

KANSAS FARMER

For the improvement of the Farm and Home

Volume 57, Number 28. TOPEKA, KANSAS, JULY 12, 1919. Established 1863. \$1 a Year

PHYSICAL TRAINING IN SCHOOLS

Selective Draft Revealed Large Percentage of Physically Unfit Men

By JESSIE R. PAYNE

PERHAPS nothing less than participation in the great war would have shown to Americans our actual physical status, as a people. During 1917, nearly a third of the country's best manhood, examined under the selective service law, was rejected on account of physical unsoundness. Even the men who were accepted were, many of them, lacking in vigor and muscular power so that training for weeks and months was necessary before their physical quality was raised to the requisite standard for fighting men. But the vigorous war-time training made the majority of these men physically fit and furnished an admirable illustration of the marvels that can be wrought by constructive exercise and recreation.

Correcting Physical Deficiencies
The country is now conscious of the general physical deficiencies of its citizens, and the time is ripe for thorough-going, universal physical education, competently supervised. There are 25,000,000 children of school age in the United States and these are the country's responsibility. Fortunately for us, there is a widespread conviction on the part of the American people that instituting such physical education for school children is a fundamental work which is far more important than many social, political and economic measures which American citizens now cheerfully pay taxes.

According to Dr. Eugene L. Fisk, of the Life Extension Institute, 60 per cent of the whole condition revealed by military statistics is preventable, being due to poor general physical condition removable by proper nutrition, physical training and personal hygiene; to defective eyes and bad mouth conditions; to neglected surgery.

Considering the close relationship of physical and mental efficiency, it is clear that, with systematic physical education for all children of school age, our next generation of leaders, workers, and statesmen would be markedly of a finer type. Without a doubt the only way to provide such systematic training is to incorporate it into the public school curriculum. Thirteen states already have compulsory physical education laws, and with many other states continually agitating the matter, there is a good start toward the needed system.

Physical Training in Country
Since it has been generally conceded that inaugurating physical education and supervised recreation in the schools all over the country is imminent, there has been much discussion in rural quarters as to whether physical training for country boys and girls is an essential thing. At first glance many country people decided that children attending rural schools get enough exercise going to the schools and in doing "chores" at home, so that there is no need for physical education. It is all right, these people said, for cramped city children,

but unnecessary for the farm boys and girls. This contention has brought forth some very interesting information as to the relative physical fitness of city and rural children.

First of all, the figures relating to the first draft were examined, and some of the most deplorable percentages of unfit were found to come from states which are largely agricultural. Apparently outdoor farm life is not a cure-all for physical deficiencies and does not necessarily insure for the rising generation the kind of physical education which will fit each individual boy or girl for the particular life or occupation which may be chosen.

A recent scientific study of health statistics, covering a period of one hundred years, reveals the fact that while the death rate in the large population centers

has been decreasing rapidly (from 22.1 to 17.2 per cent) the rate in the country districts has been decreasing very little (from 15.3 to 14.5 per cent). These figures show that the resident of the farm must take as much real interest as the resident of the city in the national problem of physical fitness.

In a series of "Health Charts" prepared by the Committee of Health Problems of the National Council of Education, many illuminating comparisons between the city and rural children are made. It is a matter of some surprise, perhaps, to most of us to find that in every type of defects charted, including teeth, eye, ear and breathing defects and spinal, heart and lung diseases, there is a much higher score against country children. For instance, 49 percent of the children in the country have teeth defects, against 33.58

per cent of the city children; 28.34 per cent of the country children against 16.42 per cent of the city children have tonsil trouble; 23.4 per cent of the country children against 12.5 per cent in the city have adenoids.

Supervised Exercise Needed

While it may be that exercise is better afforded to rural children, such figures as the foregoing do not argue that an abundance of just any sort of physical activity, offered a boy or girl by the rural environment, insures health or well-rounded physical development. It has often been proved by our over-trained athletes that specializing in some particular exercise or sport weakens the heart or weakens resistance to pneumonia or other diseases. Sometimes, too, the sport indulged in, itself a splendid and strenuous exercise, developed for the individual cumbersome muscles which instead of being a help proved a handicap in the profession eventually chosen. In like fashion the activities of farm labor are not adapted to promote a full, well-rounded physical development for the average youth, nor will these activities cure fundamental bodily defects or hereditary physical weaknesses.

Nor is every boy who happens to be born on a farm particularly adapted to agricultural work. There is, of course, a natural attraction to the city, which often draws boys who would be much more successful if they could be satisfied to remain on the farm. However, experience shows that many of our most successful professional and business men have come from farms. Therefore, with potential leaders in various fields being educated in the rural districts, there is a moral responsibility on the part of the environment which produces them to furnish the best training to fit them for the occupations in which they can contribute the most to the country in later years.

Physical education in the schools should aim to give the youth that kind of all-round physical training and instruction in the principles of health which will make him physically fit for any occupation. The youth who has had in his early years a thorough-going physical education including practical instruction in the principles of health will stand a better chance of success, no matter whether he decides upon a farm life, or the career of a lawyer, a doctor, a teacher, a business man or a skilled mechanic.

Recreation in Country

On the purely recreational side the development of sports and games can do much to make country life more attractive to the young people who are often lured to the city merely by the pleasures offered there. Cities must spend thousands of dollars in the provision of open space and apparatus, which nature provides without cost in the country districts. There are many instances where
(Continued on Page Nine)



ARGONIA, Kansas, is the center of a community that has caught the spirit of co-operation in solving many of its educational and recreational problems. The building here shown is known as the Dixon Township Community House, and was constructed in order that there might be a suitable meeting place for the various social and educational events of the community. It was completed October 1, 1916, at a cost of \$5,000. This expense was met by a bond issue authorized by a legislative act of 1899 enabling a township to build a township hall. The act was amended and broadened in 1911, and the people of the Argonia community took advantage of this law in building their community house.

The auditorium seating 700 persons is arranged much after the plan of a small theater building, having an inclined floor seated with comfortable opera chairs, a broad stage equipped with footlights and several dressing rooms. Directly in front of the stage is a strip of level cement-floor sixteen feet wide. At each side is a grade entrance so that live stock can be led into the hall for demonstrations in stock judging. The first meeting held in this new hall was the annual farmers' institute, at which the judging of live stock was one of the features. A fall festival has been held each year since in which the entire township co-operates, the rural schools competing in various events and displays.

Dixon Township has one of the few township high schools of the state. This hall and the high school are managed by the township board, which makes it an easy matter to use the building in connection with all kinds of school work. There is also a consolidated rural school with a building at Argonia, and through a co-operation between the high school and this school all the school work of the township is most efficiently conducted.

Dixon Township also has a library association, and there is a room in the community hall used as a library and reading room. On the opposite side of the entrance is an office for the township trustee. There is a basement under the front of the building which can be used as a banquet hall or dining room.

The Standard Oil Company (Indiana) and the Automobile Industry

PROBABLY no existing industry serves such a useful purpose in so many ways as the automobile industry, and certainly no industry has had such a meteoric increase in proportions.

Such an increase would have been impossible of accomplishment if a market for moderate priced cars had not been found, and without the Standard Oil Company (Indiana) it would have been impossible to find this market.

When only the rich could afford an automobile the Standard Oil Company (Indiana) had the vision of most everyone driving his own machine.

The Company set out, not to find a way to make gasoline prices higher, but to keep them low in the face of the enormous demands made by the automobilists, which in the average industry would have caused abnormal increases in price.

The efficiency of the Standard Oil Company in making a constantly increasing number of by-products has kept down the price of gasoline and enabled the man of modest means to run an automobile after he got it.

The Standard Oil Company not only makes gasoline to sell at a low price, but to fit the requirements of the modern automobile engine in such a manner as to enable the owner to get out of his car all that the manufacturer designed it to produce.

This is a salient example of the usefulness of the Standard Oil Company not only in contributing to the success of other industries, but in discharging its obligation as a public servant so that all may benefit from its efficiency and by its operations.

Standard Oil Company
(Indiana)
910 S. Michigan Avenue, Chicago, Ill.

1564

Thrashing Rings Displace Custom Work

WHEN a farmer plans to thrash from the field, engages a custom thrashing crew to do the work on a certain day and the outfit does not appear until three weeks after the specified time, is it any wonder that the countryman makes a few pointed remarks concerning custom thrashermen in general and this one in particular?

Unreliability of custom thrashers, labor complications which often arise when two outfits reach a neighborhood the same day, the expense of custom thrashing, the careless and extravagant work of some hired machines, and similar factors have caused grain growers in the Corn Belt to organize co-operative thrashing rings for the purchase, maintenance, and efficient operation of thrashing machinery.

