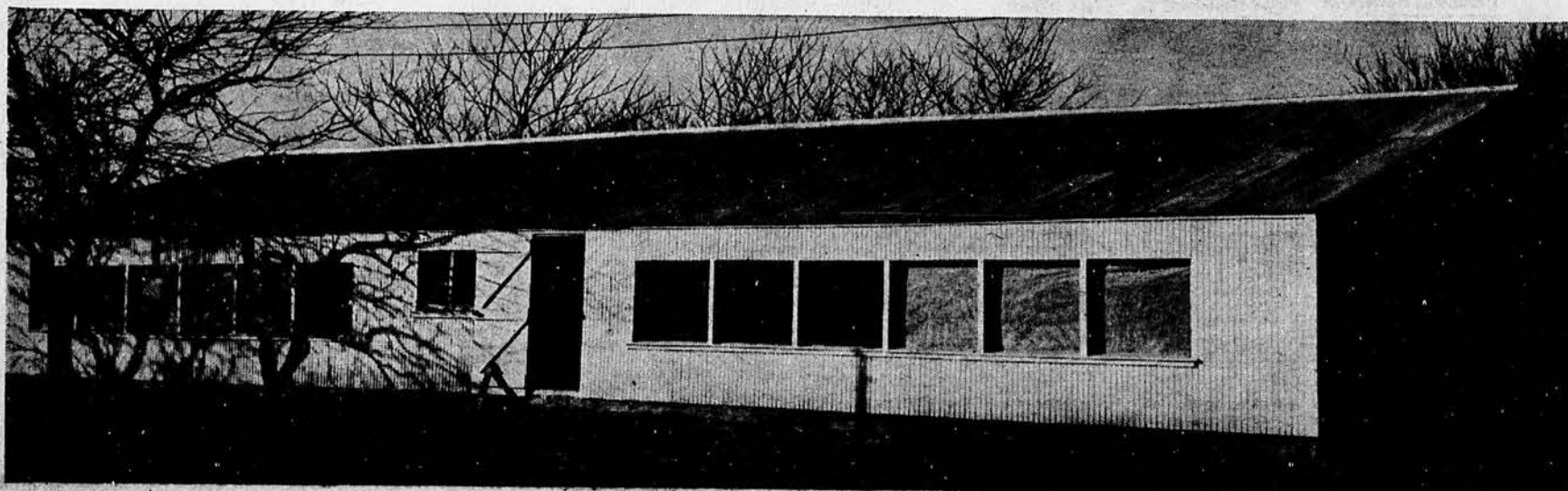


BY PUTTING heavy screen panel over double door entrances at both ends of laying house, C. G. Steele, Jr., right, of Washington county, can turn his laying house into giant range shelter during hot weather. Here he shows arrangement to Everett McClelland, county agent. Most poultry experts say more laying houses are inadequate for summer weather than for winter cold. Giving pullets plenty of cool air in hot months is most important for holding up egg production.



HERE MR. STEELE shows Agent McClelland how he keeps fresh, warm, running water before his layers. "Pullets need fresh, clean water in front of them all the time," he says. "This means automatic or continuous running water is needed, and any waterers used must be cleaned frequently and flushed out."

THIS NEW 30- by 72-foot laying house on Carl Swenson farm, Cloud county, will house 600 pullets and is typical of type required for modern poultry raising. Trend among better poultrymen over U. S. is toward larger laying houses and larger pens, as both contribute to better management, it is claimed.



Kansas Farmer

News and Comment

Corn Borer Score

EUROPEAN corn borer score to date shows it is known to exist in 1,456 counties of the Nation. State surveys show the borer was found during 1951 in 51 counties not previously known to be infested. And the Department of Agriculture reports the level of infestation last year was generally low. We hope it won't speed up in 1952!

Unfortunately, Kansas has been invaded by this pest. Loss to Kansas farmers by European corn borer in 1951 has been estimated at \$800,000 by C. C. Burkhardt, of Kansas State College. For his check-up about 10 cornfields were inspected in each county in the state. Actual counts of borers were made. One borer to the stalk in corn reduced the yield 3 per cent. An average of 3 borers to the stalk, as was the case in many Kansas cornfields last fall, meant a 9 per cent loss.

Government Spending

TAKE a good look at the map of the United States on this page. The Federal Government proposes to spend in the next fiscal year, more than all of us in the shaded part of the map will earn in a year. This map was prepared by the Chamber of Commerce of the United States. Just to say it another way, the 1953 Federal budget of 85.4 billion dollars is greater than all the incomes of all the people—including you—west of the Mississippi river. The U. S. Chamber of Commerce states:

"If this map is startling, that's because the planned expenditures under the new budget are startling, too. Here's how we figured it:

"The Department of Commerce calculates the income payments to individuals in each state. That includes all money that goes to individuals in the form of wages, salaries, interest, rent and dividends. . . . (This includes farm income.)

"This map is based on figures developed by the Department of Commerce. Latest state income figures available are for 1950. We could have used those, but it would have been an unfair comparison, because 1953 incomes will undoubtedly be at a higher level. To take care of

this, we estimated 1953 total income payments at 15 per cent higher than 1950, for each state.

"Then we started with California and began working eastward, adding states until we got to 51.2 billion dollars of incomes, equal to military spending. That took us part way into Kansas. We continued the process for foreign aid and all other Government spending, and found the total equal to all the 1953 incomes of all the people west of the Mississippi, with 96 per cent of Wisconsin and the state of Mississippi thrown in."

The different shaded areas show how much money is to be spent for the military, for foreign aid, and for other government purposes. Studying this map will give you a better understanding of the amount of money—your taxes among others—the Federal Government plans to spend.

New Era in Farming

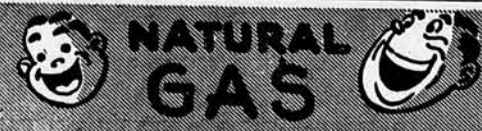
NEW WAYS of living, new methods of production are coming to Kansas farms. The changes evolve thru expanding use of Liquefied Petroleum gas in homes, farmsteads and fields.

LP-gas is as old as the refining industry. But its widespread application in mechanized production and better living is as new as tomorrow. American enterprise and American ingenuity made it so, by converting waste into a manageable fuel, and by fashioning appliances and equipment to make it useful to agriculture.

Changes LP-gas has made in farm operation and homemaking amount to a revolution. With this issue, *Kansas Farmer* brings you a whole section of news and information about that revolution. These pages, 33 to 43, tell how you, too, can take the drudgery out of household duties, ease chores and lower fieldwork costs with Blue Flame Magic!

Better Crops Ahead

NEW crop plants and improved methods for growing them have put the United States at the forefront in agricultural production. According to the 50th annual report of the Bureau of Plant Industry, more than 6,000 plant strain



Babysitter to parents: "I know you said your little boy is as good as gold, but after you left for the movies he went off the gold standard!"

"Best way to double your money is to fold your greenbacks and tuck them in your pocket."

"No, teacher," said little Jimmy, "I don't know Lincoln's Gettysburg address; I didn't even know he lived there!"

"Tho you first learn of the three R's in school, they run all thru life—at 17 it's romance, at 37 it's rent and at 67 it's rheumatism."

"The only person to get even with is the one who has done you a good turn."

"I don't think I look 35, do you, Sarah?"
"Not any more, Lillian."

Teacher: "What is your idea of civilization?"

Student: "I think it an excellent idea. Someone should start it."

introductions were made in 1951. Of these, 1,500 were fruit and vegetable items, 3,800 were field crops and 1,000 specialty crop plants. Of 859 new field crops actually developed in the last 25 years, 350 were corn hybrids, 48 grass, 67 sorghums, 25 flax, 76 various legumes, and 293 wheat, oats and barley varieties.

Among new crop varieties released last year were 6 corn hybrids resistant to damage by European corn borer. Then there was a nematode-resistant lespedeza, an early large-bolled cotton, a high-yielding sorgho, a superior fall-seeding oats and a potato for the Midwest with resistance to both late blight and scab. Other new varieties of 1951 are a winter barley, a hybrid onion, a hardy crown-rust oats variety for pastures, a canning-type peach, and new plums.

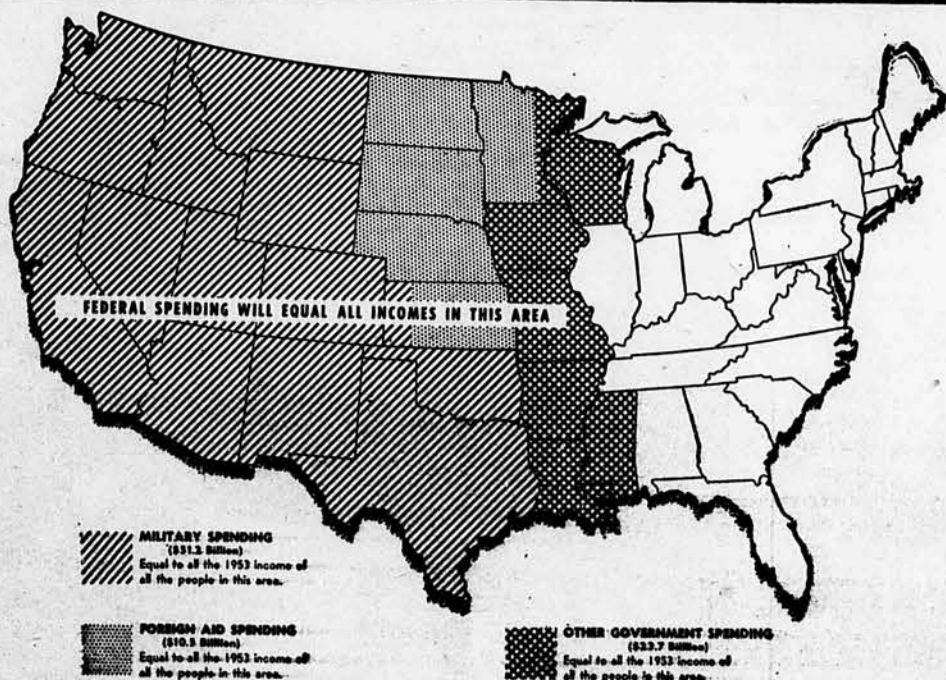
Outstanding achievements of the agricultural scientist in past years give promise that many more varieties will be forthcoming. New crops to come will give much higher yields and better-quality feeds and foods. For example, to date, corn hybrids have increased yields by at least 30 per cent or a total of three-fourths billion bushels each year.

A continuing research program in developing these new varieties is necessary for many reasons. Basic information is needed in breeding new kinds of crops. These facts are used over and over by many breeders in finding a superior crop that is resistant to hazards of production. Once tested, the improved crop must be increased and distributed and a pure source of seed maintained by crop improvement associations.

All these steps are vital in producing food for our growing population. And the plant scientist is the one who is on the ground floor of exciting discoveries, obtaining great and lasting personal satisfaction in agricultural development.

Important Crop Booster

ONE OF the most powerful aids in boosting crop yields is commercial fertilizer. Its use last year in Kansas reached a new high record, according to Roy Freeland, secretary of the Kansas State Board of Agriculture. Taking figures from manufacturers' reports he finds 175,000 tons were sold in Kansas during 1951. This is an increase of 6,000 tons over 1950. Sedgwick was the leading county with 4,130 tons of fertilizer reported. Shawnee was second with 3,913 tons. Cherokee, Crawford, Labette and Marion reported sales of more than 3,000 tons.



SPENDING MAP: We got this map from the Chamber of Commerce of the United States. It shows the 1953 Federal budget of 85.4 billion dollars is greater than all of the incomes for one year, including yours, of all the people west of the Mississippi river. That is a lot of money for official Washington to spend in one year.

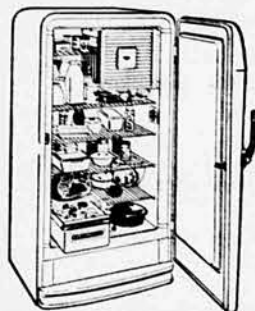
MOTHER'S ELECTRIC KITCHEN CAN BE A "PRIDE AND JOY" WITH Frigidaire

Yes, the Farm homemaker can have a full-time housemaid for pennies per day when she makes maximum use of Frigidaire's economical, dependable home appliances.

The Frigidaire refrigerator, electric range and home freezer (representative models shown below) teamed up with the Frigidaire Automatic Washer, dryer and ironer and the electric water heater and cabinet sinks

—all these combine to give the Farm home the freedom and convenience of city dwelling, yet keep all of the good living that characterizes life on the farm.

Why not plan to make this a Frigidaire Year—with Frigidaire appliances that will lighten work, save money and add comfort and convenience the year 'round?



This 8.2 cu. ft. refrigerator is roomy and priced popularly at only \$199.75.



The 30-inch automatic electric range with the largest home oven ever built is ideal for the farm home and priced at only \$226.75.



Here's the 9 cu. ft. Frigidaire Food Freezer (also available in 12 cu. ft. and 18 cu. ft.) which can soon pay for itself in economy. Only \$394.75.

SEE FRIGIDAIRE APPLIANCES AT ANY OF THESE QUALITY DEALERS

ABILENE Shockey & Landes	EL DORADO Home Appliances, Inc.	LAKIN Hart & Co.	PHILLIPSBURG Newell's Appl. Store
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CLYDE A. Seifert Jewelry	HUTCHINSON Graber Furniture Co.	NORTON Horney's, Appl.	WATERVILLE Hernady Hdw. & Furn.
COFFEYVILLE Southwestern Sales Co.	INDEPENDENCE Sell-Orr, Inc.	NORWICH H. S. Eshnaur & Sons	WELLINGTON Nichols Electric Co.
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COLDWATER Rural Gas & Elec. Co.	JEWELL Jewell Lumber Co.	OBERLIN Anderson & Son	WICHITA The Appl. Center, Inc.
COLUMBUS Brown Refrigeration Service	JUNCTION CITY Waters Appl. Store	ONAGA Tessendorf Furn. Co.	135 North Broadway
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COTTONWOOD FALLS Hamm Electric Co.	KINGMAN Kingman Radio Shop	OSWEGO Williamson Stores, Inc.	121 East 21st
COUNCIL GROVE Ramsey & White	KINSLEY Maytag Appliance Co.	OXFORD Abildgaard Hdw. Co.	Geo. Innes Co.
DIGHTON Multi Electric Service	KIOWA Fisher-Wood Hdw.	PARSONS Ellis Radio & Appl. Co.	Vowel Furniture Co.
DODGE CITY Newkirk's	LACROSSE Pittman & Pittman	PARTRIDGE Eckman Radio & Elec.	Whitcomb Appl. Co.
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			WILSON Weber Hardware
			WINFIELD Winfield Electric Co.
			YATES CENTER J. C. Schnell

Now That You Have Electricity

THIS being the month when major changes in temperature are commonplace, the ready source of heat available in numerous electrical appliances can be appreciated. Not only will even heat make for stronger animals, but cases are reported in which application of electric heat to a nearly-frozen pig brought the youngster around.

Raising broilers more than one producer has made money by installing heat lamps. Authorities figure about 75 to 100 chicks per lamp is an efficient figure, providing wiring delivers the required amount of power.

There are always ingenious variations in use of any electrical device. An electric chick brooder, for instance, has served in many cases as a lamb brooder—and quite successfully. Then there always are these electric heating panels, plates of tempered glass backed by a grid of aluminum that deliver infrared rays. These can be used as chick, pig or lamb brooders wherever there is an electric outlet. With a thermostat to control temperature, a healthy, even heat is provided.

There is a clever heating panel to provide human comfort, too. It is contained in a picture that hangs on the wall in a hard-to-heat corner of a room. The picture thus radiates heat, and is both decorative and useful.

A heating device has come to our attention in the form of electric logs for the fireplace. Equipped with special wiring for simulated flame effect, the logs draw 1,000 watts from a standard 110-volt circuit.

The beauty of electric heating lies in the even temperature which can be had thru thermostatic control. Even baby bottle warmers are marketed today that bring the formula up to the desired temperature and keep it there. On one model, a dome is provided that will hold the steam and thus sterilize the nipple as the bottle warms.

You ladies with steam irons may be more than slightly interested in a new liquid that, when added to the water in the iron, creates a scent that is transferred to the clothes being ironed. Either pine or lavender are available.

We have spoken before about intercommunication systems for the farm. Now we hear of a system that can use the lighting circuit as a carrier. The telephone arrangement just plugs into any outlet and a set for the home, one for the barn or another building and perhaps one for the workshop would be convenient and timesaving.

We read of an Iowa farmer who bought up some old telephones from a company that was modernizing its system and installed his closed circuit

intercom on his farm. Altho he needed to string wire to carry the messages, the electric supply powered the circuit with a doorbell transformer to step down the voltage.

The headlight dimmer switch on your car or truck may be useful after the machine turns to junk. We heard of one farmer who mounted the switch in one of his workshop circuits and thus could control many of his power tools by merely pressing on the switch. The control could be located so it could be pressed either with the hip or the foot, thus leaving both hands free.

Speaking of workshops, a new portable fluorescent lamp which delivers 500 foot-candles of light at a 3-inch working distance can be a sight saver in dark corners. Developed for workmen such as jewelers, tool and die makers or hobbyists, the small light is adjustable and can be carried in one hand.

A line of fixtures now being marketed includes a fluorescent tube formed in a circle around an incandescent lamp covered by a bowl. The whole thing will screw into a ceiling socket.

A new switch is now manufactured which can be installed on any lamp, radio or appliance cord in about 5 seconds. Contact with the wires is made by sharp elements which pierce the insulation in the right spots as the jacket is snapped around the cord.

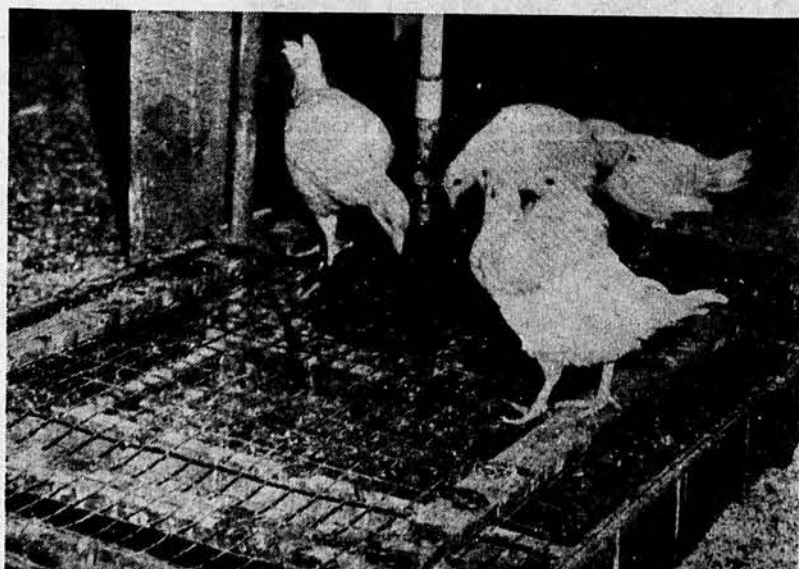
Many people are offering tips to housewives on how to make their electrical repairs. It is well to know the fundamentals of electric circuits and what can be done to keep them operating. It also is well to know that certain conditions can produce serious results, also that improper wiring may invalidate your fire insurance.

We suggest that professional help be engaged for any change in the house or yard circuits, unless considerable study has been given to loads and capacities. Ordinary home repairs of plugs, connections or broken cords can be done by amateurs.

There are 2 or 3 things to check if an appliance fails to function that might save a repairman's call. Check the fuse box. Is a fuse window burned and black? With a small lamp you know will work, check the circuit on which the ailing device has been operating. Then, before you look further into the matter, disconnect the cord. That is advice which cannot be repeated too often.

Are you one of those guys who can't get used to an electric razor? Perhaps you would be interested in an electric blade sharpener. It hones and strops a blade to keenness in 15 seconds, and will repeat the process on the same blade a hundred times or so.

Good Watering Set-up



HERE IS AN IDEAL automatic watering set-up for the poultry house. Pipe is an inverted U with cup suspended from above. Area around water is protected from droppings by wire screen covered frame.



Let's have another cup of coffee!

No corps of men in the world are more alive to their responsibilities than "Trouble-Shooters" whose job at every hour of day or night in any kind of weather is to see that electric service is restored as soon as possible after interruption.



This weather-beaten Trouble-Shooter probably doesn't know you would like a second cup of coffee. But it takes electricity to keep your coffee warm and tasty, the way you like it—and, that's one reason he's up on a storm-lashed power pole.

He'll stay there, too, till he gets your line repaired—in spite of rain or lightning . . . snow, or sleet . . . or bustery winter winds.

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See one of our representatives or your local electric dealer. They have many plans and ideas that will be a great help to you in selecting these new modern appliances for the home or laborsaving items about the farm that pay for themselves in a short time.



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Western Light & Telephone Company Kansas City Power & Light Company
The Kansas Power and Light Company

Just what do folks mean
when they talk about . . .

"Antibiotics and Poultry"

By DR. PAUL E. SANFORD, Poultry Nutritionist, Kansas State College

THE term poultry includes all domesticated birds, such as chickens, ducks, geese, guineas, swans and turkeys. However, knowledge to date concerning use of antibiotics in poultry feeding is limited to chickens and turkeys.

Just what is meant by the term antibiotic? Antibiotics are substances (drugs) which are produced by living organisms which inhibit, resist or kill other living organisms. A new concept in poultry feeding which overlaps the field of nutrition, medicine and bacteriology is rapidly being developed.

Use of antibiotics in poultry feeds started less than 3 years ago. It was not until April 1949, that Jukes and Stokstad, of Lederle Laboratories Division of American Cyanamid Company, announced a new growth factor in aureomycin fermentation products active for chicks in the presence of adequate amounts of all the known vitamins, including vitamin B₁₂.

Thus during the surprisingly short span of a little more than 2 years, the poultry industry has witnessed the development of antibiotic feeding—from its discovery to its use in starting and growing rations thruout the industry. As a result of action taken by the Association of American Feed Control officials, October 4, 1950, an Antibiotic Feed Supplement has been standardized to contain a minimum of 1.0 gram of antibiotic per pound and having growth-promoting properties.

Still Much to Learn

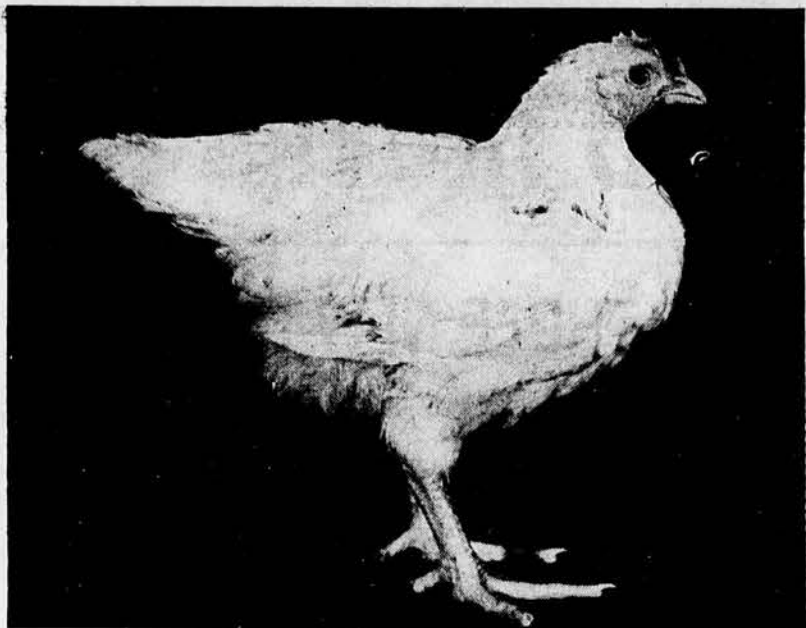
Not too much is known to date concerning the specific functions and explanations of just how antibiotics work. However, it appears antibiotics function as a sparing action of vitamin B₁₂ and thus indirect sparing of methionine and choline. Dr. H. R. Bird, USDA, Beltsville, Maryland, has reported that antibiotics decrease the protein requirement of chicks. There have been 5 or 6 theoretical explanations as to the "how" of the miracles of antibiotics. In general, it appears that the 10 to 25 per cent growth stimulating or permitting effects of antibiotics are associated with the influence on the microflora of the intestinal tract.

Research at Kansas State College

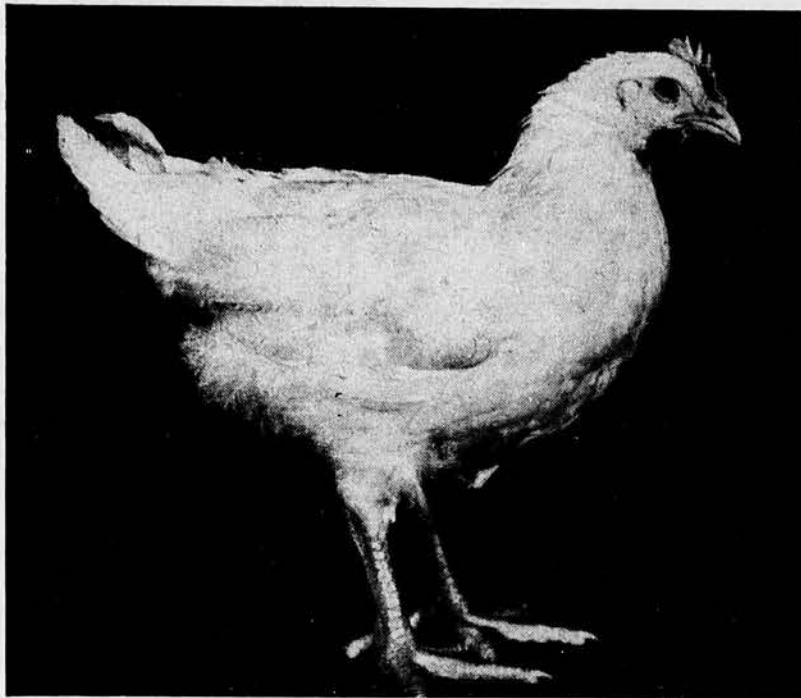
Antibiotics used for experiments with poultry at the Kansas Agricultural Experiment Station include aureomycin, bacitracin, penicillin, streptomycin and terramycin. Various levels

of antibiotics and vitamin B₁₂ have been used with vegetable and animal protein basal starter and broiler diets. Results of 15 experiments conducted at this station involving use of 3,000 chicks, some of which were battery reared and some floor brooded, have not consistently shown one antibiotic feeding supplement to be superior to another; however, as other research workers have observed, streptomycin or streptomycin and vitamin B₁₂ have given poorest growth response.

Experiments conducted at this station substantiate finding of others in that a vegetable protein basal diet properly supplemented with vitamin B₁₂ and antibiotics has given results equal to or superior to diets containing animal protein (fish meal and meat and bone scraps). Furthermore, a combination of antibiotics and vitamin B₁₂ gives better growth than either one



EIGHT WEEK-OLD Kansas Strain White Plymouth Rock male chick selected to be nearest average weight of group. Fed Vegetable Protein Basal Diet. Weight 1.5 pounds.



EIGHT WEEK-OLD Kansas Strain White Plymouth Rock male chick selected to be nearest average weight of group. Fed Vegetable Protein Basal Diet supplemented with Vitamin B₁₂. Weight 1.9 pounds.

alone and chicks have consistently produced improved feed efficiency when the diet was supplemented with an

antibiotic. Supplementation of a basal diet, containing fish meal and meat and bone scraps, with vitamin B₁₂ has given little if any growth response; whereas supplementation with antibiotics or a combination of vitamin B₁₂ and an antibiotic feed supplement has produced an appreciable increase in rate of growth.

The photographs illustrate the additional growth obtained when the vegetable protein basal diet was supplemented with vitamin B₁₂ and vitamin B₁₂ and the antibiotic aureomycin. The addition of 0.25 per cent of the vitamin B₁₂ and Antibiotic Feed Supplement resulted in an increase of growth of 28.6 per cent, as compared with the basal alone and 10.9 per cent as compared with the basal supplemented with 18 milligrams of vitamin B₁₂ per ton of feed.

Increase in Egg Production

Recent workers have reported that the antibiotic aureomycin has been found to give an increase in egg production under certain conditions. Couch, at the Texas station, has observed increases of 5 to 10 per cent in egg production when 1 per cent of a vitamin B₁₂ and antibiotic feeding supplement were included in the diet. Long term egg production records suggest the increase in egg production may be partly due to an advance in sexual maturity. In the past, it has been believed the vitamin B₁₂ content of an antibiotic feed supplement was the chief value for layer and breeder rations; however, it now appears that at least some of the antibiotics may complement the vitamin B₁₂ in aiding in maintaining high egg production, good health and high hatchability.

Turkeys Do Even Better

Numerous research workers have reported that turkeys respond even bet-

ter to antibiotic supplements than chickens. In many experiments poult have been found to average 15 to 25 per cent faster growth when antibiotics were added to an otherwise good ration. Elimination of culls or stunted birds and the over-all uniformity as well as reduction in mortality is gratifying. Experiments have shown that runt turkeys respond dramatically to aureomycin in somewhat the same way as runt pigs respond.

The growth-stimulating or permitting effect of antibiotics fermentation products is most pronounced in turkeys up to 12 weeks old. Altho work to date has not clearly demonstrated the necessity of antibiotic fermentation feed supplements in older turkeys, it would seem reasonable to consider use of Antibiotic and Vitamin B₁₂ Feed Supplements for their beneficial effects in cutting down general mortality, improving feathering and appearance, and for the possibility of improving or insuring good egg production and hatchability.

Economy of Feeding

Savings in dollars can be made because less feed appears to be required to produce the desired market weight. It is quite evident, in general, the feed conversion is better when feed supplements are derived from antibiotic fermentation. This advantage is most striking in respect to an all-plant ration. Savings in feed usually will pay for cost of the Antibiotic and Vitamin B₁₂ Feed Supplement used. It has been said the reduction in mortality and savings in equipment and man-hours because birds reach market weight earlier will be profit to the poultryman.

Summary

With poultry, it appears antibiotic supplementation results in (1) increased growth, (2) reduction of mortality and (3) increased feed efficiency.

The practical application of the discovery of growth-promoting activity of antibiotics and the manufacture of crude sources of such stimulants is truly a remarkable development.

Salt Removes Egg

The darkest egg stain may be removed from silver by taking a pinch of table salt between thumb and finger and rubbing it on spot with end of finger.—R. S.

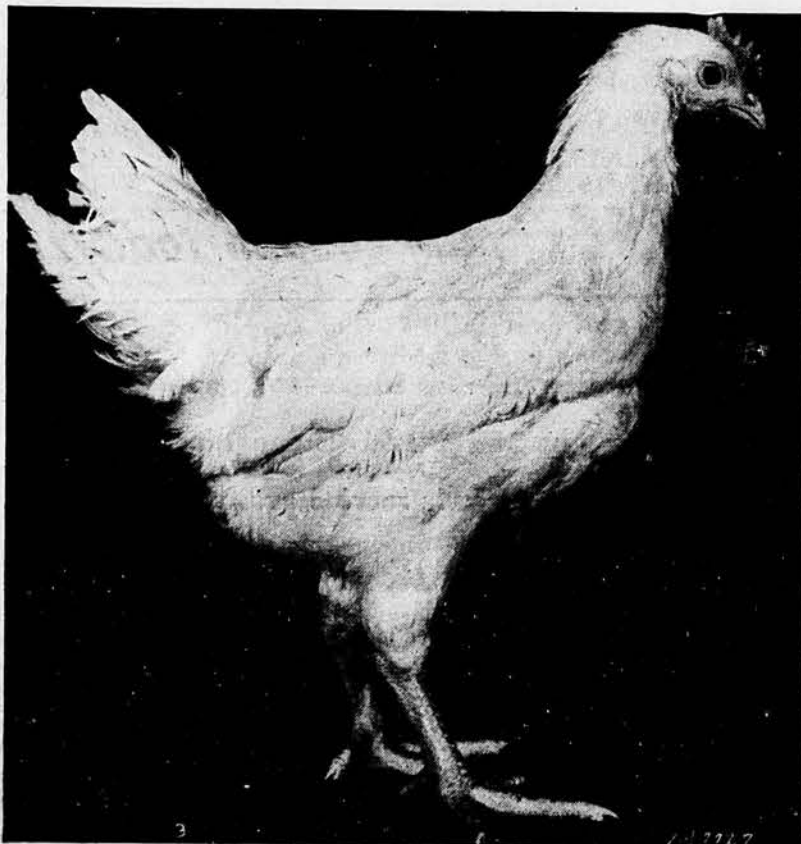
Increase Poultry Profits

Outlook for poultry business in Kansas for 1952 is bright; there are more chickens on farms, increased egg production and more chicks hatched. For aids in your poultry business, write us for these Kansas State College Experiment Station publications:

Bulletin No. 335—Capon Production

Circular No. 168—The Progeny Test in Poultry Breeding.

Both are free. Just address Farm Service Editor, *Kansas Farmer*, Topeka.



EIGHT-WEEK-OLD Kansas Strain White Plymouth Rock Male chick selected to be nearest average weight of group. Fed Vegetable Protein Basal Diet supplemented with Vitamin B₁₂ and Antibiotic Feed Supplement (Aureofac). Weight 2.2 pounds.

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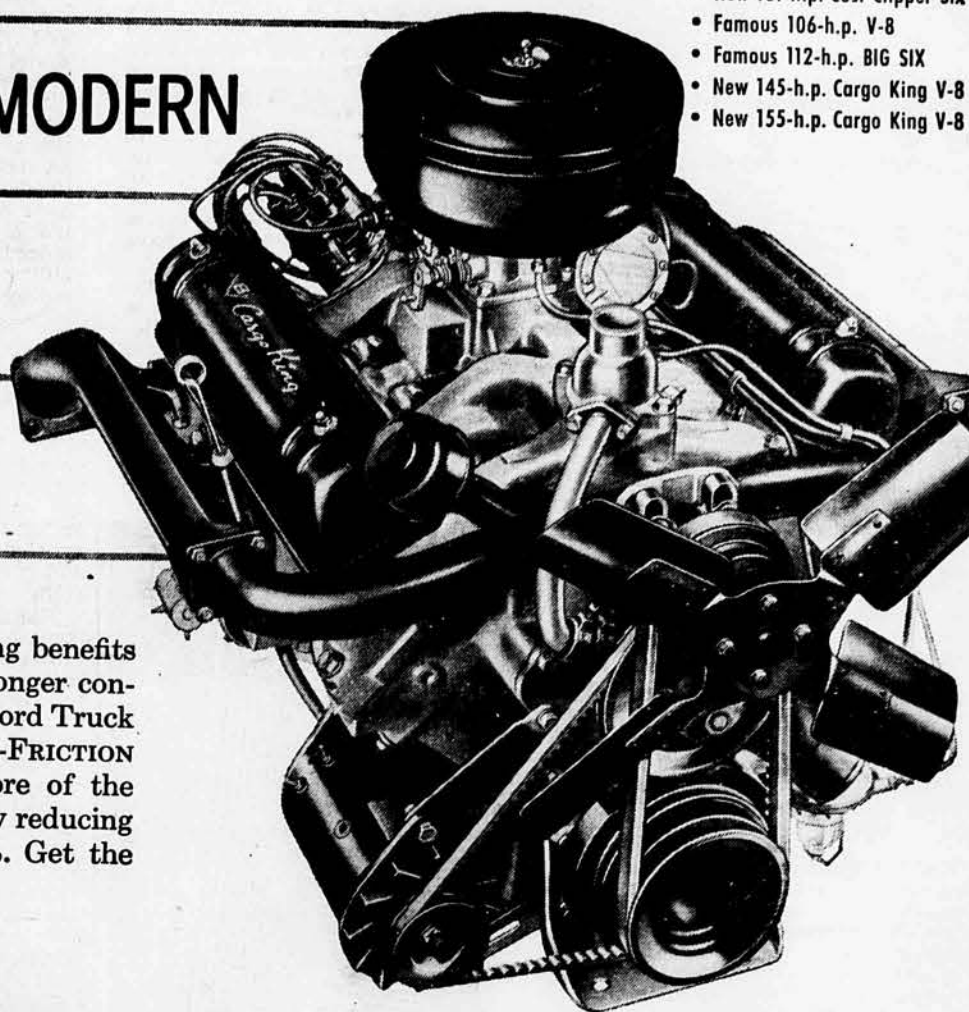
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The "Newest Things" In Poultry Feeding

By DR. PAUL E. SANFORD, Poultry Nutritionist, Kansas State College

POULTRY differs markedly from other livestock in their make-up, function and nutritional requirements. These differences must be considered in formulating poultry rations. Less than a generation ago, poultry nutrition was a simple thing. Little was known about vitamins, amino acids and minerals essential to growth and reproduction.

Today, we know more about nutrient needs of poultry than of any other farm animal. Great strides have been made in recent years in improving poultry rations and reducing costs of poultry meat and egg production.

New Vitamins Discovered

New and improved forms of various vitamins are being discovered and produced for use in poultry feeds. For example, synthetic, crystalline vitamin A is now available. It has been found to be more stable than some natural forms of vitamin A found in fish oils, fish and liver meals. A new yardstick or "unitage" has been worked out for synthetic D-activated animal sterol and is called the "International Chick Unit."

The result is a restatement of the recommended daily allowances of vitamin D for poultry. The previously recommended vitamin D unitage levels per pound of feed need to be reduced 25 per cent to conform with the definition of the International Chick Unit.

Isolation of vitamin B₁₂ has marked a new era in poultry feeding and in formula feed manufacture. Recent studies have indicated vitamin B₁₂ will largely replace the chick's requirement for animal protein during early life. Vitamin B₁₂ is capable of replacing the active fractions from cow manure, liver meal and fish solubles. Presence of vitamin B₁₂ in poultry feeds has been shown to be essential for satisfactory reproduction, high hatchability and rapid growth.

In the past nutritionists have stated vitamins A, D and riboflavin were 3 troublemakers, or more-likely-to-be-deficient vitamins in poultry feeds; today vitamin B₁₂ should be added to the group.

High Energy Rations

High energy feeds have entered into the poultry feeding picture. Poultry nutrition research on vitamin requirements has made this possible. Development of high energy feeds has interested research workers in all parts of the country and many practical adaptations have appeared. The new type of feed, that lowered fiber to new levels with increasing energy, coupled with advances in breeding, produced results in growth and feed efficiency that have meant more dollars to the poultryman.

Nutritional research showing the need for new food factors, many of which are required in minute amounts, has brought about research on food production machinery that has enabled feed manufacturers to add the small amounts of vital ingredients accurately and thoroughly mixed in their products.

One of the newest things in poultry feeding has been use of high energy rations for egg production. These rations are similar to those used for broilers. Investigators at the Oklahoma Experiment Station have reported a 10 to 15 per cent reduction in amount of feed required per dozen egg produced. Furthermore, egg production averaged 17 per cent higher with the high energy rations than with the standard ration containing a lower-energy level. It appears the hen's requirements for certain vitamins are further increased when a high energy type of layer-breeder ration is used.

Helpful to Poultry

Use of drugs in poultry feeding has greatly increased and has become more and more popular. Discovery of antibiotics and their growth permitting or stimulating effects has marked another new era in poultry feeding and formulation of ration. Vegetable protein basal rations properly supplemented with Vitamin B₁₂ and Antibiotic Feed Supplements have rapidly gained in popularity and use.

Use of drugs in feeds for control of prevention of coccidiosis and black-head has been greatly accelerated. To-

day, poultrymen all over the country appear to demand this service from feed manufacturers. Use of drugs in feeds as worming agents for poultry also has been shown to be effective. It is believed use of drugs in feed, particularly on a preventive basis, has been most helpful to the poultry producer.

What Scientists Have Found

Additional studies have demonstrated the interrelationship of the amino acid tryptophan and the vitamin niacin. It has been found tryptophan can replace niacin, but niacin cannot replace tryptophan. The relationship between vitamin B₁₂ and pantothenic acid has also been demonstrated. It appears the level of vitamin B₁₂ required depends on the level of protein fed.

A relatively new factor called the Citrovorum factor is believed to be interrelated with vitamin B₁₂, folic and ascorbic acid. The Citrovorum factor is said to be part of an important enzyme system required for growth and for metabolic processes.

Changes in Feed

Various alterations of physical forms of feeds have continued to gain in popularity and use. It appears for starting chicks and poults granules (crumbles or tasties) are preferred to pellets. Granules have also been used for laying hens; however, pellets are still used more widely.

A good example of changing the physical form to improve palatability is rolling or pelleting of ground milo.

Bulk Delivery of Feeds

Another of the more recent things in poultry feeding has been development of bulk handling and delivery of poultry feeds from feed manufacturer to consumer. In areas of dense poultry population and in specialized poultry producing areas, bulk delivery has been found to be labor-saving, more economical and satisfactory. With this system, the feed is run directly into large trucks equipped with unloading mechanisms so upon arrival at the poultry farm, it can be unloaded into storage bins just as the cereal grains have been handled in the past.

Automatic Feeders Popular

Automatic poultry feeders are rapidly replacing hand-feeding methods on larger poultry farms. It has been said as a result of competition, prices of feeders have been reduced and the poultryman keeping around 1,000 broilers or layers can afford to install one.

Competition also has brought about rapid improvement in feeder design. Feeders are now available for feeding mash, pellets and grain. It appears 2 things have accounted for the gain in popularity of automatic poultry feeding. First, substantial savings in feed wastage have been realized and, second, labor requirements for feeding have been practically eliminated.

Summary

Latest developments indicate that important new unidentified factors exist—factors such as the whey factor. It is apparent that it will be some time before the last of the growth and productivity stimulating factors are obtained. The important thing is that as new factors are obtained, still greater progress is being made in increasing the rate of growth and decreasing the feed required per unit of gain or per dozen of eggs. Thus it behooves the poultryman to watch closely the new developments in feeding and to apply the newer knowledge wherever it is practical.

The big objective must always be, the best feeding results at the lowest possible cost. Each ingredient has a place in the ration only to the extent that it provides desired nutrients at the lowest cost. There are really no essential feed ingredients, only essential nutrients.

Strengthens New Brush

Before using a new paintbrush, stand the handle in warm water up to the bristles, and the bristles will become set. Then they will not come out while you are painting.—Mrs. C. B.

Northeast Kansas Needs An Experimental Farm

DOES this state need an Experimental Farm in Northeast Kansas? Yes, say residents of the area. Sixty-seven representatives from 8 northeastern counties recently met at Holton and organized the Northeast Kansas Agricultural Research Association for the purposes of obtaining such an experimental farm. George Fuhrman, Atchison, was elected president; Leonard Harden, Centralia, vice-president, and O. J. Olsen, Horton, secretary-treasurer.

Officers of the new group point out that soil, crops and climatic conditions in Northeast Kansas are different from other parts of the state and not sufficient experimental work is being carried on in the area to meet the problems. Present Kansas experiment station branches are at Hays, Garden City, Colby and Tribune. Experimental farms are at Belleville, Dodge City, Liberal, and St. John. A new one recently was added in Labette county for Southeast Kansas.

To gain approval for an experimental farm in Northeast Kansas the new association must present its endorsements to Dr. H. E. Myers, Dean R. I. Throckmorton and President James McCain, all of Kansas State College, to the board of regents, and, finally, to the Kansas Legislature, which would make any appropriations needed for operation.

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Find Many Uses For Poultry Feathers

OF ALL the many by-products of poultry and poultry products, feathers are among the most interesting and valuable. Feathers of all fowls have been used for centuries for many purposes.

Earliest period when quill feathers were used for writing is recorded in the 6th century. From that time until introduction of steel pens early in the 19th century, they formed the principal writing implements of civilized communities.

It always has been from the goose that quills have been chiefly obtained. However, swan, crow, eagle, owl, hawk and turkey all have made their contributions. Swan quills are better than those from the goose, and for fine lines, crow quills have been used a lot.

Only the 5 outer wing feathers of the goose are useful for writing. Of the 5, 2nd and 3rd are best. And left wing quills are more esteemed than those of the right, as they curve outward and away from writer using them. Quills obtained in spring from living birds are best.

At close of the 13th century, feathers began to be much used in Europe for ornamental purposes. The ostrich is the only bird reared exclusively for sake of its feathers. Ostrich farming is an established industry of South Africa, also is practiced in North Africa, Argentina, Arizona and California. The art of plumassier embraces cleaning, bleaching, dyeing, curling and making up of ostrich and other plumes and feathers.

Premiums of several cents a bird may be earned by producers of broilers who can get most desirable feathering, says Kansas State College poultry scientist Clyde D. Mueller, in a new bulletin. Feathers make a difference in sex characteristics also. As a pullet gets all her sex-linked inheritance from her father, she can pass these characteristics on only to her sons. Cockerels get half their sex-linked characteristics from each parent, and pass them on to both sons and daughters.

A poultry scientist can "read" future feathering, says Doctor Mueller, from 3 types of baby feathers. First 2

grow into flight feathers. With new information, farmers, broiler plant operators and other producers will be selling early-feathering birds that dress out to look sharp—and appetizing—on the meat counter.

A modern-day use of many types of poultry feathers is making beautiful wigs for shop-window manikins. Keratin in the quill is used to make a silky fiber, which turns out later to be a soft,



"My dear, last year's best feathers are in that wig!"

lovely hair-do. During World War II, feathers were used as camouflage material, as stuffing for sleeping bags and pillows.

Many beautiful artificial flowers can be made from various types of feathers. One man in New York makes realistic flowers, then perfumes them to perfect the illusion. He reported it takes more than 100 feathers to make a large rose, about 60 small ones for a carnation, 16 for a tulip, 9 for a daisy, 5 for a violet and 50 for a gardenia. Jewelers buy his feathers to dust out fine watches.

Uses for feathers include dusters, brushes, dressing artificial flyhooks for fishing, beds, upholstery. Quills are used as holders for sable and camel's-hair brushes used by artists.

Down of the eider duck is valuable above all other substances for softness, lightness and elasticity.

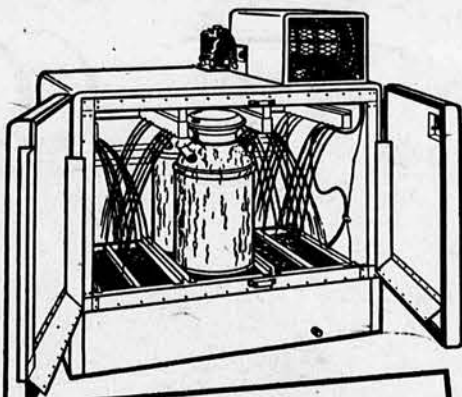
Guinea fowl is the only domestic poultry which originated in Africa. Romans regarded meat of guinea fowl a delicacy. In Greece, the bird was used for sacrificial purposes, rather than for food. The "down" of swans is very soft and was once highly prized for stuffing cushions and pillows.

Use feathers in making fertilizer? Yes, feathers can be made into a meal which is commercially feasible as a component of mixed fertilizers. USDA Western Regional Research Laboratory at Albany, Calif., tackled the problem of what to do with waste and surplus feathers.

Manufacture of fertilizer meal by the laboratory's progress is underway commercially in several places over the country. Meal has high organic nitrogen content and blends well in fertilizer mixtures. The laboratory has investigated other uses—an example is, a foaming agent in fighting oil fires and as a component of plaster to retard setting.

In earlier work the laboratory staff investigated refined feather products for possible use in spinning to form fibers and bristles. Additional commercial use may result eventually from these studies.

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4. Untreated chicks suffering serious results from an attack seldom develop into profitable producers. They are often permanently injured, if they don't die. YOUR INVESTMENT IS LOST!

HOW ALBERS CONQUERS COCCIDIOSIS



1. Coccidiosis protozoa are found nearly everywhere, ready to cause damage wherever conditions are right.



2. Chicks fed new Albers Chick Starter, containing Compound Anti-Cox, pick up the oocysts just like any other chick does... off litter, feeders, drinking fountains. But your Albers-fed chick is protected.



3. The Albers-fed chick resists the attack and is only mildly affected. It builds up natural immunity and is retarded but little, if any, in its development.

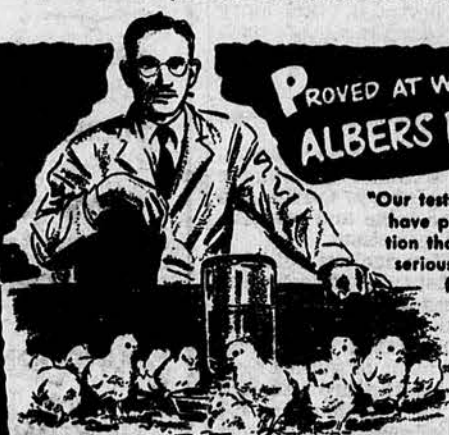


4. Albers-fed chicks are protected, have a good chance to develop and lay without set-backs.

YOU need not fear coccidiosis any longer! Now you can prevent this dreaded, costly chick-killer by feeding the new Albers Chick Starter, containing miraculous Compound "Anti-Cox". Albers will pay you double the purchase price of each and every one of your Albers-fed chicks killed by coccidiosis during their first eight weeks. This means you need no longer suffer serious financial loss due to this deadly disease, which kills upward of 20,000,000 chickens every year.

This new Albers Chick Starter also contains high-potency levels of thoroughly tested trace minerals, and a wonderful antibiotic combination which includes both terramycin and the recently perfected diamine penicillin. In fact, all 21 ingredients in Albers 1952 Chick Starter had to prove their value in 60 separate brooding trials at Albers Research Station during 1951.

When you buy Albers Chick Starter this year, you can rest assured it is the safest, finest, most up-to-date chick feed that over 50 years of Albers know-how can produce. You try it...you be the judge. We're sure you'll never be satisfied until you have seen what this quality feed can do.



PROVED AT WORLD FAMOUS ALBERS RESEARCH STATION

"Our tests at Albers Research Station have proved to our complete satisfaction that Compound Anti-Cox prevents serious outbreaks of coccidiosis, and, furthermore, permits chicks to develop immunity against future attacks."

Dr. E. M. Gildow
Director,
Albers
Research Station

JACK JACKSON...

Albers
Farm Radio
Counselor

SAYS:

Folks, here's a chick-time check list of some important things to look after right now, in case you've forgotten:

1. Allow ample brooder space—at least 1 sq. foot of floor space for each 2 chicks.
2. Provide good ventilation without drafts. Cover openings with muslin.
3. Use clean, dry litter, 2 or 3 inches deep.
4. Keep feeders and water fountains filled at all times.

...and don't take unnecessary chances... feed new Albers Chick Starter, containing Compound Anti-Cox.

TUNE IN Jack Jackson...
Mon. thru Fri. at 12:10 p.m.,
Radio Station KCMO, 810
on your dial.

READ YOUR GUARANTEE

Albers Milling Co. guarantees to pay the owner DOUBLE THE PURCHASE PRICE of each chick, killed by coccidiosis during the chick's first 8 weeks of life. YOUR CHECK WILL BE MAILED PROMPTLY upon completion of the following conditions:

1. Chicks must be fed EXCLUSIVELY during the first 8 weeks on Albers Chick Starter, containing Compound Anti-Cox, in complete accordance with directions printed on each analysis tag.
2. Should any death loss occur, which your veterinarian definitely establishes as caused by coccidiosis, notify Albers Milling Company immediately stating: (a) number of chicks on Albers Chick Starter (b) how many coccidiosis deaths to date.
3. Albers will send you a claim form by return mail. Fill it out completely and return to Albers Milling Company, Kansas City, Mo., accompanied by (a) paid receipt for chicks (b) paid receipt for your Albers Feed (c) Sworn Statement from your veterinarian that primary cause of death was coccidiosis, as determined by thorough post mortem examination.

(NOTE: On unusual claims, Albers Milling Co. reserves the right to have dead chicks shipped to an independent laboratory for analysis.)



Albers
FEEDS

The Cover Story

Whole Family Interested in Poultry

OUR COVER girl, 2½-year-old Connie Kay Scritchfield, of Shawnee county, loves baby chicks as her expression clearly shows. Connie is the daughter of Mr. and Mrs. J. M. Scritchfield, of near Topeka.

The Scritchfield family is in the poultry business from several angles. A small flock of Austra-Whites is kept to produce eggs for family use only, with some eggs left to be sold to friends in town.

About 500 broilers are raised in 100-chick batches during the year. These are dressed, cut up and packaged by Mr. and Mrs. Scritchfield for sale to folks who have freezer lockers. Guinea

fryers also are raised and sold on the same basis as the broilers. The Scritchfields plan to try raising and selling capons later this year.

This year James C. Scritchfield, 13-year-old son of the family, will have 100 Hy-Lines as a 4-H Club project. As a member of the Pleasant Hill 4-H Club he is getting into poultry projects for the first time this year. He previously had hogs and dairy production. This year he is taking poultry and hybrid corn.

Rita, 11, completes the family. She is in her 3rd year of 4-H work and is taking cooking and sewing projects this year.

What Lamb Tests Show at Garden City Station

LAMBS getting grain and stover free choice made larger but more expensive gains than lambs hand-fed a similar ration, it was reported at Annual Lamb Feeders Day, Garden City, March 1. These results agree with previous tests at the Garden City branch experiment station.

An experiment that didn't agree with previous tests, however, was on a comparison of ground vs. whole grain rations. This year larger and somewhat cheaper gains were made with ground grain. In previous years at Garden City whole grain had made the best showing.

Addition of silage for part of the stover in lamb rations increased rate of gain but also increased costs slightly more than \$1 a hundred. More testing is needed before definite conclusions can be drawn on this.

Lambs receiving no salt in their ration made slower and more expensive gains than lambs in any other lots. This result agrees with past tests.

Milo stubble vs. feed lot fattening of lambs brought some interesting results. After 2 lots of 60 lambs reached an average daily grain ration of one pound a head they were turned into milo stubble. One lot was given alfalfa hay as a supplement and the other lot was given soybean pellets.

Gains on these lambs were compared with 2 lots hand-fed grain until they were consuming nearly 2 pounds a head daily. They were then fed all of the grain and roughage they would consume free choice. One-half of the lambs in all lots were vaccinated against overeating disease and one lot being fed free-choice was given soda. One half of the lambs in all lots were drenched and their gains compared with undrenched lambs.

In the milo stubble vs. lot fattening test cheapest gains were made by lambs running on stubble. Slightly larger and cheaper gains were made by lambs receiving alfalfa hay than those receiving soybean pellets. Gains were slow on stubble during the first part of the grazing period because of digestive disturbances, but once lambs became accustomed to the grain the gains were as high as those made by self-fed lambs in dry lot.

Death losses were too low to allow any conclusions concerning effectiveness of vaccine or soda. The only lambs dying of overeating disease during the tests, however, had been vaccinated.

A comparatively low rate of gain made by drenched lambs was shown in nearly all lots and is consistent with results a year ago. This year drenched lambs made average daily gains of .321 pounds compared to .345 for untreated lambs. Vaccinated lambs made average daily gains of .355 pounds while lambs vaccinated and drenched made average daily gains of .331 pounds.

The slightly larger gains made by vaccinated lambs was not consistent in all lots and probably not significant.

Flying Farmers Take a Vacation

Kansas flying farmers have taken another group vacation. Recently, 30 farmers left in 15 planes for a trip to Mexico. About 225 persons from 21 states made the trip.

This type of winter excursion was started in 1949, by Kansas Flying Farmers Association. They liked it so well they went back to Mexico in 1950, again this year. Bill Janssen, McPherson, national secretary-treasurer of the group, was in charge of arrangements.

hydraulic-angled

DISC HARROW

makes deep, level rootbeds



This A-C 11-B disc harrow is available with hydraulically or mechanically angled gangs. Four sizes — 5½ ft., 6 ft., 7 ft., and 8 ft. For those who prefer single-action disc harrows, the No. 15 (not shown) is available in 10-, 12-, and 15-foot sizes.

Here's a hefty disc harrow that levels as it pulverizes . . . makes deep, smooth rootbeds for your crops.

Each gang works at the proper depth — independent of the others — through flexible connections. Better work is assured in uneven soils. Cuts stalks better because it has more weight per disc blade.

Notice how this disc turns . . . safely! The ingenious "criss-cross" linkage leads each gang just right to disc out the ends . . . levelly, and without crowding the gangs or gouging the soil.

Ask your Allis-Chalmers dealer to demonstrate this easier, better kind of discing.

ALLIS-CHALMERS

TRACTOR DIVISION • MILWAUKEE 1, W. S. A.



"I KNOW IT PAYS TO PLANT KEYSTONE HYBRIDS!"

HERE'S WHY KEYSTONE HYBRIDS ARE BECOMING SO POPULAR:

1. One farmer tells another—"It Pays to Plant Keystone."
2. Outstanding in official yield trials.
3. New higher yielding hybrids being developed by Cornell's extensive breeding program.



BUY EARLY—BE SURE TO GET YOUR SUPPLY OF KEYSTONE HYBRIDS!

CORNELL SEED COMPANY

101 Chouteau St. Louis 2, Mo.

GRANDMA . . . By Charles Kuhn



Minnesota dairyman sees

ALL-WEATHER QUONSET® LOAFING BARN

doubling his profits!



Dairyman Louis Geronime's L-shaped all-steel Quonset 32 has proved such a successful year-round labor-saver that he claims it has cut his former work load in half. As a result, he is now doubling his herd, and expects soon to double his income from the increased production.

"Here in Rosemount, Minnesota," says Mr. Geronime, "the weather varies from 30° below in the winter to 95° in the summer. Regardless of the temperature, our herd is always comfortable. Increased milk production is the direct result of our Quonset loafing barn."

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NATIONAL STEEL CORPORATION

See the Quonset line at your authorized Quonset dealer's...
or mail the coupon!

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WICHITA, Mid-Kansas Steel Bldg. Co.,
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type of farming. Send me details.

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COUNTY AND STATE

(Please Print)

10

More Eggs — More Profit

By M. E. JACKSON, Kansas State College

POULTRY production is the most widespread livestock program in Kansas. In 1951, about 75 per cent of all farms had poultry. Flocks have varied from a few birds to a thousand. Small flocks of laying hens on many farms are not carried as an economical part of the farm program. They are not conducive to production of quality eggs. An increase in flock size is a necessity to more profits. Flocks of 500 to 1,000 or more birds are large enough to permit use of better equipment economically and efficiently. This size flock is large enough for efficient use of labor. Some studies indicate that time needed to adequately care for laying hens can be reduced from about 2 hours per hen in small flocks to about 1.5 hours per hen in large flocks. Economical use of labor is necessary to the success of the poultry flocks on Kansas farms.

More eggs per layer housed means more profit. To get more eggs per hen, there must be better breeding for egg production. Too many hens on Kansas farms are from stock that has not had the breeding necessary for high egg production. Breeding in many of our birds has been for broiler or fryer production instead of egg production. To improve this situation it will be necessary to increase very rapidly the capabilities of birds to up egg production.

Study Production Records

Studies indicate labor returns are tied very definitely to egg production. Hens producing 145 eggs per year have shown a loss of 5 cents an hour for every hour of labor involved in caring for the laying hens. An increase of 45 eggs per hen has shown a return of 80 cents per hour of labor. These figures are very important to consider.

Birds that are capable of producing more than 200 eggs a year are essential, as the increase in egg production not only means more money returned per hen, but as production increases feed cost per dozen eggs decreases.

Poultrymen must be willing to buy the best baby chicks available. These chicks must be bred for egg production. The average farm chicken in Kansas doesn't have the egg production ability behind it. It may be necessary for hatcherymen to import some high producing strains of the more popular breeds of chickens. This will cause an increase in the price of baby chicks in Kansas, but poultrymen will find better production will more than pay for the small increase in cost of baby chicks.

Give Birds Proper Feeds

Feeding plays an important part in a successful egg production program. Keep in mind to get maximum results birds must have feed averaging 16 to 17 per cent protein. This includes mash and grain the birds receive. A successful feeding program should consist of a 24 to 26 per cent protein mash or concentrate and a full feeding of grain. Most hens will then balance their own protein requirements. As the protein level falls below the 16 per cent level, production will decrease, mortality increase, and hatchability will also decrease. The same is true when the protein level goes above 17 per cent.

The day is now past when just any feed will make a laying project successful on Kansas farms. It is necessary to pay very close attention to details of feeding. Feed as economically as possible, yet do not leave out any essentials of a good feeding program.

Marketing is one of the most essential phases of a successful poultry program. Kansas, for many years, has had

the reputation of supplying low-quality eggs. This has come about to a great extent because of 2 factors. First, our flocks have been too small to interest the producer in trying to put a better egg on the market. Secondly, egg buyers in Kansas have not been interested in a quality program because it is costly to put into operation. As flock size increases and egg production becomes more concentrated, buying eggs on a grade basis will increase.

The producer must learn his responsibility and follow thru if quality egg marketing is to succeed in Kansas. At present, eggs that are being marketed will be too low in quality to interest many people in a quality egg market. As summer temperatures come along quality of eggs will be very low. First step in a quality marketing program is for all concerned to realize eggs are a perishable product.

Gather eggs at least 3 times a day. Just as an indication of what happens

Many Good Points

Dear Editor: I want to compliment you on your February 16, issue of *Kansas Farmer* and its article on the Veterinarian-on-the-farm program.

I hope you have many more in the future to show a few of the good points of the program.—Walter E. Kruse, Chase Co.

to eggs in the henhouse, let us study the following figures. A study made in August, 1949, showed eggs gathered once a day graded 33.6 per cent grade-A, while eggs gathered 3 times a day graded 66.8 per cent grade-A; but eggs gathered 4 times a day graded 79.0 grade-A. A similar deterioration would take place even in winter.

Cool eggs in a wire basket or on a wire tray overnight before putting in case. Quality varied from 31.2 per cent grade-A for eggs packed immediately upon gathering to 74.6 per cent grade-A for eggs packed only twice a week. These eggs were all put in a cool, humid storage room right after gathering.

Keep Eggs Clean

Keep poultry house dry to keep eggs clean. It doesn't take much dirt to cause a drop in quality of eggs. Dirty eggs will not be placed in the grade-A classification even tho the interior quality may call for a grade-A classification.

Eggs should be marketed at least twice a week. If you are on a pickup route try to send your eggs more often if possible. This is a service that will help get eggs to market at higher quality.

Egg buyers should have insulated or refrigerated trucks to haul eggs so as to protect the quality. By all means they should have cool holding rooms at their assembly points. Eggs set in a hot room or on a truck overnight will lose quality rather rapidly.

Buyers must buy eggs on a grade basis and make returns to the producer on that basis, if a quality egg marketing program is to be successful here.

Success of the poultry business depends upon both producer and buyer being willing to do their respective parts in making a quality egg program a success. We will find as this program is put into operation flocks will increase in size, quality of eggs will increase, and in return, profits to the producer will increase.

Making Rooster a Tender Meal

Some new scientific facts make the rooster a tender meal—when roasted. L. F. Payne, head of Kansas State College poultry department, says the trick is to implant a 15-milligram hormone pellet under skin on neck of bird just below his comb. Six to 8 weeks later the bird will be well covered with fat and will cook tender when roasted.

But the feminizing hormone is a chemical way of caponizing the rooster, and birds will lose interest in the opposite sex. When fed this hormone, White Plymouth Rock roosters gained from 8 to 14 ounces each, 8 weeks after treatment. Another group not treated gained less than 2 ounces each.

Professor Payne reports the hormone treatment is becoming popular with broiler producers. Altho turkeys need a double dose of hormone, the treatment seems to work well on both male and female turkeys.



Kansas Dealers

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 ASHLAND—Fellers Motor Co.
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 BELOIT—Fuller Equipment Co.
 CLAY CENTER—Primrose Tractor Co.
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 PAOLA—Tom Crawford Tractor & Impl. Co.
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Dairy Shows Coming Soon

DAIRY breed associations are busy these days lining up their spring dairy shows. Associations that have completed their spring show schedules send us the following reports:

Milking Shorthorn—April 4, North-east district at Topeka; April 5, South-east at Chanute; April 7, Northwest at Colby; April 8, Southwest at Stafford; April 9, South Central at Hutchinson; April 10, North Central at Ellsworth.

Guernsey—April 11, Southern Kansas district at Newton; April 15, Kaw Valley at Osage City; April 16, North-east at Horton; April 7, Central at Salina; April 18, Southeast at Erie; April 19, Kansas Guernsey heifer sale, at Chanute.

Holstein—April 21, Northwest district at Oberlin; April 22, North Central at Linn; April 23, Northeast at Horton; April 24, Capitol at Topeka; April 25, East Central at Paola; April 26, Southeast at Iola; April 28, West Central at Ellsworth; April 29, Central at Abilene; April 30, South Central at Wellington; May 1, Ark-Valley at Newton.

Hold World's First Aerial Beef Tour

World's first aerial beef tour is to be held in Kansas, in June. Stops are planned at all major beef producers, announces the aeronautical division of Kansas Industrial Development Commission.

Sponsoring the event are Kansas Flying Farmers and radio station WIBW, Topeka. Wes Seyler, WIBW farm service director, will broadcast from stops on tour. Flying with group will be representatives of all major beef breed associations.

Two dates in June will be set for the tour, after weather records for the entire state have been studied.

More 4-H Reporters Enter Contest

More and more Kansas 4-H Club reporters are entering the 1952 State 4-H News Writing Contest. This event was first announced in January 19, 1952, *Kansas Farmer*. Many reporters have written us for a copy of our "Suggestion Sheet" of 4-H stories to prepare. First group of reporters to enter were named in February 16, 1952, *Kansas Farmer*, new sponsor of contest.

Here are names of more 4-H reporters who have entered the contest: Leona Simpson, Lewis; Susan Reiter, R. 1, Kingman; Thomas W. Frisbie, Grantville; Dwight Bennett, Sterling; Janice Lee Hendrickson, Sylvan Grove; Gloria Allen, Minneapolis; Billy Fuller, Wells, and Johna Kelly, Solomon.

Several adult leaders of clubs and officers also have written in for news of the contest. More names will be printed in future issues of *Kansas Farmer*.

Scrap Drive Success

Talk about scrap drives was all they needed. Twelve basketball team members from Saxman school, in Rice county, were determined to get new suits for their team. With a few parents to provide transportation they started a one-day drive visiting farms for scrap, sold it for \$200 and bought 14 suits all the same day.

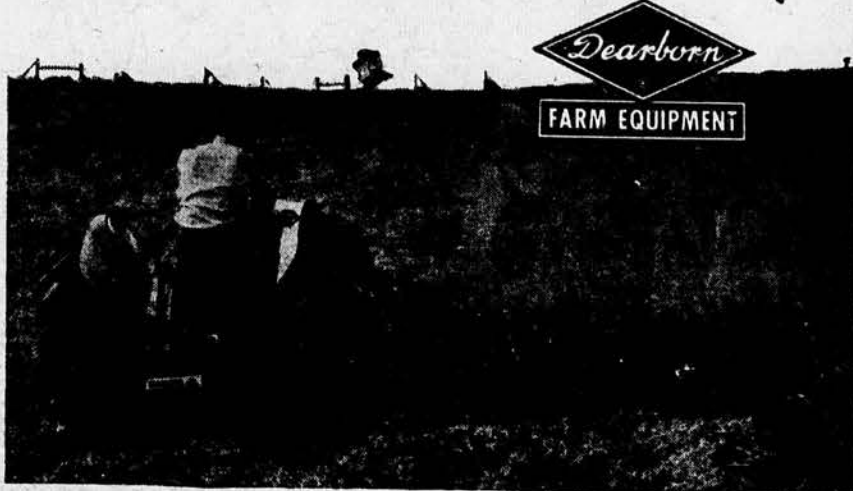
Determined to come back with the suits the same day meant the boys had to take what was in stock and that meant a change in their school colors, but the boys figure that may help their luck. They had won 3, lost 4 games at that time. Only problem now is what to do with what is left of the \$200.

Plan Your Farmstead

Save many steps in doing farm chores by careful planning of your farmstead; include changes now in a new long-range plan. Gradual changes will make life more interesting and work can be done easier and quicker. Write us for a copy of "Planning the Kansas Farmstead." It's free. Just address Farm Service Editor, *Kansas Farmer*, Topeka. There are many ideas in the leaflet on arrangement and landscaping.

Put Up Top Hay

...for extra Meat, Milk, Money!



DEARBORN Rear-Attached MOWER "Clips Hours"—as Well as Crops

Here's proved help, to enable you to harvest your hay crops at peak feed or market value. The big capacity Dearborn Rear-Attached Mower can be attached to the Ford Tractor in only 8 minutes. Its quiet operation is evidence of fine design and quality construction—to speed cutting of heavy hay crops (or tough pasture weeds). Cutter bar lifts and lowers with Ford Tractor Hydraulic Touch Control. Choose 6 or 7 foot cut.



DEARBORN Side Delivery RAKE Gets Sun and Wind to Help!

The Dearborn Heavy Duty Side Delivery Rake makes fluffy, easy-to-pick-up windrows—with gentle pushing action (instead of whipping!) by its proper raking angle and the floating ground-driven reel. Thus leaf shattering is greatly reduced—for this action tucks leaves inside the windrow while inverting stems to get fast curing cooperation from sun and wind. Has 8-foot raking width.

Say "WHEN" to Your Ford Tractor dealer...



to schedule your demonstration of the Ford Tractor and these or other Dearborn Implements, that can mean lots to you in '52 and from then on!

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ONLY 10c A WORD

Kansas Farmer has 118,311 subscribers, and reaches an average of over four out of every five farm homes in the state. It is printed twice each month on the first and third Saturday. The Classified rates are:

Regular Classified—10c a word (12 words Minimum)

Display Classified—\$9.80 a column inch
 \$4.90 a half inch

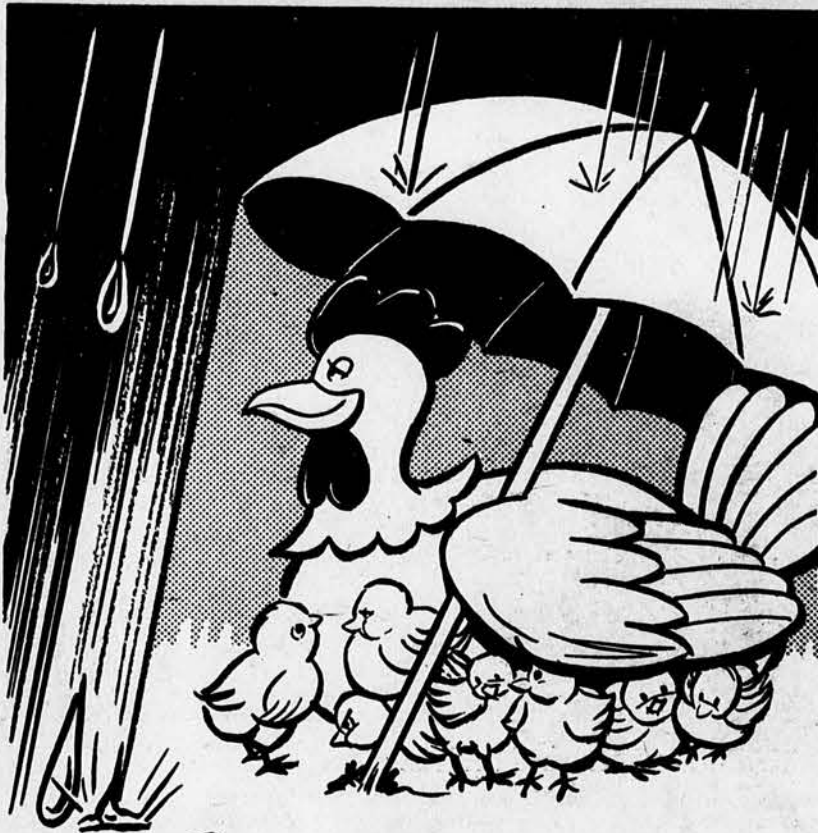
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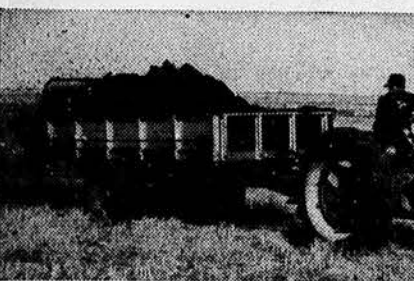
Extra Protection

Give Engines EXTRA PROTECTION with HI-V-I MOTOR OIL . . .

HI-V-I is a twin-action oil . . . it flows freely at zero . . . stands up at boiling and above! So, there's extra protection for cold morning starts . . . or at higher temperatures reached during the day! HI-V-I cuts friction to a minimum . . . HI-V-I oxidizes less freely and the resultant lack of oxidation acids holds corrosive wear to a new low! There's plenty of extra protection in every can of HI-V-I motor oil, and it's yours, at no extra cost! To buy the best in lubrication . . . always specify CHAMPLIN HI-V-I!



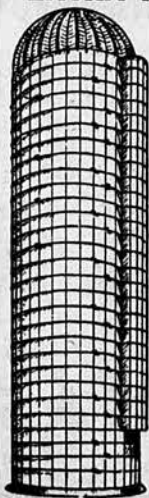
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FARMHAND "POWER-BOX" with Spreader Attachment takes 6 tons! Gives wide, even distribution, does the work of 4 ordinary spreaders. Write Dept. 52, THE FARMHAND CO., Hopkins, Minn.

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Manufactured by our NEW METHOD for GREATER STRENGTH — BEAUTY — DURABILITY.

Liberal Discount for early orders. Investigate our payment plan before you buy—monthly, quarterly or semi-annually.

Write for complete information
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Thoughts TO LIVE BY

"If at First—"

TWENTY times she asked her son to pick his cap off the floor and hang it in the closet. On the twentieth time, he responded. When her husband complimented her on her patience, this wife and mother replied, "What a mistake it would have been had I stopped on the nineteenth time!" There it is, "If at first you don't succeed, try, try again."

When we fail, there are several things we can do. We can curse our luck; we can blame our failure on someone else; we can use it to excuse us from further efforts, rationalizing that we tried once and it wouldn't work so there is no use trying again; or we can do the one thing that will bring victory, "—try, try again."

Ralph Edwards of radio fame in his early years went from studio to studio seeking employment as a radio announcer. One day, he discovered his resources had dwindled to 15 cents. He spent that sum for something to eat. Next morning without breakfast, he started his round of the studios again. At N.B.C., he was told there would be try-outs at 11 o'clock for a vacancy. There were 69

candidates for the one position. By a process of elimination, Ralph got the job. It takes that kind of perseverance to win.

Mrs. William Rathvon relates a legend her late husband wrote years ago. The devil planned an auction. He intended to sell his tools. Envy, Malice, Hatred, Jealousy, Sloth, Pride, Deceit, and Sensuality were all laid out and marked with a minimum price. A tool that looked like a wedge lay apart from the others. It was marked with the highest price of all. When asked what it was, the devil replied, "Discouragement." Someone asked why it was priced so high. The devil explained that with it he could pry into lives the other tools could not touch.

Indeed, someone defined discouragement as "emotional atheism." The discouraged person forgets God is his senior partner.

We believe God holds the ultimate issues of life in his own hands. Therefore, we never need be discouraged. So in confidence we say, "If at first you don't succeed, try, try again."

—Larry Schwarz.

150 Students All Set For Little American Royal

NEARLY 150 students from all parts of Kansas are entered in the 24th annual Little American Royal, to be held at the field house, Kansas State College, Manhattan, April 5. The show, a fitting and showing event, is from 7:30 to 9:30 p. m.

Entries, by divisions, are as follows:

Dairy cattle—Bill Ogborn, Iola; Max Stutz, Effingham; B. B. Forester, Hazelton; Arvon L. Graham, Devon; J. Mark Alley, Rose Hill; Duane E. Traylor, El Dorado; Bob Hull, El Dorado; Clarence Creger, Scammon; James Hefley, Baxter Springs; Francis J. Clark, Winfield; Joan Engle, Abilene; Nadine Entrikin, Abilene; Sherlund Prawl, Severance; Weldon Russell, Howard; Phyllis Esch, Moline; Robert Disney, Ellis; Billie Jean Baffrey, Lane; Pat McCluskey, Junction City; Max Zahner, Shawnee; Lambert Mills, Leavenworth; Leonard Slyter, Paola; William Bergman, Paola; Francis Piesell, Minneapolis; David Brenner, Randolph; Harold Tuma, Narka; Donna Childs, Belleville; Richard Hartkopf, Manhattan; James Quint, Bunker Hill; Lawrence Odgers, Salina; Bob Pugh, Salina; Bill Tilgner, Gypsum; John Speicher, Topeka; Gerald Bradley, Richland; Roy Harkrader, Benedict; Pat Draney, Fairview; Ruben Torres, LaNacion, San Jose, Costa Rica; Glen Krumme, St. Joseph, Mo.; Joe Armstrong, Abilene, Tex.; Ernest Randall, Englewood, N. J.

Beef cattle—Claire Kuckelman, Effingham; Leo E. Linck, Huron; Jerry Schuetz, Mercier; John Oltjen, Robinson; James Nuttle, El Dorado; George Gammell, Cottonwood Falls; Dan Pherigo, Cottonwood Falls; Phil Arnold, Ashland; Helen Gardiner, Ashland; Hugh McDonald, Harris; Stephen Kimberlin, Burlington; Kent Smith, Burlington; Larry M. Seaman, Coldwater; Don Drake, Rock; Neal Atkinson, Winfield; Norman Schlesener, Herington; Norman Elliott, Troy; Loren Lavrentz, Bendena; David S. Kerns, Baldwin; Val Brungardt, Walker; John Alger, Dodge City; Galen Hainer, Dodge City; Jack Beauchamp, Pomona; George Wingert, Wellsville; Don Esslinger, Madison; Calvin Drake, Piedmont; Norval Deschner, Halstead; Vern Lindell, Pleasanton; Frank Burns, Emporia; Duane Putman, Admire; Stanley Slyter, Paola; William Stutz, Utica; James Anderson, Cleburne; Milton Wendland, Randolph; Perry Sonkey, Sterling; Tony Renollet, Sterling;

Donald Mackintosh, Manhattan; Kenneth Visser, Riley; Ernest Heitschmidt, Cordell; Donald Biggs, Stockton; Robert Morin, Damar; Jay Dooley, Topeka; Phil Lukert, Topeka; Leonard Robins, Yates Center; Scott Chandler, Kansas City; Douglas Fell, Felsburg.

Swine—Son Signor, Effingham; James Circle, Hazelton; Edward M. Chase, El Dorado; Dave Schoneweis, Miltonvale; Wayne Walter, Lawrence; Garman Breitenbach, Belpre; Tom Maxwell, Howard; Edwin Harstick, Richmond; Benny Gerber, Pomona; Harold Fearing, Burr Oak; John McKenna, Kingman; John R. Markley, Mound City; William Nelson, Marquette; Merlin Mardis, Preston; Bob Rizek, Belleville; Alvin Wendland, Jr., Manhattan; Virginia Balhrop, Wichita; Lynn Johnson, Minneapolis, Minn.; Verl Dwyer, Chicago; Dick Webb, Lincoln, Nebr.

Sheep—Bob Oltjen, Robinson; John Means, Everest; Robert Sayre, Cottonwood Falls; Donald Reese, White Cloud; Leo Wiederholt, Princeton; Dale R. Hill, Burton; Ray Burns, Valley Falls; Dale Hewitt, Valley Falls; Lloyd Hanson, Windom; Carl Leinweber, Jr., Frankfort; James Drolte, Pretty Prairie; Ray Sis, Belleville; Harold Reed, Lyons; Richard Ramsey, Manning; Robert Meuser, Anson; Lyle Lehman, Castorland, N. Y.

Horse—Ernest Classen, Great Bend; Lloyd Baughman, Elk Falls; Donald Zimmerman, Olathe; Mont Dutcher, Overland Park; Tom Lowder, Allen; Ronald Miller, Partridge; Dee Follis, Hoxie; Dick Pringle, Rose; Riyad Khankan, Felsburg; Jerry Durnil, Kansas City, Mo.; Frank Leslie, Dallas, Tex.

Believe It or Not: Television is not as young as most folks think—first outdoor demonstration of television was on July 12, 1928.

Design New Corn Drier

An efficient, heated-air drier that will dry as much as 50 bushels of high-moisture grain or shelled corn an hour can be built on the farm. New USDA plans have been published in Leaflet No. 314, "Inclined-Column Grain Drier." For a free copy, write Farm Service Editor, Kansas Farmer, Topeka.

The BIG BARGAIN in Farm Power WITH NEW ADJUSTABLE FRONT AXLE

All the advantages of a 4-wheel tractor . . . all the close-coupled compactness of short wheel base . . . all the adaptability of adjustable front wheel tread . . . plus easy steering, look-ahead cultivation with front-mounted cultivator! You get them ALL with the new adjustable front axle on the Case "VAC" Tractor—and all at only a trifle extra cost.

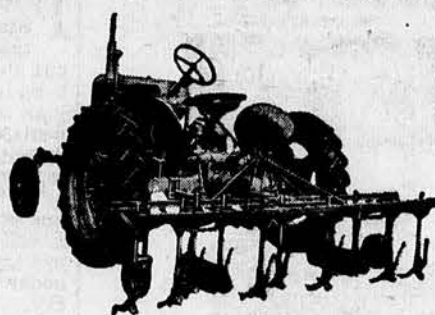


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Now... Cultivate Up Front

WITH Short Wheel Base FOUR-WHEEL TRACTOR

MODEL "VAC"
WITH
REGULAR
FRONT END



Cultivate Behind IF YOU LIKE

Economy Tool Bar latches onto Eagle Hitch in one minute, makes a fine rear-mounted cultivator. Takes sweeps, teeth, shovels, spaced as you like to suit wide variety of crops. Also takes planting units, special cultivator for narrow-row truck crops. Eagle Hitch comes on all "VA" Series Tractors, hooks up most implements in a minute—and usually you stay right on tractor seat. Latch-On Implements have free floating action, tend to maintain uniform depth in uneven ground. Full line of Latch-On Implements includes exclusive Case Break-Away Plow that unhitches when it hits stump or stone.

Does 100 Jobs

Either way . . . with tricycle front end or the new adjustable axle . . . the improved Case "VAC" is the tractor to hustle plowing, disking, planting, cultivating, then help with your chores. Stay right on the seat—drop off the implement, latch onto Utility Carrier. It lowers to load, lifts by hydraulic control; hauls milk, feed, fertilizer, fencing. Put on blade or scoop—plow snow, grade a driveway, dig a ditch. Mount saw, loader or hammer mill—buzz wood, load manure, go grinding feed.

Like larger Case Tractors, the "VA" Series have heavy-duty, moderate-speed engines built to run year after year without replacement or early overhaul. They have lugging power to pull sudden full loads at reduced speed, take you through many a tough spot without stopping to shift gears. And remember—only Case gives you the one-minute Eagle Hitch and Latch-On Implements.

GET A PERSONAL DEMONSTRATION

Take the wheel yourself—test the "VAC" on your own farm. See how bigger wheels and tires give added traction, add inches more clearance for crops. Get the feel of the new brakes, the new easy-action, shock-free steering gear. See your Case dealer now.

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Case builds 25 great tractors, a full line of farm machines. Mark here or write in margin how you need. J. I. Case Co., Dept. C-17, Racine, Wis.

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Remember when mongrel chickens and small incubators were the rule? Here is what has happened in 50 years...

Poultry Department Has a Birthday

By LOYAL PAYNE, Kansas State College



AN AIRPLANE view of Kansas State College poultry farm looking north taken in 1947. A new mating house for 450 breeders has been recently added in the northwest area.

POULTRY instruction at Kansas State College started 50 years ago this winter and has continued without interruption to date. There have been many changes in personnel, products and practices since 1902. A half century ago mongrel chickens predominated, the setting hens and small kerosene incubators were the sources of all baby chicks. The mother hen and her brood rustled most of their living. Fresh eggs were available during spring months and stewing hens and cocks comprised the bulk of table poultry.

There were no text books, laboratory equipment, or students interested at that early date. First poultry instruction in the U. S. had begun at Cornell University in 1892, just 10 years previous to initial work in Kansas.

Boy Who Made History

It took a boy with vision and supercharged with enthusiasm to initiate poultry instruction at Kansas State College. Milo Hastings, a high school senior from near Atchison, attended Farm and Home Week Program in Manhattan during the winter of 1901-1902. While here he called on Director H. L. Cottrell of the Agricultural Experiment Station, who made history by inviting Milo to his home for dinner. "I was terribly embarrassed when I forgot to use my napkin," said Milo, in a letter to the writer, "but the director was impressed with my enthusiasm for poultry and said if I would enter college the next fall I should have charge of the chickens."

Milo enrolled and was put in charge of about 100 Barred Plymouth Rock hens kept in an old unpainted hog-

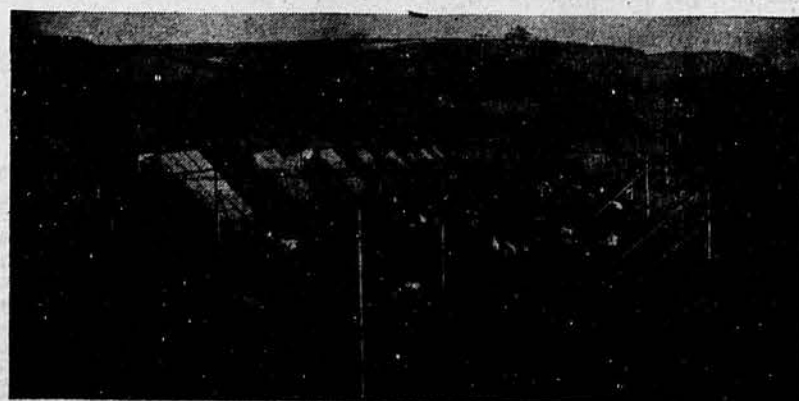
house and under the direct supervision of Prof. Oscar Erf, then in charge of dairy work. These gentlemen arranged for C. H. Rhoades, of North Topeka, to come to Manhattan during the winter term of 1902 and conduct a one week poultry judging school. Feeding and breeding experiments were also started that winter. This was the first college in the Mississippi Valley to have a poultry plant, and in 1904 the pioneer open-front poultry house in this region was built.

First egg-laying contest in America was started here by Mr. Hastings, November 1, 1904. It ran 3 years and was discontinued. Results were published in press bulletins 140, 147 and 156 of the Department of Dairy and Animal Husbandry. Hastings later did the pioneer work which led to development of present-day, Mammoth, forced-draft incubators. He was followed at Kansas State by A. G. Philips, another spark plug who continued and added to the momentum developed by Hastings.

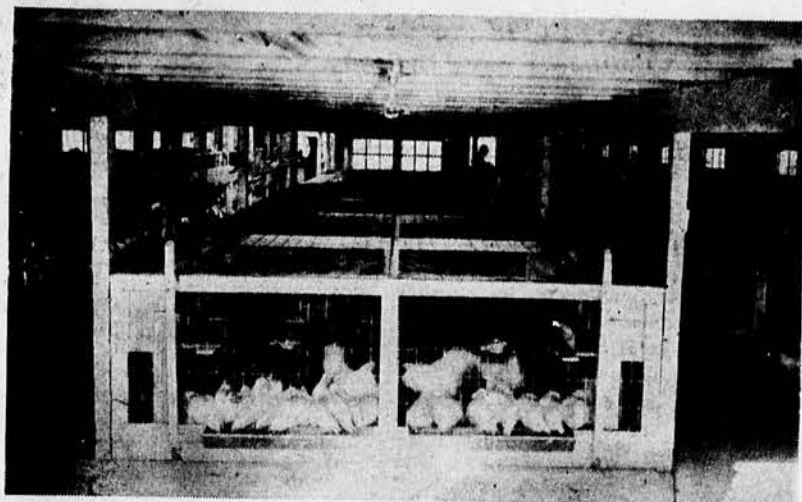
He Wrote a Textbook

On January 1, 1912, William A. Lippincott, then a recent graduate at Iowa State College, joined the college staff. He organized the poultry interests into a separate department—the Department of Poultry Husbandry. That was just 40 years ago this winter. There being no textbooks to use, Professor Lippincott proceeded to write one entitled "Poultry Production," now in its 7th edition and perhaps still the most widely used text in state colleges now teaching poultry. The course in farm poultry production has been required of all students in the

(Continued on Page 19)



POULTRY FARM at Kansas State College as it appeared back in 1914.



A MODERN double-deck mating house with 40 breeding pens which accommodate 450 birds. All feeding, watering, trapnesting and cleaning is done from the aisles. This arrangement saves time and steps compared with the 8-colony breeding houses and yards accommodating 10 birds each in the 1914 picture.

School of Agriculture since 1916, and of all students in Veterinary Medicine since the fall of 1921. While some poultry extension work in the form of movable schools was done in 1910 and 1911, the work was not effectively organized until the fall of 1914.

Today 13 different courses are taught in the Department of Poultry Husbandry for a total of 35 credits, and 5 poultry courses are taught in other departments for 15 credits, making a total of 50 credit hours available for students interested in this subject. No student takes all of these courses but many enroll for as many as 30 credit hours.

Thus students interested in poultry as one of several major enterprises on the farm or in commercial poultry production have ample opportunity to become thoroughly trained in these subjects at Kansas State College. Class enrollment for courses taught in the poultry department ranged from 657 students the current year to 1,129 students the peak year of 1948-1949. Demand from industry for graduates in poultry husbandry is much greater than the supply. There is every reason to believe this demand will continue.