Benefits of the thrashing rings are shown in an instance reported by the United States Department of Agriculture in Separate 772 of the Yearbook. One large thrashing ring which has been particularly successful and which has met all expenses and paid for itself in four years out of the money ordinarily paid by the members for custom thrashing is the Up-to-Date Thrashing Co., of Livingston County, Ill., which is composed of ten members who own fifteen farms. The partnership capital originally totaled \$3,275, and the equipment included a 20-horsepower steam engine, a water tank, a separator with a 34-inch cylinder, a corn sheller, and a second-hand silage cutter, which has been replaced by a new one. The total thrashing usually employed in this ring for field work consists of ten men with teams to haul bundles; five pitchers in the field; three men with teams to haul the thrashed grain; two men to help unload the grain at the barn; one man on the stack; one man to operate the stacker; one man to clean up about the machinery; one water boy; and three men with the thrashing outfit. This involves a force of twenty-seven men. A ring of this size demands capable management to insure success.

On Smaller Scale

A smaller thrashing ring, organized last year in Fayette County, Ohio, consists of three landowners, whose partnership capital consists of \$1,000, which represents the cost of a small 22-inch separator, with a clover-seed attachment, the power being furnished by a 12-24 farm tractor. These farms aggregate 400 acres of small grain, a little outside thrashing for hire being done each year. Last year 2,800 bushels of oats, 9,000 bushels of wheat, and 100 bushels of clover seed were thrashed. The ordinary crew was made up of five men, with teams and wagons to haul bundles; two men, with 125-bushel wagon beds to haul grain three miles; one man to manage the outfit, and a boy to help. Bundle wagons were used to replace two or three field pitchers, while the use of a gas engine also dispensed with the water boy. The engineer has time to help considerably about the separator. With this small force, this outfit was able to thrash and deliver to the elevator, three miles distant, an average of approximately 750 bushels of wheat a day.

Smaller Units Favored

During the last two or three years the number of thrashing outfits sold to farm organizations has greatly increased, and the tendency at present is toward the formation of smaller co-operative units and the purchase of small outfits. This comes from the necessity for more economical use of labor and the advent of the farm tractor, the power of which can be well utilized to run a small thrasher, which, complete with a wind stacker, self-feeder, and weigher, costs about \$1,200. Most of the farmers' clubs are small, so that all members may get their thrashing finished in about fifteen days. All thrashing is completed in seasonable time, so that the grain may be saved to best advantage.

Advantage of Rings

There are two general methods of ring co-operation, the most common in-

volving the hiring of a thrashing crew and the other its purchase.

Thrashing rings are beneficial in much as the thrashing calendar in a neighborhood may be so arranged that the work can be carried out with the least possible loss of time in moving from farm to farm. As a job nears completion, the first men through, knowing the assignments in the next place, may there immediately and have the crew ready to thrash by the time the crew arrives and is set up. No time is lost either in contracting for an outfit or securing a thrashing crew. Certain advantages may be used to best advantage by assigning them to one kind of work for a season. Unless the weather man prevents, thrashing continues until all jobs are completed in the circle, and thus little extra work is required shifting wagon boxes or hay loads. Usually the thrashing season is greatly shortened and this favors the timely completion of the subsequent fall work such as plowing, seeding, distributing manure, and so on. The thrashing ring reduces the work of the housewife, there are less men to feed during the harvest season.

Practically all the thrashing rings perform some outside work as accommodation at the customary rates, or to enlarge the ring in order to secure all necessary help.

Where a ring buys all the machinery—separator, power, clover huller and possibly a grain sheller or a silage cutter—and builds a shed to house implements, the total capital required under pre-war prices usually amounts to \$3,000 or \$4,000. When it is possible for the company to hire a good engineer or some other part of the equipment may not be advisable to buy.

Thrashing for the various members of the ring is performed on a business basis, an average day's work being regarded as 2,000 bushels of oats, or 1,000 bushels of wheat or rye. Each is kept of the time put in by the laborer and the costs of the work distributed among the members on the basis of the amount of grain thrashed. Farmers interested in the organization and promotion of thrashing rings may obtain copies of the publication describing them by writing to the United States Department of Agriculture, Washington, D. C.

Testing Road Making Materials

More than 130 samples of road material have been tested since March in the laboratories of the engineering experiment station at the Kansas State Agricultural College, according to Prof. R. A. Seaton, who is in charge of the work.

These samples were sent in by county engineers for determination as to suitability in hard surface roads. The materials tested include brick, cement, gravel, stone, steel, asphalt, tar, and road oil.

It is necessary to know that the material used in hard surface roads will give satisfactory service, because of the very large sums of money involved. This can be determined only by carefully conducted tests with special apparatus.

The laboratories of the college are equipped with the most modern machinery and apparatus for testing all kinds of road materials. They were designated as the official testing laboratories for the State Highway Commission by the legislature in 1917.

Do not cut down the tops of bulbous plants such as tulips. Let them die down. The flower of next season depends upon the condition of the foliage of this year. They may be lifted in October and after being allowed to dry out for a period of four to six weeks they may be replanted deep for good results, six to eight inches.

Don't give the stock too much corn nor the folks in the house too much meat while the weather is hot.

Editorial, Advertising and Business
Offices, Topeka, Kansas

Entered at Topeka Post Office
as Second Class Matter

Published Weekly by The Kansas
Farmer Company, at Topeka

KANSAS FARMER

THE FARM PAPER OF KANSAS

G. C. WHEELER, EDITOR

REPRESENTATIVES: E. HATZ SPECIAL ADVERTISING AGENCY

New York: 15 Madison Square, North

Kansas City, Mo.: 1402 Waldheim Building

Chicago: Harris Trust Building

San Francisco: Monadnock Building

SUBSCRIPTION RATES: One Year, \$1.00; Three Years, \$2.00.

Established by First State Board
of Agriculture, 1863

Member Audit Bureau of
Circulations

Oldest Agricultural Publication in
Kansas

POTATO EXPERIMENTS

Potato diseases are each year becoming a more serious menace. Commercial growers have found that it is absolutely necessary that they learn how to control and prevent various potato diseases, and it would be well for those simply growing potatoes for their own use to learn how to protect the crops against blight, tipburn, and other diseases attacking the plant. Here in Shawnee County the effectiveness of the control measures worked out by our plant disease specialists are being strikingly demonstrated this year. One hundred and ten rows of potatoes, a quarter of a mile long, are being used in these tests which are being conducted on the farm of M. T. Kelsey, one of the big potato growers of the Kaw Valley. A per cent stand test is one that is being worked out, the varieties being Early Ohio and Irish Cobbler. The seed was from Wisconsin, Minnesota and Nebraska. Part of the rows were planted with certified seed and other rows with ordinary commercial seed. Some of the seed was treated for rhizotonia, and other seed untreated. At a recent investigation it was found that the untreated seed early planted showed a stand of 89 per cent, while the treated seed showed a stand of 94 per cent. Late planted commercial Minnesota seed untreated for rhizotonia showed a stand of only 66 per cent, while the treated seed showed a stand of 96 per cent. The Bordeaux mixture spray for blight and tipburn also seems to be giving satisfactory results. Prof. E. Melchers, head of the plant pathology department of our experiment station, who visited this demonstration field last week, states that he feels that it is now fully established that it is much better to use the seed treatment for potatoes and also that the certified seed seems to be showing up much better than ordinary commercial seed. The results in this demonstration field will be carefully checked up at digging time.

CORN PROSPECTS

It has been remarked by men who have toured Eastern Kansas recently that corn is in a better condition in this state than in some of the states to the east and north. This is nothing unusual for Kansas. Up to the shooting and felling stage it is possible for a field of corn in this state to present wonderful prospects. It is then that the critical time comes in corn production. We have seen these wonderful prospects vanish like dew before the morning sun as the result of a few days of exceedingly hot weather in July and August, accompanied by what are commonly called "hot winds." Corn pollen cannot remain virile in such periods of extreme heat and dry, hot weather. The pollen of corn is short-lived, even under favorable conditions. The thing most to be feared in Kansas is extremely dry, hot weather at the time the ears are shooting and pollen is forming for their fertilization. It is a weak point in the life history of the corn plant as regards the conditions which we can expect almost any year. It is to avoid total loss that more and more of our farmers are looking to the silo to convert what has been produced up to the critical point into a feed that will bring a good return on the investment up to that point, and the next step is to grow crops such as corn and others of the sorghums which are more adapted to conditions and will outyield corn in the production of green forage and even grain in almost any section of the state. The silo and the wider use of the sorghums will minimize the risk we must run as long as we cling to corn as our chief feed crop.

imimize the risk we must run as long as we cling to corn as our chief feed crop.

INCREASING MEAT CONSUMPTION

Increased consumption of beef in this country seems to be about the only hope for the cattlemen who responded to the appeal for increased production last year. If all products were slumping proportionately in price, the cattlemen might be expected to take the consequences of the situation as it has developed without serious complaint. But such is not the case. It seems that this one industry is singled out for slaughter, and the men engaged in it are clamoring for relief. The increased production is a result of a nation-wide propaganda conducted as a war measure. If the war had continued another year, the beef would have been needed. We are rejoicing that the entrance of the United States and the mighty response of every industry in supplying the sinews of war brought the conflict to an earlier close than was predicted, but meanwhile the future must be considered as well as the present. It is not merely the matter of certain individuals losing heavily, but means the crippling of a most important industry, and while for the time being the consumer may benefit from lowered prices it will be at the expense of a decided decrease in production in the near future. Beef making is not an industry which can be taken up and expanded in a short period of time, and there will ensue a period of extremely high prices resulting from under-production.