Trend to Specialization

The poultry industry is progressing more and more toward specialization in breeding, feeding, management, marketing and disease control. The hatchery industry has long been specialized. Now they are hatching both chicks and young turkeys the year around. Some operators are doing a big business selling started chicks, started poults and started capons. Sexing young stock is another specialized phase of the work. Improvements in processing and marketing is due for the greatest progress during the years ahead.

Value of poultry and eggs sold in Kansas in 1912, according to the State Board of Agriculture, amounted to \$10,057,983, whereas the gross income from poultry products in 1951 was more than 85 million dollars.

Workers in the poultry and closely related departments of bacteriology, chemistry, agricultural economics, zoology, entomology, agricultural engineering, foods and nutrition, and veterinary medicine at KSC have pioneered in many fields of study. Some of the more outstanding contributions in the field of research are listed below.

Raymond Wingo Wins State VFW Farm Contest

WINNER of Kansas competition in a national Veterans of Foreign Wars farm contest is Raymond H. Wingo, Walton, his wife and their 5 children. U. S. winner receives an 80-acre farm in the Columbia River Basin Valley, must be a World War II or

Korean veteran, according to rules. Presentation of farm to national winner will be made May 7 to 11, when water is turned loose to irrigate 13,000 farms cut out of sage brush in Washington.

Raymond Wingo has taken a bindweed-infested 80 acres in Harvey county and made a happy, livable home for his family. In 1946, he returned from service with the Seabees, in the Pacific. The family has erected a 40-foot silo, built sheds for cattle, grassed in waterways, dug a silt pond and built terraces to stop erosion on a farm that had known little else, and fixed the fences. Mr. Wingo has acquired a 12-cow herd of registered Holsteins, put himself in the grade-A dairy business. He got his start in dairy by winning a contest in 1930, sponsored by late Senator Capper.

Grow a Windbreak

Shrubs maintain a tight windbreak at ground level and increase effectiveness of plantings. For ideas on what windbreaks should include and how to care for them, write us for a free copy of "Windbreaks for Kansas." Address Farm Service Editor, Kansas Farmer, Topeka.

Influence of ultraviolet light on growing chicks.

Inheritance of rate of feathering in poultry.

Transmission of pullorum disease in incubators.

Fumigation of forced-draft incubators.

Control of pullorum disease in incubators by fumigation.

Effect of high temperature on egg size.

Comparative nutritive value of grain sorghums with corn and wheat.

Management of laying hens with and without artificial light.

The time factor in egg formation and ovulation.

Formation of the egg in the domestic fowl.

Social behavior of the hen.

History, development and life cycle of roundworms in poultry.

Preparation of a motion picture film, "Forming an Egg," shown in many states and nations.

The carotenoid pigments and their metabolism by the hen.

Distinguishing sex of chicks at hatching.

Distinguishing early and late feathering at hatching and at 8, 10 and 12 weeks of age.

Studies of artificial insemination, crossbreeding and hybrid vigor in poultry.

Value of grass and alfalfa silage in the poultry diet.

Frequency of tail and wing molt in turkeys.

Effect of light and temperature on molting in turkeys.

Capon production and management practices.

Fat rancidity in drawn poultry.

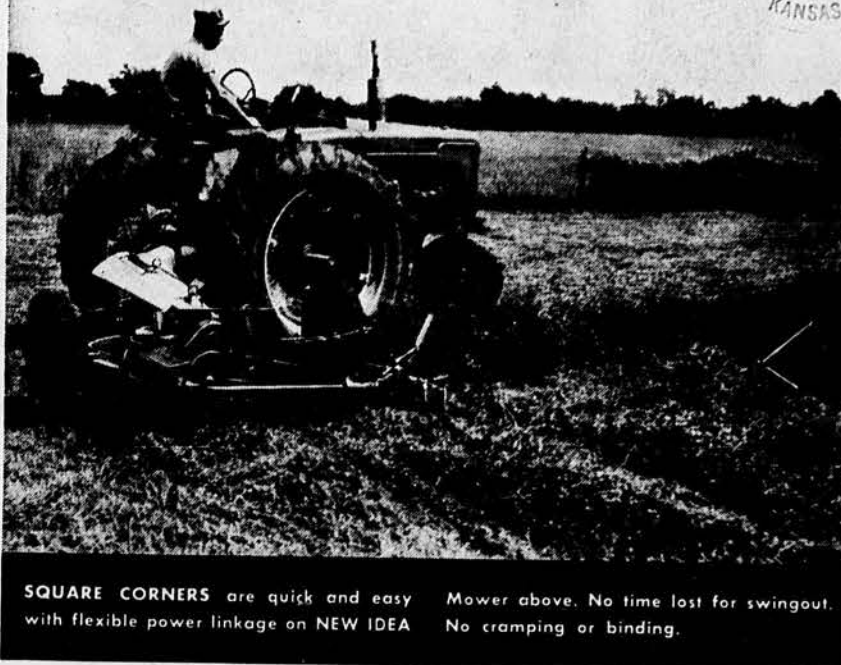
Turkey fillets and their acceptability by the public.

Effects of fluctuating environment on laying hens.

These titles are taken from more than 200 bulletins, circulars and technical papers prepared by staff members the last 50 years. Included in research work has been development of a new strain of White Plymouth Rocks, designated "Kansas White Rocks."

W. D. Termohlen, director, poultry branch PMA, USDA, Washington, D. C., recently said, "The last 50 years have been an era of scientific production, the next 50 years will be an era of scientific marketing." This obviously has and will be true in Kansas.

NEW IDEA Mowers Make Light Work of Heavy Going!



SQUARE CORNERS are quick and easy Mower above. No time lost for swingout with flexible power linkage on NEW IDEA No cramping or binding.

Speed through heavy stands! Specially designed Pitman lock reduces vibration. Knives stay snug against ledger plates—cut clean longer.

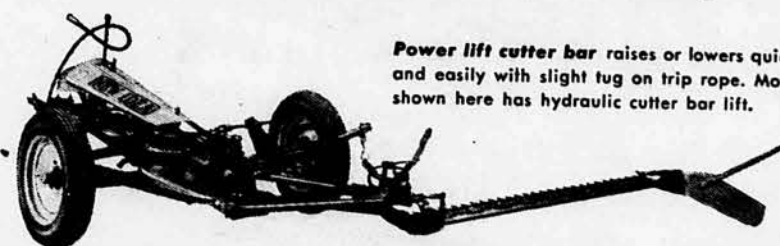
Hidden hazards no danger! Patented automatic safety release swings cutter bar back and away from serious damage. (Back up tractor to reset cutter bar.)

Fastest "on-off" mowers on the market! Perfectly balanced. Roll easily into hitching position. They're on or off in a matter of minutes.

Take rough ground in stride! NEW IDEA Mowers are low-slung, compact—trail straight over ruts, valleys or mounds. Full weight is balanced on wheels.

Two types of NEW IDEA mowers to choose from! NEW IDEA trailer type mowers with mechanical or hydraulic lift cutter bar. NEW IDEA semi-mounted mowers with many speed-up features.

Remember—if it's a NEW IDEA it's a good idea!



Power lift cutter bar raises or lowers quickly and easily with slight tug on trip rope. Mower shown here has hydraulic cutter bar lift.

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STIR-N-ROLL Biscuit treat



by Betty Crocker of General Mills

Makes 9 Rolls. Delicious Tuna Flakes in STIR-N-ROLL Biscuit Baskets

Preheat oven to 450°.

Sift together... 2 cups sifted GOLD MEDAL Flour
+3 tsp. double-action baking powder
+1 tsp. salt

Pour into a measuring cup (but don't stir together)
1/2 cup WESSON OIL
1/2 cup milk

Then pour all at once into the flour.
Stir with a fork until mixture cleans sides of bowl and
rounds up into a ball. Smooth by kneading dough about 10
times without additional flour. Place the dough between 2
sheets of waxed paper (12-in. square). Roll out until
dough reaches edges of paper. Peel off top paper. Cut
dough into 9 squares.

Spread over each square... 2 tbsp. Tuna Filling (recipe below)
Roll up each square as for jelly roll. Place sealed-side-down on un-
greased cookie sheet. Bake 10 to 15 minutes in hot oven (450°). Serve
with hot Celery, Mushroom or Chicken Sauce. (Bring to boil over
low heat, stirring constantly, one 10 1/2-oz. can condensed cream of
celery, mushroom or chicken soup, 2 tbsp. chopped parsley.) Garnish
with parsley or paprika. Serves 6 to 9.

TUNA FILLING
1 cup tuna, flaked (about 7-oz.
can CHICKEN of the SEA Brand)
1/2 cup minced celery
1 egg, unbeaten

Mix together... GOLD MEDAL Self-Rising Flour (sold in parts of the South),
omit baking powder and salt.

For wonderful results use the flour
that fits the recipe —
GOLD MEDAL FLOUR

● Betty Crocker's recipes are designed to take full advantage of Gold Medal's superb baking qualities. When used together, baking is easy, simple, sure. Even bread is quicker and simpler to make because your dough is easier to handle. You get rich,

light, full-volumed loaves, too. You'll find Betty Crocker's bread recipe and many other recipes in 25 lb. or larger size sacks of Gold Medal "Kitchen-tested"® Enriched Flour. Silverware coupon in every sack.

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What About My Child . . .

And Toilet Training

By MRS. MARION QUINLAN DAVIS

A reader asks: I have a 14-month-old boy who holds back bowel movements. When he was 10 months old he frequently had bowel movements in his potty, but when we moved to another place, he changed his practice and now refuses until he is put to bed with diapers on. Why does he do this?

MRS. DAVIS replies: Resistance to the potty is common in babies from 12 to 15 months. At this age the child is acquiring voluntary control of the sphincter muscles. In this control muscular contraction precedes muscular release.

Opinions have changed about seating wobbly babies on the potty in the first 6 months of life. Until a baby is from 10 to 12 months old his nervous system is not developed to the point of associating the toilet urge with the toilet seat. The best time to begin training is when a child can sit up straight and has begun to have fairly regular movements.

Use Low Chair

A low chair fitted over the potty is best for early training. Later a special chair on the stool and a box for his feet may be used. Even small babies are afraid of falling and of loud noises. Flushing the stool may frighten them. Some babies of 18 months are afraid of being rushed away with the water.

Take the child off the potty-chair as soon as he fusses. Keep him on the potty no more than 5 minutes. No one can force a child to move his bowels. The battle is lost before it's begun, especially on an uncomfortable, low potty, too small to begin with.

Fifteen months is usually the developmental age when the baby associates muscular urge with the toilet seat and begins to co-operate in toilet use. For many months there will be lapses, but between 15 months and 2 years most babies are fairly reliable in the matter of reporting toilet needs. He will become aware that the feeling he has means the bowel movement is coming. He may point to his diapers, or to the puddle on the floor, or come running to you until he is 18 months old. If you catch one movement a day, consider yourself successful.

Any break in a child's routine, such as moving to a new place, is likely to upset his toilet habits.

Give your little boy a month or more in which you do not force or even urge him on his potty. If you do try putting him on, take him off as soon as he fusses. Never keep him on more than 5 minutes even if he doesn't rebel. Praise him if he is successful, but don't mention soiled diapers. Urging or forc-

ing merely stiffens his resistance. Most of us respond with stubbornness to outside coercion. One of the chief causes for anger, even in the newly-born baby, is restriction of his bodily freedom of movement.

A suppository is not advisable. Many older children and adults resist suppositories and enemas. Sometimes the sensation frightens a child into resistance. At most it is a mechanical muscular inciter and does not secure the child's emotional co-operation.

Do Not Scold

A child of any age should not be scolded, shamed, forced or punished. It is much more effective to praise him for the few successful times and to convey the idea that mother knows he is a big boy and has faith in him. Be casual, friendly, matter-of-fact. When changing the soiled diaper, make no gesture of disgust. Talk cheerfully of something else during the process. Don't discuss it with anyone in his presence. Even a 14-month-old baby senses your approval or disapproval.

The best training is to leave the bowel training up to the baby for a month. Then watch for the time when the bowel movement is likely to occur and put him on his toilet seat a few minutes in advance.

After 2 years old, babies who go on soiling are those who have been used to a big scene over toilet training, have been frightened or who have had painful movements. In your son's case, "the less said, the sooner mended," is a good motto to hang over your washtub.

Glamorous Pies

In this little leaflet you will see by means of pictures and read specific instructions on exactly how to make pies that will take the prizes at the fairs. Instructions are given for a 2-crust pie, for a lattice-topped pie and a meringue pie. Cost 3 cents to cover cost of mailing. Send for "Glamorous Pies" to Home Service Editor, Kansas Farmer, Topeka.

I Remember

Playing with Chinker, my Negro doll;
Climbing our June apple tree;
Eating fresh buttermilk cookies;
Sitting on Aunt Sallie's knee.
Hiding 'neath grandmother's apron;
Picking wild flowers on the hill;
Catching a perch with a bent pin hook;
Hearing a whippoorwill.

—By Mary Holman Grimes.

They Plan the Programs



PROGRAMS for Kansas rural women are planned largely by the state home demonstration council's executive committee whose members are shown here during Farm and Home Week at Kansas State College in Manhattan. Standing, left to right, Mrs. O. B. Burtis, Manhattan; Georgiana Smurthwaite, state home demonstration leader, K-State; Mrs. John L. Larson, Concordia; Mrs. Paul Edgar, Topeka; Mrs. Hugh Needham, Muscotah. Seated, Mrs. J. C. McKinney, Hartford; Mrs. Clyde Russell, Chanute, secretary; Mrs. Earl Simmons, Ashland, president; Mrs. Everett Chamberlin, Valley Center, treasurer.

Kansas Farm Home and Family

FLORENCE MCKINNEY, Editor



PLATFORM ROCKER gets finishing touches. Beginning left, Mrs. O. Egner, Mrs. Lee Irwin, owner of chair and Mrs. J. E. Bebermeyer.



ADDING FINAL COVER to Mrs. Redmond's chair are Mrs. Russell Jacob, left, Mrs. Lee Irwin, center and Mrs. L. L. Redmond.

They're Sitting Pretty in Lyon County

THEY are sitting pretty in at least 200 Lyon county homes these days, due to efforts of the home agent, Mrs. Miriam Cade, and members of the special interest classes in upholstery held during the last few months.

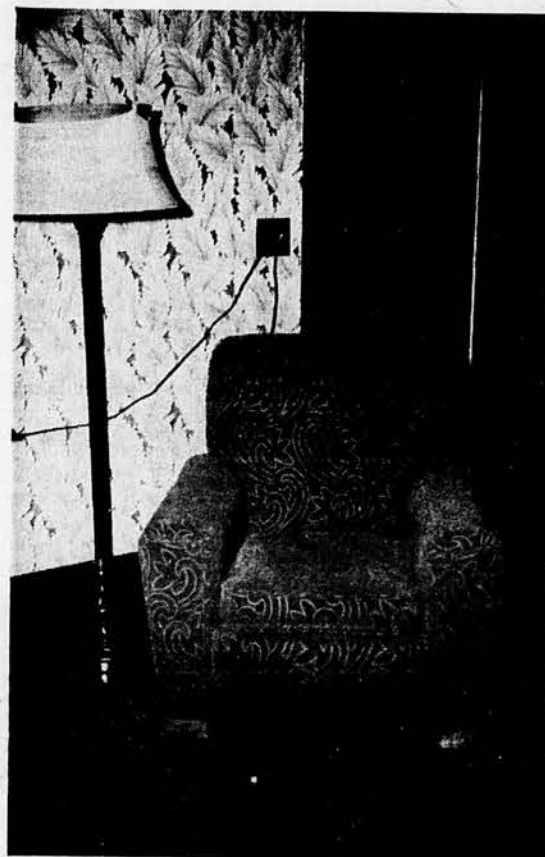
First, a leader's training school was held to prepare 2 leaders from each unit to present the lesson at a later meeting. At that time they were given samples of materials to identify, shown the proper means of measuring a piece of furniture to determine the yardage needed, and given a list of tools necessary to complete the job. Response to these classes was tremendous.

Twenty class sessions were held over the county with 200 articles of furniture upholstered at an estimated saving of \$2,975. One unusual piece was that done by Mrs. Paul Hatcher, of the Ruggles home demonstration unit . . . a chair her husband's grandfather had

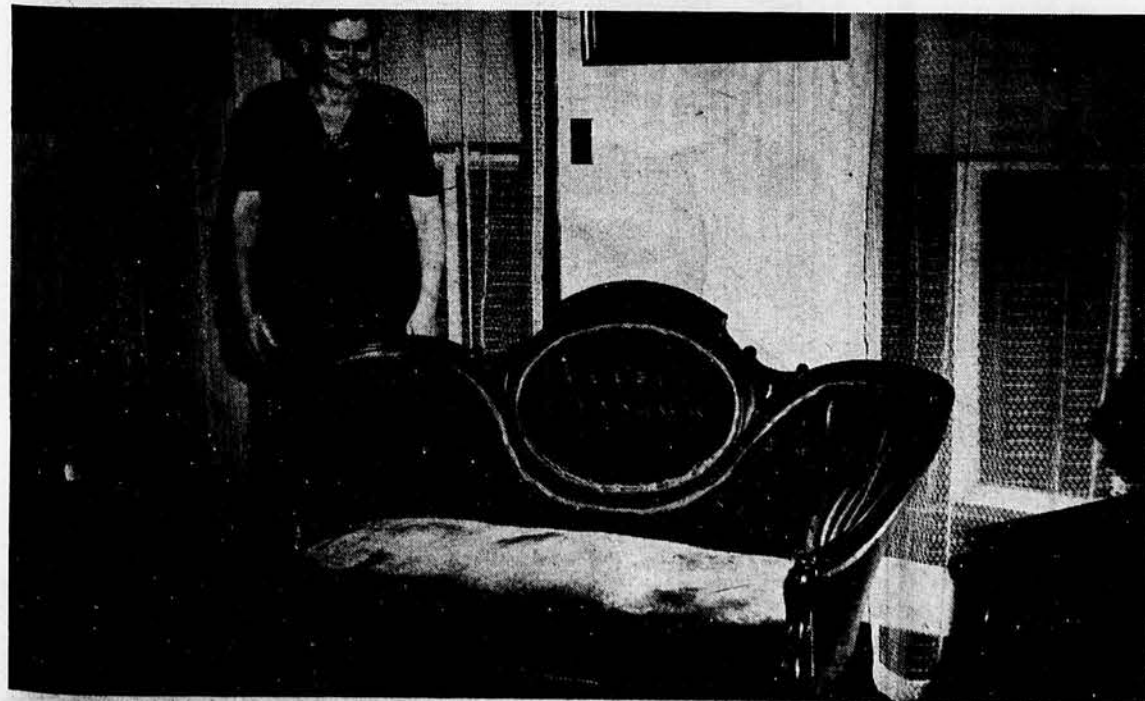
given his wife as a wedding present. Reminiscent of the past, Mrs. Ray Gardner upholstered an antique sofa in dark green mohair with a tufted back. This brought a twinkle to the eyes of several of the last generation who saw it at the recent achievement day exhibit.

In contrast to antiques, Mrs. Howard Grey made an old divan into a modern sectional sofa. Occasional chairs and other pieces also were modernized with square arms and backs. Mrs. Virgil McKinley re-covered an overstuffed chair thrown away by another and ended with a fine chair for herself. Mrs. Earl Lyddane covered an oak love seat and Mrs. Elmer Pederson used some old dining room chairs with round seats to make small occasional chairs. She added about 6 inches of padding to the seat, padded the back and cut off the legs to make smart, modern chairs.

Mrs. William Smith, [Continued on Page 22]



ALL FINISHED is this chair covered in rose frieze owned by Mrs. Floyd Basen.



LEFT: MRS. RAY GARDNER reupholstered antique love seat in dark green mohair with tufted back.



Stop Taking Harsh Drugs for Constipation

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Taking harsh drugs for constipation can punish you brutally! Their cramps and griping disrupt normal bowel action; make you feel in need of repeated dosing.

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Nagging backache, loss of pep and energy, headaches and dizziness may be due to slowdown of kidney function. Doctors say good kidney function is very important to good health. When some everyday condition, such as stress and strain, causes this important function to slow down, many folks suffer nagging backache—feel miserable. Minor bladder irritations due to cold or wrong diet may cause getting up nights or frequent passages.

Don't neglect your kidneys if these conditions bother you. Try Doan's Pills—a mild diuretic. Used successfully by millions for over 50 years. It's amazing how many times Doan's give happy relief from these discomforts—help the 15 miles of kidney tubes and filters flush out waste. Get Doan's Pills today!

who has just moved into a newly-completed house, decided to make a new living room suite. She completed the sofa in class and the chair at home using a taupe frieze as her final covering.

Mrs. Carl Huntsinger had been looking for a new sofa, but when the classes were announced, she made one to suit herself. Making something from nothing can be done, according to Mrs. Calvin Murphy. She had repaired and mended her old sofa and slip cover for the last time. It was in such condition none of the old padding could be used. Her husband reinforced it, built square arms and new legs. The completed project did not look like the original and matching chairs are being made as a home project.

Even the menfolks couldn't escape when the women got the upholstering bug. If a poll were taken, it would no doubt reveal a large percentage of husbands were lured to at least one class to drive nails, saw boards, reinforce arms and legs and do what the little woman couldn't. In some cases the bug proved contagious. One man "affiliated" with the Coterie unit brought his chair and reupholstered it himself. Most of them proved to be cheerful helpers, especially when they saw some of the finished projects and realized the financial savings made by the women.

All but one of the 39 home demonstration units participated in this county-wide project. In the county 4 love seats were completed, 41 occasional chairs, 5 divans, 8 studio couches, 12 kitchen chairs, 36 rockers, 62 overstuffed chairs, 17 platform rockers, 7 hassocks and 25 box cushions.

Yes-sirree . . . they're sitting pretty down in Lyon county.

Planning Your Kitchen

It's planning that makes the difference. Convenience and good conditions for work are 2 big items in kitchen and workroom. For helpful hints in planning these 2 rooms write us for a copy of new USDA bulletin, "Planning the Kitchen and Workroom." There are 16 good plans; most of the material is based on work of home economists who have studied work simplification principles. Send 25c to Farm Service Editor, Kansas Farmer, Topeka, Kan.

Mother of Small Girl

"It's not keeping up with the Joneses,"

A mother said with a wry smile,

"It's keeping a hemline down over

The inches, she's grown in the while."

—By Mary Alice Holden.

She Wins Second Prize

By FLORENCE McKINNEY

FOUR CORNERS SCHOOL, in Montgomery county, is getting a sizable addition to the school library this spring, all because Shirley Greer won second prize in the Kansas Farmer sponsored story-writing contest. This year's contest was, "We Need More Books for Our School Library, Because . . ."



SHIRLEY GREER, of Montgomery county, is second-prize winner in our story-writing contest and has won a cash prize for herself and \$75 in books for her school library.

Shirley won \$15 for herself and her school receives \$75 in books of their own choosing. Shirley writes she was surprised and happy about her success, and that she has put her prize money into a savings account.

Twelve Years Old

She is the daughter of Mr. and Mrs. Gilbert Greer, is 12 years old and in the seventh grade at Four Corners School. The last 2 years she has played in a 12-piano concert which is an annual event, sponsored by music lovers of Independence. Her hobbies are the piano and sewing and her favorite sport, baseball. She is a member of the Bolton Friends Church and the Country Boosters 4-H Club. Her favorite club projects are sewing and cooking. This year she is adding food preservation and a heifer project.

Shirley's teacher at Four Corners is Mrs. Mary Gillespie. There are 18 pupils in all 8 grades. They have a slide film projector, a radio and record player. They have a baseball team and compete with surrounding school

teams. With pie-supper money they bought bats, new mitts and new balls.

She reports the school has been working to be classified this spring and one of the requirements is that they purchase some new library books. "Thanks to Kansas Farmer, that item will be well taken care of." Here is Shirley's story:

We Need More Books for Our School Library, Because . . .

Books are read and used almost everywhere. They are our friends. There was a time when only a few people ever learned to read and use books. Books were printed in China about a thousand years ago, but the people of Europe didn't know much about them until 500 years later.

Thru the years, there has been a great improvement in books. At first they were written by hand with a pen, one at a time. Now we print more than a thousand copies in a matter of minutes. In the United States more than 9,000 different new books may be published in one year.

More Reading Now

More books are read by the public now than ever before. Parents are aware of the usefulness of good books in helping their children get an education. Writers, too, realize this value and they are writing better books for children. Pictures are drawn to fit their interest. Books are a great aid to children as well as grownups. One can sit in his easy chair, take a trip to far-away places and visit with children of other countries and make acquaintances that otherwise would be impossible. Books provide the richest of pleasures that even the very humblest can afford.

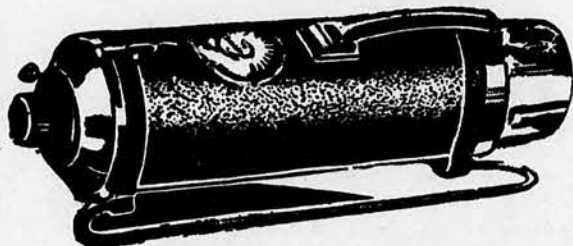
Books are friends. We need more books to help us become better readers, broaden our experiences, make better use of our leisure time, educate ourselves in use of words, ideas and thought, become better conversationalists for the exchange of ideas and a better understanding of our fellowmen.

"Books are keys to wisdom's treasure. Books are gates to lands of pleasure. Books are paths that upward lead. Books are friends, come, let us read."

Easter Entertainment

Our leaflets, "New Fashions for Easter Favors" and Easter Eggs-ibit" will help you with your plans for an Easter party. We suggest an early order. Easter is April 13. Please address Entertainment Editor, Kansas Farmer, Topeka. Price 3c each.

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Useful and Smart



7322

USE BRIGHT REMNANTS for this cute kitty pinafore. Add a touch of embroidery and applique for the trimming that small girls love. It can be a pinafore now and a cool sundress later. Pattern includes transfer and cutting chart. Sizes 2, 4, 6 in pattern. Send 25 cents for pattern to Needlework Editor, Kansas Farmer, Topeka.

Sewing Time



4914
SIZES
34—50

4914—Here's a simple shirtdress with newest high-style touches, smart cuffed pockets, shoulder tucks. Saddle stitching and fake monogram add extra style. Sizes 34 to 50. Size 36 takes 3 $\frac{3}{8}$ yards 39-inch material. Transfer included.

9166—Dress has all good lines and pretty curves. Add dainty embroidery at standaway pockets and new wide neckline. Misses sizes 12 to 20 and size 40. Size 16 takes 3½ yards 39-inch material. Transfer included.

4613—Change-about dress! Princess sundress has 3 charming accessories . . . collar, capelet and bolero. Sizes 12 to 20. Size 16 takes 4 $\frac{3}{8}$ yards 35-inch material; $\frac{3}{4}$ yard contrast.



9166
SIZES
12—20
40

4707—All flattery and slenderizing lines, this dress is air-conditioned with an eyelet yoke for now and summer, can be made in rayon or wool for later on. Sizes 34 to 52. Size 36 takes 3½ yards 35-inch material; ⅞ yard contrast.

4524—A toddler outfit to sew easily. Sunsuit has let-down seat, is one piece, bonnet also one piece. Cute scalloped dress has wings or puff-sleeves. Toddler sizes 1, 2, 3, 4, 5. Size 2 dress takes 1½ yards 35-inch material.

9281—Make several wrap-on dresses like this to slip on, tie to fit. You can go anywhere in style in this and it's so simple to sew. Sizes 12 to 20 and 30 to 42. Size 16 takes 3½ yards of 35-inch material.



4613
SIZES
12-20



9281
SIZES
12—20
30—42



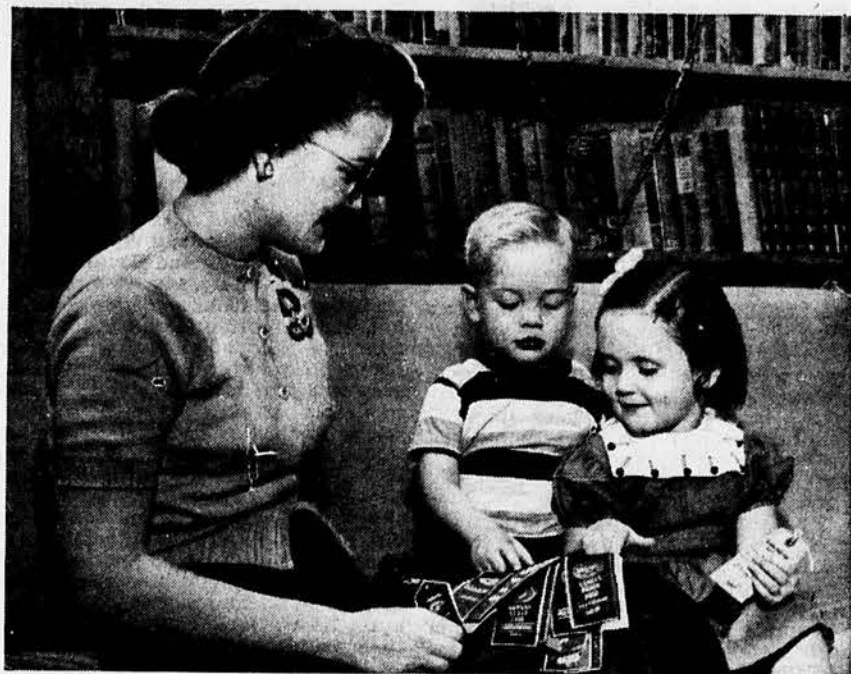
4524
SIZES .
1-5 yrs.



4707
SIZES
34-52

Pattern Numbers	Size	Name
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		Town
		State

Send 30 cents for each pattern to the Fashion Editor, Kansas Farmer, Topeka. Use coupon above.



Likes fast rising, fast dissolving Dry Yeast

Young Mother Wins Cooking Sweepstakes at Kansas State Fair

Little Tommy and Susan admire Mother's blue ribbons at their home in Hutchinson, Kansas. Mrs. J. R. Glass has been entering cooking contests at the Kansas State Fair for five years now and has every right to be proud of her prize record. Last year she won four firsts, a second—and a much-coveted sweepstakes award!

Mrs. Glass is another of the many prize-winning cooks who swear by Fleischmann's Active Dry Yeast. "It's grand for a busy mother like me," she says.

"It dissolves in a jiffy—and rises so fast. I always keep a supply of this speedy Dry Yeast on hand."

All during Lent serve plenty of yeast-raised goodies—such a delicious way to brighten your Lenten meals! They're wholesome and nourishing, too. When you bake at home, use yeast. Use the best—Fleischmann's Active Dry Yeast. It's always dependable . . . guaranteed fresher and faster rising or double your money back! Try Fleischmann's Active Dry Yeast.

Invest in Your Future
UNITED STATES SAVINGS BONDS
are still THE BEST BUY

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CONTINENTAL AIR LINES
FLY AND SHIP *The Blue Skyway*

No. 6 in flower series written by a man
who grows them by the acre

Everybody Likes Pansies

By FRANK PAYNE

I LIKE to look into the faces of pansies. They remind me so much of a sweet little baby's face. In my 62 years I have never heard anyone say they didn't like pansies! Most all say they dearly love them. And I do, too. I have grown pansies in my own home garden around the house for many years, and my experiences may be helpful to those who think them hard to grow or may have had failures. Really, folks, they are quite as easily grown as any flower I know.

Millions of pansy plants are grown and sold each year by commercial growers. They sow seed in August and grow them in cold frames all fall and winter, so as to have them real early for spring blooming. When they are in full bloom they get the soil soggy wet, dig the plant and squeeze the ball of mud around the roots, then wrap each ball of earth with paper and place a dozen of these plants in a 2-quart basket. Then they sit around stores and stands a week or so until you come along to buy them.

Of course, the blooms look real nice, but when you take them home and plant them outside in your own garden, somehow the pansies don't do as well as you had anticipated.

I think I know why, because I had the same trouble until I learned better. I do not think pansies should be disturbed when in full bloom. Furthermore, I do not think that squeezed-up ball of mud on their roots good for them either. A pansy plant that has been forced into full bloom simply cannot last as long for you and do very well, is my honest opinion. Here is what I do about that problem.

For my use I prefer to get the tiny little seedling plants that were winter-sown from seed. They are not in bloom, don't even have buds. They look mighty dinky when compared with the

fat blooming plants, but that is all right. We get these seedlings from greenhouses and plant them early in spring on the east or north side of the house. There they get partial shade from the hot noonday sun. They are planted 6 inches apart each way, so it's easy to figure how many you will need to plant a certain size spot. The ground is good, rich soil and is well drained.

The tiny seedling plants have nice roots, almost like a strawberry plant. In about 10 days after planting outside, roots will take hold and that dinky little plant really goes to town in making nice growth. Soon the buds appear and they just bloom and bloom and bloom all summer. Of course, they must be watered frequently to keep them in bloom during dry spells and YOU MUST KEEP THE BLOOMS PICKED off or they will go to seed quickly and stop growing. That is very important and someone must pick those blooms off about every other day, too. This is a good job for the children.

We can afford to be real generous with gifts of pansy bouquets to our summer visitors and berry customers, and still leave us plenty for our home decorations. Some folks may say, "I love pansies but their stems are so short, it is hard arrange them in a vase or small basket."

That is no problem at all! Just float them on top of water in a shallow dish, platter or bowl. You can see their babylike faces more easily that way. Be sure to dot a sprig or two of foliage for the green and you will have a bouquet for the dining table, stand or coffee table that is fit for a queen!

Some pansy plants may live over in your garden bed and some may come up from self-sown seed as volunteers. I don't think the ones that winter over are very good to leave, but the volunteer ones quite often are nice. How-

Poultry Proverbs

Many of the old, famous proverbs in English and Scottish history have a foundation in the poultry world. Most of them made comparisons with activities of a hen or a goose, the 2 most popular fowls of the time.

"He is driving turkeys to market"—old English proverb meaning a person can't walk straight.

"She holds up her head like a hen drinking"—Scottish proverb applied to a woman who affectedly holds her head high in the air.

"Children to bed and the goose to the fire"—English proverb, a jocular saying which meant that it was time for children to get in their beds and time to lay the goose on the fire!

"Your thrift goes by the profit of a yeld (barren) hen"—old Scottish proverb which was a taunt on those who would boast of their achievements.

"Gone is the goose that the great egg laid"—Scottish proverb which meant that a wealthy man, who aided people in financial troubles, had died.

"You will not sell your hen in a rainy day"—Scottish proverb, meaning one wouldn't part with something to disadvantage, for a hen looks ill on a rainy day!

"Far fowls have fair feathers"—Scottish proverb was said when a person extolled what he had heard or seen elsewhere, giving little credit to the source.

ever, pansies came from the common violet, the kind we as children called "Johnny-jump-ups," so they may revert back if you try growing them from your own saved seed too long. Pansy seed must be fresh, never plant old seed. Remember it pays to buy the very best seeds, even tho they may seem expensive. Cheap seed is not worth your time and effort to grow. Swiss Giants are a strain we found most satisfactory. By the way, the common name for pansies is heartsease. They make wonderful dainty border plants for your flower beds.

VIOLAS are the perennial pansy and can be divided and planted out in a bed in the open sunshine. Their season of bloom is much longer than pansies. Their blooms are very tiny, but they are beautiful if you like small and dainty flowers. A variety of Viola named Jersey Gem is larger flowered, richer in color and blooms from spring to fall. It is propagated by divisions. Other types come easily from seed. Violas always should be planted right out in the open sunshine as they do not flower freely if planted in partial shade, like pansies do. The violas make a nice rock garden plant.

(My next article is on HARDY PHLOX.)

Hamburgers for Sale

Clubs wishing to add a bit to the treasury find farm sales an excellent place to serve quick meals. Hot barbecued sandwiches, pie, doughnuts and coffee are suitable for such events.

Barbecued Hamburgers

- 1 pound hamburger
- 1 medium onion, chopped fine
- 2 tablespoons fat
- salt and pepper
- 1 cup tomato catsup
- 1 teaspoon chili powder
- 1 tablespoon Worcestershire sauce
- buns

Mix hamburger with onion, salt and pepper. Brown in hot fat while stirring. Drain off excess fat. Add catsup, chili powder, Worcestershire sauce and simmer together about 15 minutes. Spoon onto either hot or cold buns when ready to serve.

This recipe may be prepared at home and reheated at the sale. It is easier to handle than ordinary hamburgers which must be fried at the place of sale. Five pounds of hamburger prepared in this way yield approximately 55 sandwiches.

New-Way Custard

Baked custard can be touched up so each serving is different. An easy way to do it is to line up 6 custard cups and put a few raisins in one, nutmeg in another, cooked dried apricots in a third, honey in a fourth, chocolate chips in a fifth, then fill all 6 cups with the custard and bake. When done, this assortment is turned upside down in

individual dessert dishes so that the trimmings are on top. The plain custard may be touched up with a spoonful of frozen strawberry preserves at serving time. Grease the custard cups to make the trimmings stay in place. The baked custard recipe for this dessert is as follows:

- | | |
|-------------------|--------------------|
| 1/4 cup sugar | 3 eggs, beaten |
| (beet or cane) | 2 cups hot milk |
| 1/4 teaspoon salt | 1 teaspoon vanilla |

Combine sugar, salt and eggs. Add hot milk slowly, then vanilla. Pour into custard cups and set in a pan of hot water. Bake in a slow oven (325° F.) until custard is set, 30 or 40 minutes.

To Make Rolled Sandwiches

Roll sandwich takes a little know-how, but they're worth the effort because they're attractive and add much to the party look.

After you remove the sides and end crusts from an uncut loaf of bread, cut it into thin lengthwise slices. Roll each slice lightly with a rolling pin. This gives the slices greater surface and also gives them firmness.

Lay each slice on a damp cloth and spread with mayonnaise and a filling. You can use ham paste, chicken salad or creamed cheese filling. Here is a good recipe.

- 1 cup cottage cheese
- 1 package cream cheese
- 1/2 cup finely chopped celery
- 1/2 cup finely chopped cucumber
- 1 cup finely chopped tomato
- 1 tablespoon grated onion
- 1/4 cup mayonnaise

Mix all ingredients together and spread on the bread slices.

Place across the end of each bread slice, 4 stuffed olives end to end. Fold the bread over and roll up tightly like a jelly roll. Roll tightly in waxed paper, twist ends of the paper and store in the refrigerator or food freezer.

When ready to serve, use a sharp knife to slice into thin rounds. Place on a serving platter and garnish with stuffed celery, radish roses or curls and bits of parsley.

Increase Your Milk Profits

Producing clean, wholesome, high-quality milk and cream means bigger profits for dairymen and healthier products for consumers. For hints on "Clean Milk Production" write us for this bulletin. Address Farm Service Editor, Kansas Farmer, Topeka, Kan. Price 10c. Ask for USDA Bulletin 2017.

Closet for Work Clothes



SHELVES on inside of closet door give a hide-away for mittens and other odds and ends. In the home of Mr. and Mrs. C. G. Steele, Jr., Washington county, it is located just inside the back door for work clothes. A false floor in the closet covers space for boots and overshoes.



Look What Chevrolet's Done to Win Your Approval!

Smart new grille and fender treatment make Chevrolet's sturdy, long-lasting Body by Fisher more handsome than ever. Car colors are new and brighter, with 26 solid colors and two-tones to choose from in 11 models.

And for '52, color is brought *inside* the car to offer you color-matched interiors in all De Luxe models. It's more like stepping into a pleasant living room, bright and attractive.

When you start the engine, you'll notice how Chevrolet's new Centerpoise Power "screens out"

engine vibration . . . smooths out performance. The engine rides flexibly mounted and cushioned in rubber — you'd hardly know it's in the car!

And the *ride* is smoother, too, with new Quick-Reflex shock absorber action that makes a day's drive more restful and comfortable.

Smarter looking, smoother running, softer riding . . . and still the lowest-priced line in its field! See this big and beautiful new Chevrolet at your Chevrolet dealer's soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



Interiors are brighter, more colorful
Chevrolet Royal-Tone Styling brings color *inside* the car. Interiors in two-tone blues, greens or grays are offered in De Luxe sedans and sport coupes to harmonize with a wide selection of bright new exterior colors.



Engine vibration is "screened out"
A new sensation in smooth performance is yours with Chevrolet Centerpoise Power. Engine vibrations and power impulses are "screened out" . . . isolated from driver and passengers. Engine rides mounted, cushioned in rubber.



Ride is softer, more restful
New Quick-Reflex shock absorber action permits a softer, smoother Knee-Action ride. Spring control is instant and continuous, wheel bounce is minimized. With Chevrolet's solid weight, you travel in relaxed comfort.

MORE PEOPLE BUY CHEVROLETS THAN ANY OTHER CAR!



The Only Fine Cars **PRICED SO LOW!**

What Will Help Egg Hatchability?

By CLYDE D. MUELLER, Kansas State College

IT IS ESTIMATED this spring there are 4,000 poultry breeding flocks in Kansas, including 950,000 layers, from which eggs will be produced for hatching purposes. It is estimated further that 30 million chicks will be hatched from such eggs during 1952. Based upon past performance, it is likely 10 million unhatched eggs will be discarded by commercial hatcheries during the year. This represents about 25 per cent of all eggs expected to be incubated.

For the nation such a proportionate loss in unhatched eggs reaches the staggering total of more than 2,500 carloads annually. Under such conditions, one need not look far for an

excuse to urge steps to improve hatchability.

As considered by the commercial trade, the term "hatchability" applies to the number of chicks hatched in relation to the number of eggs set. Inability of a particular egg to hatch is dependent upon whether it has been fertilized, and, if fertile, whether the embryo is able to develop normally into a healthy chick. Let's consider fertility first.

Fertility Factors

Fertile eggs may be laid on the day following introduction of males into the flock, altho maximum rate of fertility usually is not established until

males have been in the flock 10 to 15 days. Fertility will be maintained with little reduction for about one week after males have been removed, with a few fertile eggs being laid as long as 4 weeks after removal of males. A few factors which affect maximum rate of fertility include management, health of flock, and ratio of males and females in flock. There also is some evidence inherited factors may affect fertility.

It usually is recommended that the breeding flock consist of one male for each 12 to 15 light breed hens, or one male for each 10 to 12 heavy breed hens. Recent experimental studies indicate, however, some strains show good fertility with only half as many males. More important than actual number of males is management of the flock. Best results are obtained when males of about the same age run together for a long time previous to the breeding season. This enables males to become acquainted with each other and to establish their "social order." If strange males are placed together in the pen, they may spend most of their time fighting, and usefulness of some males will be curtailed just when it is most needed.

Some Practice Rotation

Some poultrymen follow the practice of rotating males among different pens, and use an extra set of males so each group can be rested occasionally. In this case, all males in a pen are moved as a group to a new pen in order to minimize fighting. When mortality or some other factor makes it necessary to increase the number of males in a pen, it is advisable to make up the pen with equal numbers of males from 2 or more sources. Males will be at too much of a handicap if added singly or in small numbers to pens already containing a large number of males.

"Dubbing," or cutting off the combs of cockerels prevents freezing of the comb, and permits males to eat from feed hoppers with more freedom. The practice is performed simply when chicks are 8 to 12 weeks old, and is advisable for insurance against extremely cold weather during the heart of the hatching season. Use of special grain hoppers placed about 20 inches above the level of the litter enables males to maintain body weight better when grain is hand fed in limited amounts daily.

Differences between families and strains reared under the same environment lead to the conclusion inherited factors affect fertility. Diseases or poor health due to any cause result in lowered activity of both males and females, and poor fertility usually ensues.

Hatchability Factors

Most management and nutrition factors which induce maximum rate of egg production also favor a high rate of hatch for all fertilized eggs. Certain nutrients such as vitamins A, D, B₁₂, and riboflavin are required in greater amounts for good hatchability than for egg production alone. The added expense of ingredients which supply these nutrients accounts for the pro-

duction of special mash rations for breeders.

Inheritance apparently has even more affect upon hatching power of eggs than upon fertility. Hatching flocks should be obtained from stock known to be bred for high hatchability. Family breeding programs are important in breeding for this objective, since it is impossible to obtain an indication of a hen's hatchability from her outward appearance.

Care of Eggs

Common sense in methods of handling eggs from the time they are laid until placed in the incubator helps maintain the hatching potential. "Timeliness, gentleness, and proper environment" should be the watchword for all producers of hatching eggs. Gathering eggs at least 4 times a day is advocated, especially in freezing or hot weather. Such a gathering job is not complete until eggs are deposited in the holding room. It avails one little to remove eggs from a nest overheated by hens and then leave them hanging in an open pail in a cool henhouse. Eggs which remain at incubation temperatures under hens too long may progress too far with germ development before the eggs are gathered.