The only feasible solution seems to be a nation-wide propaganda for increasing beef consumption and thus staying to some extent the disastrous slump in prices. This has been urged by the Kansas Live Stock Association and other live stock organizations. Already steps are being taken to acquaint consumers with the real facts and urge them to use beef more extensively. People must be brought to realize that a product can become so cheap as to drive the producer out of business.

DO YOU READ ADVERTISEMENTS?

In reading a magazine or publication of any kind it is not a good plan to pass up the advertisements as something of no value. Advertisements must be recognized as timely and helpful news of world progress, and, in agricultural publications, particularly of agricultural progress. They are as well worth careful reading as the regular reading columns of the publication. They tell of world progress and improvements in methods of conducting farming or the business of the world. You will read of comforts and conveniences unknown a generation ago, comforts now within the reach of even the farm home. A large proportion of advertising has to do with things that will lighten labor and increase profits. They will save you money. Do not miss the advertising as you read your papers, and if you write to an advertiser be sure to mention the paper in which you saw the advertisement. It is only through the returns from carrying advertising that we can furnish you with a paper worth while.

NEW AUTOMOBILE LAWS

Automobile owners and dealers should familiarize themselves with the provisions of the new law which went into effect June 30. Many of the provisions of this law are for the purpose of making it increasingly difficult for the automobile thief to successfully ply his trade.

Some of the provisions which must now be obeyed are as follows: A penalty of \$500 or imprisonment for ninety days may be assessed for transferring a tag from one car to another. Under penalty of a \$500 fine, dealers must report to the secretary of state before the third of each month all cars purchased, sold, bartered, or exchanged. It is unlawful to own, buy, or sell a car without its engine number. It is unlawful to alter or destroy the special engine number, the penalty being from two to five years in the penitentiary. It is unlawful to register cars without the engine number. Persons selling used cars must notify the secretary of state and give a bill of sale signed by two witnesses who know both parties, describing the car and giving engine number. If you buy a second-hand car you must notify the nearest police officer or sheriff and the secretary of state.

UMBERGER MADE DEAN

We are glad to announce that Harry Umberger, who has been acting dean of the division of extension of our agricultural college since January 1, has been appointed to the deanship of that division. Mr. Umberger was formerly supervisor of the co-operative demonstration work in the state. He has become well known to farmers and business men of Kansas as a result of his work in directing the co-operative experiments and later the farm bureaus and county agents. He is a native Kansan, graduating from the agricultural college in 1905. He spent five years in the Department of Agriculture. After a year's work at the agricultural college, 1911 to 1912, as assistant in charge of the co-operative experiments over the state, he resigned to conduct the home farm in Chase County. In 1915 he came back to the college in the capacity of demonstration supervisor and assistant county agent leader, and has thus had direct charge of county agent work since that time. The farm bureau law brought greater responsibilities with regard to the farm bureau organization and in 1917 he was made state county agent leader. During the period of his supervision of this work the farm bureau membership in the state has increased from an average of eighty-eight in each of ten counties, or a total of 880, to a membership of 20,000 in fifty-five counties. Mr. Umberger still directs the operations on the farm in Chase County in addition to his present duties.

People of the farms are, or should be, keenly interested in the Mondell-Smoot bill now in congress, which if passed will carry into effect the Lane proposition of providing farms for soldiers, or as the National Grange representative at Washington puts it, "which is masquerading as a plan to provide farms for soldiers." The National Grange is absolutely opposed to this bill. It authorizes an appropriation of half a billion dollars to be used in land reclamation, employment of soldiers and others in the work, and the sale at cost of reclamation if possible, giving the soldiers and sailors first chance. It provides for colonization in communities. The Grange representatives maintain that as a whole it is an unworkable, paternalistic, uneconomic scheme designed to provide employment at government expense in the name and behind the screen of "doing something for the returned soldiers and sailors." There seems to be all kinds of great interests, including land interests, cheap food advocates, and others, favoring this scheme.

It will require united action to prevent its passage. In all probability as a result of the contest which will come, a workable plan of soldier settlement and soldier rehabilitation may be evolved.

The Bureau of Markets is a bureau of the Department of Agriculture that has rendered a real service and has been becoming increasingly valuable. It seems now that the work of this bureau is to be seriously crippled through lack of funds. During the war period it has built up an elaborate organization for furnishing unbiased market information, sending out daily reports from important centers, and even wiring and telephoning shippers where the expense of the message was paid by the party receiving it. It is now announced that all branch offices except those at Chicago, Kansas City, Omaha, St. Joseph and St. Louis are to be closed, loading reports discontinued, and other important service suspended. It is right to economize in the expenditure of public funds, for much money has been wasted, and there are many wartime commissions of various kinds that should be discontinued at once, but the type of service rendered by the Bureau of Markets has been of real value to producers and there seem to be possibilities for making it even more helpful in the future.

A bill providing for the return of the railroads to private ownership is being worked out by a subcommittee of the Senate Interstate Commerce Committee of which Senator Albert S. Cummins of Iowa is chairman. It is expected that this legislation will be ready in the next few weeks. Indications are now that the plan being worked out will provide for a revaluation of the roads, readjustment of capitalization to the new values, the guarantee of a minimum return on capital invested, a regrouping of roads into new competitive systems, and increased powers to the Interstate Commerce Commission over rates, service, and wages. This committee has a big problem before it, and needs not so much fault-finding and criticism as constructive suggestions. Whatever the plan may be, it will run the gauntlet of most pitiless criticism after it is reported to the Senate.

Next Monday all will be in readiness for the big tractor demonstration at Wichita. The wheat on a tract of more than three thousand acres has been harvested and threshed and the land is ready for the plow. Everything possible has been done to make things comfortable for those who attend. The Wichita Chamber of Commerce says that no one will have to go without a bed, a bath, and three good meals daily during the show. Permission to park automobiles and to camp at Riverside Park has been granted. This park of eighty acres is one of the finest in Kansas and is open to all who care to come to the show in cars and wish to camp while there. The management announces that the "tented city" which will house the various exhibits will cover eighty acres. Three hundred carloads of modern farming machinery are being unloaded at the demonstration field. It is requiring fully two thousand service men to stage this big farm power demonstration.

The final note in Congress on the repeal of the Daylight Saving Law shows what the farmers can do when they act in unison.

FEDERAL RAILROAD CONTROL

Executives Urge Centralized Control in Hands of Government

By JAS. T. ELLIOTT

Federal supervision of railroad securities.

Federal incorporation of interstate carriers.

Exclusive Federal regulation of all rates, wages and service that are not divided by state lines.

A regional and functional division of the work of the Interstate Commerce Commission. Regional commissions under unified authority would keep regulation as well as management close to the people, and it ought to be.

Restriction of rate suspensions to not more than sixty days.

Giving the Interstate Commerce Commission power to prescribe minimum as well as maximum rates.

THE ABOVE, in brief and definite form, is the solution of the great railroad problem as presented by the railroads of the country after the most exhaustive research into every angle of the matter. Railroad executives from every part of the United States and representing practically all the railroad mileage of the nation have gone deeply into this problem. They have studied the situation from every possible point of view, and are convinced that the people of the nation must control the railroads of the country, and that this control must be centralized in the hands of the Federal government, forever doing away with state legislation of interstate traffic.

The question of rates, exorbitant or otherwise, is not so paramount at this time as is that of the adequacy and sufficiency of transportation. Railroads, as has been shown, are hedged about by such a degree of divergent regulations as to retard them in providing means for caring for increases in business.

What the roads need beyond and above all things is this centralized or Federal control, under a Federal Commerce Commission, with zones at different sections of the country and a central body in Washington, thus dispensing with the 48 state railroad commissions with their irksome and divergent regulations. Government ownership of railroads could not give the nation a greater control over transportation.

As a matter of fact government ownership is contrary to the genius of American people; it would debauch our politics; it would introduce the "pork barrel" principle into the building of new railroads, and in the end would be much more costly to the people than any other form which could be suggested.

About 85 per cent of the business of the nation is either interstate or international with only about 15 per cent intrastate notwithstanding which fact the states have it in their power to determine the standard of efficiency of every railroad which serves it and its people and the people of other states in interstate commerce.

Attempted Physical Valuation

Federal valuation of railroads does not appear to be accomplishing the result sought. The Kansas City Southern, New Orleans, Texas and Mexico and Atlanta, Birmingham and Atlantic are strongly protesting in court the "tentative valuation" made by the field forces of the Interstate Commerce Commission. It now appears from reports of the hearing before the commission at Washington on the first tentative valuation reports made to that body, that the commission may decide that it is not required or authorized to place definite final values on the properties of the railroads, but that it is merely assembling information which can be used later in the determination of value. Commissioner

Written just before the government operation experiment was begun and expressing views of railroad executives from every part of the United States at that time.

Clements admitted that the commission had reached this decision tentatively, but emphasized the fact that it is prepared to hear arguments on all questions pertaining to the valuation. However, A. E. Helm, counsel for the Kansas Commission announced that the state commission would contend for such a construction of the law and the impression was created that the commission intends to avoid placing and definite values on the railroads.

This law was passed four years ago and an enormous organization has been built up to carry on the work. The total expense involved to date has been over \$15,000,000, of which the government has borne \$4,500,000 and the railroads over \$9,500,000. Now this question of doubt as to the real purpose and intent of the law, may, and probably will, make the entire proceedings abortive. It is a well known fact that the railroads did not ask for a valuation; in fact leading railroad men for years have taken the position that valuation is not a practical basis for the making of rates.

The United States Supreme Court has decided that where state regulation interferes with Federal regulation the former must give way to the latter. Government ownership is impractical for obvious reasons and in the course of time with the enactment of proper federal legislation centralizing the control of interstate railroads into the hands of an enlarged and zonized Federal Commerce Commission, state regulations will become state interference and in the end will become obsolete altogether.

Advantages of Federal Control

Federal control means prosperity for the railroads, which is the basis of income for about 6,000,000 investors, and a source of actual livelihood for 9,000,000 workers. An additional 5,000,000 are employed by industries dependent upon the carriers, while the security of 30,000,000 insurance policy holders and 11,

000,000 savings bank depositors rests largely on railroad earnings. Thus there are 60,000,000 people directly interested in railroads, not to mention the other 50,000,000 who are no less so, even if not directly financially interested.

In what way will the interest of Kansas men engaged in agricultural pursuits be affected by a correct solution of the railroad problem? In the last analysis, as has been previously said, the question of prosperity or no prosperity in this or any other nation, for that matter, rests primarily with the farmer or planter. It is the product of the soil that is the basis for all wealth and all prosperity.

Good transportation at reasonable rates is of the greatest importance to the Kansas farmer. When his crop is ready for market, he demands and must have the quickest, most direct and adequate means for its conveyance thereto. And it is perfectly reasonable for him to lose patience over delays in traffic, high rates or lack of transportation facilities. Railroad officials recognize this and use every means in their power to furnish him what he requires in this respect.

If they fail to accomplish this it is not due to them but rather to the conditions that surround them. From the time of the enactment of the Hepburn Railroad Act in 1906, the railroads of the United States have been almost legislated off the face of the earth, by both states and nation. This grist of enactments have been so contradictory and in many cases so absurd and unreasonable, as to have caused more or less depression in all phases of railroad-

Control vs. Government Ownership

To nullify this state of affairs the railroads are seeking the Federal Control of all transportation lines as against public ownership. This will centralize all control in the hands of a Federal Commerce Commission, with the country separated into zones and each zone under

domination of the commission.

Now the effect of this state of affairs will be increased efficiency, more uniform traffic rates and prosperous conditions for both roads and the public. This will be particularly interesting to the farmer of Kansas. It will eliminate all uncertainty as to the rates they will have to pay to transport their product to market and will forever do away with the uncertainty of securing facilities for such purpose when most needed. Uniform and economical management will also become dominant throughout the other states and the country as a whole.

The farmer can see that under the rule just outlined railroad property will once more come into its own. Railroad stocks will become attractive to the investment public and capital for improvements and proper maintenance will become available at reasonable rates. This will have reference to facilities for the quick and efficient dispatch of freight traffic, the particular feature in railroad service that has the deepest and most abiding interest for the farmer, whether of Kansas or any other state of the Union.

States' Rights Involved

The question of states' rights may come up. For instance, when a railroad has been chartered by a state, the state naturally feels that it has jurisdiction over the road. This point can be easily offset by Federal charter and Federal control. In which case the interest of the individual state will be scrupulously conserved, doing away with the 49 controlling factors and substituting therefor only the one—namely, the Federal Commerce Commission.

Federal supervision of railroad securities will eliminate the necessity of seeking approval of every railroad commission of the states through which the road runs. The roads will also be in a position to expend the monies thus raised either for specific purposes or along such lines as in their judgment the conditions warrant, always under the direct supervision of the Federal government. No state can then deprive or hold up such issue on specious pleas, such as demanding that portions of such monies be expended within the borders of that particular state. The federal commission will have a wider and more comprehensive knowledge of the general needs of the road for more capital or general reorganization and by granting the road such a right will strengthen its borrowing powers in the market, and as a natural consequence, will decrease the cost of the loan rate.

This ready and almost direct access to the money market will make it possible for the railroads to secure much needed funds for improvements of roadbeds, rolling stock and general maintenance. This increase in the adequacy of their facilities will make the roads more efficient and more efficiency means more and better traffic conditions and in the last analysis, a higher net income.

The American people demand a high class of service in both freight and passenger departments of railways at the minimum of outlay. The first step toward the accomplishment of this end is granting the wishes of the railroads by allowing Federal Supervision of railroad securities.

Federal incorporation of interstate carriers is the next and logical step to take in conserving the best interest of the railroads and nation alike. These with centralized Federal control as the basic action will bring adequate transportation—that condition so ardently desired by the people of the nation—the farmers particularly.

Folks gave up candles when they found lamps made homes brighter. Why not try electricity now?

RESULTS IN BABY BEEF FEEDING FOR 1919

Kansas Experiment Station, Manhattan

Feeding period, 150 days.

Lot number	1	2
Number of calves in lot	15	15
Initial weight per calf at feed lot	461.0	457.10
Final weight per calf at feed lot	842.33	850.11
Average total gain per calf at feed lot	381.33	392.98
Average daily gain per calf at feed lot	2.50	2.62
Average daily ration per calf—		
Ground corn	9.65	9.63
Linseed oil meal	1.68	1.68
Alfalfa hay	3.09	3.08
Corn silage	17.80
Sorghum silage	17.81
Feed per 100 pounds gain—		
Ground corn	379.67	367.76
Linseed oil meal	66.10	64.14
Alfalfa hay	121.10	117.51
Corn silage	700.00
Sorghum silage	679.77
Feed cost per 100 pounds gain	\$ 17.40	\$ 16.86
Average initial cost per calf at lots	42.64	42.28
Feed cost per calf	66.34	66.28
Labor cost per calf	5.16	5.16
Interest on investment at 8 per cent per calf	3.76	3.74
Interest on equipment per calf at 6 per cent	.82	.82
Total cost per calf ready for shipment	118.72	118.28
Necessary selling price per cwt. to break even at home minus hog profits	14.09	13.91
Selling price at Kansas City	15.25	15.25
Selling weight at Kansas City	803.33	809.33
Per cent shrink	4.63	4.80
Feed Prices—Corn at \$1.58 a bushel; linseed oil meal at \$65 a ton; alfalfa hay at \$30 a ton, and silage at \$8 a ton.		
Silage made from corn and sorghum that was injured by hot winds in August and did not mature grain.		

SUCCESS IN STOCK BREEDING

Proper Selection, Mating, Development, and Good Salesmanship

MANY live-stock farmers aspire to become breeders of pure-bred stock, and look forward to the time when they can produce high class individuals and sell their surplus at good profits. Some would-be breeders think all that is necessary to win is to be able to select the good ones. "This is one of the vital points," said H. B. Walter of Ellingham, Kansas, in "Hogs in Kansas," published by the Kansas State Board of Agriculture. "The man who has the ability to select the best of the type he is aiming to attain, and who can rely upon his own judgment to select that kind, is well started on the road to success. Compare this man with the one who always depends upon someone else to select the good ones for him, and note carefully the difference in their successes in the business. However, no man knows it all about any loss of hogs, and anyone is liable to make mistakes. The man who assumes that he is infallible is to be pitied as well as censured."

"The young man starting out has many ways in which to gain this necessary knowledge of hogs, until he is pretty well able to select what he wants with a reasonable degree of assurance that what he selects will produce what he is seeking for. He can learn from the advice of older, reliable breeders in selecting his first animals, and by all means he should learn the why of it. I have found the better class of breeders always willing to lend a helping hand to any new man in the business really desiring to learn. It is better to get the opinions of different breeders and then study the matter out carefully for yourself and decide what you think about the matter, for it is all going to depend upon you in the end. No man can run a business successfully on what the other fellow thinks."

"Another splendid way to learn what is the approved type is to attend the leading fairs and see what ones are doing the winning and see what the best breeders are producing. However, we have seen the time when this was the worst advice possible to give, for some of the leading men were guiding the good old Poland China ship onto the rocks just as fast as possible. Well, then, how are you to know whether the big breeders and showmen are going the right way or not? Answer this question carefully for yourself: Is this the most useful type of hog to produce? Keep efficiency in pork production as your guide, and then, if you study the question from all angles, you are not apt to be far wrong."

Stay With the Practical Hog

"At the present time I am free to say that I have watched the judging of hogs all over the country, and think the type the leading judges are giving the preference to is a mighty good type to tie to. In other words I think the show at the present time is a fine educator, as it should be. Whenever our breeders and showmen and judges begin to leave off the practical type of breeding hogs and favor the fanciful, it is time to call a halt and stay with the practical hog, for you know the end of all hogs is the butcher's block, and the type that is best in this respect is bound to be the winner in the end. The hog that is prolific and is an easy feeder is the one that meets this requirement."