Ideal conditions for an egg-holding room are a consistent temperature between 45 and 60 degrees Fahrenheit, with a relatively high humidity to prevent excessive evaporation from eggs. (Incidentally, these conditions also are recommended for market eggs.) These requirements are most easily met on most farms in a basement or cellar. Humidity of the room may be increased by spraying walls and floor with water. A desirable arrangement is a thin layer of sand on the floor.

Eggs should be selected carefully to eliminate those which are too large or too small, and those which are abnormal in shape or which have weak shells. Dirty eggs should be cleaned, preferably by scraping or buffing. Eggs should be thoroly cooled before they are cased with the small end down.

Look for Premium Market

Eggs produced under rules outlined here, and delivered to the hatchery at least once a week, represent quite an investment in labor and expense to a producer. The poultryman is entitled to every consideration if he can produce eggs with a reputation for high hatchability, and he might be well advised to seek a premium for eggs scaled according to their rate of hatch. Such an arrangement usually benefits both producer and hatcheryman in the long run (biggest headache to hatcheryman is record keeping involved). Breeding flocks with perennially low hatching records should be disbanded so we can reduce somewhat the number of eggs which now are relegated to the hatchery garbage can.

Tape Repairs Oilcloth

To prevent a cut in oilcloth from becoming an unsightly hole, place a strip of adhesive tape on wrong side, press edges down smoothly.—W. M. B.

Gives CHICKS



Faster GROWTH

Even With Vitamin B₁₂ and Antibiotics In The Feed
AND

PREVENTS Coccidiosis

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Ren-O-Sal

With G.S. (Growth Stimulation) FACTOR

REN-O-SAL helps chicks gain weight 15% faster as proved by tests with 90,000 chickens. Chickens mature quicker at heavier weights. They start laying up to 15 days earlier, and have sufficient weight to help them through the laying season. Additional tests show that REN-O-SAL produces faster gains even with Vitamin B₁₂ and Antibiotics in the feed.

PREVENTS CECAL COCCIDIOSIS—When dosage is increased, REN-O-SAL prevents the spread of cecal coccidiosis in chickens. Reduces stunting and weight losses.

Thousands of successful poultry raisers have used REN-O-SAL for many years because it gives them more poultry profits. You can increase your profits, too. Get easy-to-use REN-O-SAL tablets for the drinking water...or REN-O-SAL powder for use in the feed. Buy Dr. Salsbury's REN-O-SAL at your hatchery, drug or feed store.



Profit-Proved By Thousands of Poultry Raisers

"We used Dr. Salsbury's REN-O-SAL on 500 pullets from the time they were hatched. They were fully grown at 4 months, REN-O-SAL sure makes them grow and feather faster, and they weren't sick a day with coccidiosis."

Mr. & Mrs. Vernie Kivett
Marionville, Indiana



The Preferred
Drinking Water Medicine
In Easy-to-Use Tablet Form

When you need poultry medicines, ask for

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Dr.

SALSBUURY'S

New and Different Flock Wormer

Effectively Removes WORMS That Retard Growth and Egg Production



Which Bird Has The Worms?

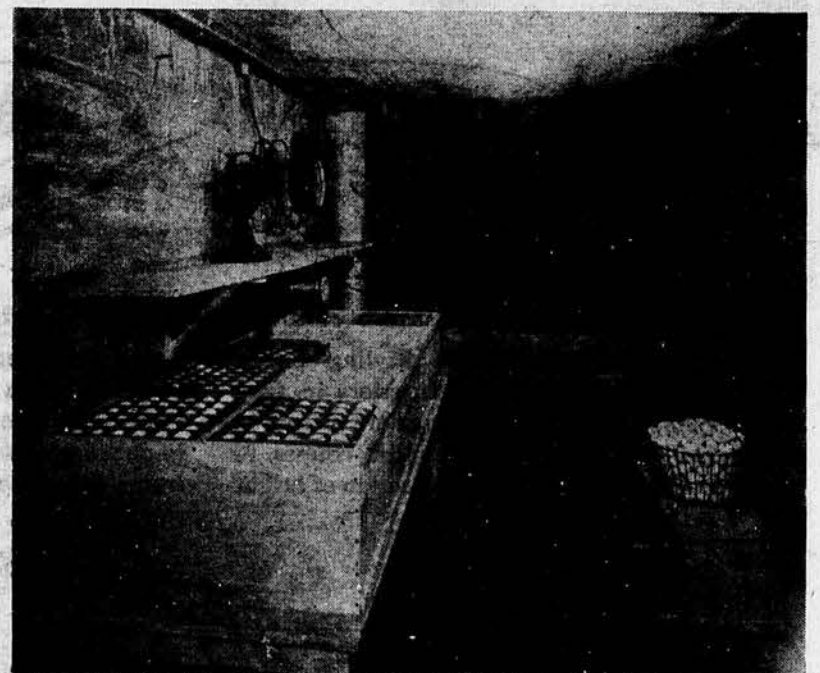
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Expels Tapeworms
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Get Extra Eggs...Faster Growth from infested birds. Wormy birds often appear normal due to better breeding, feeding, etc. Don't take chances. Worm NOW with WORMAL.

Contains effective drug Butynorate. Won't retard growth or egg production. Buy WORMAL today. Dr. Salsbury's Laboratories, Charles City, Iowa.



IDEAL EGG-HOLDING ROOM: Note wire basket used to allow eggs to cool quickly after gathering, sand floor which may be soaked to increase humidity, and slatted board floor section. In left rear corner is ventilation shaft which may be opened or closed, according to season. Electric fan and temperature recording instrument have been used here in experimental studies.



WALK AWAY FROM POULTRY CHORES!

USE HUDSON EQUIPMENT For Better Results, Less Time, Less Cost

With Hudson's help you save hours of time every week on your poultry chores. Every Hudson brooder, feeder, and fountain is designed with *your time* in mind—designed

for money-saving, carefree "lifetime" service. For "tested and proved" better results, let Hudson help you with your poultry chores.



CAREFREE Feeders and Fountains
for Better Chicks, Easier Chores

LOOK FOR THIS DISPLAY!



HUDSON DEALERS HAVE
THE BEST BUYS

Hudson CAREFREE Brooders
Save You Time and Money

FAMOUS HUDSON KLEEN-EZY® FEEDERS

Sloping sides keep feed sliding to bottom without packing. Permits chicks to feed up close. Special lip reduces "billing out." Non-roost reels or grills.



Hudson Chick Feeders.
One-piece enameled steel. No seams, easy to clean. 3 sizes: 18-in., 24-in., 36-in. with reels.



Adjustable Chick and Growing Feeders. New, Hudson-designed legs just snap into any of 3 heights—no nuts, no bolts. 4-blade, non-roost, free-spinning reel. 36-in., 48-in. sizes.



Large capacity, 48-in. length with reel adjustable to 3 positions or with grill. Legs snap into any of 3 positions for different heights.



Jumbo sizes: 5 ft. long with grill as shown or 4 ft. long with reel. Legs fold under trough or stand upright for different trough heights.

HUDSON AUTOMATIC TROUGH WATERER



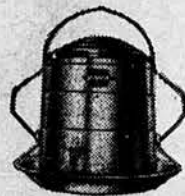
← Valve also sold separately

Foolproof, fully automatic valve! When trough is full, weight of trough and water pulls valve shut. As water is consumed, valve opens to let water flow. 4-qt. cap. for 500 chicks.

HUDSON EZY-FILL® FOUNTAINS



Sanitary Chick Fountains. Individual cups in pan prevent chicks from wading, fouling water. Fills twice as often as usual pan; keeps water fresh. 1 or 2 gals.



Growing and Flock Fountains. Remove pan to fill. Reverse handle for use as pail! Easy to clean, fill, carry. Special saucer pan, easier drinking, prevents wading. 3, 5 gals.



Double Wall Fountains. No gushing or over-flow with patented air groove. Special pan prevents wading, keeps water cleaner. Ruggedly built. 3 or 5 gals.

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Address _____ or R. F. D. # _____

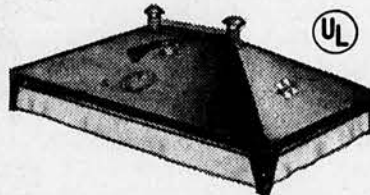
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Hudson-Hart® Gas Brooder. Only one burner, one pilot light. Self-cleaning, non-clogging, non-corroding burner. Clay radiants spread heat uniformly up to 18" beyond hover diameter. The most accurate valve with automatic thermostat. Automatic shut-off at low extra cost. Sizes—500, 750, 1000 chicks.



Hudson Lektrik-Hen® Brooder. Completely automatic—carefree. Powerful radiant heating elements. Balanced heat distribution, controlled ventilation keep litter dry, prevent huddling. Fully insulated. Rigid, roomy hover, non-roost design. Sizes: 100, 300, 500 chicks.



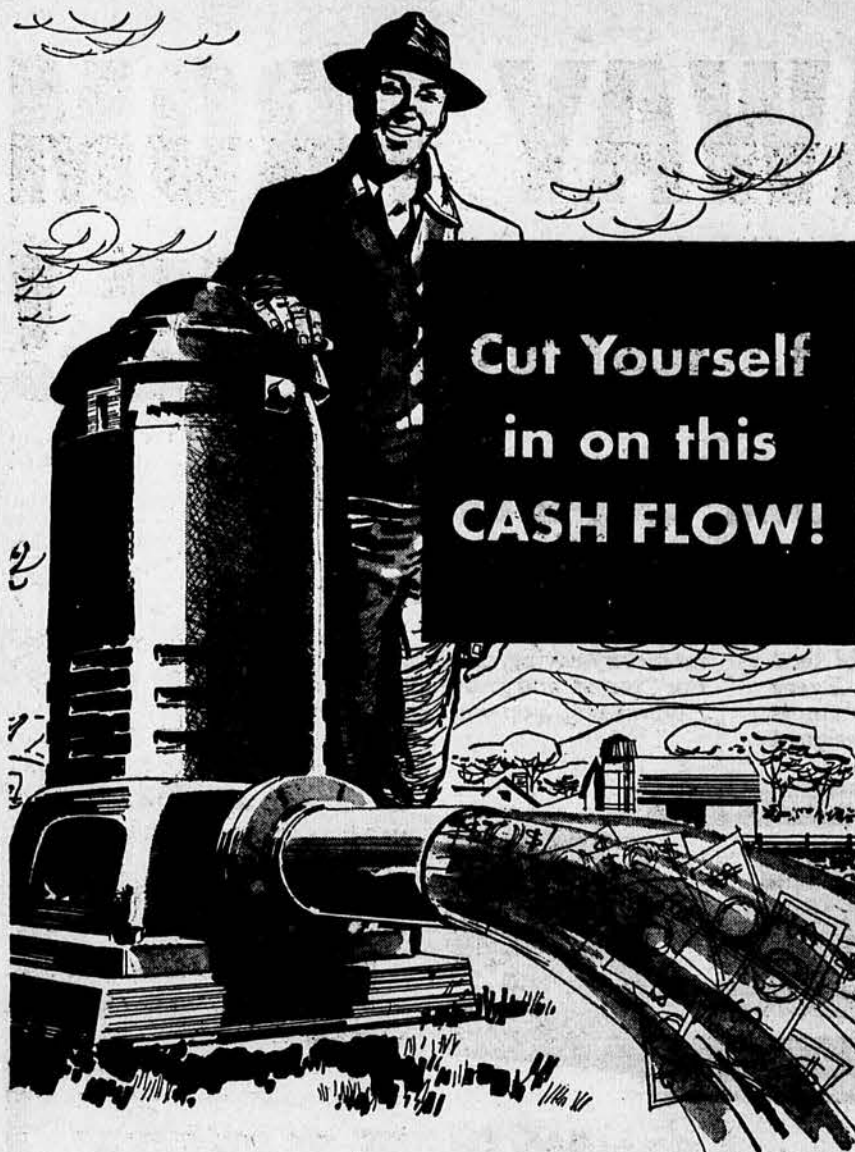
Hudson Mother-Hen® Oil Brooder. Save up to 30% on fuel with Hudson's "Oil Miser" burner. Never needs cleaning between broods. Constant heat control with famous Micro-Tem® Valve. Minutes to assemble. Rugged construction. Sizes: 500, 750 chicks.

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Hudson Lektrik-Chik® Brooder. Full size—moderately priced. Holds 123 day-old chicks. Stacks perfectly to make 2 to 5 deck battery. Heated by 150-watt element. Completely automatic.

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This pump is pumping profits for you—profits from a greater increased yield. Thanks to the Fairbanks-Morse Vertical Deep Well Turbine Pumps... the Pomona line... you're always sure of irrigation water and only as you need it. That present non-irrigated acreage can come under this profit flow, too!

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Better than two hired hands! Loads 7 1/2 bales in 15 minutes! Picks them up just as dropped and straightens them automatically. Saves extra labor—drives a baler. No strain or breakage pulling skids or wagons! Ground driven, light draft, easily hitched. Two models—bale deck heights 6' 9" and 12' 9".

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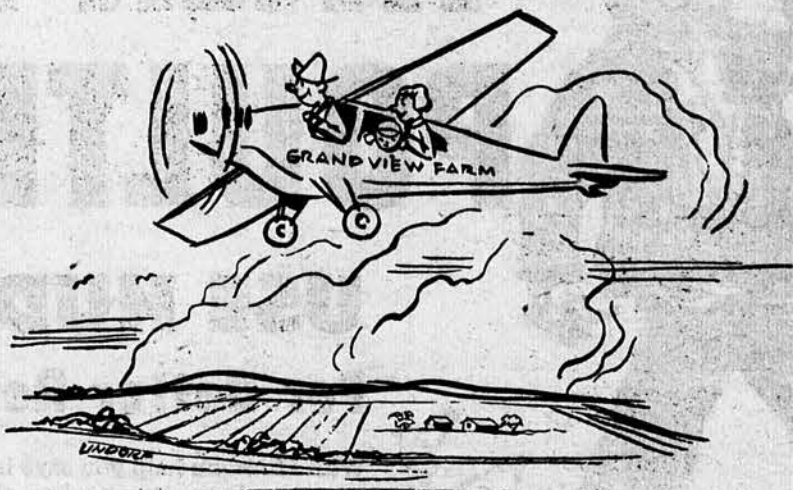
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Dealers Wanted

Newer Fruit Varieties Deserve Planting

By WILLIAM G. AMSTEIN, Kansas State College



"And right down there is where we'll have our orchard."

THERE are several newer fruit varieties listed by nurseries this year that deserve our attention and planting in many Kansas fruit layouts. Not all have been widely tested under Kansas conditions. However, many appear to be well adapted.

Strawberries are for most farm families the No. 1 fruit choice. In Central and Western Kansas both annual and everbearing varieties are used. Sioux is a fairly recent introduction to the annual variety list that deserves wider planting especially for family use. Other more recent introductions are Armore and Robinson.

Armore, developed at the University of Missouri as a cross between Aroma and Blakemore, is a medium-late maturing variety. It appears very promising. Robinson is a large, high-quality berry that will appeal to many gardeners. Both are suggested for commercial as well as home use. Tennesseean, developed as a possible successor to Blakemore, has not been widely tested but appears very promising.

In everbearing strawberries, Red Rich is a new one receiving a good bit of attention. Main objection to this variety at present is the high price. In a few years, the plant supply will be more plentiful.

For Higher Yields

There are 2 management items worth considering with everbearing varieties at present. One is maintaining plants in a hill system with all runner plants kept off. The other feature consists of maintaining the area around the plants in mulch all the time. Since most gardeners will not have a large area in everbearing varieties, the system seems worth trying. Yields 2 or 3 times greater are reported for this arrangement. Only 2 or 3 rows are planted together, then a walk-way is left for convenience in harvesting.

The sour cherry is the most satisfactory Kansas tree fruit. Wet feet and too much rain caused many of these trees to be defoliated or lost last year. However, this condition is not normal or usual. In nursery lists, bud sports of standard sour cherry varieties such as Montmorency that give considerable variation in maturity dates are now listed. In this way, both earlier and later ripening dates for standard varieties may be provided.

A few nurseries also are listing 3 in 1 or 5 in 1 trees, indicating that 3 or 5 different varieties have been budded on them. If your space is limited, or if the novelty appeals to you, it is a good answer. One caution needs to be observed in management. Do not prune much or you may take off a variety every time you remove a branch.

Some newer peach varieties have a place in Kansas, based upon our experience with them. There are several good varieties, some that ripen as much as 6 to 8 weeks ahead of Elberta. In sequence of ripening, some of these variety names are Early East, Early Red Fre, Jerseyland, Redhaven, Raritan Rose, Cumberland, Golden Jubilee, Newday, Fairhaven, Triagem, Halehaven, Sunhigh, Goldeneast, Sullivan Elberta and Early Elberta. Out of this list Redhaven, Golden Jubilee, Triagem, Halehaven, Goldeneast, Sullivan El-

berta and Early Elberta have been commonly used. The others are receiving additional attention and planting. A sequence of ripening dates is of advantage in home plantings as in commercial.

The list of apple varieties has not changed very much. One feature has been added in connection with many standard red varieties. Today most nursery lists carry bud sports or red strains of these standard varieties. In choosing apple varieties, best selections are the bud sports. For example, instead of planting Delicious, a bud sport such as Starking or Richared is a much better choice. Bud sports of other standard varieties such as Jonathan, Stayman, Rome and York are available. Lodi is a summer apple proving very useful.

Bear Good Crops Early

Several plum varieties as well as cherry-plum hybrids are available from most nurseries. While they may not be long-lived trees, they do bear early and often heavy crops. Many Central and Western Kansas families consider them one of their better adapted fruits for home plantings. Sapalta is a new name in many lists this year. In connection with this group, I find some fail to provide for cross-pollination for cherry-plum hybrids. Something such as Hansen's bush cherry or Compass cherry should be planted for this purpose.

Not too many gardeners are successful with red raspberries. Indian Summer is an everbearing variety several growers have used with success. The Oriental Trailing red raspberry has been tested quite widely in plantings by the Soil Conservation Service. While the fruit is not of the highest quality the plant possesses heat and drought resistance. It can be grown where most other red raspberries have failed to give satisfactory results.

There are several standard American varieties of grapes in addition to such standbys as Concord that could be grown. Sheridan and Van Buren are 2 that often are available. Fredonia is another one to consider. Another group of grapes known as French-American hybrids is receiving some attention and probably deserves more. One of these that is more commonly available is Seibel 1000.



"All at once I just lost my voice. I can't speak above a bellow."

PURINA

CHECKERBOARD NEWS



Around the
**PURINA
FARM with**
ELMER POWELL

DIRECTOR, RESEARCH DEPT.

GRAY SUMMIT, MO.—Can you imagine 32,000 pigs being weighed in the same basket? Sounds like a pretty big job for one basket, but for the past 24 years we've been weighing baby pigs, one by one, in the same scale basket at the hog farrowing unit. Thirty-two thousand pigs, 32,000 weighings, 32,000 entries in our records to help us do a better job of research.



This White Holland tom from our Eastern Research Farm is only 12 weeks old, but he's prime for the broiler-fryer market. He's one of a group of birds that averaged 6.94 lbs. in 12 weeks, and made a pound of turkey for every 2.71 (that's right) lbs. of feed. Rupert A. Green, manager of the farm, reports mortality was a very low 2.4 per cent.

Every spring and fall Purina Salesmen bring visitors to the Farm for special tours. Last year 14,574 folks from all over the country made the trip. Since we started having the tours nearly 100,000 visitors have seen the Farm and its facilities.



Young and old alike have a natural affection for pups. The eight pups here are the first litter for our English Setter No. 2597. They're healthy and playful and quite a match for A. W. Kuelper, manager of the Kennel Department.



105 Pigs Farrowed ...104 Went to Market

by J. H. McAdams

ASK MOST anyone in Johnson County to name some of the more successful hog men, and they are sure to name the P. E. Macys, father and son who use the same initials.

The Macys operate Southview Stock Farm, southwest of Edgerton where they have lived for 10 years. The senior Macy was raised on a hog farm, so the business comes naturally to the son.

A late March blizzard was coating fields and buildings with snow the day I visited the Macy farm. I had expected to find sows and pigs in heated farrowing houses, but I soon learned that hogs on the Macy farm are not pampered in any way. I found 11 sows nursing 105 pigs, the youngest of which was more than 3 weeks old.

"I like early pigs," Mr. Macy senior told me as we slid into a farrowing house out of the wind. "The first of these spring litters came the last week in February, and the last litter on March 4th. We like the type of farrowing houses that handle two sows and

litters. We had some below zero weather right while some of these sows were farrowing, but by using heat lamp bulbs we had almost no trouble from pigs chilling or crowding toward corners.

"We try to be with each sow when the pigs come, and it's lots easier when all the pigs come at about the same time. It's as easy to sit up with two or three sows as with one. We pride ourselves

on the uniformity of our market hogs, and pigs of about the same age are easier to handle and to keep uniform."

Prime factor in the Macy success story is their ability to raise practically every pig farrowed. For example, 104 of the 105 spring pigs farrowed reached market. They averaged 210 pounds and were on the market at 5½ months. Last fall 10 sows farrowed 94 pigs around September first. Four runts were killed at once, but 90 pigs averaging 42 pounds were weaned at 8 weeks.

"There is nothing unusual about our program or about our equipment," Mr. Macy said. "Any farmer who really tries should do as well as we do. Our bred sows are carefully handled. After breeding we hand-feed ear corn once a day and keep oats and Sow and Pig Chow Checkers in self-feeders. Sows are brought in a few days before due to farrow and are fed Purina D & F Chow. This bulky feed puts their bowels in good condition and helps them come to their milk.

"When pigs are 5 days old we put a mixture of ground grain and Sow and Pig Chow in feeders where they can reach it. At eight weeks we merely run the sows into another pen and the pigs are weaned without realizing anything unusual happened. Our only other change in the feeding program is to substitute Hog Chow in the place of Sow and Pig Chow after the hogs reach about 125 pounds."



Pigs are weaned at 8 weeks, then are wormed by mixing Pigtab Granules with a limited amount of feed.

Research Makes Turkey Raising More Profitable!

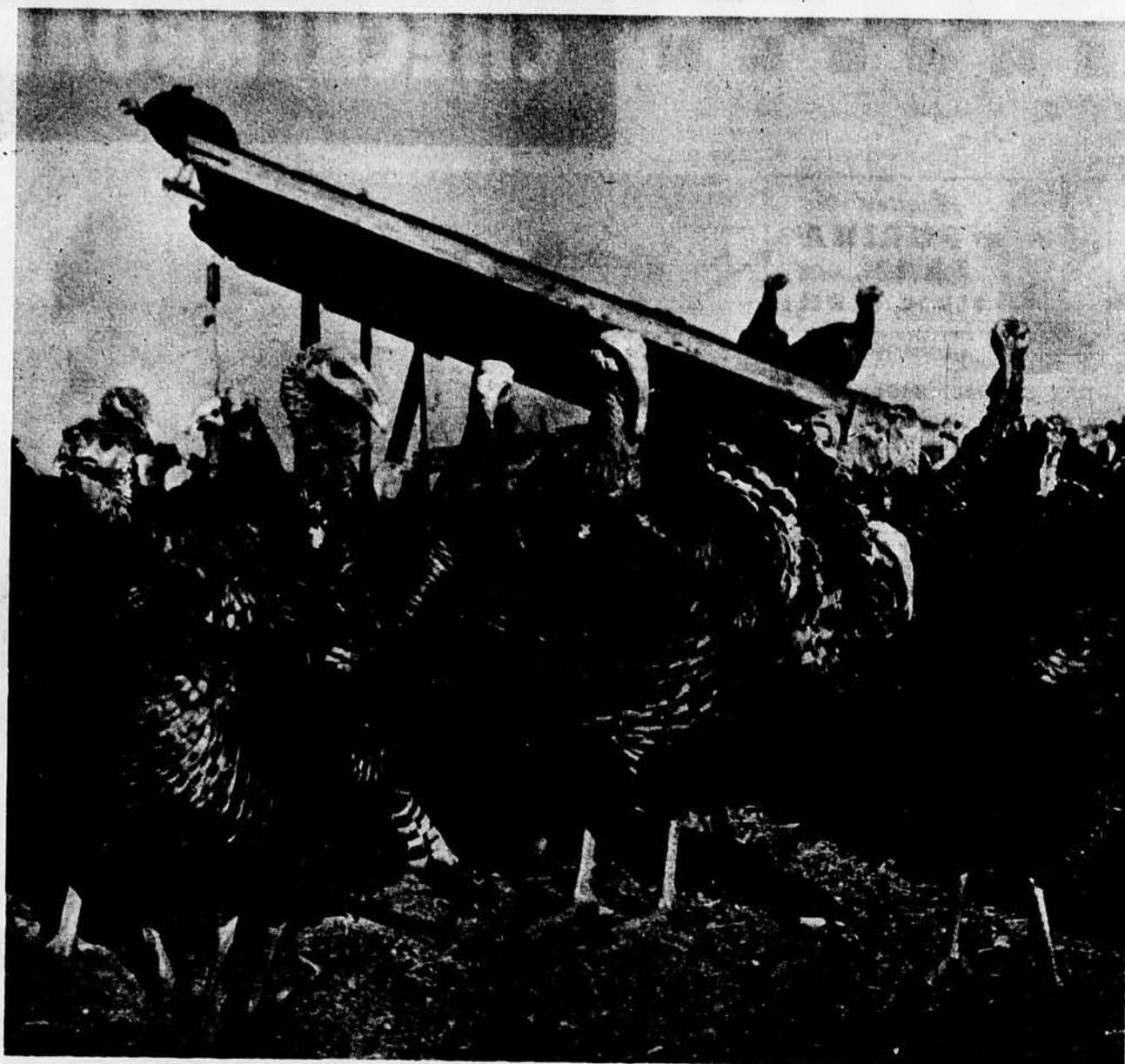
IT WASN'T too many years ago that a turkey grower would tell you his birds were doing very well if he could market a pound of turkey for 5 to 6 pounds of feed. That was considered good feed conversion . . . a few years ago.

Now Purina Research has helped change the picture . . . for the better. Along with improvements in breeding and nutritional progress by the U.S.D.A. and state colleges, Purina Research has made possible feed conversion of from 3.75 to 4.4 pounds of feed per pound of market turkey.

Reports from the Purina Research Farm indicate that last fall Farm turkeys were being marketed at 26 weeks weighing 2 pounds more than on Purina's 1950 rations. Because of improved feed conversion these 2 extra pounds required only 3 extra pounds of total feed.

This means Purina sold turkeys worth about 75 to 80 cents more apiece at an additional feed cost of only 18 to 20 cents. Many of your neighbors on the Purina Turkey Plan reported similar improved results.

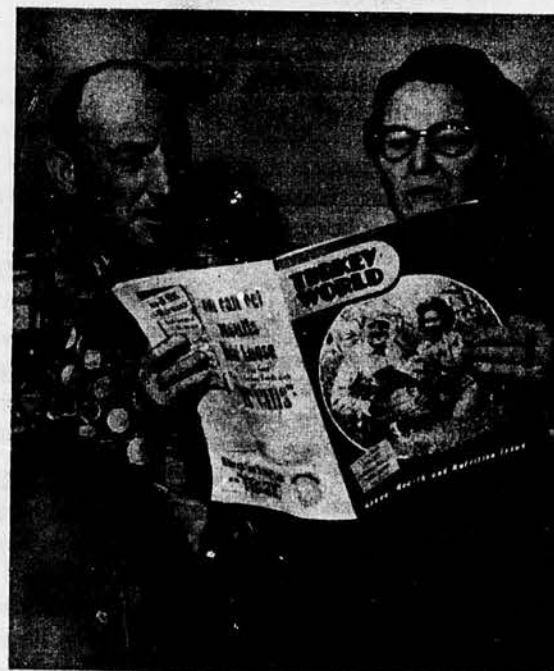
This progress in turkey nutrition is another example of Purina Research helping get more from what we have.



W. F. Mittelsted & Son of Chaska, Minnesota, who raise Broad Breasted Bronze report outstanding results on last year's Purina Turkey Starters and Growing Chows. Mittelsted says he had only 1 1/4% loss on birds paid for at 11 weeks of age—rolled out the season to market time with 94.22% livability on 9,000 poults started. They marketed their birds at 25 weeks. Toms averaged 28 lbs., hens 17 lbs. for a flock average of 22.8 lbs. each. The total amount of feed per bird was 93 lbs.—a little over 4 lbs. of feed per pound of gain! Growing birds are ranged on good alfalfa. Mittelsteds keep breeders and report a hatching average of 85% fertility by actual hatchery record! Mittelsted writes, "This was the best conversion of feed and growth we have ever had." Archie Peterson is the superintendent of this operation.



J. C. (Cy) Roberts of Claremore, Okla., started a large number of Broad Breasted Bronze poults last year. Most of these were marketed in the fall, but many of the better hens were saved over as breeders. Robert's strain is big boned with good fleshing qualities (so good that one of his 20-lb. hens was named grand champion dressed bird of the 1951 Oklahoma Turkey Show). To an already excellent breeder flock, he recently added growing hens from California. Primarily a breeder, Cy also has a hatchery set-up and has been hatching his own poults since he went into the turkey business. He feeds Purina Turkey Chows and reports better results on Purina in 1951 than ever before.



Lake's Silver Dollar Turkey Farm, Marysville, Kan., raised 10,700 Broad Breasted Bronze last year. Mortality in the flock was only 4 per cent, and owners Mr. and Mrs. William Lake report they didn't spend 5 cents for medication of the flock. The Lakes started with 1,000 turkeys in 1939. Factors in their rapid growth include careful sanitation and close supervision of market and breeder flocks. They deliver poults in a heated truck to points within a day's drive from Marysville so poults can be put under the brooders the same day they are hatched. Last year the Lake's market hens averaged 17 lbs., toms 25 3/8 lbs. in only 5 1/2 months on the Purina Turkey Plan.

STAND BY YOUR HEIFERS...



by E. B. (TINY) PRATT,
Manager, Purina Dairy Chows

A heifer worth \$350 as a springer today will cost about \$175 for her total feed bill from birth on the Purina Program. With this investment, dairymen should make sure their heifers get the very best care.

Recently I talked with a Wisconsin dairyman who was following our plan for heifer growing and he said he had some 1200-1300 lb. heifers about ready to freshen and not yet two years old. This man has been feeding Purina body chows just a little over a year.

We're breeding by weight at the Research Farm rather than by age. Holsteins are bred at 750 lbs. — Jerseys at 500 lbs. Dairymen are finding that on Purina body chows, many Holsteins reach this weight by or before 15 months and Jerseys by 12.

And bigger heifers mean more milk! Our Holstein heifers, grown on the Purina Program average over 400 lbs. fat—11,000 lbs. milk—in their first lactations. With early calving and heavy production, these heifers have paid for themselves and are making a profit before they are 3 years old.

So let me urge you to look after those heifers...they're your future! Build yourself a feed bunk near the pasture gate, so it's handy. Get your Purina Custom-Mix dealer to mix you up some Bulky Las and oats, or home-mix it yourself by using 50-50.

Then once a day—perhaps at noon—throw a sack of the mix on the tractor or in the pickup and run down to the bunk. If you have 10 heifers, for example, dump about one-third of the sack (one bushel basket) of mix into the bunk (about 3 lbs. per day per head). It's just as simple as this.

Excellent results reported from PURINA PIG STARTENA and PIG-PLUS...

Normal pigs make fast, cheap gains... runts snap out of it

Only 2.2 lbs. feed make 1 lb. gain! "Doodles" Curtis, Cameron, Mo., hog man put 70 nine-week-old pigs that weighed 45.3 lbs. each on Purina Pig Startena. They got Pig Startena and water for 15 days, when they were weighed again. Here's the story the scales told—each pig had gained 28½ lbs., only 1½ lbs. short of a 2 lb. per day gain. And each 100 lbs. of gain cost only \$12.32.

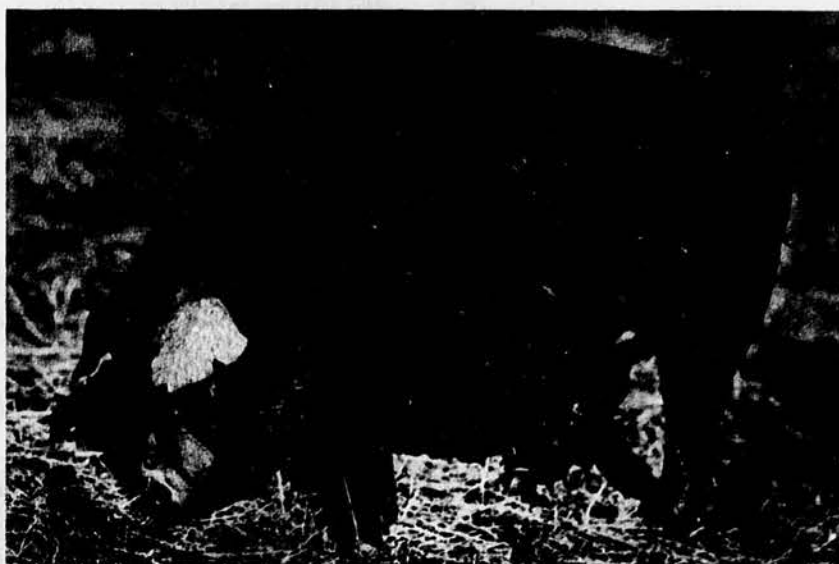
Runt weighs 17 lbs. at weaning—190 lbs. at 5½ months! At the Purina Farm 10 lighter pigs from 4 litters averaged 31.4 lbs. at weaning. One of these was a runt weighing only 17 lbs. at 9 weeks. These pigs were fed Purina Pig-Plus for 12 days along with their ration of corn and Sow and Pig Chow. During these 12 days the average daily gain per pig was 1.97 lbs. From weaning to market these pigs averaged gains of 1.70 lbs. per day. They were marketed at 165 days of age, averaging 205 lbs.

Worst 3 pigs out of 258 make pork at cost of \$11.21 per cwt. Three runts that weighed 6, 9 and 9½ lbs. at 6 weeks were fed Purina Pig Startena for the next 9 weeks, then were continued on grain and Purina supplement.

These three miserable runts used only 1¾ lbs. of Pig Startena for each pound of gain. Gains cost only \$11.21 per hundred pounds.

This record was made in a display pen in the salesroom of the Goettl Feed Service at Mankato, Minn.

Purinaman saves runts lives. Salesman Walter Montgomery asked a hog man to give him four runts the feeder was going to kill. He brought them to Check-R-Board, 315 Baxter St., Louisville, Ky., put them



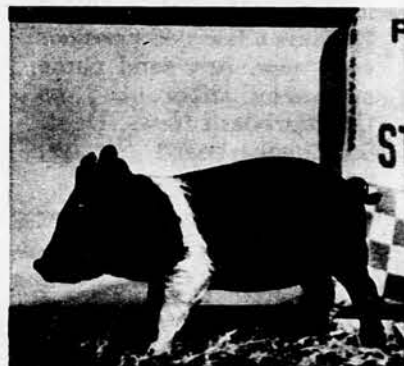
This "runt" weighed only 17 lbs. at 9 weeks; at 165 days he weighed 190 lbs. He was fed Purina Pig-Plus for 12 days, was fed out on the Purina Program.

on Purina Livestock Mineral, Purina Pig Startena and water, and wormed them with Pigtab Granules. The pigs were 3 months old when started on Pig Startena. At that age they weighed 8¼ lbs., 8½ lbs., 16 lbs., 21 lbs. for an average of a little over 13 lbs. each. Twenty-eight days later they weighed 26 lbs., 33 lbs., 40 lbs., 48 lbs., for an average of a little over 36¾ lbs! Walter Montgomery reports that "they're really going to town now."

Purina Pig Startena or Pig-Plus are sure-fire formulas to help pigs over a weaning setback or help runts snap out of it—and economically. They give pigs a big nutritional boost—help them make early, fast gains at low cost. Pig Startena is a palatable, complete feed. Pig-Plus is a concentrate to be fed at 2% of the total ration. Next time you're in town, drop in at the store with the Checkerboard Sign and ask your Purina dealer to tell you more about these great pig boosters.



What a difference 28 days can make. This pig weighed only 8½ lbs. at 3 months (photo at left). After eating Purina Pig Startena 28 days she weighed 33 lbs. (photo at right).



Breeding by weight helps save feed!

Purina Research shows weight a better indicator than age as to when heifers should be bred.

Our Holsteins are bred at 750 lbs.; Jerseys at 500 lbs. On a good growing program Holsteins will reach this weight by 15 months—Jerseys by 12. Bred at these weights, they calve by 2 years of age, fully 4 to 6 months ahead of most heifers. This saves about 6 months of unprofitable feeding before production begins.

Three pounds daily of Purina D & F Chow, or a mixture of Bulky Las and oats or barley, plus good quality roughage will help heifers reach these weights and develop into good milkers.

If you'd like a handy weight tape send along 20 cents in coin. The Purina Dairy Book is yours free. Get the coupon in the mail today!

RALSTON PURINA COMPANY
Department GB, Checkerboard Sq.
St. Louis 2, Missouri

☐ Please send free 48-page Purina Dairy Book (D3200).

☐ I also enclose 20 cents in coin for weight tape.

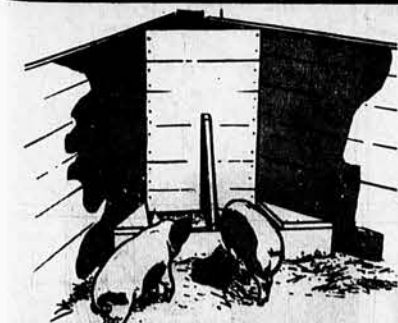
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(Offer good in U.S.A. only)

FARM HANDIES



HOG FEEDER MAKES GOOD USE OF CORNER SPACE

Arthur Webb of Pinkerton, Ontario, has constructed an economical self-feeder in the corner of his hog pen. It makes good use of corner space, is simple to build, and easy to fill.

KANSAN USES STOCK TANK FOR WATERING TURKEYS

A 700 gallon stock tank is used as a turkey waterer on the farm of William M. Lake, Marysville, Kan.

Eight small, double hog waterers around circumference of the tank supply the water to the turkeys.

The tank is particularly useful on range in the summer where it is conveniently filled from a truck. Mr. Lake reports that in six minutes he can fill the tank. Heavy timbers keep the tank off the ground and at the same time keep the turkeys from walking in spilled water. Fencing at top of tank keeps the turkeys out of the water.



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Take your feeding problems
to your friendly Purina Dealer

KANSAS

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AUGUSTA, Furlong Hatchery & Feed
BALDWIN, Hardy's Hatchery
BALDWIN, Hunt Farm Supply
BAXTER SPRINGS, Gaines Feed Store
BELLE PLAINE, Halls Produce & Feed
BELLEVILLE, Hall Mill & Elevator
BELLEVILLE, Jones Feed & Seed Co.
BLUE MOUND, Mulkey Produce
BONNER SPRINGS, Bonner Feed & Fuel Co.
BURDEN, Wallace Feed & Seed
BURLINGTON, Solisby's Feed & Seed Store
BURNS, Burns Feed Store
BURTON, Hensley Oil & Feeds
CANEY, Halligan Feed & Produce
CANTON, Canton Grain Co.
CARBONDALE, Surber Grain Co.
CEDARVALE, L. C. Adam Mercantile Co.
CHANUTE, Farm Service Store
CHANUTE, Floyd R. Potter
CHENEY, Ball Produce & Hatchery
CHERRYVALE, Cherryvale Grain Co.
CHETOPA, Kams Grain Products Co.
CLAY CENTER, Gordon Mark Elevator
CLEARWATER, Hugh R. Wilk
CLYDE, Derousseau's Hatchery
COFFEYVILLE, C. C. Feeders Supply
COLBY, Thomas County Grain Co.
COLDWATER, Wallingford Grain Corp.
COLUMBUS, Columbus Hatchery
COLWICH, Andale Farmers Elevator

Would you like to be listed
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Do you have a friend who
is interested in a solid business
opportunity in town?
There are a few select markets
open now. Just send name
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Checkerboard News, Dept.
8, Checkerboard Square,
St. Louis 2, Mo.

CONWAY SPRINGS, Farmers Union Coop. Assn.
COTTONWOOD FALLS, Schoep Poultry &
Egg Co.
COUNCIL GROVE, Scholes Feed Store
DELEVAN, Farmers Grain & Supply Co.
DENISON, Farmers Elevator
DESOTO, Goodrum Grain Co.
DODGE CITY, Carterline Grain & Seed, Inc.
DOWNEY, Dwight Feed Co.
EDGERTON, Edgerton Grain Co.

EDNA, Edna Produce
EL DORADO, The Home Grain Co., Inc.
ELK FALLS, O & B Oil Co.
ELKHART, Elkhart Coop. Equity Exchange
ELLIS, The Wheatland Elevator
EMPORIA, The Kansas Soya Products Co., Inc.
ESSON, Esbon Feed & Seed Co.
ESKRIDGE, Converse Farm Service Co.
EUREKA, C. T. Agrallus Feed Co.
FONTANA, Barnes Feed & Seed Store
FORD, Security Elevator Co.
FT. SCOTT, Char. Leist Feed & Seed Co.
FT. SCOTT, National Coal, Ice & Fuel Co.
FREDONIA, Cox Produce & Grain Co.
GARDEN CITY, Western Terminal
GARDNER, Gardner Grain Co.
GARLAND, Pfeiffer Produce
GARNETT, A. H. Fawkes & Sons
GAS CITY, Goodwill Hatchery
GIRARD, Potter's Hatchery
GOODLAND, Terminal Grain Co.
GREAT BEND, Barton County Hatchery
GREELEY, Rossmiller Produce
GREENSBURG, Security Elevator Co.
GRENOLA, Gwinup's Produce
HAMSTEAD, Farmers Coop. Grain & Merc. Co.
HAMMOND, Bruce General Mds.
HARDTNER, Kansas Milling Co.
HARTFORD, The Kansas Soya Products Co., Inc.
HARPER, The Imperial Flour Mills Co.



Mrs. J. C. Thiry,
Wellsville, Kansas, is
telling Maurice L. "Pete"
Averill, her Purina
dealer, about excellent
production she is getting
on the Purina Program.
Her 360 pullets aver-
aged 74½% the first 3
months they were in pro-
duction. The Thirys sell
their quality eggs on
local routes in Kansas
City, and through Pete
Averill's Produce Co., in
Wellsville.

HARVEYVILLE, Harveyville Grange Coop.
Business Association
HAYS, Engel Hatchery
HAYSVILLE, Haysville Elevator & Supply Co.
HERINGTON, Wilkerson Grain Co.
HIAWATHA, Wolf Feed & Grain Co.
HIGHLAND, Moore Farm Supply
HILLSDALE, Fessenden Grain Co.
HOLTON, Farmers Union Coop. Assn.
HOPE, The Farmers Coop. Elev. & Sup. Co.
HUGOTON, Security Elevator Co.
HUMBOLDT, Farmers Produce
HUTCHINSON, Berry's Hatchery & Feed Store
HUTCHINSON, Orth's Feed & Seed Co.
HUTCHINSON, Salt City Hatchery
HUTCHINSON, Security Elevator Co. B.
INDEPENDENCE, Star Mill Co., Inc.
IOLA, Allen County Feed & Prod.
IONIA, Ionia Produce
JUNCTION CITY, Hart Bartlett Sturtevant Gr. Co.
KANSAS CITY, Crawford Hatcheries
KANSAS CITY, Dyer & Co.
KANSAS CITY, Kansas Avenue Merc. Co.
KANSAS CITY, Kelley Feed Store
KANSAS CITY, Midwest Hatchery
KANSAS CITY, State Ave. Merc. Farm Store
KANSAS CITY, Frank Wells Feed Store
KANSAS CITY, Kans., Precht's Feed & Seed,
740 Kansas Ave.
KANSAS CITY, KANS., Park Junction Feed
Store, 1905 N. 5th St.
KANSAS CITY, KANS., Rockhill Market,
4710 Metropolitan
KENSINGTON, Levin Bros.