"The second big factor in the making of a successful breeder is the ability to mate animals properly. In the proper mating of animals there is as much to be gained as in the proper selection of foundation stock. Now, no man knows as well as you do, or should know, just what you need in a herd boar. You should decide just what you need to make your herd better, and the more you can add to it in your new boar, the

better. We have seen even so-called 'big' breeders intensifying the big faults in their herds by the wrong selection of their new herd boars. Study your herd very carefully and see what you need most. Pardon me for saying that we were scored most heartily by some of our best friends upon the selection we made of a herd boar we once used, yet that boar added the very thing we lacked most in our herd at that time. Proof that our idea was right on that occasion is the fact that his daughters have produced our greatest winners in the leading shows. So study well what you wish to improve in your herd, and gain as much of this as possible in the selection of your new herd boar. In your herd you likely have two or more herd boars, and in the way you study out the best mating is a mark of how well you are going to succeed as a breeder."

Develop for Usefulness

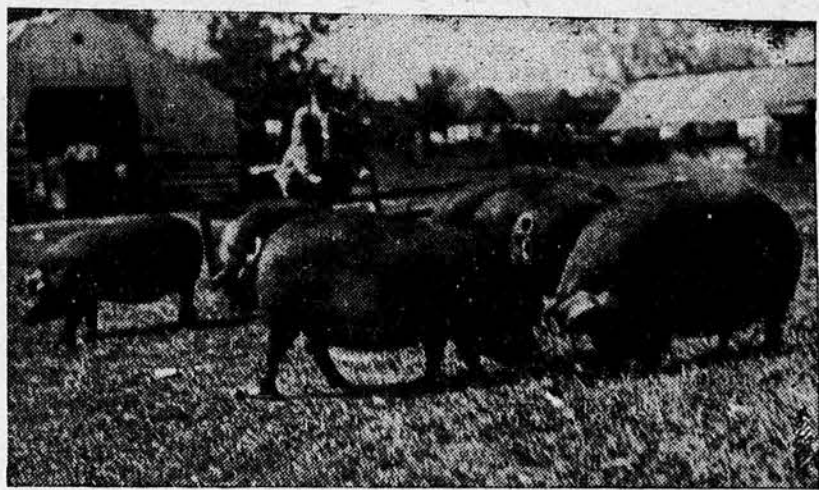
"Another vital point is the proper developing of the pigs. We think the man who has the art of properly developing his pigs has a great advantage over the poor developer. Now, do not get the

much pleased to notice how the judges at our shows are now placing their approval on well grown animals in preference to the overfat ones. In fact, we have noticed judges favoring, in the case of animals otherwise of equal merit, those not too fat. We think that is right, for the show should be on breeding animals in breeding condition. We like to develop them as much as we can so long as we do not impair their usefulness, but to spoil a really fine animal by overfattening is a crime and a detriment to the breed."

"By the way, did you ever stop to think how much you really owe to the breed? The man who is in the business purely for selfish purposes and has no thought of breed improvements should be out of the game, in our opinion."

Be Good Salesman

"Another important factor in the business is the disposal of your product. If you have been a success at what we have mentioned—proper selecting, good mating, and good developing—and then cannot dispose of your product to an advantage, you have failed so far as your financial remuneration is concerned."



SHOWING HOGS AT ONE OF THE BIG FAIRS

idea that we think the man who can get the most size on his pigs is the best developer, for we think that the man who overdevelops his pigs does himself and the breed more harm than does the man who underdevelops them. The man who gets the size and still keeps the pigs in shape to go out and make good for his customers is the real artist. In a bred sow sale it helps the sale to have them big and looking fine, and if you can do that and still have them go out and raise fine litters you are sure to be doing it about right, but the man who overdoes it and has fine looking sows that fail to make good for the purchaser is bound to make a failure in the long run. The man who bought the fine looking sow that failed to raise a good litter may try you again, but if he continues to have the same result he will quit you and buy of the man who has his sows in shape to make good for him. Always keep the same standard in mind—the most useful hog—and in the end you are bound to succeed."

"There are men who never meet with the financial success due them because they do not properly develop their stock. The men who underdevelop their stock are plentiful, and as a rule these men think they should receive as much for their underdeveloped stock as do the men who have theirs well developed. When it comes up for public appraisal they are usually disappointed. In showing our animals we have always positively refused to overfatten them. Our rule has been to grow them as well as we can, but not fatten them. We are

The advertising part of this business is a big one. We shall attempt only to touch upon it, as it is a subject in itself. One big reason why we do not get better results from the use of advertising space is that we do not do our part. We fail to co-operate with the papers. A lot of breeders seem to think that the minute they have signed the contract with their paper men their work is ended—and too often it is—but it should be just begun, for without your co-operation no paper man can bring you the business or do you the good he otherwise could."

"Let us take an example to illustrate. Suppose a farmer rents a good piece of ground, paying cash for it, and fails properly to cultivate it. Has he then any real grievance against the landlord? We think not. Well, let the breeder buy so much space in the paper and then not cultivate it at all; has he any just grievance if he does not get the results he expects? He should co-operate with his paper by furnishing live copy from time to time and keeping the manager of live stock advertising posted as to the condition of the herd and the sale stock and about new additions to the herd, sales of important breeding stock, condition of the show herd, and so on. We have known of breeders using for months and months copy that was stale and of no value whatever. We have even known of breeders still advertising for sale stock that was dead. Now, who was to blame for not getting results in such cases?"

"Our experience with the big majority

of the fieldmen has been that they are anxious to help you and are always ready to do their part, but where a man shirks onto them all the responsibility of advertising his herd he has no right to expect the results obtained by the live breeder who co-operates with his paper. Your card in the paper is easily compared with this good field you have rented. If you plant good seed in a well prepared seed bed and give it good cultivation, on an average you are going to raise good crops. Just so it is with your card. If you pay no attention to it after you have bought the space, you need not expect to get good results from it, but if you advertise a good line of modern hogs, co-operate with your paper and keep your advertisement up to date, we think it a paying proposition. You should determine the amount of space you can use to an advantage and use that, not blaming the fieldmen for overloading you, as a few do, but determining upon counseling with them how much you can use advantageously, remembering the illustration of the rented field—the more of that good ground you can rent and properly care for, the larger your profit will be. Just so with your advertising; the more you can use, your product justifying it, the larger the profit you may look for."

Helping One Another

"We have said that, in our opinion, the principal factors connected with successful breeding are: First, the proper selection of breeding animals; second, proper mating; third, proper developing; fourth, good salesmanship. Now if you add to this a man who is willing to give the breeding business intensive, persistent, intelligent effort, we think success in the business is assured. Remember, if you fail, you and you alone are to blame, for others are always willing to co-operate with you. If you really make a success of the business, remember that you have done so only by the help of others as well as by your own efforts, for no man can succeed without the co-operation of others. This being so, let us always be willing to do our best in advancing the breed and helping one another."

Stingy Feeder Cheats Himself

The cow requires not only materials for maintenance, but must also have protein, fat, and carbohydrates to make milk from. The milk contains water, fat, protein (casein, or curd), sugar, and ash, and these are all made from the constituents of the food. If insufficient protein, fat and carbohydrates are contained in the food given her, the cow supplies this deficiency for a time by drawing on her own body, and gradually begins to shrink in quantity or quality of milk, or both. The stingy feeder cheats himself as well as the cow."

New Engineering Building

Plans for the extension of the engineering building voted by the Kansas legislature to the agricultural college are now in the hands of the state architect. Construction will be started at an early date.

The erection of the addition will be of much value to a number of college departments, now greatly crowded. The increase in number of students in engineering, together with the many public service activities performed by the engineering faculty, is largely responsible for the need for more room.

Shallow cultivation about the base of trees and shrubs will help to keep away certain insects and will increase the rapidity of growth of ornamentals. It takes the place of artificial watering in dry seasons and is as essential as cultivating corn.

GENERAL FARM AND STOCK ITEMS

Something of Interest for All—Overflow from Other Departments

EVERY farmer should have two or more prosperous colonies of Italian bees. The honey-bee is our expert carrier of the pollen from flower to flower of fruits, vegetables and other crops. The fertilizing of one flower by pollen from another is the rule among honey plants and self-fertilization is the exception. If your fruit blossoms fail to set fruit, perhaps a few colonies of bees would help. The two to ten dollars worth of honey from a colony of bees is a mere pittance of their real value on the farm. And yet from the point of view of honey production alone there is no legitimate enterprise from which a larger percentage of profit can be secured on the necessary capital invested and labor expended. No other enterprise fits in so well with general farming and offers such attractive inducements to the faithful and industrious.

Lime Stone Crusher

Limestones of Kansas, according to analysis made by Dr. Haworth of the University of Kansas, contain from 88 to 95 per cent of calcium carbonate. The remainder is made up of compounds found in ordinary soils. And, of course, these will not injure the soil.

We have seen many fields needing lime which lie within sight of ledges of limestone. Portable rock crushers are now on the market which could be used to crush this stone fine enough to put on the soil. It would not be as fine as the ground limestone which can be bought; but it would soon sweeten the soil. It could be screened, and the coarser particles could be used on the roads while the finer particles could be used on the soil.

Why not buy a neighborhood crusher and use the limestone ledges to neutralize the mud in the roads and the acids in the soils?—J. E. PAYNE, Parsons, Kan.

Keeping Up the Pasture

Overgrazing during a succession of unfavorable seasons, or sometimes during a single season, is probably the most frequent cause of run down pastures. Weeds will thrive during a season unfavorable for the growth of grass and when the light pasturage is continually weakened and reduced by over-grazing, will establish themselves in the dying sod. On the other hand, when a rank growth of grass stands ungrazed for a long time there is a tendency for the sod to become weakened as the result of a superabundant top-growth. Weeds are then able to grow and multiply, but under these conditions they probably never become so numerous and troublesome as under the extreme conditions of over-grazing. While in the ordinary use of pastures, under-grazing is not likely to occur, yet it is well to know in advance the result of such practice. Stock will not eat weeds unless forced to do so, but will graze more and more heavily on the diminishing patches of clean grass; consequently the weeds are continually favored in their competition with the grass for soil space, and unless means are taken to check them they may presently overrun and ruin the pasture.

The first step toward improving unproductive pastures should be the destruction of weeds. Where the land is level and open enough to allow the use of a mower, all undesirable plants should be cut before they make seed. Or the pasture may be fenced off in several areas, taking the weedier ones first, and the stock kept on an area until the weeds are eaten down. In this practice young cattle or sheep should be used.

As the weeds are being destroyed, the growth of the grass itself should be stimulated; and according to the present knowledge of pastures the application of stable manure seems the only certain economical means of doing this. Whenever manure is available, apply it to the pasture in light dressings, covering

first the scantiest patches, but eventually covering the whole pasture if possible. Another excellent practice is to reseed the more unthrifty patches and then graze them sparingly until they are again thickly revegetated.

Cultural treatment to improve the growth of pasture, such as disking and harrowing, cannot be recommended for general conditions. Doubtless there are extreme conditions of root-bound sod where cultural treatment would be beneficial in improving the moisture relations of the plant; but these conditions cannot now be clearly defined, and the operation should proceed cautiously, for by tearing the grass roots more harm than good is liable to result.

Likewise the application of commercial fertilizer to pastures is an extremely dubious practice. There is of course a stimulation of plant growth, but at the present high prices for fertilizer no profitable returns may be expected under average conditions. Should a decided shift in the present relative prices of fertilizer and meat occur, doubtless a moderate application of phosphatic material, say 200 pounds of acid phosphate per acre, would be profitable on most soils.

Keep Sheep for Profit.

Sheep cannot be handled with profit on every farm, but it is possible for them to return a good profit on most farms.

The requirements of a farm where sheep can be handled with profit are good drainage; plenty of fresh pasture; land that will produce clover, alfalfa, cowpeas, or soybeans; a good water supply; fences that will keep sheep out of growing crops and furnish two or three fields

for frequent change of pasture; a shelter that will protect the flock from cold rains, winds, and storms; and an attendant who can give the flock interested and intelligent care. Crops of corn and oats can be used to very good advantage, but are not absolutely necessary.

The first cost of a small flock of sheep is sufficiently moderate and returns on wool and lambs frequent enough so that almost every farmer can afford the investment.

Wheat Breeding Work

According to arrangements just perfected, the breeding work with hard winter wheat of the United States Department of Agriculture is to be centralized at the Kansas Experiment Station at Manhattan. Kansas is the principal hard winter wheat state of the United States, and the Agricultural Experiment Station for several years has taken the lead in the improvement of this important crop.

This already has resulted in the production of some superior varieties, notably the one known as Kanred, which careful tests show will yield from three to five bushels per acre more than those commonly grown.

The cereal office of the United States Department of Agriculture has been co-operating in a limited way with the experiment station for a number of years, both at Manhattan and at Hays. The new plans call for more extensive work than has been done heretofore. The work at Manhattan especially, will be extended and enlarged.

By this new arrangement the forces and equipment of the United States Department of Agriculture, and the Kansas station will be concentrated at one point,

which it is believed will mean more effective work than could be accomplished by either agency alone.

In this work special attention is being paid to winter hardiness, earliness of maturity, drouth resistance, disease resistance, milling quality, and yield. The first object of the work is to produce varieties which are superior with reference to all these points. The work involves several departments of the experiment station, especially the departments of agronomy, botany, and mill industry.

Tomato Blight

Tomato leaf blight, one of the most serious plant diseases attacking the tomato, has made its appearance in a few places in the state, especially from the central part of the state northward, says L. E. Melchers, of the Kansas Experiment Station. The blight begins on the lower part of the plant and spreads upward, appearing as small spots which spread over the leaves, drying and killing them.

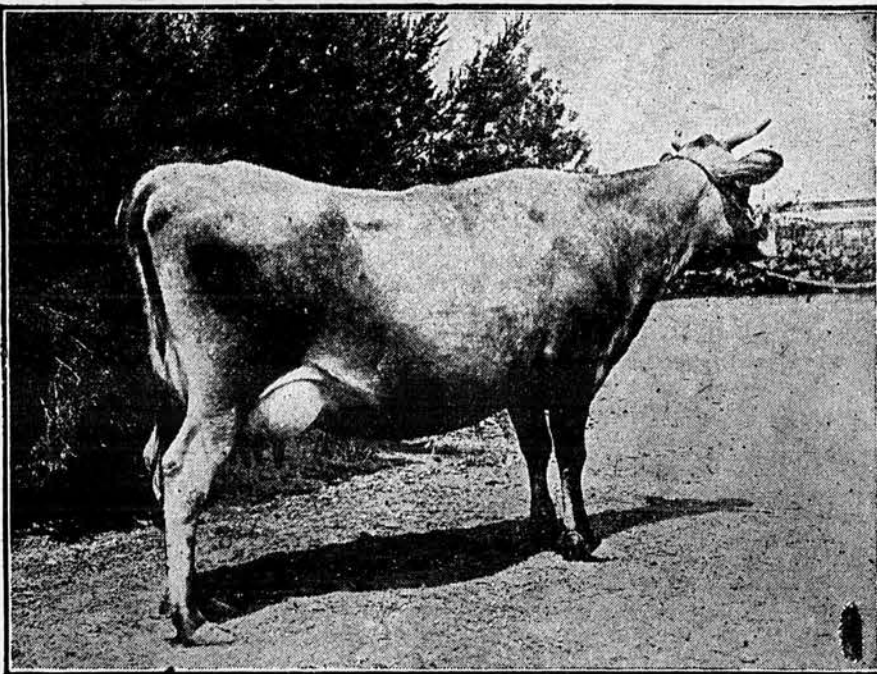
Bordeaux mixture, the 4-5-50 formula, if applied to the plants before infection takes place, will help to control the disease. On account of the unfavorable weather conditions it would be well to spray twice a week as long as rainy weather continues. The plants must be thoroughly sprayed, care being taken that the under side of the leaves is reached. A mist on the upper surface alone will not control the disease.

Tomato blight has no connection with early blight of potato, since the two are due to different organisms, although the prevailing damp weather is favorable to the growth of both. The last appearance of tomato blight was in 1913, when it took a very large number of plants, materially cutting down the production of the fruit.

Changing Your Trees

Have you some young trees in your orchard that you wish were another variety? Have you some varieties that are victims of blister canker, as Ben Davis, or that are natural hosts for blotch, as Missouri Pippin? Do you wish they were Jonathan or Grimes, maybe? If these trees are not more than six years old you can work them over into your chosen variety by budding.

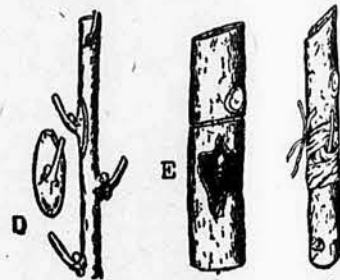
About August 1, select the cions. Take them from the most satisfactory per-



INTERESTED JAP'S SANTA, the cow here shown, is the champion Jersey of California, owned and tested by the University of California at Davis, California. She has just completed her year's test with a record of 15,569.4 pounds milk and 940.72 pounds butter fat. This is the tenth highest fat record for the Jersey breed. Although only five years and seven months old at the beginning of the test, Interested Jap's Santa has completed her fourth official consecutive record. The average fat production of these four records is 672 pounds per year. Her records in the order in which they were made are:

MILK—Pounds	FAT—Pounds	AGE—Years	Months
5,838.9	353.7	1	9
9,052.5	588.1	2	11
13,308.5	805.7	4	2
15,569.4	940.7	5	7

Interested Jap's Santa was sired by Interested Prince 2d, the sire of eleven R. of M. daughters and one R. of M. son. Her dam, The Jap's Santa, was also a R. of M. cow. Interested Jap's Santa is therefore the granddaughter of two great Jersey bulls, Interested Prince and The Imported Jap. Interested Prince has forty-seven daughters and fourteen sons in the R. of M. The Imported Jap is one of the eight Jersey Gold Medal Jersey bulls. He is the sire of thirty R. of M. daughters and three R. of M. sons.