KINCAID, Dunlap Produce
KINGMAN, Goenner Hatchery
KIOWA, OK Coop. Grain & Mercantile Co.
LA CROSSE, Farmer's Union Coop. Merc. & Elev. Co.
LA CYGNE, Farmers Produce
LANE, Gerrius Breeder Hatchery
LATHAM, Morgan's Produce
LAWRENCE, Snyder Produce
LAWRENCE, Caldwell Hatchery
LAWRENCE, Douglas County Hatchery
LEAVENWORTH, Hibbs Farm Service
LEBO, Lebo Grain Co., Inc.
LENEKA, Jennings Feed & Coal Co.
LEOTI, Herb J. Barr & Sons Grain & Supply Co.
LIBERAL, Security Elevator Co.
LOGAN, The Logan Grain Co.
LOUISBURG, Owens Feed & Produce
LYONS, Lyons Independent Produce
LYONS, W. S. Dayton Hatchery
MACKEYVILLE, Kansas Milling Co.
MAIZE, Maize Mills, Inc.
MANHATTAN, Johnson Feed & Seed
MARION, Levin Bros.
MARQUETTE, Rodney Milling Co.
MAYETTA, Farmers Union Coop. Assn.
MCLOUTH, McLouth Grain Co.
MCNEERSON, Community Feed & Seed
MCNEERSON, Hilltop Turkey Farm & Hatchery
MEDICINE LODGE, Kansas Milling Co.

PERRY, Heck & Seyler
PIQUA, Niemann's Store
PITTSBURG, The Potter Hatcheries
PLEASANTON, Pleasanton Mill & Elevator Co.
PORTIS, Walter's Lumber Co.
PRATT, Pratt Equity Exchange
PRESCOTT, Singleton Products
PRETTY PRAIRIE, Security Elev. Co.
PROTECTION, Park Hatchery
RICHMOND, Farmers Home Coop. Merc. Society
SABETHA, Sabetha Coop. Produce Co.
SAFFORDVILLE, North Grain Co.
ST. FRANCIS, Roylston & Son
ST. MARYS, Farmers Union Coop. Assn.
SALINA, McMinn & Tanner Feed & Produce
SCOTT CITY, Durrant Seed & Supply
SEDAN, Sedan Seed House
SEDGWICK, Behymers-Sedgwick Hatchery
SEDGWICK, J. O. Coombs & Son
SEDGWICK, Sedgwick Alfalfa Mills
SEVERY, Arnold & Colyer
SHAWNEE, Shawnee Hatchery
SPRING HILL, Zweimiller Feed & Produce
STAFFORD, Stafford Hatchery
STANLEY, Boyd & Maelzer
STERLING, Farmers Coop. Union
STILLWELL, Stillwell Feed & Coal
STOCKTON, Bouchey Grain Co.
SUMMERFIELD, State Line Pig Factory
SYLVIA, Sylvia Coop. Assn.



Three Kansas radio farm directors
broadcast for Purina

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apeak for Purina bringing you mar-
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Seyler, WIBW, Topeka, broadcasts
the markets Monday through Sat-
urday at 12:20 p.m. and has a spe-
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Wichita, broadcasts farm news for
Purina every Monday, Wednesday
and Friday at 12:45 p.m. And on
KXXX, Colby, Ed Mason, reports
market news every day, Monday
through Friday at 12:44 p.m. To
keep abreast of markets and the
latest farm information, listen to
these popular broadcasts.

THAYER, Potter's
TONGANOXIE, Trasper's Feed Store
TOPEKA, Emery I. Shiner Feeds & Seeds
TOPEKA, J. R. Shiner
TRIBUNE, Tribune Grain Co.
TROY, Winger Hdwe.
TURON, Turon Hatchery
VALLEY CENTER, Valley Center Farmers
Elevator Co.
VALLEY FALLS, Reichart Elevator
VIRGIL, Virgil Feed & Coal
WAKEENEY, The Wheatland Elevator
WATERVILLE, Wagon Produce
WATHENA, Wathena Hatchery
WATERVILLE, J. R. Baxter Produce
WELLINGTON, Newell's Feed Store
WELLVILLE, Averill Produce
WHITE CITY, White City Grain Co.
WHITEWATER, Whitewater Hatchery
WICHITA, C. Ball Feed Co.
WICHITA, Hillside Feed & Seed Store
WICHITA, Berry's Hatchery & Feed Store
WICHITA, Great Plains Hatchery
WICHITA, Kellogg Brothers Feed & Seed
WICHITA, Maxwell Feed & Hatchery
WILLIAMSBURG, Williamsburg Produce
WILEY, F. S. Riegel
WINFIELD, Wallace Feed Store
WINONA, Wheatland Elevator
WOODBINE, Reed's Store
YATES CENTER, Yates Center Elevator Co.
ZARAH, Zarah Grain & Elev.
ZENITH, The Goenner Hatchery
ZENITH, The Zenith Cooperative Grain Co.

CALAMITY CAL...



by ed smyth & bill sims



LP-Gas

With blue flame magic you can take drudgery out of household duties, ease chore tasks and lower field work costs

... Brings a Revolution in family living and farm operation

NEW WAYS of living have come to the farm. New comforts and free time. New methods of cooking, water heating, refrigerating, cooling and warming the house. Out-of-date are hand-stoked kitchen range, big base-burner, kindling box, washtub bath, blue Monday battle, frozen water bucket, once-a-week shave, oily butter, soured leftovers, day-long pot watching.

Now Dad doesn't need to get up an hour early to build fires. No longer must he do chores on an empty stomach, while Mom teases breakfast from a reluctant stove. No longer does the family have to wrap up winter mornings until the house warms, or swelter thru sleepless summer nights.

Nobody need call Junior from his play to fill that yawning wood box. Nobody must remember to put the teakettle on so water will be hot when the table is cleared. Nobody needs to carry out ashes. Nobody needs to wait until Sunday dinner for frozen desserts, nor miss hot rolls because dough wouldn't rise. Nobody has to tend the oven or go to the well house 3 times a day for cream.

Baby can play on the floor without catching cold. Daughter can wash her hair whenever she pleases. No longer must Mom chap her hands hanging wet wash in midwinter breezes, or slave all day long in a torrid summer kitchen.

All this change has come about because of a magic fuel. That fuel is Liquefied Petroleum Gas!

When Mom cooks with LP-gas she gets the job done in jig time. She puts chops, chicken, potatoes, corn or beans on the burner, turns a knob and gets heat right now. There's no waiting. When she turns out the flame, the heat's gone. As easy and comfortable as that! Baking days, Mom sets an oven control for the right temperature and forgets about burned or underdone pastries.

She can wash breakfast dishes and still have oodles of hot water for doing laundry. All the children can take baths in a row and nobody has to wait and wait for another tankful to heat.

Dad can shave every morning if he likes with nary a worry about hot

water. And Son can zip off that 5 o'clock shadow any evening he has a date with his steady.

With LP-gas to heat the house, Sister and Brother can study in their rooms. Or each member of the family can pick his favorite spot in the living room and be perfectly comfortable. There are no drafts, cold floors or corners. No baking of fronts nor chilling of backs.

Mom doesn't need to worry about whether meat will spoil if she's got an LP-gas refrigerator. Cream or milk will keep for days and days. She can whomp up a batch of rolls, bake half of them and set the rest in the refrigerator for another time. She can stash away a whole gallon of ice cream and be ready with dessert anytime, come who may.

She always can be prepared for icebox raids when the children come home from school, when there's a junior party in the house or when Dad goes foraging for a bedtime snack. And with the LP-gas refrigerator, Mom can serve such foods as Grandmother never dreamed about.

The big laborsavers are range, automatic water heater, refrigerator and furnace. But there are several others that will lighten Mom's burden. She'll certainly like the air conditioner that can be had right along with the furnace. With it to cool the house her summer work will be a lot less exhausting. When she has finished, she can rest in comfort. Menfolks, too, get a big lift from noon hour and evening relaxation under the cooling temperature. And the whole family wakes up refreshed in the morning.

Then there's the clothes drier. Mom'll find it mighty handy. No need to wait for a pretty day to wash. No more clothes frozen on the line, no more rushing-out to bring in the wash ahead of shower or dust storm. No more lines strung in bathroom or kitchen. The LP-gas drier eliminates all that.

Can you imagine the relief Mom would feel to be rid of the garbage and trash? It's a never-ending problem for her, day after day, the year around. But a gas-fired incinerator will take care of that chore for her.

But Mom doesn't get all the breaks in this revolution that has come to farming. LP-gas can be a big help to Dad, too. [Continued on Page 34]

A Revolution in Family Living

(Continued from Page 33)



INSTANT HEAT. There's no warm-up wait when you're cooking with the magic fuel. Saves money, too.

He can use it in growing crops and producing food. Maybe the first thing he'll want to do with it is to run the tractor. It seems a lot of farmers have been changing their tractors over to operate on LP-gas. What they say about savings makes mighty good listening in these days of rising expenses and high living costs.

For instance, there's a big saving in fuel costs. Also, LP-gas burns clean, doesn't foul engines and therefore overhauls don't come so often. There is no



WITH MODERN refrigerator Mom serves foods Grandma never dreamed of. Saves time and fuss.

crankcase dilution, oil lasts longer, and most conversions give more power.

As a result of such user experiences, Dad hears there's a big development coming up in factory-equipped tractors. Two manufacturers already are on the market with LP-gas burning tractors and reports say several others are making experimental models.

Some farmers have converted their trucks and automobiles. Also, LP-gas is operating stationary engines. Mostly you'll find them on such heavy-duty,

long-hour jobs as pumping irrigation water and pulling blower fans. But they also can operate farm water systems, feed mills, elevators, electric generators and rock crushers; combine, forage harvester and field baler auxiliary engines. Once in a while you'll find an LP-powered airplane.

Dad will find LP-gas mighty handy in his chores. It will do just as good a job in heating water for the dairy as it does in the house. And when a man gets to washing milkers, cream separator, cans, pails and other equipment he needs a lot of hot water right now. When weather's snappy, a space heater will take the chill off the dairy wash-room in no time and Dad can do his chores in comfort. Or maybe farrowing pens, calf quarters or poultry houses are too cold. There's an LP-gas appliance that will correct that trouble easily, safely and at minimum cost.

He can get a heater that will keep water in the stock tank at just the right temperature. You know cows and chickens will not drink enough icy water for top production. Nor will hogs and steers drink enough for quickest gains in cold weather. The tank heater does away with tank banking, ice chopping and worry about whether stock will drink enough water.

Then there's crop drying. Thru this middle section of the country, drying corn, wheat, oats, grain sorghums, soybeans and hay are the big jobs for this new development. A little heat speeds up the process and you can take more



ALWAYS PLENTY of hot water for every use—dishes, laundry, baths and shaving. A convenience for all.

moisture out of crops in hours than you can in days with unheated air.

In other sections driers are used on barley, rice, cotton, and for curing tobacco, broom corn, peanuts and sweet potatoes. Dad'll find crop drying can make some big changes in his operation and management practices. Take corn for instance. He can get it out early with a picker-sheller, and dry it to safe-keeping moisture content in a short time at reasonable cost. That will eliminate handling ear corn into and out of the crib and winter or spring shelling. Besides he sidesteps field damage, delayed harvest from bad weather, crib spoilage, shattering and other losses. Avoiding such losses will pay drying costs many times over.

At the same time he gets corn out in time to plant wheat, which is more profitable than oats customarily grown on stalk ground. Or he can plant a grain cover crop to protect land during winter, and to be plowed down in spring for green manure.

Advantage of Driers

Same way with soybeans. They leave land loose, subject to washing. If they are harvested early, there's a better chance to get a good cover growth before cold weather. Time was when soybeans were sold at harvest. But now box-car and storage scarcity sometimes requires farmers to keep their beans at home. That means spoilage in the bin if moisture content is too high. With drying equipment, growers can eliminate that loss and hold for a better market.

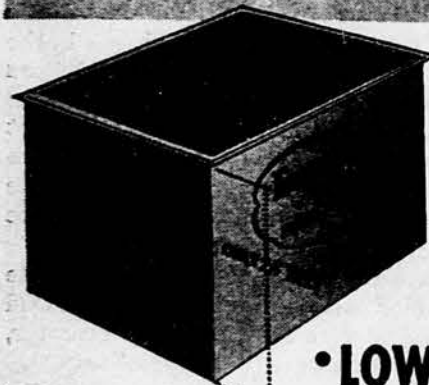
Driers also can speed wheat, oats, barley and rice harvests. They'll permit operating combines several extra hours a day in damp weather or when dews are heavy. Extra hours of operation mean more acres harvested every day, and less time for the crop to be exposed to storm hazards.

If dad needs high-quality hay for a dairy herd, a sheep flock, for sows or hens, then he can have it with a drier. Heat curing is positive and it can make top-quality roughage of first cutting.

Grain sorghums are a ticklish crop to handle. If they stand too long in the field, they are likely to shatter. If they are harvested too early, they'll carry too much moisture for storage. Drying will enable growers to harvest earlier and to bin safely. And that possibility might lead to a needed feeding business in the grain sorghum belt.

Dad may find LP-gas useful in flame cultivation. Flaming has been practiced for killing young weeds in corn, cotton, soybeans, onions, sugar cane, gladiolus and other row crops.

When you think of all the things LP-gas will do in home, in field or around the farmstead, you can see why it has been called the Magic Fuel. And since it will do so many things, you can understand why it has brought a revolution in family living and in farm operation.



CITY CONVENIENCE IN RURAL DISTRICTS

HEAT
WITH

L-P Gas

USING

EMPIRE

L-P Gas

FLOOR FURNACES

It's Clean . . . It's Dependable

- LOW FIRST COST
- LOW OPERATING COST
- NO ASHES TO HANDLE
- NO COAL or FIREWOOD
- NO WASTED TIME
- NO WASTED FUEL



Used by thousands and thousands of rural homeowners!

See YOUR NEAREST L-P GAS DEALER Now!

MANUFACTURED BY

EMPIRE STOVE COMPANY

BELLEVILLE, ILLINOIS

WORLD'S LARGEST MANUFACTURER OF Gas FLOOR FURNACES



LP-GAS KEEPS your house shirt-sleeve warm and safely heats the fire.

FIRST and FOREMOST

MINNEAPOLIS-MOLINE

MODERN MACHINERY

LP Gas TRACTORS

CHEAPER POWER BY THE HOUR

FOR YOUR TRACTOR JOBS . . . Stepped-up Power, Lower Operating and Maintenance Costs!

With LP gas, the already economical MM engines offer fuel economy to give you cheaper power by the hour. The cold manifold and the increased horsepower not only assure lower fuel cost but all-around economy as well. The economical LP dry gas is a high octane gas composed of butane, propane, or a combination of both, that burns clean, eliminates carbon deposits and crankcase dilution . . . keeps lubricating oil free of contamination, usable longer. With the longer power impulse, uniform bearing pressures are maintained, the engine runs cooler and vibration is reduced to a minimum.

And MM has built safety into every inch of these powerful tractors. MM LP gas tractors meet the safety requirements of all states. Special cylinder heads, special carburetors, and special heavily built tanks with pressure-resisting MM pop-off valve are standard equipment on all MM LP gas burning tractors since 1941. The entire MM tractor is engineered and built to exacting specifications to take advantage of all the benefits of this fuel.

Economical high-power MM LP gas tractors may be equipped with Uni-Matic power for smooth, accurate, hydraulic control of mounted or pull-behind tools. Like all MM tractors, MM LP gas models are VISIONLINED for best visibility under all operating conditions.

Think of it! Smoother engine performance and usually more tractor power for drawbar, power take-off, belt and Uni-Matic jobs. Greater economy all the way around through lower fuel bills, less oil consumption, and reduced wear and tear on the engine.

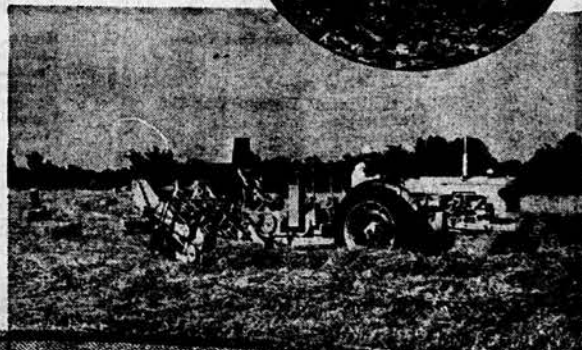
That's right! Any progressive farmer can enjoy these tractor power advantages with factory-built LP gas tractors.

The MM Model G 4-5 plow, the Model U 3-4 plow, and the Model Z 2-3 plow tractors are factory-built for best results on low cost LP gas fuel.

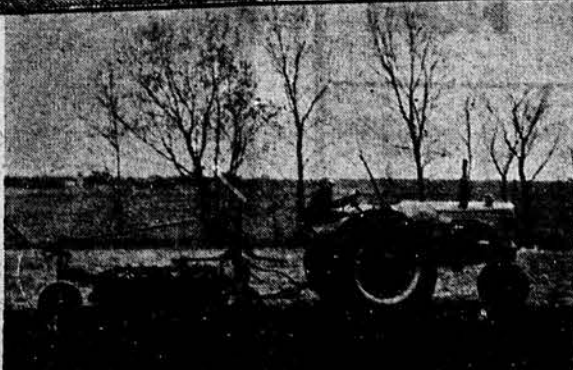
Now available for Models Z, U, and G tractors: complete change-over parts, factory-engineered for maximum power and economy on LP gas. Supplied only by your friendly MM Dealer.

MINNEAPOLIS - MOLINE

Minneapolis 1, Minnesota



QUALITY CONTROL IN MM FACTORIES ASSURES DEPENDABLE PERFORMANCE IN THE FIELD



Would you want this



OLD STYLE CONVENTIONAL
BUTANE-PROPANE TANK

when you can have this



AS MODERN AS TOMORROW

Amazing
MIX-O-GAS
System



EASY,
CLEAN COOKING



PLENTY
HOT WATER



INSTANT
CLEAN HEAT



SILENT
REFRIGERATION

In the *L-P Gas field, as in other industries, keen minds are constantly making improvements. The Delta Mix-O-Gas System offers you the most advanced ideas known to science—patented features you can obtain nowhere else. Instant heating... clean, safe cooking... silent refrigeration... and plenty of water... all at an amazingly low fuel cost! Ask us for full information.

CHECK THESE BENEFITS:

✓ Fuel Savings Certified by Pittsburgh Testing Laboratories.

✓ Automatic—No more hauling dirty fuel or getting rid of messy ashes.

✓ Exclusive Patented Features that give you performance benefits that no ordinary L-P Gas tank can offer.

✓ Permanent—No moving parts in the MIX-O-GAS System to wear over.



*L-P GAS is also known as Butane, Propane or Bottled Gas.

ASK FOR A FREE DEMONSTRATION

KANSAS DEALERS:

Consumers Butane Gas Co.
Humburg's
Humburg's
Tatze Sales Co.
A. C. Ferrell Butane Gas Co.
Humburg's
Humburg's
Caldwell Gas & Electric Co.
Seacats Gas Service Co.
A. C. Ferrell Butane Gas Co.
Walkers Home Gas Co.
Humburg's
Humburg's
Allen Butane Appliance Co.
Johnson County Butane Gas

Kiowa, Kansas
Lacrosse, Kansas
Bazine, Kansas
Herrington, Kansas
Atchison, Kansas
Larned, Kansas
Hays, Kansas
Goodland, Kansas
Emporia, Kansas
Savannah, Missouri
Wellington, Kansas
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Send for free comic book,
"THE STORY OF MODERN COMFORT BEYOND THE CITY GAS MAINS."

SPECIAL OFFER: A handy link key chain with plastic replica of MIX-O-GAS System given free to the first 500 persons writing for free comic book.

FREE!

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Please send me your free comic book, "The Story of Modern Comfort Beyond the City Gas Mains". I understand that I will receive also the free key chain if I am one of the first 500 persons writing in.

Don't Guess in Setting Your

LP-G Tractor Carburetor

Ask your serviceman to make adjustment with exhaust analyzer. It can save power and fuel, may avoid burned valves

AS TRACTOR fuel, LP-gas is still new in some communities and on many farms. So adjustments for efficient operation are not as well understood by operators as they are for older fuels.

"A mixture either too rich or too lean is likely to result in burned valves, wasted fuel and wasted power," says Ernest H. Blazek, LP-gas serviceman of Great Bend, Kan. Blazek, who has converted 200 tractors in Barton county and surrounding territory the last 3 years, takes the guess out of adjustments by using an exhaust analyzer.

This instrument picks up combustion gases thru a hose with a bent tube in the free end which extends into the tractor exhaust pipe. It indicates combustion efficiency and a dial gives a direct reading on the air-fuel mixture that is going into the engine. Blazek sets the analyzer on the tractor and rides around with the driver to note combustion under load and actual operating conditions. An experienced man can adjust a carburetor close to the right mixture, but it's unnecessary to guess.

Can Stop Wastes

Of course, engines operating on other fuels also require careful adjustments. Michigan State College and Illinois agricultural engineers say many tractor owners can save a considerable gallonage by stopping operating wastes. Proper carburetor setting can reduce consumption by 100 gallons a year on many tractors. Another 100-gallon saving may be made by adjusting the idle needle and the idling speed stop-screw correctly.

Either of these savings would amount to \$20 to \$25 a year, depending on price of gasoline. Wendell Bowers, Illinois farm machinery specialist, estimates this waste could amount to at least \$72,000,000 a year for the whole country. And it could go to nearly \$80,000,000 at the maximum gasoline price. Then he points out there are at least 48 other ways to save tractor fuel thru operating and management practices.

Well, if such losses occur in fuel with which farmers are experienced, there's a likely chance some waste will occur with a fuel to which they are not accustomed. For instance, one farmer bought an LP-burning tractor and noted what he considered excessive fuel consumption—6 gallons an hour. He called in an LP-gas serviceman who used the analyzer in making carburetor adjustments. Consumption dropped to 4 gallons an hour.

Takes Less Fuel

The engineer for the distributor, when told about this experience, said savings undoubtedly could be made, but that the amount reported was excessive. He questioned the farmer's methods in measuring consumption. Still, a second farmer reports he burned 28 gallons in 4 hours in operating a new tractor. After his LP serviceman made adjust-

ments with the aid of an analyzer, fuel consumption was reduced to 3½ or 4 gallons an hour. A third farmer said his new tractor turned out to be a fuel drinker. Proper adjustment, according to his estimate, saved 1½ gallons an hour.

Maybe such cases are rare, as the engineer intimated, but they seem to occur occasionally. Irrespective of errors in estimating reduction in consumption, the amount of fuel that can be saved is worthwhile.

Better Performance

One Missouri dealer said operating costs were so much lower on LP-gas most farmers had not paid a great deal of attention to possible savings thru proper adjustment. He believes they usually are so enthusiastic about the cheaper fuel, the fewer oil changes and better performance of their tractors they have not been concerned about minor fuel wastes. But in view of the fact performance can be improved still further by proper adjustments, it is advisable to have an LP serviceman make a check.

Blazek uses the analyzer in setting all conversions or factory-equipped tractors. So does Roland Seidel, Chillicothe, Mo., serviceman. He estimates average saving for correct adjustment at one gallon an hour.

Reports by farmers on gallonage of LP-gas required compared with gasoline vary considerably. Some of them say LP takes more—from 10 to 25 per cent. So if your consumption is running near, or higher than, the larger figure, as compared with gasoline, you can expect wrong adjustment.

Savings Vary

But other farmers say they can't notice any difference. Usually they have done a better job of conversion, particularly in increasing compression, and are operating under heavier load. Careful engineering checks indicate as much as 30 per cent more LP may be burned in a low-compression engine. When the compression is raised to 6.8 to 1, consumption is about the same as for gasoline under heavy load. Above that, the advantage is all in favor of LP-gas.

Most differences reported by farmers result from the kind of change-over job they have done, adjustments that have been made or load under which their tractors are operating. The higher the price you pay for LP-gas, the greater advantage you can gain from fuel saving. It may not make too much difference to a man near production centers, but wastage becomes serious in distant areas where prices include longer transportation hauls and higher distribution charges.

One of the most noticeable advantages of LP-gas as a fuel, they report, is increased power. That can be a big help when the tractor is operating at or near peak load and strikes a tough spot or a hard pull. The extra power prevents stalling.



TUBE IN TRACTOR exhaust picks up fumes and carries them into instrument which records combustion. Blazek knows how to set carburetor by reading dial.

Users Say:

**LP-Gas
Refrigerators
Trouble-Free**

THERE'S a heap o'good livin' in a refrigerator. Anybody will agree to that. The argument starts over the kind to buy. That is, unless you question LP-gas refrigerator fans. The way they agree is remarkable.

Take, for instance, response of 4 users, 2 in Missouri and 2 in Kansas. When asked what kind of refrigerator they would buy next, all gave the same answer: LP-G. And they all gave the same 4 big reasons: Long life, trouble-free performance, no noise and low-cost operation.



MRS. SYMES has 3 cold zone choices—freezing, normal, and moist—to fit the kinds of food she wants to store.

Mrs. Elva Symes, Andrew county, Missouri, who owns a late model, added 3 other reasons: (1) The "coldest cold." Mrs. Symes didn't try to explain that, but maybe she meant what the manufacturer calls "constant cold." (2) A 3-zone selection in storage—freezer, normal, and moist cold, which has been explained as the right kind of cold for every kind of food. (3) Finally, adjustable shelves which enable her to arrange the interior to fit containers of different heights.

Her freezer unit holds 70 pounds. That amount, with occasional replenishing from 2 lockers in town, is enough to supply the family with frozen meats, fruits and vegetables, and to leave room for ice cream, sherbets and other desserts. The 2 vegetable drawers keep contents fresh and crisp.

How much does it cost to operate an LP-gas refrigerator? Mrs. Symes doesn't know exactly. "But it can't be much," she says. "We have the refrigerator, range, water heater and a gas plate all connected with one tank, and our bill is only \$4.50 a month."

Mrs. Martin Hemken, Rush county, Kansas, agrees on the economy of operation, but also can't give exact figures. "To us the big factor was convenience," she said. "You see we live 7 miles from town and ice service wasn't dependable. I recall, however, the first 6 weeks we had the refrigerator, we used 100 pounds of gas in cooking, water heating and refrigerating. We've had no trouble at all. Our refrigerator hasn't balked once in 6 years."

Living was turned back to the iceless days for the Albert Blahut family, Lyon county, Kansas, when they were remodeling their kitchen, and had to disconnect the refrigerator. "We thought we'd never get thru those 3 weeks," said Mrs. Blahut. "I couldn't cook anything except what the family would eat right away. Leftovers would spoil before the next meal. The experience made us appreciate our refrigerator more than ever."

There's room for "half a bushel basket" of food in the freezer space, Mrs. Blahut estimated, and she keeps it replenished from a locker in town.

Another household that switched from ice to mechanical refrigeration is that of R. A. Seidel, Livingston county, Missouri. "Our refrigerator is an old-timer," said Mr. Seidel, "one of the first that came into this territory. But it still does a good job. We've made only one minor repair. Replaced the burner 5 or 6 years ago."

Philgas* does so much and costs so little!



For Tractor Fuel. Philgas is a low cost, very high octane tractor fuel that delivers smooth power even under heavy loads. Burns clean, leaving nothing to gum up rings and valves. Cuts engine maintenance expenses.



Hot Water at your finger tips. Just dial the heat you want and forget it. No waiting for off-peak periods. No premiums for extra hot water. Philgas heats water automatically at low cost.



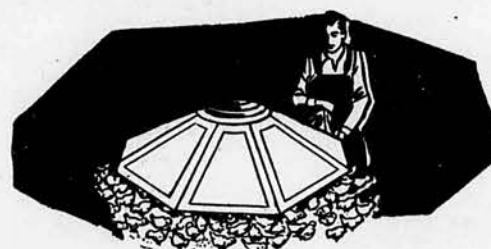
Gas Clothes Dryers. Any day can be wash day when you have a gas clothes dryer in the house. Saves hours of drudgery. Leaves clothes just right for ironing, or fluffy and ready to fold, as you prefer.



A Central Tank for Philgas, refilled occasionally from your Philgas distributor's tank truck, can supply all your needs around the farm. Closed fuel system prevents loss from evaporation or spillage.



For Cooking. Philgas is an ideal fuel. Fast! Clean! Thrifty! Easy to control! In fact, cooking with Philgas is as automatic as cooking can be! Convenient terms arranged, if you wish, on appliances for Philgas.



For Brooders, Too. Philgas is an ideal fuel for brooders . . . provides even distribution of heat under the canopy. Storms can't cut off the heat because your fuel supply tank is safe in your own back yard.



For Stock Tank Heaters Philgas is always dependable. Use it, too, for milk can sterilizer heaters . . . for refrigerators . . . for stationary engines . . . for many other needs around the farm. Philgas is clean, convenient . . . and surprisingly low in cost.



*Philgas is the Phillips Petroleum Company brand name for its high quality propane and butane (LP-Gas or bottled gas).

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Philgas PHILLIPS PETROLEUM COMPANY, BARTLESVILLE, OKLAHOMA.

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- A. **Servel**
- Q. WHAT IS THE ONLY SELF-CONTAINED AIR CONDITIONER WITH A FIVE-YEAR FACTORY WARRANTY?
- A. **Servel**
- Q. WHY DOES ONLY SERVEL GIVE YOU THIS ASSURANCE OF TROUBLE-FREE PERFORMANCE?
- A. **ONLY SERVEL HAS NO MOVING PARTS IN ITS COOLING SYSTEM.**



THE MOST COMFORTABLE AIR-
CONDITIONING YOU CAN BUY

OPERATES ON NATURAL OR LP GAS



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- ✓ five-year factory warranty!
- ✓ better air cleaning and circulation!

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GENTLEMEN:

Please send me without obligation, your free illustrated circular which tells all about the Servel All-Year Conditioner and the wonderful "New Quality of Living" it offers me the year 'round.

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CITY

COUNTY

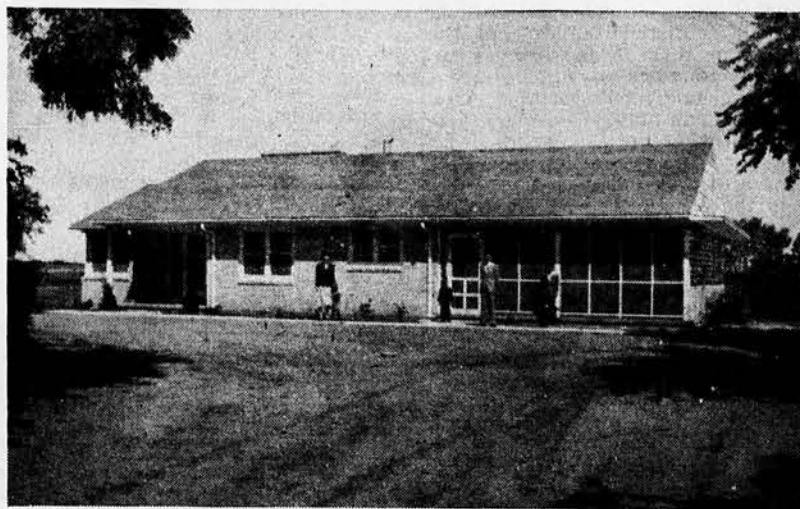
STATE

You Can Keep Your Home:

WARM in Winter COOL in Summer

with LP-Gas

A single compact unit, powered by magic fuel, insures year-around comfort regardless of outside temperatures.



WINTER AND SUMMER temperatures in the Peirce home are tailor-made to suit the family with their year-around air conditioner which is operated on LP-gas.

NOW you can have tailor-made temperatures in your home, no matter what the weather is outside. In fancy language, that's called air conditioning. In country talk, it's just plain comfort. Not too hot. Not too cold.

With the right kind of heating-cooling unit, you can regulate household climate to suit. Wintertime, the heat comes booming up as soon as you set the thermostat and the house is shirt-sleeve warm in a matter of minutes. In fact it never gets cold because the "fire" never goes down. Nobody has to bank it at bedtime or stir it up in the morning or tend it during the day.

Summertime the house can be cooled off in a few minutes. Or it can be kept that way, thru hot nights and hot days. A body can relax and rest after work, sleep like a log.

Times when mornings are chill and midday's hot, you can change from heating to cooling by a flip of a switch. It's that simple.

housekeeping. These operations require little attention. Just set the controls and the rest is automatic.

All these things—just the right warmth or coolness, comfortable humidity, fresh air and filtered air, dust-and-lint-free housekeeping—come in a single package. This unit, called the all-year air conditioner, operates from the same big tank of fuel that cooks your meals, heats the water, runs the refrigerator, the tractor or the stationary engine. It's another of the growing list of wonders LP-gas has brought to farm family living.

Remember last summer when rainfall was way above average in some sections? And there were more cloudy days than usual? Temperatures didn't go excessively high. Anyway not like they were during the dry, dirty thirties. But the air was loaded with moisture and the heat seemed more oppressive than it should have been for the moisture readings.

The humidity meant uncomfortable sleeping for many families. But not for the Walter C. Peirces, Reno county, Kansas. They had one of the year-around air conditioners installed in their modern 10-room home last May.

"Some mornings when neighbors complained about the miserable nights they'd spent, we hadn't even noticed," said Mr. Peirce.

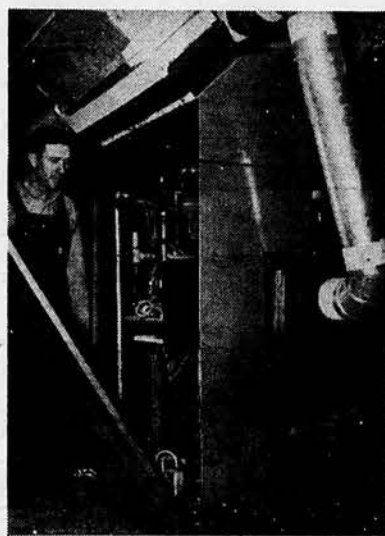
Tailor-made Temperature

That was because the air and temperatures in their home were tailor-made for comfort. Their cooling equipment is rated at 5 tons refrigerating capacity. That's big enough to bring the temperature down to 78 or 80 degrees in a few minutes and to keep it there without excessive operation.

Air conditioning, next to running water and modern appliances, is the biggest boon that has come to farm homemakers. "I can do my work in comfort," said Mrs. Peirce, "with greater ease and less exhaustion. Besides, wind and dust always have bothered me, so I am very glad to have fresh air without either."

"Last summer we didn't even take the storm windows down, yet because of the ventilating fan I didn't miss the fresh air. Of course, we tried to be saving on operating costs and did not use the cooling system all the time. Our house is well-insulated, both in the outside walls and overhead, so it didn't warm up as early or as much as an uninsulated house. I usually worked until I began to feel the heat and then turned the cooler on. Or if the air was cool outside but warm inside, I just turned

(Continued on Page 39)



CLARENCE H. RALSTIN says his air-conditioner is chock full of equipment to insure home comfort and satisfaction.

No need to open windows and let the wind swish thru the house to get a breath of air. The unit is equipped with a ventilating fan which brings in fresh air from outside and circulates it to every room. There is no draft, no stuffiness.

More than that: This unit is fixed to put moisture in the air during winter; take it out in summer. Either way the air is cleaned of dust and lint. That means better breathing and easier

on the ventilating fan. With the house cooled off at night, it stayed cool most of the morning, maybe up to noon."

Then with the house cool in the daytime, it was rarely necessary to operate the cooling system all night. "As soon as the sun went down, the outside air cooled," Mr. Peirce added, "so it was rarely necessary to run the air conditioner after about 10 o'clock. Usually all we needed for a restful sleep was the ventilating fan."

A reduction of 15 to 20 degrees in summer heat makes a lot of difference. The Peirces set their thermostat at 78 when outside temperatures were in the high eighties. The hottest day was 103 last summer. Inside their house the thermometer registered 83. Because the air had been dehumidified, Mrs. Peirce said that was quite comfortable.

Change With Weather

Mrs. Peirce enjoys the automatic heat as much as she does the cooling. Warm air is distributed thruout the house so one room is as warm as another. She can work anywhere her duties take her and be comfortable. Also, the children can play, read or do their home work wherever fancy suits.

The switch from heating to cooling in a matter of seconds is a big advantage in the erratic weather of spring and fall. In September a cool snap came, after a period of warm days in which they used the cooling system. The Peirces changed over to heating for the week and then back to cooling after the weather warmed. It was that way nearly all fall. Then there are days and periods in spring when a little heat inside feels good, even after the furnaces have been turned off several weeks. In some places nights are too cool without heat, but days are warm enough for air conditioning. With the combination outfit you're all set for those conditions.

The Peirce home is not quite 3 years old. It is of ranch type, one story without basement. There are 4 bedrooms, living room, dining room, kitchen, workroom, office and playroom for the children. The all-year air conditioner is located in a closet-like compartment just big enough for it and the water-softening system near the center of the house.

Another family who are enjoying all-year air conditioning are the Clarence H. Ralstins, Kiowa county. Their house finished only a year ago is of 6 rooms, including 3 bedrooms, with a finished basement. Their cooling unit is of 3 tons refrigerating capacity which is ample for the job it has to do.

Worth the Money

"I don't know anything else that you can buy that will give more satisfaction," said Mr. Ralstin. "It's an investment in good living which you can enjoy every day, hot or cold. There are not many things you can spend your money for that will bring as much convenience and comfort."

The Ralstins moved into their new house a year ago and used the unit for heating until warm weather. Then they switched to cooling. Their house also is well-insulated in attic and walls and so doesn't heat up quickly under the summer sun.

"We didn't need to run the cooler all day," said Mrs. Ralstin. "Often the house didn't become uncomfortably warm until afternoon. I found that 78 to 80 degrees was about right for housework. After that I set the thermostat and forgot about it. The automatic controls took care of the cooling."

Altho the house has a basement, Mrs. Ralstin has a workroom just off the kitchen where she does the laundry, because, she said: "I don't like to go up and down stairs."

The year-around air conditioner is installed in one basement room. Another room along the west side is finished in knotty pine and has a large fireplace at the north end. It is furnished for recreation. Both Mr. and Mrs. Ralstin are 4-H Club leaders and the young people hold their meeting there. The room is also used for church,



A FLIP of the toggle makes her house warm or cool. Mrs. Ralstin says she can notice change in a few minutes.

neighborhood and club meetings. Mr. Ralstin is finishing a third room as a spare bedroom and a fourth will be converted into an office or den.

Mr. and Mrs. W. H. Rowten, Finney county, Kansas, have had 2 winter and summer seasons of trouble-free service from their all-year air conditioner. It was installed when they built a new ranch-type house with full basement. The unit heats or cools the entire house, including basement which contains a bedroom, furnace room and a utility room on one side and a full-length recreation and group-meeting room on the other.

Always Comfortable

"Our air conditioner was installed strictly according to manufacturer's specifications and inspected by factory representatives," said Mr. Rowten. "Its performance has been most satisfactory. We have been comfortable both winter and summer. We did have a little trouble once from sand in the water, but that was no fault of the equipment."

Some days the thermometer registered 105 degrees. But the Rowtens had no trouble keeping the house at 78 to 80. With that temperature and the air dried and cleaned automatically, they were unaffected by the weather conditions outside.

Western Kansas nights usually are cool. But occasionally there is a scorcher. On those nights, Mr. Rowten said, they kept the cooler going enough to afford restful sleep.

Altho a considerable quantity of water is required in operating the cooler, it is not wasted. The Rowtens have a large lawn and the water is allowed to run on the grass to supplement necessary sprinkling. The Ralstins apply the water to their yard and a small vegetable garden. The Peirces can turn the water on their lawn thru seep hose, into the stock tank or into a storage tank for irrigating vegetables.



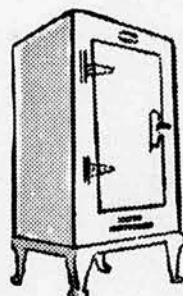
CHILDREN PLAY comfortably in the basement with the unit to control temperature and humidity. It may also be installed in a utility room in basementless homes.

First there were ice boxes ...then



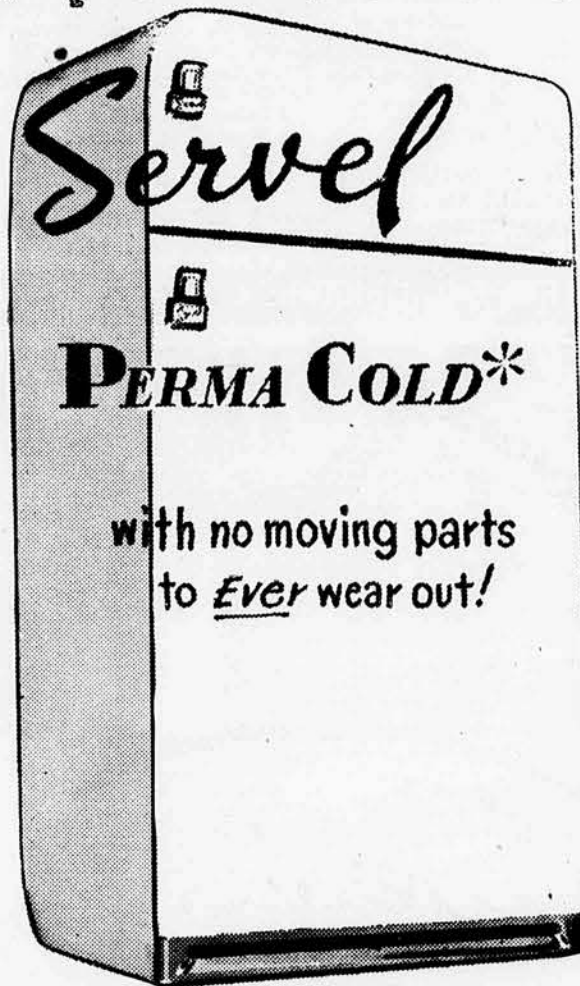
mechanical refrigerators

(which grow noisy AND WEAR OUT)



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There are several driers in this part of the country and everyone says this is the best they have seen. I had one elevator manager tell me my HABCO Drier showed up his commercial drier. There are people hauling corn to me, 15 to 25 miles, when they have another make of a drier located within two miles of their homes. I believe this will tell you how much I like your drier and the work that it does for me.

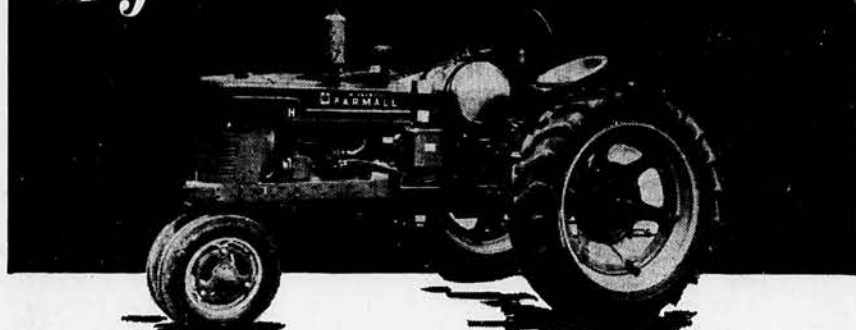
Guy Baker, Iowa Falls, Iowa

Send for complete crop drying information.

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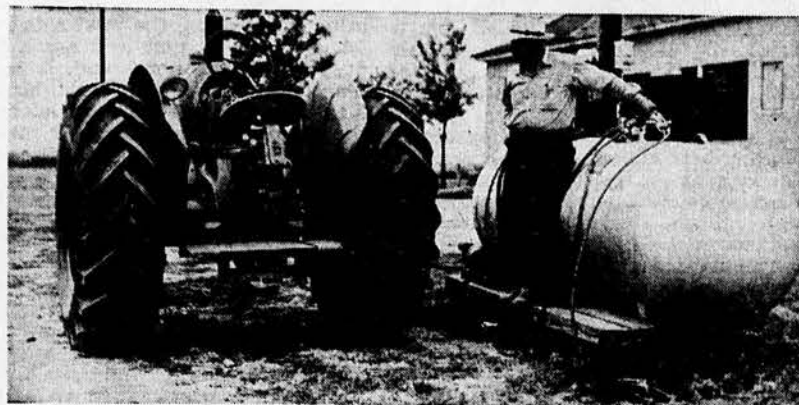
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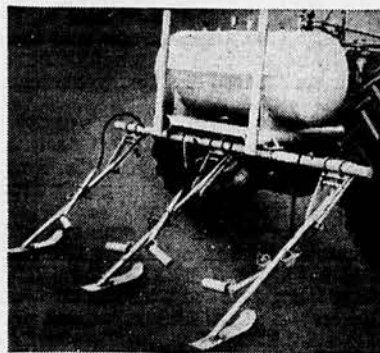
NEWEST development in mechanized farming is equipment operated by LP-gas. Thus the same magic fuel that modernizes your living also can bring your field and chore work up-to-date. It is the most versatile source of power on the market. That is because it will do so many jobs in so many places. And best of all, experienced farmers say it lowers their operating costs. Some ways in which the fuel is being used in production are discussed briefly on this page and the following page.

Tractors, Vehicles

Of course, most common application of LP-gas in farm operations is as a tractor fuel. Most tractors running on the gas are conversions. A few are factory equipped. Nobody knows just how many change-overs from other fuels have been made. But Phillips Petroleum Company estimated the number at 170,000 by the end of 1950, with 100,000 of those made during that year. If conversions proceeded at that rate for 1951, there must be close to 300,000 now. Two tractor manufacturers already have factory equipped LP-gas tractors on the market and other major manufacturers are reported to be working on test models.

LP-gas also is powering truck, bus and even airplane engines. Vehicles, as in the case of tractors, operated on the fuel also give longer service between overhauls and consume less oil than those which burn gasoline. That is because LP-gas doesn't foul the engines and does not dilute crankcases.

Field Equipment



A new method of weed control has developed in recent years. It is the flame cultivator. It already has been proved practical for several vegetable crops, for cotton, strawberries, sugar cane, sugar beets and for killing pre-planting weeds. In some places it has been used to weed alfalfa, corn and soybeans. Shields, of course, are necessary on the more heat-tender crops.

For several years Purdue University has been experimenting with methods of preserving the carotene in alfalfa hay. One promising method is flaming the standing crop to inactivate the enzymes which destroy carotene. A machine was constructed which flash-heats the plants with LP-gas flame as it passes over them.

Another recent development is a gas-burning grain dryer mounted on a combine. It was tried last season on wheat, grain sorghums and other small grains. Purpose of the equipment is to extend the harvest day and possibly permit around-the-clock harvesting.

LP-gas also is adapted to operating various auxiliary engines on farm equipment such as combines, forage harvesters, field balers and beet loaders.

Stationary Engines

Internal combustion engines offer the cheapest source of power for operating stationary equipment. That includes just about all mechanical jobs, such as feed grinding, grain rolling, forage chopping and blowing, silage cutting and blowing, crop dryer fans, elevating grain and hay, wood sawing, pumping water, operating farm lighting plants, electric generators and milking machines.



Well, LP-gas makes stationary engine operation even cheaper. One of its important applications is pumping, especially large quantities of water as for irrigation. Many an LP engine operates day and night during the critical growing season for long periods without attention, and without failure.

In the Milkhouse

Every producer of high-quality milk must have heat and refrigeration. He can't meet market sanitary and health requirements without them. Regulations require hot water or steam for



cleaning and sterilizing equipment and utensils. Refrigeration is necessary to cool the milk quickly and keep it at safe temperatures until delivered. These requirements can be provided by the dairyman with a single installation.

Poultry and Pig Brooding



More and more poultry keepers are turning to LP-gas for brooding. Here's why they like it: The fuel is clean—burns without soot, dust, grease film or ashes. Heat control is positive, even

(Continued on Page 41)

in delicate adjustments required for young birds as they advance in age. It is as safe as any fuel can be both with respect to fire and to failure hazards.

Further users contend cold-room brooding is at its best with this versatile fuel. In this system chicks get heat only under the hover. They must run out into the cool room for feed, water and exercise. That means they feather early and well, grow strong and hardy.

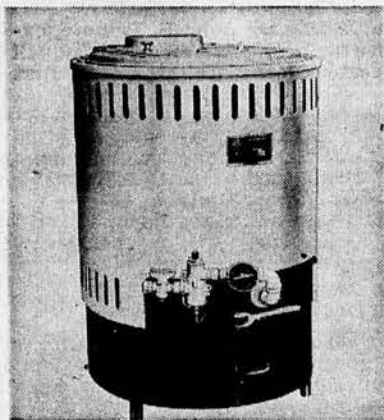
The same dependable features which attract poultrymen make LP-gas a desirable pig brooder fuel. It can be used to heat the farrowing house directly or to heat water circulating thru pipes laid in floor or along walls.

Frost Protection



Fruit and vegetable growers live in constant dread of frost during early spring and sometimes in fall. Recently burners have been developed for LP-gas in frost protection. Owing to the nature of the fuel, its heat can be directed toward the ground (on to a pile of stones) from which it is radiated upward around trees and plants.

Burning Trash

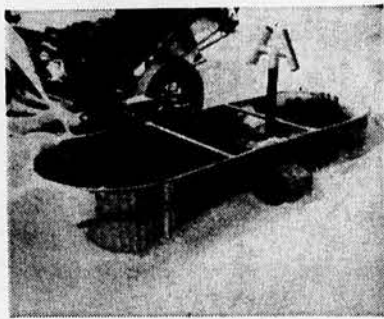


All families have a common problem. That is disposal of garbage and trash. Gas fired incinerators provide safe, convenient disposition of such waste.

Another place where incinerators perform appreciated service is on poultry farms. In every sizable flock, a considerable number of birds die dur-

ing laying season. This creates a disposal problem. Pits and open fires will serve, but an outside incinerator is handier and quicker. Dead pigs also can be disposed of in this way.

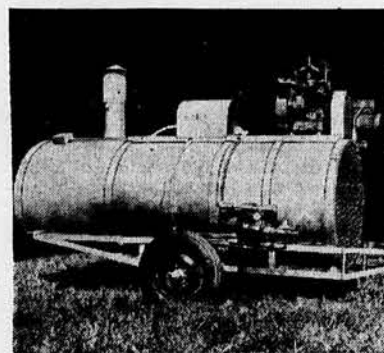
Tank Heating



Dairy cows and laying hens will not drink enough icy water to maintain highest production. Neither will cattle, hogs or sheep. And what they do drink must be warmed by their bodies before it can go to work. High-priced feed is an expensive fuel. Then there's that job of chopping out the tank.

Equipment manufacturers are now putting out scientifically designed heaters which operate on LP-gas. These heaters are highly efficient, trouble-free and leave no soot, oil films or odors in the tank.

Crop Drying



Crop drying is rapidly becoming a standard farm operation. Just about everything stored can be dried to advantage if harvest-time moisture exceeds safe keeping levels. That includes corn, all small grains, planting seeds, soybeans, grain sorghums, peanuts, sweet potatoes, cotton, broom-corn and various forages. Drying will insure higher quality hay and is practical for producers who must have the most nutritious roughage. Drying also is resorted to in ripening and dehydrating certain fruits and in curing tobacco. An ideal fuel for all these operations is LP-gas.

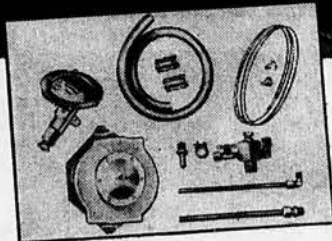
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Don't put up with makeshift heat any longer. Investigate TEMCO gas heating appliances today. One of them is exactly what your home needs for the work-free automatic heat you've always wanted.

TEMCO inc.

Gas

APPLIANCES
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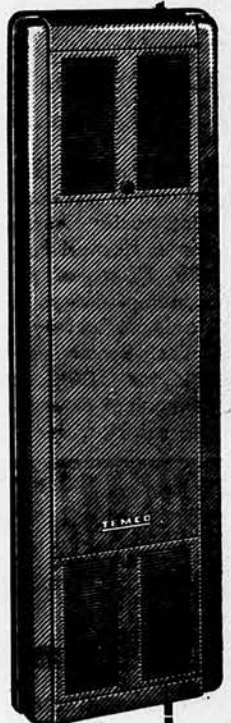
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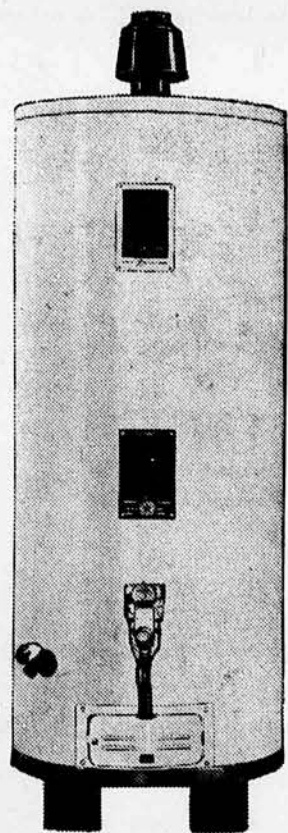
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HOT WATER

A nation's strength depends upon the health of its citizens. Hot water is the best weapon we have against dirt, disease, disaster, death.

LET'S talk about dirt. Not the kind that grows crops. But the kind that can be washed away with good old warm water and soap. Dirt isn't a pleasant subject. Neither is disease and sickness.

Still dirt is being discussed by some mighty nice people—by doctors and nurses and folks who are concerned with health and national defense. They say dirt is a destroyer because of microbes it contains.

There's W. Stuart Symington, retired RFC boss, for instance. As chairman of the National Security Resources Board he said:

"Health and strength are one and the same. Survival of the fittest was a law of the primitive jungle and is, in fact, the law of all life on earth. As a Nation we are strong today because we are healthy in mind and body.

"We know our basic strengths can prevail against any attack. But we must be eternally vigilant to increase our powers to the full. We must be well to be strong . . . we must be strong to survive as a free nation."

Wonder whether anybody has the notion that to be strong as a nation means only a big army, a big navy, a big air force, the A-bomb, the H-bomb and such? Sounds like Mr. Symington was settling some of the responsibility on you and me. He seems to think national strength depends on individual strength and health.

Dirt Means Trouble

Then there is Dr. William P. Shepard, of Stanford University, and president of the American Health Association. He says D-I-R-T spells DISASTER and DEATH. He puts the problem right in our hands—or on them, in this way:

"Our hands are the worst offenders in transmitting contagious diseases. It is inevitable—we will take on invisible hitch-hikers from anything we touch—a doorknob, a streetcar strap, a chair arm, the hand of a friend—then transfer these millions of microbes or virus particles to the mouth. The more crowded the areas, the more critical the danger. Positive defense, of course, is cleanliness. Frequent hand washing and proper washing of eating utensils are a great help."

That seems to indicate good health and strong bodies start with a plentiful supply of hot water for the bathroom lavatory and the kitchen sink.

Mr. Symington and Doctor Shepard said these things in a booklet, "Our Health . . . Our Strength," published in the interests of National Defense.

Do you know what happened to the Romans when they became so ornery they quit bathing and got good and dirty? They went bust. So did the rest of Europe—into what was called the Dark Ages. Here's another quote from that book: "Bathing went into an ex-



tended eclipse, with terrible repercussions. Plague after plague swept over the filthy land, in one devastating wave after another, leaving in their wake untold millions of dead."

Well, nationally we've never been quite that dirty and we won't get that way. But we've seen some folks who didn't smell too good. And a dirty guy is a liability to the country because he's susceptible to disease. Also he's a menace to everybody else.

Still we don't need to be that dirty to get into trouble. Go back and read what Doctor Shepard said.

A registered nurse, Blanche Pfefferhorn, spoke her piece in The American Journal of Nursing: "... one of the most dangerous agents in the transfer of bacteria is the human hand with its five fingers."

That doesn't say we mustn't use our hands. Nurse Pfefferhorn just means we ought to clean them oftener and we oughtn't have so many places for our hands to get dirty.

Germ Spreaders

But hands and bodies are not alone to blame. There are clothing, dishes, pots and pans, bedding, walls, floors, windows, contaminated food. And still it's not the dirt you can see that's most dangerous. Trouble comes from what's in the dirt . . . known by such names as microbes, germs, bacteria, viruses.

Look what Science News Letter reports:

"The soiled handkerchief is a powerful weapon of germ warfare. Clean handkerchiefs are a 'must' not so much for the user as for the people he associates with. In experiments at Harvard hospital in Salisbury, England, 211 handkerchiefs were 'scientifically shaken' both mechanically and by hand. It was found that 'gentle manipulation' of a dry handkerchief that had been used 2 days distributed an average of 15,000 germ particles, and that common aerial disinfectants do not kill these germs. The British scientists con-

cluded that using a dirty handkerchief is one of the most effective single methods of spreading germs."

Says Howard Whitman, an author: "Microbes get away with murder because they live in an unseen world. Take those which cause diphtheria, tuberculosis, scarlet fever, pneumonia. You can fit more than a million of them on a pinhead. But even their minuteness is less startling than their fecundity. Within 24 hours, a single germ under favorable conditions can produce 281 trillion offspring." If you'd like to see that increase in figures it looks like this: 281,000,000,000,000.

Another indictment: "In spite of all our efforts toward improving health, 22 per cent of all deaths and probably more than one fourth of all sickness are caused by microorganisms associated with communicable diseases."

Traveling Microbes

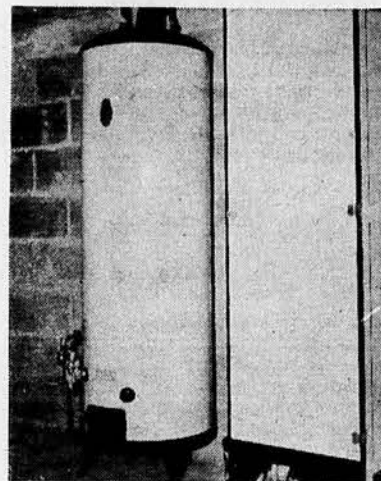
Microbes get around, and how! For instance, when somebody got careless and let a sewage leak drip into a city hotel icewater tank, amoebic dysentery wasn't confined to the guests who drank the water. "From their lips, hands, and coughs, the dishes they ate from and the washrooms they used, dire illness was carried to 400 cities in 43 states—even to Hawaii and Canada."

War is a great destroyer, as witness 383,730 deaths among our armed forces during all the years of World War II. But during only 6 months of 1918-19, flu alone took 550,000 civilians.

Talk about biological warfare! We've got it! And without sabotage from an enemy country, either.

This fight against dirt, and the disease that lurks in it, is frightening. And it would be well-nigh hopeless except that: "Every microbe known to man can be killed by hot water."

That's why Dr. John B. Pastore, executive director of the Hospital Council of Greater New York, says "Our first



GERMS can't stand moist heat. So the best weapon against dirt and disease is a big supply of hot water and soap.

defense is plenty of soap and hot water." Another doctor, W. R. Redden, backs him up: "Hot water is the universal germicide. In the words of a noted bacteriologist, 'No germ capable of producing disease in man can remain alive if boiling water actually reaches it for an instant.'"

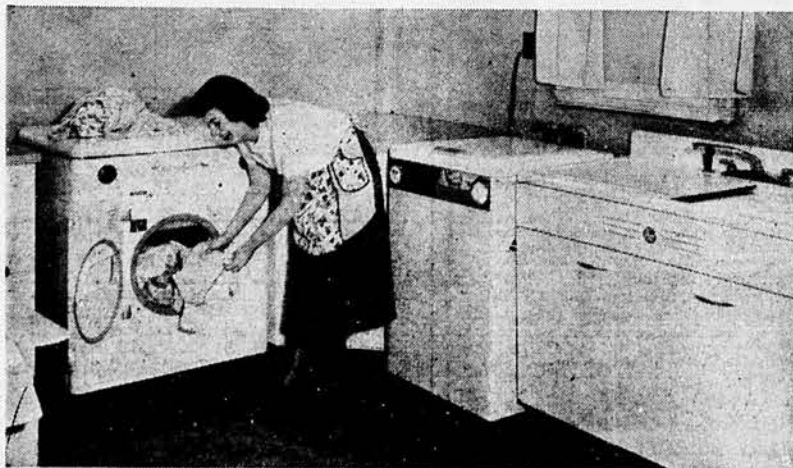
Of course, you can't boil everything. But that is quite unnecessary. Bacteria can't live long in water at 160 degrees. And they pass out quicker at 10 to 20 degrees higher temperature. Not many of them can stand the old pasteurizing temperature of 145 degrees for as long as 30 minutes.

So good soap and hot water are our weapons. That's not very glamorous. It would be nice if we could spew a vapor thru the house, put a few drops of liquid in the bath water or sprinkle a powder in the dishpan. But it's fortunate for national defense and public health nothing more complicated than soap and hot water are required.

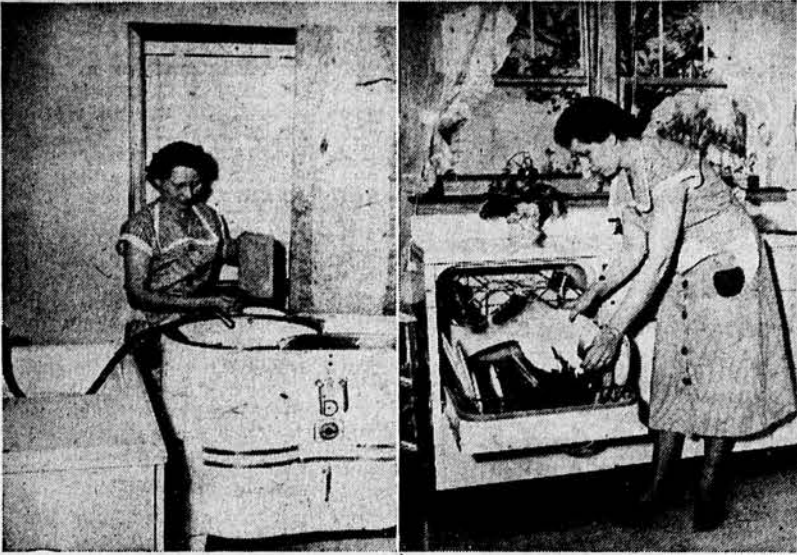
Here are the recommended "cleaning" temperatures for water: Bathing 95 to 115 degrees. Dishwashing by hand, 110 to 120 degrees; by machine, 140 to 145. For rinsing, 30 minutes at 140 to 145, or 2 minutes at 170, or 1/2 minute at 212 degrees.

Laundering by hand, 120 degrees; by machine, 140 to 160 degrees for white and fast colors, cottons and linens; 90 to 105 for silks and woolsens; 105 to 120 for all other materials. Killing bacteria, 145 degrees for 30 minutes.

Well, how much hot water is required to clean up and keep clean? William W. (Continued on Page 43)



YOU DON'T have to wait on the weather to wash when there is an LP-gas clothes dryer in the house. And laundry comes out fluffy-clean, all ready for ironing.



PLENTY of hot water for everything! It's a homemaker's dream come true. Mrs. Clarence H. Ralstin finds it's no trouble to do the wash and dishes now.

Brooks, writing in "Hot Water an Effective Disinfectant," says 10 gallons a person daily, used wisely and carefully is the bare minimum, and leaves none for emergency. If you want to make sure, provide 20 to 25 gallons a person daily.

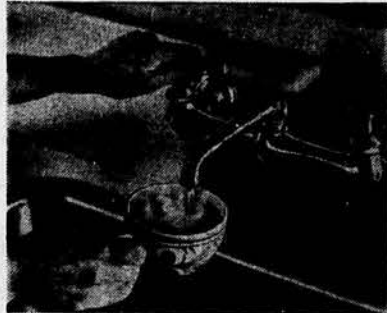
The American Gas Association lists some sample requirements: Two showers, one shave and the breakfast dishes take 22 gallons. One load of clothes, 2 showers, a shave and the breakfast dishes run the demand up to 43 gallons. A shower, a tub bath, a shave and the breakfast dishes add up to 28 gallons.

The "health and strength" booklet lists 3 cleaning jobs that will surprise you. "Every year in the average home someone (guess who) must wash 5,000 square feet of window glass; 5 miles of floors and coverings; 4,500 square feet of dishes!"

Well, how are you going to get all the hot water required to maintain a reasonable standard of cleanliness? If you work hard enough you can do it with teakettle and range reservoir. But you are not likely to do that any more than

you are likely to return to fireplace cooking or harvesting wheat with a cradle.

The only smart, practical and easy way to provide enough hot water is by an automatic heater. Of course, that requires a water system, but running water is the greatest boon that can come to a farm household. And the automatic water heater is next. You can't have a modern home without it. The most economical, most reliable heater is one that is fired by LP-gas.



Saves \$2.26 a Day on Tractor Fuel

WHEN W. F. Fairchild changed to LP-gas he cut daily tractor fuel costs by nearly a third. That amounts to big money in the course of a season's operations. But that's not all. He gets increased power from the conversion.

"We run the same number of hours on 46 gallons of propane that we formerly ran on 40 gallons of gasoline," he said. "The propane at 9 cents totals \$4.14, while gasoline at 16 cents totals \$6.40."

That makes a difference of \$2.26 a day. But that's just the start in savings. LP-gas burns clean. There is no carbon, no gum, no crankcase dilution and no sludge. Overhauls are reduced by half at least and oil consumption by about two-thirds because it doesn't need changing so often.

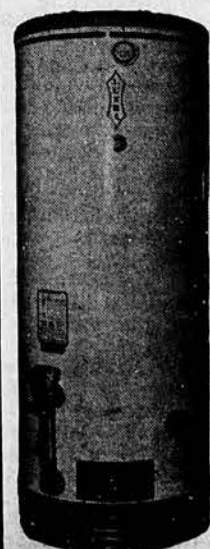
Fairchild, who farms in Pawnee county, Kan., has 2 tractors, one 4-

wheel and one tricycle, general purpose type. One was converted 2 years ago and the other 3. Both are equipped with 23-gallon LP tanks, which are filled from 1,000-gallon storage once a day. The general-purpose tractor is equipped with high-altitude pistons which raises the compression and increases the machine's power by about 15 per cent.

No Field Troubles

Danger of running out of propane in the field is no greater than with any other fuel, Fairchild said. The tanks are equipped with float gauges. "But if we do run out, we just switch over to gasoline and come on in," he explained.

From the same storage, the Fairchilds heat their house by floor furnace and radiant appliances, cook their meals, operate a refrigerator, and heat water for home and dairy.



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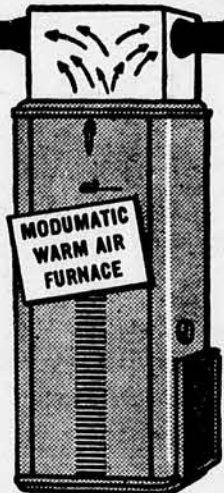


3 1/2" WARM
AIR DUCTS

Here's why Blend-Air costs less!

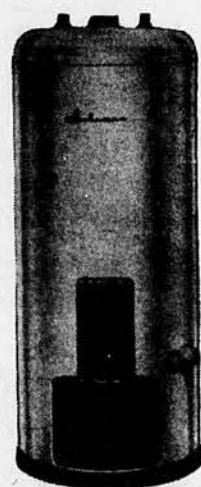
NEW 3 1/2-INCH HOT AIR DUCTS FIT ANY CONSTRUCTION! A revolution in heat transmission! A new idea in pipe installation! Pre-engineered, pre-fabricated, they're standardized to save costly on-the-job labor.

MAGIC BLENDERS GIVE EVEN CIRCULATED WARMTH! Say good-bye to stale, static, sickly room atmosphere that packs unhealthfully in hot layers at the ceiling. **BLEND-AIR** moves warm air for clean, circulated warmth. Inside the blender in each room heating magic takes place—it pulls in the room air, blends it with fresh hot air from the furnace, and re-circulates it, giving even floor-to-ceiling warmth.



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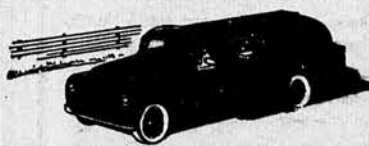
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Why Settle For Less?

IN TOWN Look for the Sign of the Flying Red Horse
AT HOME Look for the Familiar Red Truck



Marketing Viewpoint

By C. P. Wilson, Livestock; Paul L. Kelley, Dairy Products; Bernard J. Bowlen, Feed Grains.

I have some common and dog steers. These cattle have been getting some grain for over a month and are in fair condition. I have enough alfalfa and about enough grain to feed them out. I also have plenty of good wheat and rye pasture. Should I take them off wheat and feed them in dry lot, or could I utilize some of the wheat pasture in a feeding program? When should be the best time to sell them? I have felt price ceilings have upset the normal highs in common cattle prices in the spring of the year. Am I right?—L. L. Y.

You are right in saying price controls tend to upset the usual seasonal rise in prices of this kind of cattle in the spring. However, I think there will still be some price strength, but price controls will prevent the rise from being as much as usual. Peak in price for this kind of cattle usually comes in April or early May. If there is to be less than usual rise in prices, profits will be more dependent on getting cheap gains than on price increases. If you have wheat pasture it seems this would be the cheapest kind of gains you could get. If you could use wheat and rye pasture for another 4 weeks and then finish with a short feed on grain you would take advantage of cheap gains and the best market.

I would be pleased to hear from you what the peak of the fat-hog price will be for spring and summer.—J. D. W.

With the unfavorable hog-corn ratio, growers will likely start marketing last fall's early pig crop at lighter weights than normal. This may increase receipts at markets during latter part of March and continue to act as a depressing influence on prices.

For the longer-run view, present indications are that a fairly strong market will prevail in summer and early fall, after last fall's heavy pig crop has been marketed. Two unknown factors which can effect summer prices are (1) extent of cutback in this spring's pig crop and (2) amount of pork products held over in storage next summer. There are some indications consumer demand for pork products may not be as strong as it formerly was, i.e., that consumers are buying less pork even at the low price level. If that has occurred, movement of spring slaughter into consumer channels may be sluggish and result in heavy holdover of pork products in storage into summer months. That situation could dampen packer demand during the period when most market forecasters think substantial price increases will occur.

Are there going to be support prices for dairy products after March 31?—N. E.

Recent indications point to a renewal of dairy support prices on April 1, at levels probably higher than current support levels. Most markets already are discounting the effects of possible higher support levels.

Will increased wheat sales by the CCC have any effect on domestic wheat prices?—C. H. B.

It is true CCC has announced some policy changes which will make it possible for more wheat to be sold in the domestic market. Previously only a limited amount could be offered for sale and this to meet emergency situations. While CCC is now permitted to sell 25 million bushels of wheat during March it is unlikely this amount will be sold, since the pricing policy which has governed domestic sales has not been changed.

CCC is still required to charge the higher of either the market price for wheat or the current loan rate plus 5 per cent plus reasonable handling charges. This amount is about \$2.75 per bushel, while the current market top price is \$2.53. Since CCC must sell in the domestic market at the higher of these 2 prices it seems very unlikely much wheat will be moved at 22 cents above the current market, and it is probable most of the 25 million bushels offered for sale during March will remain in Government possession at the end of the month.

No. 2 in special series telling what Kansas State College research scientists are doing to improve your crops

How Hybrid Corn Has Helped Kansas



Loyd A. Tatum

ANNOUNCEMENT early this month of a newly-approved corn hybrid, K 1830, calls attention to the contribution Kansas State College has made in corn improvement research. Dr. Loyd A. Tatum is the staff member who has been assigned to a corn improvement project being conducted by the USDA and the Kansas Agricultural Experiment Station, since the spring of 1946.

This research project has 2 objectives: (1) to develop dent and popcorn hybrids adapted to Kansas growing conditions and that are superior in yield and have drought, disease and insect resistance; (2) to study new methods of corn improvement in order to obtain hybrids that are resistant to the various hazards of corn production in Kansas.

Many Hybrids Developed

Doctor Tatum lists 10 corn hybrids developed by the Kansas State staff and 2 more that are the result of co-operative research. One is a popcorn variety that in less than 7 years has become the most widely grown popcorn in the United States. It is K 4. A hybrid with the same pedigree is sold in Indiana as Purdue 32. Dr. A. M. Brunson of the Purdue University staff did preliminary work on K 4 before he left Kansas State in 1938 to accept a Purdue position. R. W. Juggenheimer and E. G. Heyne are others who have done corn improvement work at Kansas State.

Kansas developed hybrids are K 1585, K 1583, K 1784, K 1646, K 1639, K 1859, and K 1830, all yellow corn; K 2234 and K 2275, white varieties, and K 4, the popcorn variety. Co-operative work in which the Kansas station has had a part has resulted in development of US 13, a yellow corn, and US 523W, a white corn.

Inbred lines developed at the Kansas

station are used in hybrid seed production in other states as well as in Kansas. At least 2 Kansas inbred lines, K 6 and K 61, are being used in Indiana and are not being used commercially in this state. Kansas likewise is benefiting from inbred lines produced at other experiment stations.

Kansas inbred lines and hybrids can be recognized from the prefix K. The yellow hybrids are numbered under 2000 and the white hybrids over 2000. Kansas inbreds have numbers under 1000.

Hybrids Are Popular

In 1940, when seed of the first hybrids adapted to Kansas conditions were becoming available, less than 10 per cent of the corn acreage in the state was planted to hybrids. In contrast is the 85 per cent planted with hybrid seed in 1950. The percentage in the major corn producing areas of Kansas was even higher in 1950. In Northeast Kansas, hybrids were on 97 per cent of the corn land and in North-Central Kansas on 94 per cent of the acreage.

It is conservatively estimated that use of hybrid seed contributed 15 million bushels to the estimated 86,660,000 bushel yield in Kansas in 1950. The best hybrid varieties have been outyielding the best open-pollinated varieties about 25 per cent. Thus, without hybrid seed, the 1950 corn yield in Kansas probably would not have exceeded 70,000,000 bushels.

Research Is Endless

"The development of inbred lines and testing them in hybrid combinations goes on endlessly. One of our big problems," Doctor Tatum added, "is in evaluating new inbred lines. Sometimes we have several hundred or a thousand from which we try to select 4 that will make a double-cross hybrid or one that will improve an existing hybrid. This means picking 4 of the 1,000 that will give the best double cross. Part of our work is in the developing techniques and methods to do this."

As a result of recent experiments, it has been found that failure of corn to pollinate in many cases is not due to pollen being killed by high temperature. As more is learned about the response of the various strains to environmental conditions it will be possible to make additional improvements, Doctor Tatum predicted.

"We are reaping the harvest now of research in the field of corn hybrids that was started intensively in Kansas and at other stations in 1922. The payoff of this research did not start until about 1940, but since has paid dividends in satisfaction to the scientists who developed the hybrids, and in added income to corn producers throughout the nation."

Can Poultry Forecast Weather?

Before modern-day meteorologists offered scientific ways of forecasting weather conditions, the ancients had their ways of telling whether the sun would shine or rain would fall. Poultry played a big part in these superstitions. Here are some of the early-day proverbs:

1. When chickens crow before sundown, it is a sign of rain next day.
2. If chickens go out in the rain, it will rain all day.
3. When chickens come down from roost at night, rain will soon follow.
4. When chickens light on fences during rain to plume themselves, it will soon clear.
5. Cocks are said to clap their wings in an unusual manner before rain, and hens to rub in the dust and seem very uneasy.
6. If domestic geese walk east and fly west, expect cold weather.
7. When roosters go crowing to bed they will rise with watery head.
8. Turkeys perched on trees and refusing to descend indicate snow.
9. If on the 2nd of February the goose finds it wet, then sheep will have grass on March 25th.

*"If the cock moult before the hen
We shall have weather thick and thin;
But if the hen moult before the cock,
We shall have weather hard as a block."*

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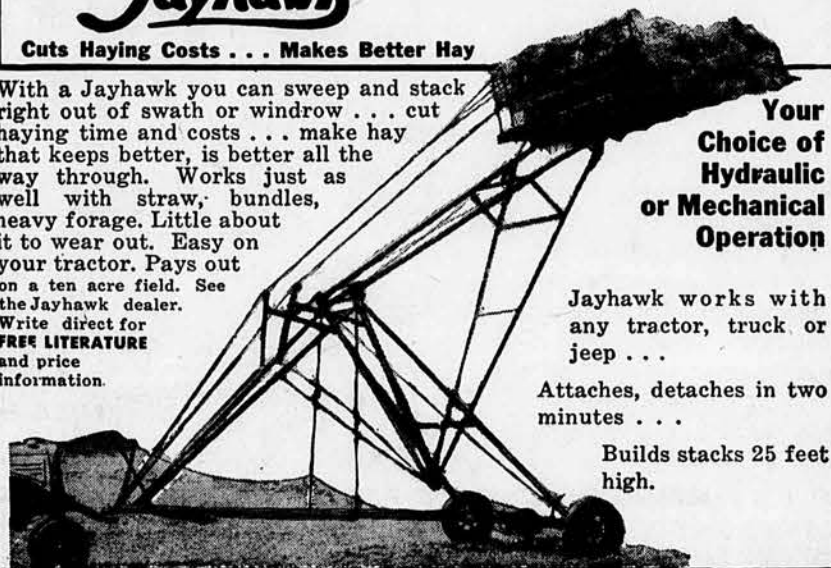
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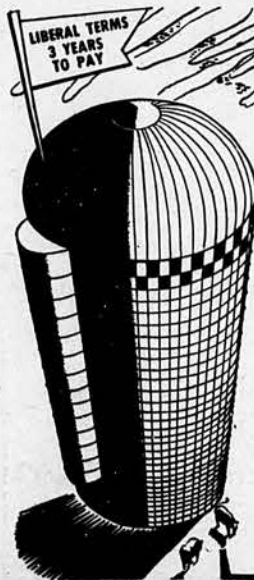
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(KF-5-52)

No. 2 in a series of articles by
a former county agent who says . . .

Let's Take a Trip To Hawaii!

By Preston Hale

DEAR Editor: (December 15-18, 1951) Since I didn't tell you of our visit on Hilo area before, I expect that should be done now. We came in by plane from Maui—flying along southeast coast. There was a beautiful pattern of cane and pineapple fields below for first 25 miles. Southeast parts of Maui also is dry cattle country. In a very few minutes we could see Mouna Kea—the dead volcano in northwest part of the Big Island—as Hawaii is called over here.

As we flew east along north shore we saw many fields of sugar cane and every few miles a sugar factory and pretty little red- or green-roofed houses. Fields were lush green. They had field boundaries but no contour pattern for irrigation. We did see troughs of water rushing down the mountain-side. Later while talking to Clarence Wayman, county agent, we were told very little irrigation is used on the big isle, as in the rainy area it is normal to receive from 100 to 150 inches of rain per season. He said best production is during dry years when rain is from 60 to 90 inches.

We found the sluiceways of rushing waters are to float cane to the factory from the higher elevations. Cane grows up the slopes to 2,500 feet. Then, timber, and higher up, grass. There is considerable grass on rough areas any place. Average acreage per beef animal is 20 acres; low is 1½ acres. Sugar cane produces 75 to 90 tons per acre and makes about 6 to 7 tons of raw sugar per acre. There are many small farmers who grow cane under contract at \$6.20 per ton standing.

The big island produces 40 per cent of all the cane in the islands. Very few pineapples are grown.

The climatic range is so great and variable there are dry sides, wet sides, different elevations and soil types; you find small production of nearly all crops we grow in Kansas and the tropics besides. Grasses range from blue grama to giant pampas grasses. Legumes are notably lacking. There is a small patch of alfalfa on the Parker ranch and some white dutch clover in the higher northwest section of this island. I thought I could see some limestone in this area—all other sections formed from new and old lava are acid according to local county agents. Much effort is being made to improve pastures thru new grass varieties, but not as much is being done with fertilizers as they are doing with sugar cane and truck crops and flowers.

Cactus Is Plentiful

The dry side of Hawaii is covered with giant big-eared cactus, brought here by early settlers to be sure of cattle feed. None is used for feed and every effort is used to kill it.

We spent the night at Kamuela, on the Parker ranch. It's cool here at 3,000 feet; has frosted once in 10 years. This is a hunting area for quail, pheasants, wild hogs and goats.

This is central point for the Parker ranch—385,000 acres. They run 35,000 Herefords plus 15,000 horses and 8,000 sheep.

Kamuela is a cool, fertile area, where

head lettuce, celery, Burdock roots, sweet potatoes and a few Irish potatoes and tomatoes are grown. There are many small farmers who have a co-operative marketing building where they pack (and ship by air) freight to Honolulu. The smaller ranches are more inclined to keep a few Holsteins and mixed beef cattle. Brahma crosses also are being used on one ranch.

Inspect Grass Plots

County Agent David Akana called for us this morning and showed us his grass plots which included brome grass and fescue. Bees are making 100 pounds of honey per hive. There are 170 farm families in his county. He has 190 4-H Club boys with beef, rabbit and other small projects. They need a home agent, so work can be expanded.

The whole south and much of the west part of Hawaii is strewn with lava flows, bearing grim evidence of ancient and recent flows. We drove over temporary roads cut in the 1950 lava flow. We picked up lava rock too hot to hold. Some spots are still over 700 degrees according to forest rangers.

As I write this I am sunning on the beach with some fears of blistering, and this is December 18th!

Dear Editor: (December 20, 1951) It's air travel or slow boats between islands so everybody flies. Even vegetables and flowers are flown so they are fresh for Honolulu tables and mainland parties. Our flight back to Oahu was as nice as all the others.

I was out over the Waimea ranchlands; it is in a short rainfall area. It is good land and would be very productive with more water; they have a 9-inch pipe installed but no water on either end.

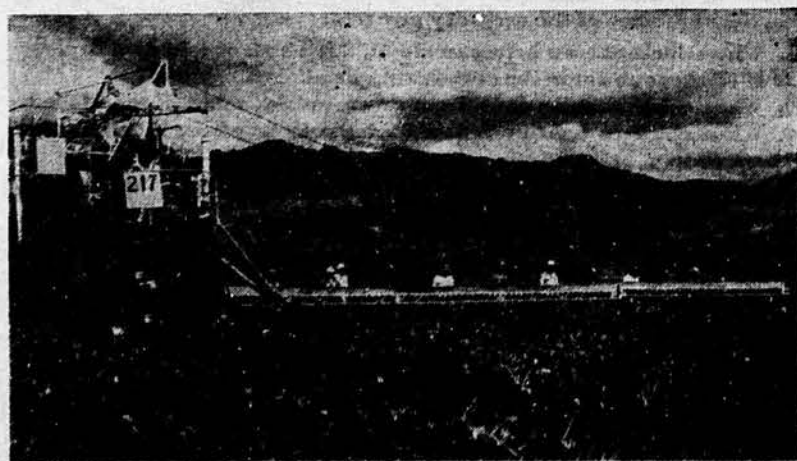
I was told pasture land that would carry one head to 1½ acres was selling, or they were asking, \$500 per acre. I am sure this land could be made to pay producing vegetables but not pasture.

Dear Editor: (December 21, 1951) I am enclosing a clipping about the Onomea sugar plantation land. Labor is well paid here; living standards are high and that's fine. However, sugar at \$100 per ton hardly pays these days, and at same time labor is biggest user of sugar—not here but on mainland. Income from sugar is big item on the Island's list. Something about 33 per cent; pineapples are next in income; then military, and tourists.

Dear Editor: (December 22, 1951) We were eating one of our last meals at the Moana Hotel at Waikiki Beach when who should walk in but J. Blood Coats, saying he had an invitation for us to see a civic play and hear Christmas songs. When we were handed a program we saw Mr. Coats had a part and he did very well, just like when he lived back in Topeka.

Before we left Moana for our cottage at Kailua we had a very nice evening with Mr. and Mrs. A. J. Mangelsdorf and friends in their spacious mountain-side home in Honolulu. (Mr. Mangels-

(Continued on Page 47)



PINEAPPLE HARVESTING MACHINE aids pickers who move along close behind the 50-foot conveyor-belt boom, which quickly whisks pineapples into bin of truck.



GOOD TIMES ARE IN STORE when friends get together, especially when it's a Chinese dinner in the Hawaiian Islands. From left to right, back row, are Foo Kau Lee, Preston Hale, Kim Ak Ching and Al Mangelsdorf. Front row, Mrs. Mangelsdorf, Mrs. Charles Kern, Mrs. Ching, Charles Kern, Mrs. Lee and Mrs. Hale. Occasion was the Hales' last meal in Honolulu before leaving for United States after their vacation in Hawaiian Islands.

dorf and Mr. Hale were college friends at Kansas State College—Ed's note.) He has done wonders for the sugar industry by breeding new strains of cane. It's no easy job. It takes millions of seedlings each year to get even one superior strain and several years at that, and then that strain only may be good for one location in these variable islands.

Increase Sugar Tonnage

Speaking of results, his department has increased sugar tonnage in the last 25 years about 1½ tons per acre. With sugar the most important industry on the islands, it makes you proud to know such a fellow as Al Mangelsdorf. There are lots of Kansas State College folks here. I should have said before Al works for the Hawaiian Sugar Planters Association, who operate an extensive experiment station.

Sugar cane breeding is like producing hybrid seed corn. However, the seed is a 3-joint piece of stalk planted in deep lister furrow—5 feet apart. This source of seed insures purity but is awfully bulky and requires special machines to plant it.

No place on earth is there to be found larger special machinery than in Hawaii, both in sugar and pineapple. The industry has raised its production from 100,000 tons in 1885 to nearly a million tons today.

Only 10 per cent of Hawaii is tillable. At one time many valuable trees grew on the islands that have been cut for lumber until very little is left. Then, when all building material comes from the mainland, you can see why forestry is a "must" in Hawaii.

Dear Editor: (December 31, 1951) This is really not lazy weather—averages about 74 to 78 most of the time, yet this is wintertime in Hawaii. I have been having a brisk run on the beach in trunks each morning.

During this season we have been taken into activities of the community, thanks to the Ike Kern family. He is with the Dole Pineapple Co., largest in the world. Ike has been here 6 years. He first served in pineapple production but is now in industrial service, preparing information for the more than 3,000 workers and the public.

Mrs. Kern served in the health department at Kansas State College where she met Ike. Ike's folks live at Smith Center. They came over recently and had a fine time here in Hawaii, and will have a return visit from the Ike Kerns in May. Mary Beth is 10, David is 7, and Carol Jean is 6 years.

You might be interested in the Kern home and yard. It's a lovely house, designed for this climate. One story long, overhanging eaves for shading windows. Walls are one board thick, finished on both sides. Windows are large and screened. Garage is just a roof. There is no heating system. Hot-water tank and automatic washer are outdoors under the long eaves.

Another Kansas Stater of the class of 1916 (Mr. Mangelsdorf and Mr. Hale—Ed's note.) is Kim Ak Ching. He did field work for the fertilizer company here, much as I am doing for Snyder Chemical Co., in Topeka.

I had a Chinese dinner with Ching and his friends and believe it or not I ate everything with chop sticks! We went on a Saturday afternoon fishing trip with Foo Kau Lee, K. S. C. '15 and his schoolteacher wife who served us a very good Teriyaki steak, cooked over an open fire right on the beach. Rollers 20 feet high sprayed us!

Dear Editor: (January 2, 1952.) Kauai, the Garden Isle, is 95 miles northwest of Oahu. A short time before our flight time, the intercom at the airport announced there would be a short delay, due to weather conditions on Kauai. This was repeated several times. Later we heard it was raining so hard you could not see the ground; it was subzero ceiling for flying. Later, we landed at 12:30 with a beautiful sun shining. It must rain some of the time on Kauai or how could they get in 400 inches in a year!

We drove thru miles of sugar cane fields with their small villages and sugar factories. There is more erosion here than on Oahu. Very little cane or pines are planted on contour.

Kauai boasts of more rice production than the other islands. All rice harvesting and threshing still is done by hand. Water buffalo, however, have been replaced by small tractors.

We saw our largest coconut groves here on Kauai. They let them fall and pile them up at base of tree. At intervals they are husked and shipped to Honolulu to be made into coconut products. We liked the chips that are toasted and also the coconut sirup.

One thing that amused us was the tiny railroads and small open cars that seem to go everywhere thru cane fields to bring cane to factories. They also lay many miles of temporary tracks. Most of the other islands have changed over to giant trucks to haul cane.

See Many Ayrshires

About 20 miles from Lihue we saw several hundred Ayrshire cows that supply the islands with milk. And along north shore there were wonderful Herefords in some mighty lush pastures that would produce 365 days of pasture, for a big cow and a big calf, per acre.

After a damp, rainy night we started to the Waimea Canyon area, on west part of island. We again drove thru miles of lush sugar cane and here we saw many irrigation ditches, for this is the dry side of the island. It is a rich, big plantation area, with good houses for farm workers.

The Waimea area is eroded badly and covered with sparse grass and scrub timber. Whole sidehills of sod have slid down into the gulch below. At times the road passes across saddlebacks hardly wide enough for a car, let alone to pass one. The canyon is a miniature Grand Canyon. There were many tiny waterfalls.

It was quite a thrill to go up to 4,000 feet and look over a sheer cliff down into the valley of the lost tribes. At this elevation it is a temperate climate and roadsides are lined with blackberries. There were blossoms and ripe berries on the same bush. There were lots of flowers—most beautiful was royal princess flower. It was a dark, deep-blue color about 3 inches across. Buds were a reddish pink, making a beautiful contrast. Here we met an old friend—a single white climbing rose.

Up in these mountains wild bantam chickens are to be found, along with wild goats and pigs. It would be rugged hunting and if you did kill a goat it would take days to carry the meat out. This island needs a million miles of stone wall terraces to make use of all this moisture, and to produce food for coming generations. Kauai is still a country isle. We had a nice flight back to Honolulu.

(Watch next issue for another group of letters.)