SHOWING METHOD OF BUDDING

formers of their variety. Cut mature twigs, about one-fourth inch in diameter, trimming off the leaves, but leaving an inch of stem which serves as a handle while inserting the bud. The buds are cut as in d of the sketch here shown, going slightly into the wood tissue. With a draw knife and cut off bud-shield at right angles.

The buds are to be inserted on the main branches where they are three eighths to three-fourths of an inch thick. The trees should be in such condition that the bark slips readily. Insert at least two in each branch to allow for failures. Make cuts as in e, and loosening bark with knife at intersection inserting bud as shown. Bind with raffia or cloth strips, as in f. After twelve days cut away binding. If bud is green, it has "caught," and will develop the following spring, at which time the branch should be cut away just above the bud.

All growth below this point should be discouraged.—HAROLD SIMONDS, Extension Horticulturist, K. S. A. C.

The Farmer and His Market

A number of Missouri farmers are co-operating with the agricultural college in collecting information on farm production costs, says R. M. Green, of the Missouri college of agriculture. A recent summary of a year's business on one of these farms was a good demonstration of how dependent the farmer often is on making a "good guess" on market conditions. Especially is this the case with the farmer who handles live stock. The particular farmer referred to had made a net income of about \$12,000.

KANSAS FARMER

He was on good land and on a good sized farm. He sold some little corn and hay, considerable wheat, hogs, and cattle. Just what accounted for this big income? How much of it was due to this and to that? The thing most likely to attract attention first was the good profits from cattle. How did this man do this? The feed records on cattle are scrutinized pretty carefully to see that this man is not "fudging" in making this profit as some men like to do sometimes when they figure the feed they raise very low. That was not the case on this farm. The feed records were complete and prices charged were fair ones. The ration was a silage, linseed oil meal ration highly recommended by the college's experi-

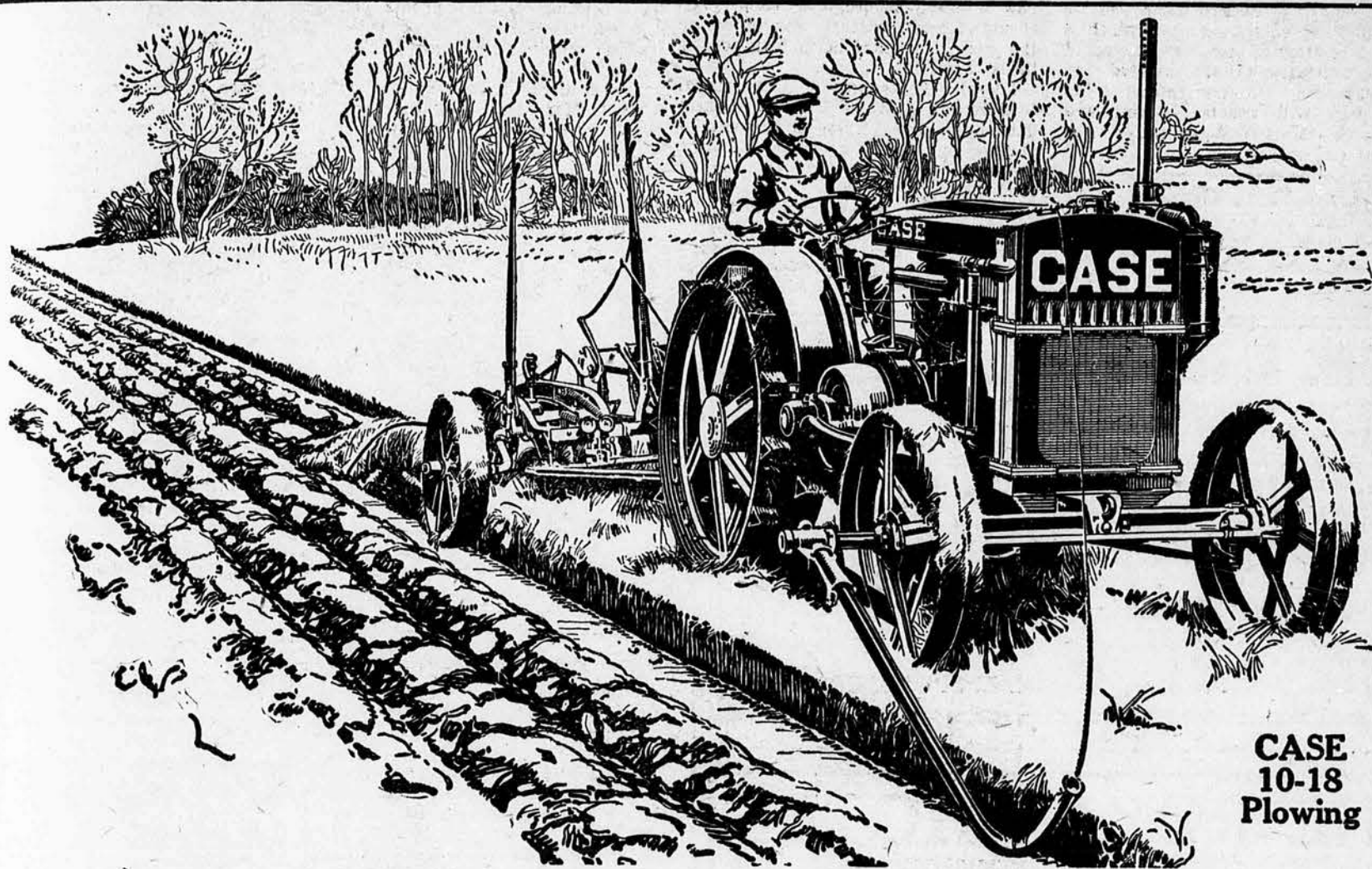
mental work. But this man made exceptionally good profit. Is it due entirely to the good ration? Figuring a little, shows that if the man had sold at the same price that he bought at, he would have just about lost his labor in spite of his good feeding, but he got a spread of \$8.35. That's where he made his cattle money that year, and the profits from cattle were a little better than \$3,000, or about one-fourth of his total net income.

Good Business to Name Farm

Why not name our farms? We name our children, our horses, our cows and our hogs. We name our animals so we can designate them in our conversation,

so they will respond when we talk to them and so we can keep records of their performance and degree of usefulness.

Farmsteads, also, are talked about a great deal. Just as we talk of the various animals in the individual home, so does the public talk about the various farm homes in the community. Without a name, farm homes are awkwardly discussed. "Shadeland," "Riverdale," "Brookdale," "Sunnyset," and "Stockdale," are names which a community soon learns for designating various farms. Appropriate farm home names lend themselves to desirable advertising. A well chosen name gives a stamp of permanency, of business and system to any farm place.



CASE
10-18
Plowing

See Case Tractors Work At the Wichita Demonstration

Watch them in the field. Examine them at the Case Exhibit Tent. Compare them and their performance with others. Note the superiorities and the advanced designing.

Above is pictured the Case 10-18 Kerosene Tractor. These smaller sizes have Case four-cylinder valve-in-head motors, especially designed for burning kerosene. They are equipped with a *patented Case air washer which prevents dust from entering the cylinders.* A Sylphon Thermostat insures uniform temperature of the engine.

The cut steel spur gears are all enclosed and run in oil.

On Case Tractors the belt pulley is mounted on the crankshaft—the *right* place for it. All Case Tractors are extra powerful, developing 20 per cent more horsepower than rated.

Note how the motor is mounted crosswise on a one-piece main frame. This construction insures permanent alignment of all gears, bearings and shafts. *There are no bevel gears, chains, worms, or friction drive parts in transmission.*

See how these Case Tractors are adapted for all kinds of field and belt work.

Visit the Case Exhibit first, then make comparisons.



J. I. CASE THRESHING MACHINE CO., Inc. Founded 1842 **Racine, Wisconsin, U. S. A.**
Southwestern Branch Houses: Kansas City, Mo.; Wichita, Great Bend, Kas.; Oklahoma City, Okla.; Dallas, Amarillo, Tex.

MORE Wheat and Better Wheat from the same acreage.
You can get it by applying 200 to 400 pounds per acre of

Armour's

Natural Plant Food

Fertilizers

Will enrich your soil — increase the yield per acre — hasten maturity — improve the quality — **YOUR HARVEST WILL PROVE IT!**

Nearly seven million tons of Fertilizer used last year.

Write for name and address of
Nearest Sales Agent

ARMOUR FERTILIZER WORKS
KANSAS CITY, MO. CHICAGO, ILL. ST. LOUIS, MO.
Largest Manufacturers of High Grade Animal Fertilizers 4450

19th. Annual Kansas State Fair

HUTCHINSON, KANSAS, SEPTEMBER 13-20, 1919
UNDER THE AUSPICES OF THE STATE BOARD OF AGRICULTURE

Big Annual Agricultural and Live Stock Event of Kansas.
The Natural Meeting Place of the Breeder and His Buyer.
Seventeen General Educational Departments.