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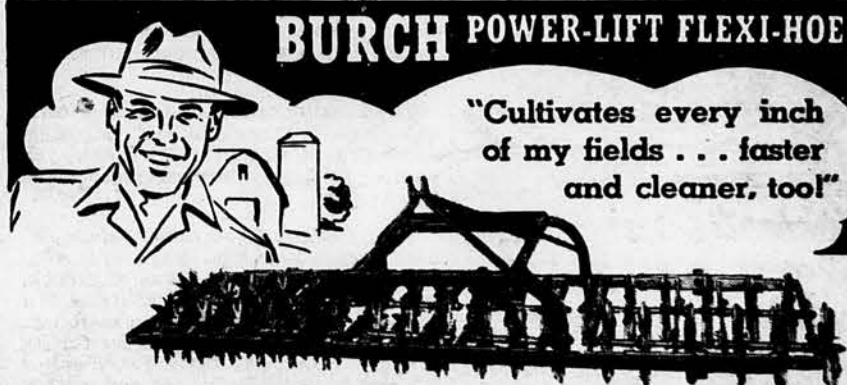


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Odd, humorous facts crop up about poultry. Would you ever guess once-upon-a-time . . .

Geese Were "House Dogs"?

By GORDON WEST

OF ALL FOWL, geese often are called most silly, foolish, stupid. But they are not dumb boobies as often thought. They show their intelligence in careful hiding of their nests, in protecting young and mate, and they are careful in their habits to avoid enemies and in protecting themselves. Once they were kept as "house dogs" in ancient times. They are constant to their mates, are good weeders, and are long-lived.

Entire group of birds, called Aves, comprises many orders, families, sub-families, genera and species. The wild fowl has been shown to be closely related to the pheasant. The fowl belongs to the 2nd sub-family of pheasants, Phasianinae. The fowl is the only pheasant with a fleshy comb, so is placed in a genus called Gallus, meaning a comb.

Cockfighting has been an important sport in the world for centuries. There was great importance attached to it, and it exercised tremendous influence not only in domestication of wild birds but also in subsequent distribution of



"Fifth round it'd be, I said!"

fowl. Cockfighting was a favorite pastime in Southern and Western Asia, Java, Borneo, Sumatra and the Philippines. From India, the sport was introduced into Persia, then into Greece. It is still indulged in as a very serious enterprise in many countries. During reign of Henry II in England, cockfighting was a popular pastime but was put down as unlawful in the reign of Edward III. It was revived in the reign of Elizabeth and James I and Charles II entertained guests at cockfights. The sport flourished until suppressed by act of Parliament in 1849.

The ancients held fowls as sacred. The cock once was regarded as possessor of many mystic qualities. It is believed, for instance, that while the devil would never enter the house of one who slaughtered a white cock with a divided comb, such a person would suffer loss of possessions.

The 2 distinct races of domestic fowls were Asiatic races and early Mediterranean races. From these 2 races, each poultry-raising country has developed its own fowls.

It was claimed bad habits would depart from a man who drank of a solution containing dried comb of a cock. Smoke of dried comb of a white or of a red cock was of benefit to a madman. Loss of memory was cured by taking in the morning, on a fasting stomach, a mixture of the gall of a cock and mutton broth. Pain was relieved immediately by taking pills made of pounded dried flesh of a cock with equal quantities of gallnuts and sumach. Man's virility was supposed to be greatly increased by an application of cock's blood mixed with honey. On the other hand, blood drawn in a cockfight mixed with food and given to a number of people would cause dissension among them.

Many breeds of domestic fowl possess external appendages which are in no way associated with functional activities and apparently serve no particular purpose in reproduction. There are crests and beards, possessed by many continental breeds and varieties. Some breeds have single combs, some have rose combs, some pea combs, while still

others have walnut combs, leaf combs, and strawberry combs.

Shank color of domestic birds varies considerably. American breeds have yellow shanks while breeds from other countries may have yellow, white, black or willow-colored shanks.

Book of Rural Life states the Redcap is the one breed of chickens possessing red ear lobes that lays a pure white egg. All breeds of chickens (except the Redcap) which have red ear lobes produce brown-shelled eggs, and those with white ear lobes produce white-shelled eggs. The Houdan has an extra, 5th toe, a fluffy beard, V-shaped comb and fluffy crown. The French Crevecoeur has a bony "crown" on top of its head, covered with large crest of feathers.

The prairie chicken, an interesting part of the Kansas agricultural scene, is disappearing. These beautiful birds once inhabited the Midwestern grasslands by hundreds of thousands. There are records they have used the same breeding grounds for more than 50 years.

The mating dance of the prairie chicken is one of most unusual in the fowl world—their booming call can be heard a mile away! Some naturalists say dance patterns of the Indians were inspired from the dancing of the prairie chicken. The male uses practically all his body and feathers in his mating dance—puffs out his bright orange air sacs on either side of his neck to scare off other males, ruffles his wings, jumps up and down, walks around and around, making all sorts of movements and noises.

The prairie chicken is a farmer's friend. In summer one-half of the bird's food is destructive insects. Today, only a few thousand are left in Kansas. Their meat is tasty, and preferred by many over other fowl.

There are many uses for geese—food, weeders, feathers are used for bedding and millinery; quills are good for dart games, for trimming Indian suits and in making novelty pens. Feet, bones



"Mister, try something else for your pen!"

and beak are ground up and used as fertilizer, fat is used in ointments, and tiny feathers of the best geese are good for making powder puffs.

The goose always faces into the wind when it sleeps, usually in the daytime. These fowl are wonderful conversationalists, and love to "talk" all night! Sometimes, they live to be 50 years, proving their good intelligence and eating habits. They are extremely belligerent and only animals they won't "take on" are fox and weasel!

Chanticleer, that peppy rooster known to all thru song and story, also is a breed of fowl! A truly Canadian breed, the bird is white and resembles the White Wyandotte. It lays a brown egg, and has a small, flat comb and beautiful white feathers.

Chanticleer was the subject of Edmond Rostand's (known for his famous story of Cyrano de Bergerac) play by that name, produced in 1910. It was a satire on humans, a fantasy with barnyard animals as characters, and Chanticleer as "hero." Chanticleer is from the Latin, "to sing clear."

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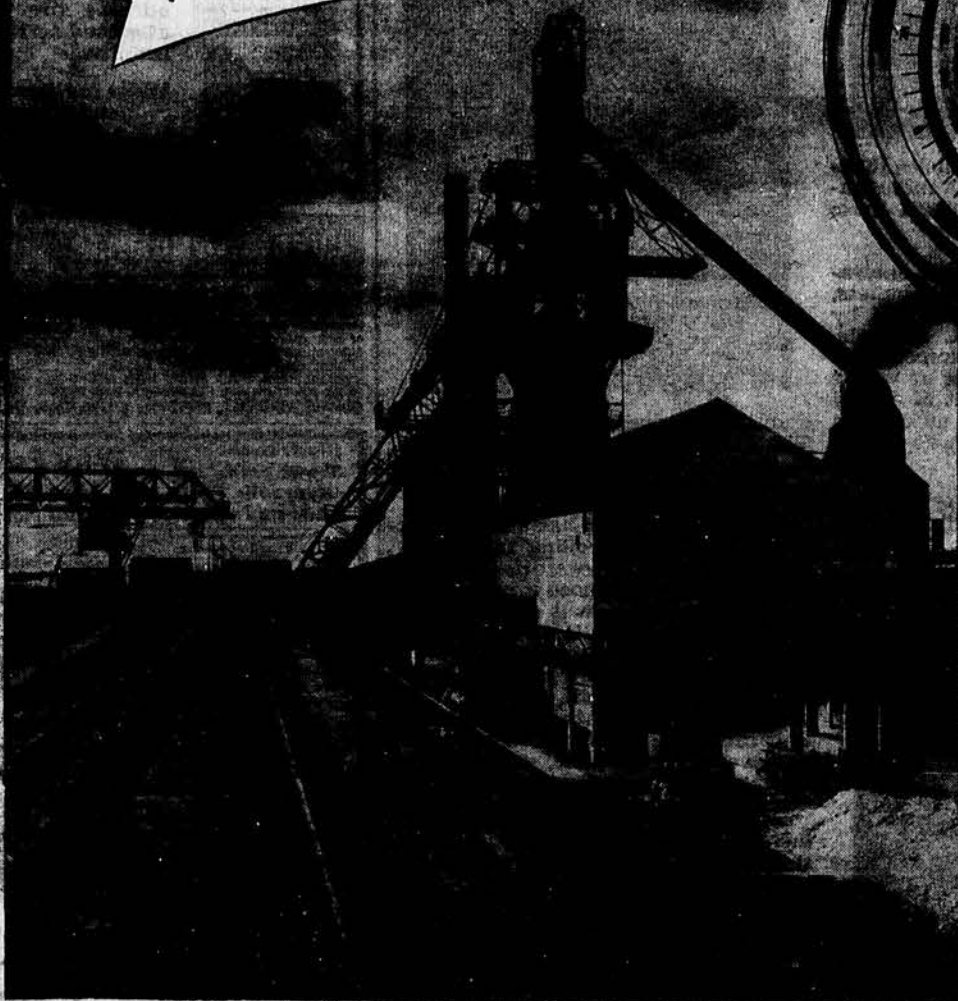
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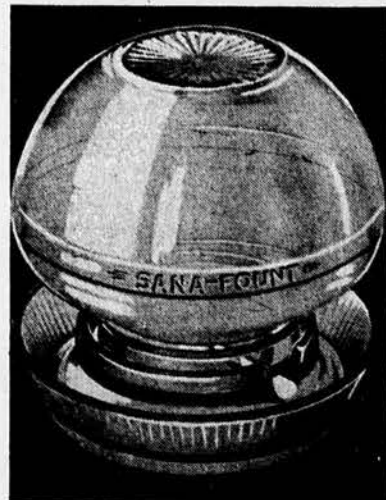
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can be easily seen by the chicks, it attracts them, and they drink more water. This develops them much more rapidly."

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DeLuxe Model No. 2752 egg basket is announced by Crown Poultry Equipment Co., New Brunswick, N. J. It's



"newly designed from top to bottom by practical poultrymen to solve all egg-carrying problems," says the company. Features—electro-zinc-chrome plated and guaranteed not to rust; convenient carrying grip eases weight of full load capacity of 15 dozen eggs; handle designed to rest precisely on the rim of basket; double coating of detergent-proof yellow plastic coating insures protection against checks, blind cracks and marking.

Kno-Draft Air Diffusers for unit heaters in the brooder house will stop crowding, reduce mortality and cut costs, says W. B. Connor Engineering Corp., N. Y. Kno-Draft can handle large volumes of air without drafts, makes for ideal health and growth conditions. Temperatures at the litter level can be kept continuously uniform from wall to wall. For more information, write us, please.

Chlorets are new, inexpensive, handy chlorine tablets made by Gliss'n Products Co., Inc., Chicago. The tablets pro-

vide a simple, easy method for treating drinking water, well water systems, poultry water supply, cattle watering tanks and for disinfecting dishwater rinse, dairy utensils, garbage cans—other items served by chlorine solution.

Northco's Lit-R-King can stir up and lime built-up litter in quick time and in an effective way. The machine spreads lime in front of the stirring blades first. Then the chopping and stirring action of blades blends the lime into the litter. Ammonia fumes are effectively eliminated, litter keeps dry.

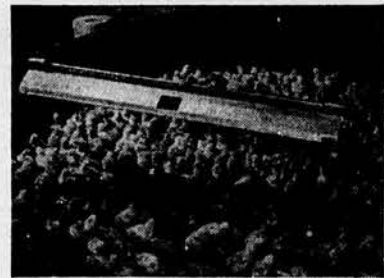
Hardwood's all-plastic Spectrons stop cannibalism. They slip on in-



stantly, are sturdy and simple to use. The Hardwood Co., Farmingdale, N. J., says "Spectrons are 100 per cent effective, all the time."

The poultry world has a new, effective means of controlling tapeworms. Dr. Salsbury's Laboratories, Charles City, Ia., has announced a new drug—hexachlorophene—will remove tapeworms, heads and all! About the best that could be done in the past was to get segments of worms. Heads clung to the intestinal wall, grew and developed new segments. Dr. Salsbury's Laboratories say that Cloro-Caps, a new worming medicine, will satisfactorily remove tapeworms.

Radiant Ray infrared brooder will increase profits 6 ways, says Radiant Ray Corporation, Seattle, Wash. Ad-



vantages—greatly increased livability for chicks, chicks eat more and gain weight faster, there is no visible light and no hot spots, no crowding, no wasted heat or power, and brooder is easy to install.

Recently placed on the market is a new, low-priced egg washer especially designed for farm use by the 3 Minute Egg Washer Co., Inc., St. Cloud, Minn. Their washer cleans 160 eggs in 3 minutes. The washer is designed to save time and egg handling, as eggs are placed directly into washer when gathered.

Protekwood is a new, low-cost, moisture- and rat-resistant, all-purpose paneling. It's good for partitions for laying nests, moisture barrier in egg rooms where high humidity should be maintained, as a wind seal and rodent barrier for farm buildings. It's a product of United States Plywood Corp., Chicago, Ill.

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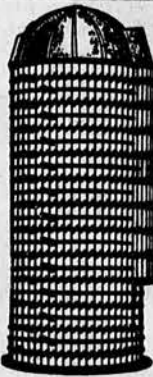
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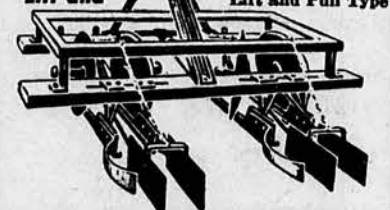
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No. 3 in a series on interesting facts about Kansas crops...

CORN

"King" of the Cereals

By GORDON WEST

ALTHO "corn" in America is corn, the word has several meanings in other countries. Often, corn is locally understood to mean the cereal which is the leading crop of a district. So in England, corn refers to wheat, and in Scotland and Ireland, to oats.

The "home" of corn is more likely South America—what is now Bolivia, Peru and northern Chile—than Mexico, says the Corn Industries Research Foundation. Many authorities believe the probable ancestor of our present-day corn was a branchy plant called teosinte, supposedly originating in Guatemala. *Kansas Farmer* had a story about teosinte some years ago in a "National Cornhusking" issue.

Corn, or "maize" as it was known popularly for hundreds of years, was grown by American Indians before the days of Columbus. He was amazed to see the fields of maize grown by Indians, and wrote to Ferdinand and Isabella in 1498 that he had seen cornfields 18 miles long! The only farmer in the world who ever had a field to approach that record was David Rankin, Atchison county, Missouri, who 50 years or more ago measured his fields by the mile instead of the acre. LaSalle, in 1589, found large fields of corn in what now is Illinois.

Corn is a member of the "grass" family of plants, a fact little known. It is adaptable to many conditions, is now grown in every state in the United States. The Indians used corn as their main source of food, and in religious and other ceremonies. Corn encouraged trading and developed community spirit. The corn is "King" in many areas of America, it was the last of the great cereals to be developed.

The American Indians had corn with red, blue, pink, black or brown seeds. Some seeds were banded, spotted or striped. They grew red, purple and variegated corn plants. Early colonists used corn for money, and paid rent, taxes and debts. Corn was even traded for marriage licenses.

More and more uses are being found for corn. Today corn goes into these products—soap, paint, varnishes, paste, salad dressings, dyes, inks, adhesives, yeast, leather, twine, chewing gum, fireworks, match heads, maps, paper cups and bags, tire fabrics, pie fillings, detonators, ice cream, soft drinks, candy, penicillin and other antibiotics, aspirin, insecticides, shoes—the list is endless.

The famous corn cob pipe had its beginning in Missouri—in Franklin county. Today, making of various kinds and sizes of corn cob pipes is a big industry in the state, and products are shipped all over the world. Washington has become the world capital for the industry. A special variety of corn makes best cob pipes.

For centuries, corn has had an important part in the "arts." The ancient Mayan civilization was centered



around corn, and its glorious history was carved in stone and molded into pottery. The Corn Industries Research Foundation also comments that today, a shock of corn dominates the official seal of the U. S. Department of Agriculture. Sculptured ears of corn are a part of some of the columns in the nation's capitol, are included in other building artistry.

More than any other grain, corn is the "meat, milk, butter and eggs" of the United States, the basis of the best standard of diet the world ever has known.

Farm Forum At Liberal

FIVE states will provide speakers for a Farm Forum at Liberal, March 25. Crop, soil and livestock improvement will be stressed at all-day session which opens 9 a. m. at Fairgrounds Agricultural building.

Dr. D. A. Savage, superintendent of USDA experiment station at Woodward, Okla., will discuss grass agriculture. Soil improvement will be topic of Dr. H. E. Myers, head of Kansas State College agronomy department. F. W. Atkeson, head of dairy husbandry at the college, will discuss latest in animal nutrition.

From E. W. Hamilton, Allis Chalmers agricultural research department, Madison, Wisc., will come "Silage and Sirloin." H. Elijah, director of Wilson & Co.'s livestock division, Oklahoma City, will discuss meats and livestock markets. Also on subject of marketing will be John C. Cowan, associate director of Commodity Credit Corporation.

George Montgomery, head of the K-State agricultural economics department, will speak at evening banquet. A question and answer period will follow each speaker on this 7th annual Five State Farm Forum.

Greens for Poultry

Poultry greens are important to hens after a long winter. In absence of succulent forage, a bale of green alfalfa hay kept in poultryhouse provides some nourishment and a lot of satisfaction, says L. F. Payne, head of poultry department at Kansas State College. Cabbage and lettuce leaves from grocery store are special tidbits preferred by layers.



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"We formerly had great trouble in harvesting our very heavy mixture of Alfalfa, Brome Grass and Ladino Clover, but last summer, using Gehl Forage Harvester with Mower-Bar, we had no trouble whatever... no breakdown, no halts at all in the process of filling eight silos, all with grass silage."

(Signed) Louis Bromfield—Mañabar Farm

*Pulitzer prize-winning author and farmer

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Two Successful Poultrymen

(Continued from Page 4)

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Mash is fed by hand in open hoppers. Our range shelters are open during day but are fixed so they can be closed at night.

"Speaking of chicks, we never start with anything but top quality because no pullet can lay more eggs than her breeding indicates.

"There seems to be 2 critical periods in development of healthy pullets. First period is during brooding time, when chicks are about one month old and begin to run outside the brooder house. They must be kept off infected ground. We use hail screen runways for part of our chicks. Others have access to a concrete-floored pen that is thoroughly disinfected before each batch of chicks. Second critical time is when birds are on range. Years ago we tried to raise chickens without using clean range and we always had disease troubles. Clean range is the most disease-preventive measure you can use.

House by September 1

"We put nests in our range shelters so pullets get some training before going into laying house. We like to house our pullets about September 1, and never let them out again once they are housed."

Sometimes a man gets a laborsaving idea that looks good but fails to work out in practice. That happened to Mr. Steele. He conceived the idea of putting doors on the back of his colony-type nests so eggs could be gathered from feed room side. "I thought it would be nice not to enter pens to gather eggs," he says. "I soon found you need to enter pens as often as possible to keep a close eye on your pullets. You can spot trouble early."

In fact, giving the flock special attention is a feature of Steele's program. "Our flock is a family affair," he says. "Poultry gives the children chores within their abilities and leaves me free for heavier farm work. Of course, I look in on the flock frequently and teach the children to keep a sharp lookout for trouble signs."

Flock Needs Attention

Continuing the thought that pullets need attention, Mr. Steele says, "We give our flock special attention in severe weather, especially. We see that water is not too cold and watch for damp litter areas. Pullets need constant fresh water. That means automatic waterers must be cleaned and flushed out regularly.

"We put scratch grain out on litter twice daily so pullets will help stir litter and do less picking. We keep a 20 per cent commercial mash in self-feeders at all times. Eggs are gathered twice daily and taken immediately to egg cellar. We wouldn't do without our egg cellar, as it keeps all muss out of the house and helps hold egg quality. It is very essential during summer months, especially if selling on grade."

The Steeles keep accurate flock records as to egg production, and feed consumption. Their flock averages about 65 per cent on egg production for the season, but gets up to 80 per cent during peak months of late fall and early winter.

Double doors at both ends of house allow drive-in clean-up operations. By putting heavy screen frames over openings the house in summer can be opened up like a huge range shelter and is always cool.

Carl Swenson's laying house is even larger than Steele's. It is 30- by 72-feet with two 30 by 30 pens, a 12-foot feed room and a 10- by 12-foot egg cellar. It was built last summer and will handle 600 pullets.

Gets Early Chicks

Chicks on the Swenson farm are purchased very early. "Several of us in this neighborhood are getting our chicks on February 5 now so we can have our pullets in the laying house before harvest," says Mr. Swenson. "This gets them out of our way at harvest time and insures peak production when egg prices are high. Chicks are from very-high production bred stock."

In general, flock management on this farm agrees with that on the Steele farm, but there are differences, and we will deal with those differences in this article.

Probably the most outstanding difference is in the laying houses themselves. Mr. Swenson has abandoned the straw-loft. Instead of a straw-loft he put more money into his roof. He used solid sheeting, topped it with heavy building paper, then covered it with cast iron sheeting.

"So far I like it very well and have been thru some zero weather."

Another difference is in feeding programs. Where Steeles use commercial feeds thruout, Mr. Swenson goes only part way. "I use commercial starter and grower," he says, "but about 2 weeks before housing pullets I work them over to a 26 per cent concentrate with home-grown corn-wheat-oats. I stay on this feed thruout the laying season.

Where Mr. Steele uses scratch grains in litter Mr. Swenson feeds all grain in hoppers. He also gives some green alfalfa to his pullets each day while Mr. Steele does not.

"I gather eggs 3 times daily. All eggs are cooled out in wire baskets in the egg cellar before being cased and are marketed twice weekly." You will remember Steeles gathered eggs only twice daily.

Uses Roll-Away Nests

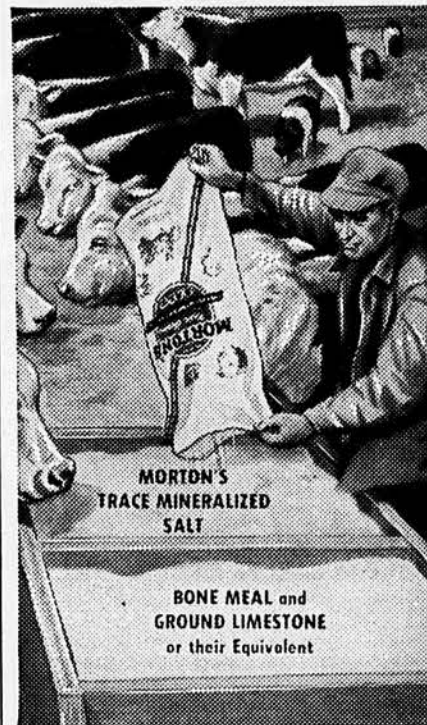
A roll-away-type colony nest is used in the Swenson laying house. "I have some difficulty getting pullets started in this type nest," he said, "but once they get the idea most of our pullets will use it, and we certainly get fewer dirty eggs."

Because he markets on grade this idea of egg quality is important to Mr. Swenson. "Our egg cellar cost an extra \$300 when we built our laying house," he says, "but my wife says that is the last thing she would want to give up. It is so much less work and trouble to handle all eggs away from the house and it does pay off at market. Out of 120 dozen eggs sold last week we had 106 dozen "firsts," which is about average from a percentage basis."



AN EGG CELLAR under Steele laying house keeps muss of egg handling out of house and is ideal for maintaining egg quality.

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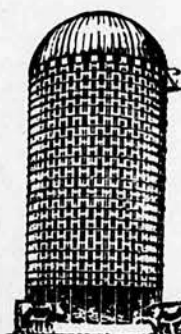


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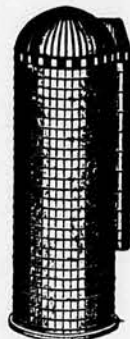
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What Milking Parlor Plan Would You Use?

By DWIGHT HULL

WHAT kind of milking parlor would you build? About a year ago we concluded our milking parlor had served its purpose and was no longer adequate or practical. We needed to milk more cows with less time and effort. So we began hunting for information and suggestions. We read farm magazines, got government bulletins, sent for blueprints. We talked to and visited with a good many dairymen on their farms, always asking what kind of milking parlor or barn would be built and if one recently had been built, what changes would be made if they built again. Naturally, every dairyman had some very definite idea. We didn't find anyone who was completely satisfied with what he had, all would make some change in building again or as they could.

After getting all information, ideas and suggestions possible, we still had the problem of deciding which ideas or suggestions are most practical to use. However, there is one point upon which everyone seemed to agree. All were trying to find a way of doing a good job of milking more cows with less time and labor.

Milking Methods Change

There is no question but that the method of milking cows is going thru a real revolutionary period. This, no doubt, has been hastened because of the need to shorten time it takes to milk a given number of cows, and by a shortage of labor. There is another reason, as pointed out by Carl Musser, secretary of National Guernsey Cattle Club, during Farm and Home week at Manhattan. "Under our present economy a dairyman has to double his herd over what it was a few years ago if he is to have a comparable return."

Majority of milking parlors we visited recently have cows raised up so milker does not have to stoop in putting on or taking off milkers. Usually, cows are not fastened by the head. Operator simply pulls a lever or rope which opens door to parlor and to pen or stall she is to enter. Once in stall, gate is closed automatically.

Some pens are arranged so cows eat grain while they are being milked. Some pens feed grain in stanchions or stalls just before cows come into milking parlor. It seems to me the disadvantage of this latter system is it really requires 2 persons to operate—one to feed and the other to milk. However, an advantage could be each cow has plenty of time to eat her grain, something not always possible when cows eat while being milked. Some of these parlors accommodate just 2 cows at a time, while majority we have seen lately handle 3 cows at a time. However, there are others that have 4 cows in the parlor at once. All, I think, use 2-unit milkers with one operator. The difference is in arrangement of stalls and general layout of building.

There seems to be a strong tendency

to go to so-called pipe-line milkers. Milk flows directly from teat cups into a pipe line and thru pipe line to cans in milk room. This system eliminates carrying milk and allows operator to observe milker at all times.

We visited L. M. Wilk, who handles the dairy herd on Dobson Brothers farm west of Augusta. We discussed his pipe-line milker. He said, "You know I'm getting to the age where I would have to quit milking if it wasn't for this new system. I can't take stooping and carrying anymore." We asked him about cleaning—if it wasn't quite a chore and difficult to keep low bacteria count. "No," he said, "I would much rather wash the line than I would buckets, and as to bacteria count we haven't had a bit of trouble. I have been milking cows all my life and I'll have to confess I was fairly skeptical about all this when I started in on this system. I guess I am old-fashioned, but I still like to go into a barn and see cows all in there, and I am not so sure yet but that you can take a little better care of your cows that way, you just naturally give them more individual care. However, I never milked cows so easy and so fast in my life." At this point he pulled his watch out of his pocket and said, "I have spent only 40 minutes milking 24 head."

Solve Weighing Problem

We visited another dairyman, George Staton, who lives just west of Winfield. There we found the answer to our weighing problem. Mr. Staton has a pipe-line milker. However, milk goes first into a large glass jar, which hangs on a pair of scales. Scales' hand stands at zero when jar is empty; when cow is milked weight on scales is weight of milk. No subtracting, or no fuss, just record weight of milk, turn a valve, jar is emptied of milk thru pipe line, is ready for next cow's milk. We asked Mr. Staton about bacteria count, or blue test. "We seldom get a count over 6,000," he said, "but of course, we have a steam system here. Those gadgets you see are steamers where teat inflators are steamed after milking each cow. We really steam them well when we are thru milking, and pipe line also is steamed thoroughly." My next question was, "How often do you have to tear pipe line down and thoroughly clean it?" Mr. Staton hesitated a moment, then said, "I am really ashamed to tell you." That really interested us because we had the same answer when we asked Dave Schrog, of Norwich, that question. Kansas Farmer readers probably will remember the story about Mr. Schrog's milking parlor. He installed his pipe-line milker last summer. These men both finally said they didn't take pipe line down as often as they probably should, due to no trouble.

Combine Good Qualities

After all our investigating, we think we will build a milking parlor that isn't quite like any we have seen, but hope it will combine at least some good qualities of most of them. We are definitely sold on having 4 cows in at a time. As soon as first 2 are fed and milked, turn them out and while other 2 are being milked, get 2 more in and so on. We like an overhead grain bin with a spout to each cow's feed box so there is no feed to carry. We plan to have cows facing operator rather than being sideways, as they are in most systems. Operator will work between 2 cows; there will be a cow standing next to the wall on each side with the other 2 next to one another in middle. There will be 2 workways, one between the 1st and 2nd cows and other between the 3rd and 4th cows.

For a holding lot we plan to tear out everything below loft floor of our old barn and use entire floor area for a loafing shed. Then, we plan to have swinging panels that can be used to hold cows in a small area next to door into milking parlor. Rope, or levers, will open and close doors so operator will not have to leave milking space area. As to pipe-line milkers, yet we are fairly well sold, if we can weigh each cow's milk.

What type of a milking parlor or barn would you build?

In next issue of Kansas Farmer, we want to try to point out how we feel district spring shows benefit dairy-men.

Coming Events

- March 17—Jefferson county tractor maintenance school, Valley Falls.
- March 17—Johnson county, soil conservation meeting, with R. C. Lind, KSC specialist, Olathe.
- March 17-19—American Dairy Association annual meeting, Chicago.
- March 18—Kansas alfalfa conference, Manhattan.
- March 19—Jefferson county, quality egg production meeting, Valley Falls.
- March 19—Doniphan county, landscape architect meeting, Troy.
- March 19—Mitchell county, district agent meeting.
- March 19—Cherokee county, crop improvement school, with Eugene Cleavinger, Erie.
- March 20—State artificial breeding program meeting, Manhattan.
- March 20—Labette county, engineering problems meeting with Leo Wendling, KSC specialist.
- March 20—Johnson county, fruit and vegetable tour, with W. G. Amstein, KSC, Olathe, Shawnee, and Mission townships.
- March 20—Elk county tour on housing; Raymond Everson and Vera Ellithorpe, KSC housing specialists, will make "on-the-spot" suggestions to several Elk county families for remodeling or planning farm homes.
- March 20—Brown county, visit demonstration farms of landscaping, with Charles Parks, KSC specialist.
- March 21—Jefferson county, soil conservation service planning meeting, Oskaloosa.
- March 21—Doniphan county fruit growers meeting, Wathena.
- March 24—Ossage county dairy tour.
- March 21—Anderson county, ABA directors meeting.
- March 22—Kiowa county, 4-H Club day, Greensburg high school.
- March 24—Cherokee county, council meeting, Columbus, 4-H building, 7:30 p. m.
- March 24—Grant and Stanton counties, 4-H record books meeting with John Hanna and John Coolidge, KSC specialists, Ulysses, 4-H building, 2 p. m.
- March 24-25—National Palled Congress show and sale, Montgomery, Ala.
- March 25—Lincoln county garden tour.
- March 25—Ossage county economic outlook meeting, Lyndon.
- March 25—Shawnee county swine improvement school.
- March 25—Sumner county grain grading school, Wellington, 4-H building.
- March 25—5-state farm forum on nutrition, crop rotations, utilization, with state and national speakers, Liberal.
- March 25—Cheyenne county district crop improvement school, Goodland.
- March 25—Wilson county, school on use of electrical appliances.
- March 26—Anderson county, 4-H Club work demonstration, with Velma McGaugh, KSC specialist.
- March 26—Cherokee county, junior leadership club meeting.
- March 26—Kiowa county meeting, securing stocker-feeder calf records with Lot Taylor, KSC specialist.
- March 26—Ellsworth county annual meeting, artificial breeding association.
- March 26—Miami county dairy tour.
- March 27—Doniphan county district grain grading school, at Topeka.
- March 27—Labette county, farm management meeting, with Gladys Myers and Marvin Clark, KSC specialists.
- March 27—Northwest district county agents' meeting, Concordia.
- March 28—Anderson county, dairy tour, with Ralph Bonewitz, KSC specialist.
- March 28—Jefferson county, tractor maintenance school, Oskaloosa.
- March 28-29—Kansas Home Economics Association meeting, Topeka.
- March 29—Rice county district 4-H livestock judging school.
- March 29—Brown county, regional 4-H Club day, Hiawatha, 9 a. m. to 3:30 p. m.
- March 31—Elk county farm management summary meeting for all farm management families in Elk county, with Marvin Clark and Gladys Myers, KSC specialists. This is a joint meeting with Chautauqua county.
- April 1—Leavenworth county, landscaping tour.
- April 1—Johnson county landscaping meeting, with Charles E. Parks, KSC, Olathe.
- April 1—Pottawatomie county beef tour.
- April 1—Grant county, 4-H council, Ulysses, 4-H building, 8 p. m.
- April 1—Anderson county weed school (morning).
- April 1—Lincoln county, agency correlation meeting.
- April 2—Bourbon county-wide weed control meeting, Ft. Scott, court house, 10 a. m. Meeting will feature latest information available on weed and brush control.
- April 2—Wilson county school for 4-H junior leaders.
- April 2—Sumner county, farm management summary meeting, Wellington, 4-H building, with John Coolidge and Harvey Kopper assisting.
- April 2—Elk county 4-H leaders training school with Roger Regnier and John Coolidge, KSC specialists. 4-H leader training with emphasis on record books.
- April 3—Chautauqua county 4-H leader training with Roger Regnier.
- April 3—Sedgwick county, farm management meeting.
- April 3—District grain grading school, Oakley.
- April 3—Washington county, farm management summary meeting, with Gladys Myers and C. E. Bartlett, KSC specialists.

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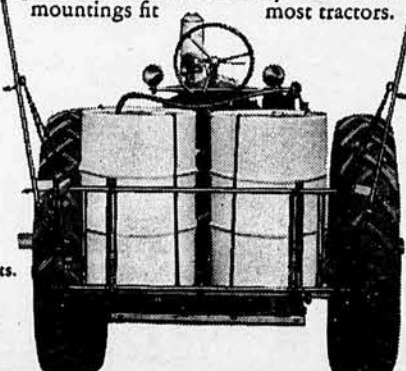
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Save up to 5¢ each on chicks. As hatched, sexed, or started. All main breeds and crosses. 300-egg blood. Hatches year around. Quick service. Colored catalog FREE. Write today.
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FREE Tells all about our FINEST BABY CHICKS
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Raise Coombs Chicks, this year. Get real quality from old, established ROP, trapnest-pedigree breeding farm. There's a Coombs Chick to fit your needs. White Leghorns. Austra-Whites. White Rocks. Coombs White Leghorn Chicks, 250-322 egg sired for 30 years back. First generation chicks from cross of two strains. Real strain-cross vigor gives wonderful boost to livability; production. Outstanding white-egg layers. Coombs Austra-Whites. Top quality ROP breeding both sides family. High speed layers. Real crossbred vigor. Kansas State College Strain White Rocks. 100% fast feathering. Rapid growth. Excellent layers. High quality meat birds, all ages. Ideal dual-purpose strain. Coombs chicks, U. S. Pullorum Passed. Bargain cockerels. Thousands weekly. Free circular. Write today. Coombs & Son, Box 6, Sedgwick, Kansas.

Buy Best Quality Chicks that live and lay. Official test showed 98% livability. Up to 352-egg pedigreed bloodlines in famous production strains. Breeds excellent for eggs and broilers. U. S. Approved Pullorum Passed. AAA Grade White Rocks, New Hampshire, White Wyandottes, Delaware-Hampshires, Reds, Barred Rocks, Austra-Whites, White Leghorns, \$11.90 per 100. Heavy pullets, \$16.90. Heavy cockerels, \$9.95. White Leghorn, Austra-White pullets, \$22.90. Light cockerels, \$3.50. Free catalog. Alive delivery. Fulton Hatchery, Box 6-E, Fulton, Mo.

Best Quality AAA and AAAA chicks. Fast broilers. Profitable layers. 100% pullorum tested. New Hampshire red, White Rock, Barred Rock, Wyandottes, Production Reds, Austra-Whites, Large Type White Leghorns, \$9.95 per 100. Heavy cockerels, \$7.90. Pullets, \$14.95. Hybrid cockerels, \$3.95. Leftovers, \$2.95. Free catalog. 100% alive. Pleasant View Hatchery, Gerald, Mo.

Superfine Chicks, eggs. Jersey Giants, Buff Minorcas, Silverlaced Wyandottes, Anconas, Buff Orpingtons, other leading breeds. Literature. Thomas Hatchery, Pleasanton, Kan.

Production-Bred Chicks. ROP sired Hamp-Whites, Austra-Whites, New Hampshire, Large type Leghorns. 43 years flock improvement. The Young Hatchery, Box KF, Wakefield, Kan.

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TURKEY POULTS
Broad Breasted Bronze and Beltsville Whites. Championship bloodlines in national and dressed shows. Tube tested. Low-cost gains, early maturity, higher market quality. Superior breed flocks. Early saving now. Circular free.
COLONIAL TURKEY HATCHERY, Box T, Lamar, Colo.

AGENTS AND SALESMEN

Nationally known full steel line
Grain and **STORAGE EQUIPMENT**
Commercial
Available for distribution in Kansas. Only limited
capital necessary. Protected territory for proper
outlets. Write full particulars first letter.
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Save Chicken Feed! Don't feed the sparrows
high priced chicken-feed. My homemade trap
guaranteed to catch them by the dozens. Easy to
make. Plans 10c and stamp. Sparrowman. 1715
Lane. Topeka, Kan.

Your Baby's Shoes, Photo—preserved in Bronze—
Plastic, with pen, pen-holder, Send Shoes,
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Fish Bait—Over 20 recipes and suggestions only
10c and stamp. Many favorable reports re-
ceived. K. F. Fisherman, 1715 Lane, Topeka,
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Don't Feed Sparrows. Make your own trap and
catch thousands. Write for details. Roy Vail,
LaGrange 15, Ind.

April 5

Will Be Our Next Issue

Ads for the Classified and Livestock
Section must be in our hands by

Friday, March 28

If your ad is late, send it in Special
Delivery to 912 Kansas Ave.
Kansas Farmer, Topeka, Kan.

Beef CATTLE

ANGUS are a good SOUND INVESTMENT

• **MODERN BEEF TYPE.** Naturally-hornless
Angus rate superior as economical beef pro-
ducers. They mature quickly . . . convert
feed efficiently . . . return a good profit.
• **COMMAND PREMIUM PRICES.** Packers
pay more for Black steers because they
dress out a premium carcass and a higher
percentage of salable beef.
• **LARGER CALF CROPS.** Heifers and cows
have less calving trouble for Angus calves
have smaller polled-shaped heads. Gives you
more calves to sell. For information, write
American Angus Ass'n, Chicago 9, Ill.

FOR SALE 20 CHOICE REGISTERED

Angus Bulls

Coming 2 years old. Rugged, thick and plenty
of scale. Raised together. Inspection invited.
L. E. LAFLIN, Crab Orchard, Nebr.

REG. ABERDEEN-ANGUS BULLS

For sale. Also a few Females.
CHESTNUT & RAILBACK, Quinter, Kansas

ZIMM'S POLLED HEREFORDS

For Sale—2 Polled Hereford Bulls, 12 mos.
old, sired by F.V.F. Advance Worth 8, our
senior herd sire. Priced to sell at \$425 each.
These are strong boned, straight legged
calves.

W. R. Zimmerman—Robert L. Zimmerman
Alta Vista, Kansas

BEEF CATTLE

POLLED SHORTHORN—For Sale both Bulls
and Females. Well bred, properly marked and
good individuals. Bang's vaccinated. Ready to
go out and do good for their new owners. Come
see our herd before you buy.

HARRY BIRD & SONS, Albert, Kansas

FOR SALE

3 DARK RED SHORTHORN BULLS

Calved in March, 1951. They are thick straight
lined rugged fellows. Half-brother to the 1951
State Sale reserve champion heifer.

GLENN E. LACY & SON, Miltonvale, Kansas

SHORTHORN BULLS

One 18-month-old red, extra nice. Others younger.
Tomson sire.

WILL MOLYNEAUX, Palmer, Kansas

POLLED SHORTHORN BULL

For Sale: One red 2-year-old, sired by a polled
grandson of Calrossie Prince Peter. He is a half-
brother of the 1949 reserve grand champion FFA
Shorthorn steer at the American Royal.

Raymond E. Andrews, Pierceville, Kansas

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Reliable Advertisers Only are accepted
in Kansas Farmer.

Article No. 4

We Are Seeing America West and Southwest

By FRANCES R. WILLIAMS

DURING the course of our travels we have crossed Nevada several times by motorcar and, as far as possible, have taken routes followed by 2 great trails, Oregon and Santa Fe, in our trips west. Highway No. 40 follows the route taken by one pioneer group, the Donner party, across Nevada and thru the Sierra Nevada, by way of Donner pass, and skirts Donner lake and historical monument and park, all named for the Donner party.

The story of the Donner party is perhaps the most tragic of any group of immigrants who traveled the trail. We are familiar with the story because of its connection with early history of Marshall county, Kan. Early spring of 1846 several families left their homes near Springfield, Ill., to travel to California to establish new homes. Among the group were families of the 2 Donner brothers, George and Jacob, and J. F. Reed.

Extol California Life

The wonderful advantages of California had been extolled in a book written by Lansford Hastings, with the purpose of attracting settlers. Disaster which befell the Donner party was due to ill advice of Hastings, who recommended a "cutoff" that he had never traveled at the time his book was written. Wagons of the party were well stocked with supplies and provisions, as recommended by Hastings, and included articles to trade with Indians. The party traveled to Independence, Mo., where they joined a large wagon train en route to Oregon.

By late May, the wagon train had reached the Big Blue river, in what is now Marshall county. Finding the river at flood stage due to continual spring rains, too deep and swift to ford, the wagon train camped, hoping the water would recede. While encamped, some of the party explored the vicinity and discovered a fine spring of cold, sweet water located in a pleasant grove of trees. Those of the Donner party were not the first white men to visit here. The party of John C. Fremont had camped at the spring, long since known as Alcove Spring, in 1842, and had carved names of himself and his companions on a ledge of rock above the spring. Evidence of the Donner party visit is the name "J. F. Reed, May 28, 1846," carved on a stone, which exists today.

Trees were cut down and rude rafts were constructed from cottonwood logs. On these wagons were ferried across the river, a few at a time, until all were safely across. Thru June the wagons crawled slowly along, following the Platte river, until Fort Laramie was reached. Here the party spent the Fourth of July. Parkman in his book, "The Oregon Trail," mentions meeting members of the party at Fort Laramie; of their indecision and dissension among the group; of the terrible fate which befell the expedition.

Party Splits Up

Near Fort Laramie leaders of the train met with Jim Clyman, an experienced frontier man on his way east, having made the trip from California on horseback. He strongly advised against taking the short-cut suggested by Hastings in his book. The leaders, after hours of discussion, were divided in their opinion and the party split up. Donners, Reed and other families left the main wagon train at Little Sandy river. Eight days later, they reached Fort Bridger, the last outpost. At this point they might have rejoined the larger wagon train, but with no hesitation, they took the "cutoff" suggested by Hastings and began their fateful journey thru the Wasatch mountains. These mountains are characterized by their steep, narrow, twisting

canyons. While the modern highway, which follows the Donner route, has been blasted from solid rock, the party cut down trees, pulled wagons up steep rock slopes by means of ropes over a course never before traveled by wagon. Many times they came to a dead end, and were forced to turn back and make a new road thru another canyon.

After 21 days of super-human effort, they had succeeded in covering 36 miles. Before they reached Salt Lake basin their morale had begun to deteriorate. Five more days travel were necessary to reach Skull Valley, last oasis east of Salt Desert. At the edge of the desert they rested a day, filling every available container with water for the dry drive, which Hastings had said would take 2 days. For 6 days the party struggled across the salt desert. Everyone walked to spare weakened, straining oxen. Furniture and equipment were discarded to lighten loads; even some wagons were abandoned.

It is said tracks made by the heavy wagons, which cut thru the hard salt crust, may be seen to this day. Some thirst-crazed oxen stampeded, scattered and were lost. It was necessary to double up, regroup and hasten forward. They reached the main trail on September 30. All of August and September had been spent to cover the "cutoff." The last wagon train of that season had long since passed this part of the trail. Grass had been cropped into the ground, there was little feed for the cattle, which were thin and weak.

Indians Are Bothersome

There were only 14 wagons left, and because of their small number, the Digger Indians, a degenerate tribe who lived on herbs and roots, harassed them continually. Supplies were running dangerously low; traveling across rough country became even more difficult; tempers were short. In a flare-up between 2 men of the train, a man named Snyder and J. F. Reed, Snyder was killed. For punishment, Reed was banished from the train. Leaving his family in care of the leaders, he pushed on alone to California by horseback.

Those who could travel faster went ahead, leaving the slower ones to follow as best they could. When the first of the party reached Truckee Meadows, on the shore of a lovely lake, they were forced to go into camp to rest the oxen, which could go no further. They were joined by most of the stragglers. Here they were met by one of 2 men who had been sent ahead to try to get help from Fort Sutter. One man had returned with 7 pack mules loaded with much needed food.

Settlers Pushed On

On November 2 those of the party at Truckee Meadows pushed on to try to reach the summit of the mountains, last barrier that lay between them and the settlements, only to discover that 5 feet of snow covered the ground. The rain fell in torrents, forcing them to return to their camp. They tried again next day, hoping that the rain had melted the snow. Again they failed. It became evident it would be impossible to get the wagons over the mountains, but more time was lost in deciding what to take and what to leave. Snow fell again. The party then began to build rude cabins and prepare for the winter.

The 2 Donner families and a few others had failed to reach those encamped in Truckee Meadows. They went into camp a few miles away on Alder Creek. They had little time to prepare for bitter cold weather. Their only shelters were tents and brushhuts. Twenty-one persons, more than half of whom were children, were encamped on Alder Creek, while those at Truckee numbered 60 people, 29 of whom were children.

During November several attempts were made to reach the summit, but failed. On December 16 a party of 17 started on snowshoes with a scanty supply of rations. Thirty-three days later 7 reached safety of the settlements, the remainder had perished on the way. Cut off from help, because of the deep snows and without food, many of those in the 2 camps died. Several rescue parties, organized and led by J. F. Reed, who had reached the settlements safely, attempted to reach the Donner camps. Two rescue parties finally succeeded in bringing out those who were still able to walk. By early spring 47 of the Donner party had been brought to safety, but 40 had perished. Donner historical monument and park is located on shores of Donner lake. The park, a tract of 16 acres, is owned by California and includes a large portion of the cabins and campsites of the Donner party. The monument consists of a large square base, 22½ feet high, which is the depth of the snow in this region the winter of 1846-47. Atop the base 4 bronze figures represent a pioneer family. Figure of the man is 16 feet high. The monument bears this inscription: "In Commemoration of the Pioneers Who Crossed the Plains to Settle California."

Mary Edwards Is New Home Agent

Effective February 1, Mary Lou Edwards, Manhattan, became home agent for Greenwood county. She is a January graduate of Kansas State College in home economics courses. Miss Edwards has served as assistant home agent in Shawnee county and as junior assistant in Rice county.

She has been an active 4-H Club member and in 1950 was a delegate to Europe under the International Farm Youth Exchange program. You remember reading her stories in *Kansas Farmer* of her travels to England, Wales, Scotland and Ireland. She was an active college student, being honored with membership in several honorary organizations. She also is a member of Clovia, national 4-H girls organization.

KSC Junior Judges Win at Stock Show

Winners of the junior intercollegiate livestock judging contest at the Southwest Livestock Exposition in Fort Worth, Tex., were members of the Kansas State College team. They won over 12 teams, and placed 2nd in hogs, 5th in cattle and 5th in horses.

Individual placings include: Vernon L. Lindell, Pleasanton, 5th; Elton J. Zimmerman, Olathe, 7th and Raymond Burns, Valley Falls, 9th. Other team members are Raymond F. Sis, Belleville; Phil D. Lukert, Topeka, and L. E. Lilliequist, Medicine Lodge.

Make Changes In KSAC Operations

Robert D. Hilgendorf has been named director of Radio Station KSAC at Kansas State College, Manhattan, in a series of changes. Paul DeWeese will be assistant director. L. L. Longsdorf, head of the Department of Extension Information, will be radio manager for KSAC and for off-campus interests associated with an extensive educational program conducted thru the co-operation of some 60 radio stations in Kansas and adjoining states.

One of Mr. Hilgendorf's new duties will be investigating possibilities of television development for Kansas State College, and for possible Extension co-operative TV programs.

Experiment Station Prints Many Bulletins

Farm publications of the Kansas Agricultural Experiment Station mailed out in 1951 averaged 2,000 weekly. Bulletins, circulars and reports go to farmers, libraries, scientists and others.

From 15 to 20 new publications are printed a year in press runs of 5,000 to 25,000 each. "Fertilizer Recommendations in Kansas" is a recent popular bulletin. A run of 15,000 copies was used in less than a year and the bulletin is being reprinted. Some bulletins are in their 5th printing, their popularity and practicability lasting for a long time. There are 500 U. S. libraries and 300 foreign libraries receiving publications.

Be Happy Today

The well-balanced person is he who is as happy today as he was yesterday and as he expects to be tomorrow.

Turkey Federation Encourages Youth

A "Youth Movement" is being sponsored by the Kansas Turkey Federation to encourage more 4-H and FFA youth in Kansas to become interested in turkey projects.

Kansas is believed the first state to get an active program set up, according to the federation, which intends to work thru state 4-H and FFA organizations in every way possible. Plans are for the federation to offer an award for best turkey project in Kansas. Also, plans include a dressed turkey show this fall. Winner will be given an expense-paid trip to National Turkey Show to compete with winners from other states. In addition, state winner will be awarded a trophy.

Board of directors of Kansas Turkey Federation met February 20 at Emporia. New youth program was discussed fully.

State Sealer Elected U. S. Officer

J. Fred True, state sealer for the State Board of Agriculture, has been elected president of the Southern Weights and Measures Association for 1952. Sixteen states are members of the group. Mr. True attended a recent meeting in Richmond, Va.

The Kansas weights and measures large scale testing program is rated one of the best in the nation. Recently, a small scale testing program has been started, and plans are in progress for measuring liquefied petroleum gas meters.

Kansan Named Agronomy Chief

Named chief of division of agronomy and plant genetics at University of Minnesota is Dr. Will M. Myers, Kansas State College graduate. Appointment is effective July 1. He is a brother of Dr. Harold Myers, head of the agronomy department at Kansas State College.

Hoof-and-Mouth Outbreak Brings Ban

Because of outbreak of hoof-and-mouth disease in cattle in parts of Canada, the U. S. on February 25 banned all imports of live cattle and fresh beef from that country. Only canned and cured Canadian meat will be allowed to cross the border.

American meat supplies will not be affected seriously. It is expected the ban will be lifted later, except for shipments from affected areas of Canada. Under provisions of the tariff act of 1930, the ban may be kept in effect until the secretary of agriculture determines the disease no longer exists. Since 1946 the United States southern border has been closed to Mexican meat and cattle shipments.

For the fiscal year 1951, U. S. imports from Canada included 100,000,000 pounds of fresh or frozen meat and more than 400,000 live animals, mostly dairy stock.

Name New FFA Sponsoring Group Head

New chairman of sponsoring committee for the Future Farmers of America Foundation is Roger M. Kyes, vice-president of General Motors. Recently, Mr. Kyes, one of early supporters of FFA, met with national FFA president Donald Stahell, of Utah, and Dr. W. T. Spanton, national FFA adviser and chief of Agricultural Service, U. S. Office of Education. They made plans for the 1953 FFA Foundation program for United States.

Freedoms Foundation Cites 4-H Club

For their citizenship activity program, Richard 4-H Club, in Pratt county, has received an honor medal in 1952 awards of Freedoms Foundation, announced recently at Philadelphia. Last year, Armin Samuelson, former Shawnee county 4-H'er, won a national award of \$300 for an essay on individual freedoms.

Reels Keep Feed Clean



REELS OVER feed troughs and watering place are used by Oliver Klein, Clay county, to keep droppings out of feed and water. Mr. and Mrs. Klein won top honors in 1951 Kansas Poultry Production Contest.

MISSOURI'S LARGEST GUERNSEY HERD IN COMPLETE DISPERSAL

305 REG. GUERNSEYS AT AUCTION, St. Albans Farms, Dispersal
35 miles West of St. Louis, 6 miles North of Hi-way 50

MONDAY, APRIL 7, and TUESDAY, APRIL 8
Sale Starts at 10 A. M. C.S.T.



A home bred herd, rich in the breeding of popular sires that excel in production and type. 160 cows in milk, A.R. records to 17,529 lbs. milk, 875 lbs. fat, 5 years old. 50 bred heifers, 65 open heifers, 30 bulls, including 16 of service age. (Several outstanding proved sires.) Many outstanding cow families, A.R. herd test officially classified. Herd T.B. accredited and Bang's free. Eligible for shipment to all states. All under 5 years, vaccinated with strain No. 19.

Note—This is the largest Missouri Guernsey herd and one of the most outstanding from the standpoint of production testing and classification. More state leaders have been produced in this herd than any other to date.

For catalog write: The Louis Mcl. Merryman and Sons, Inc., Sparks, Md., or The Missouri Guernsey Breeders' Association
H. A. Herman, Secretary, 125 Eckles Hall, Columbia, Missouri
Auctioneer—Mort Granger Bert Powell with Kansas Farmer

MISSOURI STATE GUERNSEY SALE

MONDAY, APRIL 14 — COLUMBIA, MO. — 12 Noon C. S. T.

The Fifteenth Missouri Guernsey Breeders' Consignment Sale will go ahead as usual the spring of 1952. We are assisting with the St. Albans Dispersal, April 7 and 8 but feel our State Sale is a fixture and will be supported as will the St. Albans Dispersal.

The offering will consist of splendid consignments from leading Missouri, Indiana, Oklahoma, New York, and Mississippi herds. 15 Cows in milk. Young and of good type. Production records of over 600 pounds in A. R. 20 Bred Heifers. Our sale feature. The kind to bank on in a 2 for 1 buy. 12 Open Heifers. A flashy lot with lots of type. Out of dams with records of nearly 700 pounds. 3 Bulls. By good proved sires and from dams with 700 pounds up.

T.B. Brucellosis and Mastitis free. Many calfhood vaccinated. For catalog write THE MISSOURI GUERNSEY BREEDERS' ASSN.
H. A. Herman, Secretary-Treasurer, 125 Eckles Hall, Columbia, Mo.

Dairy CATTLE

BROWN SWISS DISPERSAL

Mon., March 24, Spencer, Ia.

The Clifford Stahl & R. E. Clemons registered Brown Swiss herd of Melvin, Ia., will be completely dispersed at the Clay County Fairgrounds.

55 Females include 19 daughters of Valleyhurst Supreme Mack—son of the proven plus Judd's Bridge Supreme. 17 daughters of Queen's Lad of Valleyhurst (grandson of Jane's Royal of Vernon). Selling Benedek Kinsman, born 1-16-50—sired by the excellent Benedek's Dusty and out of Benedek's Dusty's Bell who has made 845 lbs. of fat in 288 days of her current record.

This northwestern Iowa sale gives farmers the opportunity to buy Swiss cattle.

Sale managed by NORMAN E. MAGNUSSEN, Lake Mills, Wis.

HIGHER VIEW DAIRY FARM HOLSTEINS

Located 4 miles north of Hays, on highway 183. Featuring the bloodlines of Clyde Hill and the Crescent Beauties. We have 125 head in our herd. Serviceable-age bulls for sale at all times. We offer a few females occasionally. Visitors always welcome.

J. D. & E. E. FELLERS, Hays, Kan.

LOCUST LEA AYRSHIRES

The most discriminating buyers can make selections from our herd at the present time. If you are looking for a herd sire, most any age you will find it here with preferred pedigrees and out of dams with high records. When you are in the market for Ayrshire breeding stock, don't fail to pay us a visit.

LOCUST LEA FARMS
Mr. and Mrs. John C. Keas

DAIRY CATTLE

HOLSTEIN * GUERNSEY * SWISS
Registered Wisconsin heifer calves, bulls from world's largest distributor registered with U. S. Ag. Dept. Home of FLYING HEIFERS, we ship by air, low cost, FREE pictures, price folder.

DAIRYLAND CATTLE CO. MILWAUKEE WIS.

WISCONSIN DAIRY CATTLE

Choice Holstein, Guernsey and Brown Swiss Calves, Yearlings and Springing Heifers. Delivered to your farm C.O.D.
Dennis R. Grosse, York, Neb., Bx. 48, Ph. 1419

Dual-Purpose CATTLE

JEWELCREST FARMS
Reg. MILKING SHORTHORN BULLS
One outstanding roan—8 months old, solid RM pedigree. One red 2-weeks-old, dam RM. Sire: Riverpark Bladen 2nd.
W. E. LEWIS, 1/4 mile south, Esbon, Kan.

RED REG. MILKING SHORTHORN BULLS
One 22 mo. Dam's milk record 9,040 lbs. Classified Very Good. Two 18 mos. old. Sire of these bulls classified Excellent. Few females.
Elmer Knackstedt, 2 N. 1/4 W. of Inman, Kan.

SHEEP

SUFFOLK SHEEP
Booklet, list of breeders free.
Write National Suffolk Sheep Association
Box T Middleville, Mich.

Entire Flock of 24 Head of
REG. HAMPSHIRE EWES
Some with lambs. Also Yearling Rams.
RAYMOND OHLDE, Palmer, Kansas

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LIVESTOCK AND REAL ESTATE
1525 First Avenue Topeka, Kan.

Buy a Beef Bull Worth the Money!



You can be sure to buy a good bull, either a breeders bull or one to head a farm or commercial herd, worth the money at the

MO. SHORTHORN BREEDERS SALE Chillicothe, Mo. April 2

RECORDS ON PREVIOUS SALES PROVE THIS FACT
Selling 34 BULLS & 16 FEMALES

18 Missouri herds consign to this sale. THE SALES OFFERING—Very popular breeding. 30 bulls over 1 year and under 2 ready for service. 6 bred heifers, 8 open heifers, 2 cows with calves.

Show 9:30 with Les Mathers, Mason City, Ill.; as judge.

Sale at Fraley Pavilion on 36 Highway
Sale Sponsored by

Mo. Shorthorn Breeders' Assn.

For sale catalog write
RUSSELL HOLZ, Sales Mgr., Stephens, Mo.
President—Albert Dunham, Callao, Mo.
Secretary—James E. Comfort, Columbia, Mo.

39 Bulls and 23 Females

SELL IN

THE FIRST SPRING SALE

of
Missouri Polled Shorthorns

at

Chillicothe, Missouri

Fraley Sales Barn

Thursday, April 10, 1952

SHOW, 9:00 A. M. — SALE, 1:00 P. M.

24—CONSIGNORS—24

The Best Polled Shorthorns

The World's Best Cattle

Aucts.: C. D. (Pete) Swaffar, Tulsa, Mo.

R. D. Patrick, Boonville, Mo.

Headquarters: Strand Hotel, Chillicothe, Mo.

Banquet, April 9, at 7:00 P. M.

For catalog write:

ROLLO E. SINGLETON, Sale Mgr.

Dept. of Agriculture, Jefferson City, Mo.

Bert Powell with Kansas Farmer

Featuring these top herd sires.

CK CRUSTY 70TH
bred by CK Ranch, Brookville, half-brother to 1951 American Royal Champion.

CK ROYAL DUKE 3RD
bred by CK Ranch

P. ROYAL DUKE 7TH
bred by Parcel Herefords, Coldwater, grand champion bull at the 1948 Kansas State Sale. A number of his heifers are being retained in the herd.

Visitors are welcome to see the Get and Service of these bulls.

STRAIGHT CREEK FARMS, Whiting, Kan.
JOHN W. SPENCER, Owner

OUR FIRST ABERDEEN-ANGUS PRODUCTION SALE

April 3, 1952

at the Oscar C. Latzke farm, 10 miles southwest of

JUNCTION CITY, KANSAS

just off Highway 77

17 Bulls and 40 Females



We will sell sons and daughters of Elleenmere 1073rd. A portion of the females are bred to him. Some will have calves at foot by sale day. The heifers in the sale are bred to Elleenmere 1544th, our new herd sire. 1073rd is one of the good sons of Elleenmere 500th, having the same dam as Quality Bardolier 3rd. There will be a select group of bulls and females by the good son of Hardwickmere 60th, who is by Prizemere 364th and for a dam has Estamere, the grand champion in Chicago in 1938. We feel this offering is of the kind that will improve beef cattle and believe the cattle are bred right, having been taken out of our breeding herds. They are not highly fitted, but selling in very strong breeding condition.

WRITE FOR CATALOG AND BE WITH US SALE DAY

OSCAR C. LATZKE, Junction City, Kansas

ELMER H. SELLIN, Chapman, Kansas

Ray Sims, Auctioneer

Mike Wilson for Kansas Farmer

U. S. CENTER ABERDEEN-ANGUS BREEDERS ASSOCIATION

7th Annual Show & Sale

to be held at the Smith Center Livestock Sale Barn

Smith Center, Kansas

Friday, March 28, 1952

Show at 9:00 A. M. — Sale at 1:00 P. M.



75 HEAD 75

17 BULLS — 58 FEMALES

The cattle in this sale have all been inspected by a sifting committee and were found to be the right kind for herd improvement. The cattle are consigned by 17 top breeders of Northern Kansas and Southern Nebraska.

For your catalog write

Leonard Patman, Secretary, Smith Center, Kan.

Judge of show: Don Good, Manhattan, Kansas

Auct.: Col. Ham James, Newton, Ill.

Mike Wilson for Kansas Farmer



IN THE FIELD

MIKE WILSON

Topeka, Kansas
Livestock Editor

Grand champion of all stallions at Havana (Cuba) International Livestock Exposition was a Kansas cowpony—Paul A. Sutherland, owned by ROBERT Q. SUTHERLAND, Kansas City lumberman and owner of R. S. Bar Ranch at Overland Park. Award carried a \$1,000 prize. Winning entry is a quarter horse, has won 14 prizes in last 6 months at U. S. events.

Pultsvalle Netherland Carleen, registered Holstein-Friesian cow owned by CAREL PULTS, Horton, has completed a 357-day production test in official Herd Improvement Registry with national association. She has to her credit 466 pounds of butterfat and 15,388 pounds of milk. She was milked 2 times daily, and was 4 years and 11 months of age when she began her testing period.

On February 28, R. E. BERGSTEN & SONS, Randolph, offered 68 head of Hampshire hogs at auction. Forty-nine registered bred gilts brought \$4,055, averaging \$82 per head. Fourteen off-bred gilts averaged \$65; 6 boars averaged \$54. The 68 lots sold made a general average of \$76. Harold Frederick, Randolph, paid top of \$125 for top-gilt, Lot 1, Hat Girl; she was bred to Sterling, Ralph Anderson, Jr., Gypsum, paid \$102.50 for the 2nd top-selling gilt. Col. Bert Powell sold this fine offering of Hampshire hogs.

The NORTH CENTRAL KANSAS DUROC ASSOCIATION sold 44 registered Durocs at Belleville on February 20. Ben A. Flett, Delphos, consigned top-selling bred gilt. She was bought by Bert Nixon, Manchester, at \$142.50. Mr. Flett also consigned top-selling boar pig, purchased by Vern V. Albrecht, Smith Center. A show was held prior to sale; Prof. F. W. Bell, Kansas State College, served as judge. The Association awarded ribbons to owners for various placings. Weather was rather cold, damp and cloudy, therefore kept a number of prospective buyers from sale. Tom Sullivan was auctioneer.

E. W. THOMPSON AND JESSE DAWDY Aberdeen-Angus sale, Sedalia, Mo., on February 27, made average of \$1,585 on bulls and \$1,122 on females. This was average of males and females on catalog lots. Number of extra registered Angus were sold, making a good average. Several grade Angus females were sold following registered offering and they brought strong prices. This was 1st sale for these breeders, was held in new sales pavilion at farm just west of Sedalia. Like all Angus sales, attendance was large and demand for Angus strong. Roy Johnston and press representatives conducted sale. Kansas buyers bought several head.

Tons of milk and butterfat were produced by the registered Guernsey cow, Springdale Faithful, to give her 4th place among top 10 of Guernsey breed. This cow owned by W. O. BOEHLE, Lawrence, produced 16,616 pounds of milk and 944 pounds of butterfat. Record was computed in Herd Improvement Registry, started when "Faithful" was 10 years old. She was milked 730 times for 365 days. Average milk cow in U. S. produces about 5,240 pounds of milk and 208 pounds of butterfat a year. Sire of this cow, Springdale Golden May King, has 14 daughters and 1 son in performance register of the American Guernsey Cattle Club.

BAUER BROTHERS, Gladstone, Nebraska, on February 23 made their annual spring sale of registered Poland China hogs, at Fairbury fairgrounds. Forty-five head were sold. Bred gilts averaged \$100 per head. Floyd Brian, Mulvane, purchased top-selling bred gilt, at \$147.50. Earl Wirt & Son, Parker, S. D., took top-selling boar, at \$125. A few fall boars were sold at an average of \$75 per head.

This offering was considered one of best ever produced by Bauer Brothers. Demand for Poland seemed to be very good, as this offering was distributed into 6 states; local demand seemed to be very good. Offering was presented in very good condition.

The U. S. CENTER DUROC BREEDERS' ASSOCIATION held their annual spring sale at Phillipsburg, February 21. Forty-one head of registered Durocs were sold. Charles Stuckman, Smith Center, was consignor of top-selling boar pig, at \$100; went to Sam Robbins, Cimarron. Top-selling bred sow was consigned by Vern V. Albrecht, Smith Center; was also purchased by Sam Robbins, for \$247.50. A show was held prior to sale and Harry Duval, Duroc breeder of Belleville, was judge. Ribbons were given for various placings. Sale manager reports local demand was not too good. He feels condition of present hog market reflected very heavily on this sale. Vern V. Albrecht was sale manager, and Col. Bert Powell sold offering.

ED KNELL & SON'S DUROC SALE, Carthage, Mo., on February 25, was one of satisfactory sales of year. No high prices prevailed but prices held up well. Offering of Duroc bred gilts were nicely grown but no effort was made to get them "large for their age" or to highly condition them. Only a few were bred for March litters. No extreme high top, as a \$92.50 top is a modest price for a registered Duroc. But a lot of them sold from \$80 to \$90. Jack Crocker, Chetopa, bought top gilt and he bought 4 head not far from that figure. Friebe Brothers, Oswego, bought 4 head, with a \$91 top.

Some beef cattle and dairy cattle were sold and they sold well. Sheep sold at about average prices. Buyers made selections from Missouri, Oklahoma and Kansas. Bert Powell and press representatives conducted the sale.

WESTERN MISSOURI BEEF CATTLE BREEDERS' sale, Clinton, Mo., February 29, averaged \$423 on 65 bulls. Day was not pleasant as it was snowing most of time. Crowd was large and prices as a whole were satisfactory. Buyers made selections from Missouri, Kansas, Arkansas, Kansas and Colorado. Thirty-one Angus bulls averaged \$456; 33 Hereford bulls averaged \$391; 1 Polled Shorthorn bull sold at \$490. Champion Angus bull and high-selling

bull of all time at this sale was Lot 36, consigned by J. W. Bradley & Son, Calhoun, Mo. He was purchased by Ed Frazer, Drexel, Mo. Price paid was \$2,900. Champion Hereford bull sold for \$650 to W. E. Alford, McAllister, Okla. He was high-selling Hereford bull and was consigned by Lampkin Brothers, Montrose, Mo. Shorthorn bull was consigned by Haverland Brothers, Deepwater, Mo., and purchased by W. L. Willhite, Drexel, Mo. Many bulls selling were under one year of age. A number were in pasture condition. C. C. McGennis, Rich Hill, Mo., was auctioneer.

Our office has received a letter from GENE SUNDGREEN, Ranch Manager of CK Ranch at Brookville. Gene informs us of his leaving CK Ranch establishment. He plans to take an active part in management of Sundgren Farms at Falun and at his own ranch near Junction City. He expects to spend some time on farm and ranch management, order buying and selling of registered and commercial cattle and range bulls, and as a livestock consultant. Gene has been manager at the CK Ranch for 15 years, has done a fine job in developing CK herd. He recently has added 20 cows from CK Ranch to his already good herd of cattle. This fine organization at CK which has been built by Gene will continue under management of Frank Wilson. Frank has grown up on Kansas ranches and with Hereford cattle, is very capable in new position with CK. Mr. Wilson has spent the last 5 years with American Hereford Association.

The KANSAS POLAND CHINA BREEDERS' ASSOCIATION sponsored their annual bred sow sale February 23, at Osage City. A judging contest was held in the morning; many FFA students participated. Ribbons and trophies were offered winners by Osage City Chamber of Commerce. Prof. C. E. Aubel, Kansas State College, was official judge.

Bred gilts averaged \$75 per head. Frank Kramer, Overbrook, paid top price of \$150 for a bred gilt from the C. R. Rowe & Son consignment. A few fall boars were sold from \$50 down. Top figure of \$50 was paid by R. H. Williams, Clay Center, for a pig coming from the Albert Morgan herd, Alta Vista. Weather was threatening and attendance not too good on that account. However, prices received were considered very good, in keeping with the times. Ray Sawyer, Le-compton, did usual good job of managing sale. It was conducted by Mike Wilson, assisted by James Wilson, Osage City.

On February 29, REPUBLICAN VALLEY HEREFORD ASSOCIATION sale was held at Red Cloud, Nebr. Sixty-five head totaled \$41,590 to make a general average of \$640. Fifty-one bulls averaged \$685; 14 females averaged \$648. Norbert Borwege, Roseland, Nebr., consigned top-selling bull. He was N B Pure Lad and was sold to Darrel Bowder, Glenville, Nebr., for \$3,300. Reserve champion bull was Prince K Larry 6th, consigned by Gilbert Kort, Blue Hill, Nebr., and sold to Axel Munson, Loomis, Nebr., for \$1,240. Champion female was B K Miss Superette 1st, from Boyd Korbs herd of Burr Oak, selling to Laurence Manglers, Roseland, Nebr., for \$1,535. Reserve champion female was Miss Merit Domino 16th, consigned by Lull Hereford Farms, Smith Center, and sold to Aubrey Gass, Esbon, for \$770. This was considered one of good Hereford sales of season, although morning of this sale a heavy coating of ice and snow covered most of northern half and southern half of 2 states in immediate sale territory. Charles Corkle conducted auction.

The GIBBS 14TH ANNUAL SALE was held February 22, at Clay Center. Weather was quite rough, which held crowd back from a distance. People could not all get in the sale pavilion. Prices paid for calves was very good considering age and fitness. The 9 Gibbs' Larry calves brought a total of \$6,104; 5 bull calves sold for \$4,020; 4 heifer calves sold for \$2,084. Top bull calf, Super Larry 6th, was calved February 8, 1951; was purchased by Wm. Snavely, Ames, for \$1,250. Second bull calf, Super Larry 7th, calved February 20, 1951, was purchased by Kloche Bros., Randolph, for \$1,000. Top Larry heifer calf was calved January 10, 1951; was purchased by F. M. Froelick, Solomon, for \$825. Second Larry heifer calf was calved January 2, 1951; was purchased by John M. Lewis & Sons, Larned, for \$490. Guest consignors offering was much younger than Larry calves. Straight Creek Farms had a June calf which brought \$425. George Ownes sold a very young calf for \$450 and several of his calves hit \$400 mark. The Chamberlin's calves sold very well considering fitness and flesh they were in.

The unforgettable date of March 3, when we asked folks to meet us in Marysville, at the MARSHALL COUNTY HEREFORD SALE, proved to be worst day of season. This was one snowstorm that will never be forgotten. Sixty-four lots of registered Herefords were sold for a total of \$25,205. Fifty-two bulls averaged \$402; 12 females averaged \$352. Top bull of auction was Lot 22, WH Cascade, consigned by Waldemar Hanke at Waterville, and going to Leonard Turnbull, Burchard, Nebr., for \$900. Top female was Lot 79, Spring Hill Lady 11th, consigned by Harold Stump, Blue Rapids; went to Fred Weinke & Son, Cleburne, for \$550.

This fine offering of Herefords were sold for a lower average than usual, due to blizzard and weather conditions. Your Kansas Farmer fieldman spent 18 hours stuck in a snow drift trying to reach home. He still was very lucky; he chose a farmhouse on No. 9 highway, west of Whiting, as a place to get stalled and to spend night. These hospitable farmers were relatives of his. Let me say thanks for myself and all snow-bound travelers to all folks who took us in; we appreciated it very much.

PENNEY & JAMES Angus sale, Hamilton, Mo., on March 3 attracted buyers from all over United States. Snow and wind that day would have caused most sales to be postponed. Large pavilion was filled to capacity in spite of day; Aberdeen-Angus history, so far as high prices for a bull and female at auction was concerned, was made that day.

Seventy-two head were sold for an average of \$7,003. This is one of very top averages of breed. Most sale averages of anything like that number selling, with an average of \$7,000 or more, is seldom made. High-selling bull at \$70,000 and high-selling female at \$38,000 were records for a bull or female at auction of the Angus breed. Homeplace Elleenmere 115th, son of nationally famous sire Elleenmere 487th, and Lot K in catalog, brought \$70,000 on bid of R. T. and Mel W. Davis, Wheatridge, Colo. Taylor Brothers, Essex, Mo., bought a daughter of "487th" for \$38,000. Buyers from 20 states made it possible for 22 bulls to average \$13,118 and 50 females \$4,311. Roy Johnston and Paul Good, assisted by press representatives, conducted the 10-draft sale for this well-known firm.

Public Sales of Livestock

Aberdeen-Angus Cattle
 March 28—U. S. Center Angus Association, Smith Center, Leonard Patman, Secretary.
 April 2—South East Kansas Breeders' Association, Iola, Kan. Clarence C. Ericson, Sale Manager, Savonburg, Kan.
 April 3—Oscar Latzke, Junction City, Kan.
 April 7—The St. Joseph Reg. Aberdeen-Angus Bull Sale, Purebred Livestock Sale Pavilion, St. Joseph, Mo. Donald J. Bowman, Sales Manager, Hamilton, Mo.
 April 10—Mid-Kansas Aberdeen-Angus Sale, Hutchinson, Kan. Lloyd Ericson, Sale Manager, Marquette, Kan.
 April 16—Humeston Angus, Humeston, Ia. Donald J. Bowman, Sale Manager, Hamilton, Mo.
 April 21—Ericson, Thalman and Davis Production Sale, Hutchinson, Kan.
 April 22—Northeast Kansas, Hiawatha, Kan. Harry Dandliker, Secretary, Hiawatha.
 April 24—Humeston Hereford, Humeston, Ia. Donald J. Bowman, Sale Manager, Hamilton, Mo.
 May 1—G. W. & Ada C. Caldwell, Harlan, Kan.

Brown Swiss Cattle
 March 24—Clifford Stahl and R. E. Clemons, Melvin, Ia. Sale at Spencer, Ia.

Guernsey cattle
 April 7 and 8—St. Albans Farm, St. Albans, Mo. Louis Merryman & Sons and Missouri Guernsey Breeders' Association, Managers, Columbia, Mo.
 April 14—Missouri Breeders' Association, Columbia, Mo. H. A. Herman, Secretary, Eckles Hall, Columbia, Mo.

Hereford Cattle
 March 17—C. M. Sheehy & Son, Richards, Mo. Sale at Nevada, Mo.
 March 18—North Central Kansas, Belleville, Kan. Geo. C. Wreath, Sale Manager.
 March 31—The 4th Pony Express Reg. Hereford Consignment Sale, St. Joseph, Mo. Donald J. Bowman, Sales Manager, Hamilton, Mo.
 April 3—The 3rd Four-State Hereford Consignment Sale, Joplin, Mo. Donald J. Bowman, Sales Manager, Hamilton, Mo.
 April 12—Kansas Hereford Association, Horton, Kan.
 April 15—Jansons Brothers, Prairie View, Kan. Sale at Phillipsburg, Kan.
 April 16—Sutor Hereford Farms, Zurich, Kan.
 April 17—Twin Oak Farm, Moundridge, Kan.
 April 30—Square Sale, Oakley, Kan. John Nickel, Sale Manager, Levan, Kan.
 April 30—"The Heart of Hereford" Reg. Hereford Consignment Sale, New Ferd Owens Sale Pavilion, Belton, Mo.
 May 13—Marycrest Farm, Maloy, Ia. J. B. McCorkle, Sales Manager, 3500 AUI Bldg., Columbus, O.
 May 14—Harvey M. Booth Hereford Dispersal, Baldwin, Kan. Sale at Ottawa, Kan.
 May 19—Red Oak Farms, Rocky Comfort, Mo. J. B. McCorkle, Sales Manager, 3500 AUI Bldg., Columbus, O.
 October 6—Hiland Oak Farms, Superior, Nebr. Melvin Schiermeyer, Owner.
 October 6—Beeks-Cleland, Baldwin, Kan.
 October 9—Jim Riffel, Junction City, Kan.
 October 11—CK Ranch, Brookville, Kan.
 October 27—John W. Spencer, Straight Creek Farms, Whiting, Kan. Sale at Marysville, Kan.
 October 30—Flint Hills Association, Cottonwood Fall, Kan.
 November 6—Lincoln County, Sylvan Grove, Kan.
 November 11—Tonn & Fishburn, Haven, Kan.
 November 24—Sumner County Hereford Breeders' Association Sale, Wellington, Kan. Paul M. Philippi, Secretary-Treasurer, Argonia, Kan.

Holstein Cattle
 May 15—Central Kansas Breeders Spring Consignment Sale, Hutchinson, Kan. T. Hobart McVay, Sale Manager, Nickerson, Kan.
 May 23—East Central Kansas Holstein Sale, Tonganoxie, Kan. Grover Meyer, Sale Manager, Basehor, Kan.
 October 8—Kansas State Holstein Association Sale, Herington, Kan. R. L. Evans, Hutchinson, Kan. Chairman State Sale Committee.
 October 23—Central Kansas Breeders Fall Consignment Sale, Hutchinson, Kan. T. Hobart McVay, Sale Manager, Nickerson, Kan.
 October 29—Nebraska State Holstein Association Sale, Lincoln, Nebr. Robt. Koehler, Fremont, Neb. Secretary, T. Hobart McVay, Sale Manager, Nickerson, Kan.

Red Poll Cattle
 March 18—Kansas, Missouri and Associated Breeders, Chillicothe, Mo. Jerry Vyrostek, Sales Manager, Winston, Mo.

Shorthorn Cattle
 March 22—Central Kansas Breeders' Association, Hutchinson, Kan. M. F. Aegerter, Sales Manager, Seward, Nebr.
 April 2—Missouri Breeders' Association, Chillicothe, Mo. Russell Holz, Sale Manager, Stephens, Mo.
 April 11—Mid Kansas Association, Salina, Kan. M. F. Aegerter, Sales Manager, Seward, Nebr.
 April 12—Henry Dietz, Wakeeney, Kan. Mervin F. Aegerter, Sales Manager, Seward, Nebr.
 June 6—W. A. Cocheil and D. W. Bishop, Gashland, Mo. Mervin F. Aegerter, Sales Manager, Seward, Nebr.

Polled Shorthorn Cattle
 April 10—Missouri Breeders' Association, Sedalia, Mo. Rollo E. Singleton, Secretary, State Department of Agriculture, Jefferson City, Mo.

Milking Shorthorn Cattle
 April 19—South Central District All Heifer Sale, fairgrounds, Hutchinson, Kan. C. O. Heidebrecht, Sale Manager, Inman, Kan.
 April 25-26—National Milking Shorthorn Show and Sale, Springfield, Mo. American Milking Shorthorn Society, Managers, 313 So. Glenstone, Springfield, Mo.

Duroc Hogs
 March 17—C. M. Sheehy & Son, Richards, Mo. Sale at Nevada, Mo.
 April 10—Herman Popp, Haven, Kan. Sale at Moundridge, Kan.

Hampshire Sheep
 May 8—Missouri Breeders' Association, South St. Joseph, Mo. Glen Armentrout, Sales Manager, Norborne, Mo.

Trend of the Markets

Please remember that prices given here are Kansas City tops for best quality offered:

	Week Ago	Month Ago	Year Ago
Steers, Fed	\$36.00	\$34.75	\$38.50
Hogs	17.85	17.90	22.25
Lambs	25.50	27.50	41.00
Wethers, 4 to 5 lbs.	.24	.24	.33
Eggs, Standards	.32	.32 1/2	.43
Butterfat, No. 1	.80	.82	.63
Wheat, No. 2, Hard	2.55 1/2	2.51	2.46 1/2
Corn, No. 2, Yellow	1.89 1/2	1.91 1/2	1.70 1/2
Oats, No. 2, White	1.05	1.03 1/2	1.07
Barley, No. 2	1.48	1.46	1.55
Alfalfa, No. 1	35.00	39.50	37.00
Prairie, No. 1	27.00	24.00	16.00

SEVENTH ANNUAL SOUTHEAST KANSAS

Aberdeen-Angus Association Sale

Wednesday, April 2nd, Iola, Kansas

at the Fairgrounds
 SHOW AT 9:00 A. M. — SALE AT 1:00 P. M.



112 HEAD
70 Bulls
42 Females

Consigned by 40 of the leading breeders in Southeast Kansas:

HUDELSON BROTHERS ANGUS RANCH, Pomona
 DALEBANKS FARMS, Francis and Alice Ferrier, Eureka
 JO-RA ANGUS FARM, Ray and Josephine Elvins, Ottawa
 ANGUS ACRES, Moore Brothers, Gardner
 PLEASANT VALLEY ANGUS FARMS,
 R. J. Morgan & Sons, Greeley
 CREEK VALLEY FARM, Lee Gorges, Fall River
 SMITH ANGUS RANCH, Victor Smith & Sons, Farlington
 DODSON BROTHERS, Dodson Mfg. Co., Wichita
 EARL & TONY OLSON, Eureka
 ELMS ANGUS FARM, L. E. Crandal & Co., Leroy
 BLACKPOST RANCH, S. E. Fife, Olathe
 GERRY CRENSHAW, Olathe
 DOUBLE X BAR RANCH, Clarence Ericson & Sons, Savonburg
 MILONA FARM, M. R. Wren & Son, Williamsburg
 PECKMAN BROTHERS, Paola
 WINSTED STOCK FARM, Robert A. Finney, Humboldt
 BOLLICKING ACRES, Russel Simmons, Severy
 ELMDALE STOCK FARM, Clifford C. Goodrich, Columbus
 W. H. RICE, Ottawa
 CAROL L. MARTIN, Lawrence

SHADY LANE ANGUS FARM, Lawrence Titus, Coffeyville
 RUDE ANGUS FARM, Leonard Rude, Parsons
 MR. AND MRS. T. M. GERKEN, Paola
 BLACK RIDGE ANGUS FARM, Joe Jauernig, Burlington
 W. H. PIERCE, Westphalia
 HARRY W. KING, Arcadia
 O. C. HOLMES, Mound City
 GARY KRAUSE, Waverly
 ARROWHILL ANGUS FARM, W. A. Jones, Parsons
 MERLE A. MOORE, Severy
 VERNON W. PARKS, Pomona
 PROTHE AND SONS, Paola
 ARNOCLIFF ACRES, James L. Pool & Son, Wellsville
 MINGS ANGUS FARMS, August Mengarelli, Girard
 JAYHAWK ANGUS FARMS, Fred Rothberger, Eudora
 FRED BOND & SONS, Overbrook
 SUNRISE VALLEY FARMS, Ray F. Koontz, Ottawa
 BAREA STOCK FARM, Mr. and Mrs. Kenneth Cunningham, Greeley
 W. O. KEITH & SON, Burlington
 T. H. RUTHERFORD, Garland

A lot of Sunbeam, Bandolier and Eileenmere bred cattle. As good a group of cattle as can be found anywhere at any price. Most bulls ready for heavy service. Get a CARLOAD here. Banquet and meeting at the Kelley Hotel, in Iola, at 7:30 the evening of April 1st.

For catalogs & information write: Clarence C. Ericson, Sale Mgr., Savonburg, Kan.

SOUTHEAST KANSAS ABERDEEN-ANGUS BREEDERS' ASSN.

Mike Wilson for Kansas Farmer

WATCH AND WAIT
 for



Sale, April 17

HEREFORD

Cows with calves
 Bred Cows
 Bred Heifers
 Open Heifers
 Heifer Calves
 Bulls ready for service
 Yearling Bulls
 Bull Calves

(Outstanding herd bull prospects and good range bulls.)

For information and catalog address

PHIL ADRIAN
 Moundridge, Kansas

20 Polled Hereford Bulls



Sired by polled sons
 of C. K. Cadet

Bloodlines intensely polled from 40 years of constructive breeding. 12 months to serviceable-age bulls offered. Priced reasonably.

GOERNANDT BROS.
 Ames (near Concordia), Kansas

OFFERING POLLED HEREFORDS



Yearling bulls and heifers sired by Advanced Choice 16th and Advance Domino 8th. All have many crosses of Polled breeding.

Write us or visit our herds.
 Martin I. Shields & Sons, Lincolnville, Kan.
 Rt. 1
 Near highways 77 and 50 N.

MID-KANSAS ABERDEEN-ANGUS BREEDERS' ASSOCIATION

invites you to attend these 2 Spring Events

ANNUAL FIELD DAY, FRI., MAR. 21
 starting at 9:30 A. M. at the K. L. Knott & Sons Farm
HESSTON, KANSAS

Farm is located 2 miles east of Hesston on Highway 81 or 5 miles north of Newton on Highway 81.

12TH ANNUAL SALE, THURSDAY, APRIL 10

Show at 9:00 A. M. — Sale at 1:00 P. M. — State Fairgrounds

HUTCHINSON, KANSAS

43 BULLS — 42 COWS

Please make reservations with the secretary for the annual meeting, Wednesday evening, April 9, at 7 o'clock.

For catalog and other information address:

PHIL STERLING, Secretary, Canton, Kansas

Dick Patton, McPherson, President Lloyd Ericson, Marquette, Sale Mgr.
 Mike Wilson for Kansas Farmer

THE RANCH HAS BEEN SOLD

and

WE SELL OUR ENTIRE FLOCK OF SHEEP
2,000 HEAD ON FRIDAY, MARCH 21, 1952
AT MILAN, MISSOURI

Sale Time 9:00 A. M. at the farm

The flock is made up of registered and unregistered Columbia ewes, Targhee and Ramboulllets with many being bred by the U. S. Government. Don't miss this opportunity to buy some top quality bred sheep. Besides the sheep we will sell a complete line of farm machinery.

E. B. THOMPSON RANCH, Milan, Missouri

Auctioneer: H. Earl Wright, Mt. Gilead, O.

Mark Dempsey with this Publication



BALANCING A BUDGET comes naturally to Frank Wrenick of Evanston, Illinois shown here with his wife, Sarah. Frank is an accountant in the General Office of the Standard Oil Company. So that, in addition to helping keep track of the family finances, Frank helps keep good track of Standard Oil's finances. And here is how he explains what happened to the money we took in during 1951.

"Where does the money go?"

"Ever try to explain to your wife what happened to all the money you've earned in a year's time? Well, pleasant or not, reviewing expenditures is something every family has to contend with. And every business, too. I know. I'm in the accounting department of Standard Oil, and I've put in many an hour on the annual profit and loss statement for Standard Oil and its subsidiary companies. I've found that the problems of company finances are a lot like personal financial problems.

"Like you, we took in a certain amount of money during 1951. In our case, \$1,764,930,319 to be exact. And here's what happened to it . . .

"Over half, or 58%, represented the cost of things we had to buy such as crude oil, materials, and services, plus charges made for wear and tear. A great deal of the money we spent went eventually into the payrolls of the thousands of companies who supply us—and so helped maintain many other businesses in thousands of communities.

"Our next biggest item at Standard—even bigger than our payroll—was for taxes. In fact, 19.1% of what we took in was paid out in taxes, including our own taxes and those we collect from our customers for national, state and local governments. And that figure does not include the many 'hidden' taxes which both you and we pay!

"Wages, salaries and benefits for our 49,700 employees accounted for 14.5% of what the company took in.

"At this point, all costs of doing business have been taken care of. And here's what happened to the remaining 8.4% of the money . . .

"We used 5.9% to improve our service to our customers, through investment in oil wells, refineries, service stations, etc.

"The balance, or 2.5%, was paid in dividends to Standard Oil's 116,800 stockholder-owners, including over 24,000 of us who are employees.

"Everything considered, it was a good year. That's where all the money went and we feel sure you'll agree it was used to serve you well."

Standard Oil Company



MONEY WELL SPENT assures good wages and steady work for our 49,700 employees—one of whom is Preston Chalk of our Wood River, Illinois refinery. In recent years, two-thirds of our profits have been plowed back into the business, so that today each Standard Oil employee is backed by an average investment of \$31,400 in tools and equipment, which helps him to produce more, earn more and have steadier work.



MONEY WELL SPENT assures a fair return on the investment of S. Dexter Hastings of Green Bay, Wisconsin—one of our 116,800 stockholder-owners. Last year our stockholders received dividends equal to 2.5% of what we took in. No one individual owns so much as 1% of our stock. No one of the institutional owners, including many educational and charitable organizations, owns so much as 4% of our stock.



MONEY WELL SPENT assures more progress in the job of helping agents like C. W. Sowder keep his customers rolling—customers like Jake Cummings of Heltonville, Indiana. Standard Oil agents offer you quality petroleum products at reasonable prices. Gasoline, for example, now sells at approximately 1925 prices; (only the tax is higher). Yet, two gallons today do the work that took three gallons in 1925.