Send for catalog now and make your entries and reservations early. New Live Stock Pavilion—New Mineralogy Building—New Swine and Sheep Pavilion—New Addition to the Big Grandstand—New Walks and Drives.

Three Days Harness and Running Horse Races

Two days Auto Races and Auto Polo every day and night. Grand Free Attractions and Music. The Grand Victory and Patriotic Pyrotechnic Panoramic Spectacle of the Chateau Thierry, together with free acts and grand music, will provide an entertainment each night that will have no superior at any of the great fairs of America. Send for catalog or information.

H. S. THOMPSON, Pres. A. L. SPONSLER, Secy.

THE ROYAL HOTEL

EXCELSIOR SPRINGS, MISSOURI

American Plan
150 Rooms

Fire Proof

Reasonable Rates
Solid Comfort

Operated by

CRANDALL HOTEL COMPANY

Double the Mileage At 1/4 the Cost



3,000 Mile Guaranteed Tires
Economy Double Tread Tires made doubly durable by our secret reconstructed process used in manufacturing. They have double the amount of fabric of any ordinary tire, making them practically puncture and blowout proof. Our customers get from them 4,000 to 10,000 miles of service.

Look at These Low Prices:

	TIRES	TIRES
30x3	\$5.50	\$2.00
30x3 1/2	6.50	2.10
32x3 1/2	7.50	2.20
32x4	8.75	2.45
33x4	9.00	2.50
34x4	9.25	2.60
34x4 1/2	10.75	2.80
35x4 1/2	11.00	2.90
36x4 1/2	11.50	3.00
36x5	12.25	3.20
37x5	12.75	3.30

Reliner Free with Every Tire—State whether you want straight side or clincher, plain or non-skid. Send \$2 deposit for each tire; \$1 deposit on tubes; balance C. O. D. subject to examination, or 5% discount if full amount is sent with order.

ECONOMY TIRE & RUBBER COMPANY
Dept. 56 1206-10 W. 18th St., Chicago, Ill.

When writing advertisers, please mention
Please Mention Kansas Farmer

The Fall Freshening Cow

In some parts of the country the production of a milk cow may not be lowered by hot weather and flies of the summer season, but in Kansas this is the time of year when it is most difficult to keep up the milk flow.

Not only does fall freshening insure greater production, but it also gives a larger price for a greater portion of the product, since the prices for butter are larger during fall and winter.

Fall freshening also assists in distributing labor, because farmers are required to spend less time in the field during late fall and winter. In late summer, the cows are dry, so men have to devote less time to cows during the busy harvest season.

Another most important consideration is the calf. Fall calves can be given more attention than spring calves, and, moreover, they are well enough grown and developed by spring so they can run on good pasture. They will also be in better condition to withstand heat of summer, which is so objectionable to young calves.

Do a little good every day at some cost to yourself.

Water For Live Stock

LIVESTOCK farmers sometimes fail to supply sufficient water for their stock, says W. E. Watkins, in a message to farm bureau members of an Illinois county. Dairy cattle require from three to five pounds of water for every pound of dry matter fed. A cow giving fifty pounds of milk daily will drink from 150 to 200 pounds of water. The Iowa station found this maximum amount was required by a cow producing 100 pounds of milk daily. All experiment station results indicate that for best results a dairy cow should have an abundance of clean, pure, wholesome water to drink at all times. A number of local dairymen have stated that the installation of drinking cups in their barns increased the milk flow to such an extent to more than pay for the cost of installation within a short time.

Calves during the winter season require from four to ten pounds of water daily in addition to their milk, while during the summer their requirements are practically twice as great.

At the Kansas Experiment Station steers drink from fifty-seven to sixty-seven pounds of water per pound of gain. When feeding corn fodder and corn, steers on this test drank fifty-seven pounds daily. When feeding oil meal and hay their requirements were just twice as great. At the Missouri station a 1,100 pound steer was fed in such a way as to merely retain his live weight. During January with the temperature at 26 degrees Fahrenheit this steer drank 18 pounds of water daily. During July with the temperature 74 degrees Fahrenheit his requirements were 49 pounds daily. Missouri station found that steers require from 2.7 to 3.4 as much water in the summer as in the winter on the same feed.

Horses require from 100 to 185 pounds of water daily, depending upon the temperature, their rate of speed, work done, etc. Extreme care should be taken in July and August that over-heated horses are not given a large quantity of water while warm.

At the Michigan station it was found that lambs on dry feed drink 2.8 pounds of water daily.

Swine should have good water available at will. A stagnant pool or mud-hole is a poor place for any farm animal to satisfy its thirst.

Furnish valuable livestock with water as clean and pure as you desire yourself.

Water Horses Often

It will pay to water horses often during the hot weather. Working horses from morning to night, watering them only at noon is a common practice. This is done even on days of excessive heat. The driver who is working them will probably take two or three pulls at the water jug during the forenoon and again in the afternoon, but the horses must go without, although equally as thirsty. The result is that the horses drink to excess at noon and again at night, which often causes colic and tends to produce a distended stomach, or what is called a "hay belly." If you would treat your horses humanely, take water into the field for them in hot weather.

Charles J. Brand Resigns

Charles J. Brand, Chief of the Bureau of Markets, U. S. Department of Agriculture, since its inception in 1913, has resigned, to take effect at the close of business on June 30, 1919. He will become vice-president and general manager of a commercial concern, with headquarters at Pittsburg, Pa. George Livingston, a member of the bureau staff, will be designated to act as chief of the bureau until Mr. Brand's successor is appointed.

The Secretary's letter to Mr. Brand, accepting his resignation, is as follows:

"I have this day received, with much regret, your resignation tendered to take effect at the close of business on June 30, 1919. You have been in charge of the organized marketing work of the Department since its

beginning in 1913. Starting with a modest appropriation of \$50,000, the Bureau of Markets this year has had a budget of approximately \$4,500,000, aside from the appropriation of \$10,000,000 for the purchase and sale of nitrate of soda. Its activities have been greatly extended in many directions and it has rendered increasingly valuable service to the Nation. It is charged with the administration of a number of important and difficult laws. When you assumed your duties you were faced with a pioneer task. There were then no marketing agencies, either in the Federal or State service, solely designed to assist the Nation in the marketing and distribution of farm products. These matters had received too little attention at the hands of institutions training men for national service, as well as at the hands of legislative bodies. You were confronted with the duty not only of marking out in a definite way the paths of endeavor, but also of discovering, and in a measure of training, the men for the work.

"Throughout your period of service, both in peace and in war, you have discharged your task with remarkable ability and patriotic devotion. Wishing you the greatest success and happiness in your undertakings, I am, Cordially yours, D. F. Houston, Secretary."

Mr. Brand has been with the Department of Agriculture since 1903 and had charge of the forage crop and paper plant investigations and the cotton handling and marketing work of the Bureau of Plant Industry before the creation, in 1913, of the Office of Markets, which was afterwards made a bureau. Under his direction, the Bureau of Markets has grown from a dozen employees to a staff of about two thousand, located in Washington and in other cities and at country shipping points. It has built up, under Mr. Brand's direction, a nationwide market news service for producers and distributors of farm products, has carried on many investigations for improving marketing practice and methods,

BE AN EXPERT

Auto and Tractor Mechanic
Earn \$100 to \$400 a Month

Young man, are you mechanically inclined? Come to the Sweeney School. Learn to be an expert. I teach with tools not books. Do the work yourself. That's the secret of the SWEENEY SYSTEM of practical training by which 5,000 soldiers were trained for U. S. Government and over 20,000 expert mechanics. Learn in a few weeks; no previous experience necessary.

FREE Write today for illustrated free catalog showing hundreds of pictures men working in new Million Dollar Trade School.

LEARN A TRADE
Sweeney
SCHOOL OF AUTO-TRACTOR-AVIATION
211 SWEENEY BLDG., KANSAS CITY, MO.

BIG CUT IN ENGINE PRICES

KEROSENE — GASOLINE
2 to 30 H.P.
Immediate Shipment

Stationary, Portable or Saw-Kig—all at greatly reduced prices. Best Engine—longest record—strongest guarantee. Choose your own terms. No cut in quality, but a big cut in price for quick action. Write for new cut-price catalog—FREE, postpaid—ED. H. WITTE, Pres.

WITTE ENGINE WORKS
1606 Oakland Avenue, Kansas City, Mo.
1606 Empire Building, Pittsburgh, Pa.

GROUND LIMESTONE

For Agricultural Purposes
Write for Price and Free Sample.
DOLESE BROS. COMPANY
14 So. LaSalle St. CHICAGO, ILLINOIS
Plant: El Dorado, Kansas.

CASH FOR BAGS

Don't throw them away. Save them and ship to us. We'll pay you HIGHEST MARKET PRICE. Get your neighbor to ship his bags with yours. Established 1876.
FULTON BAG & COTTON MILLS
590 S. Seventh St. St. Louis, Mo.

Free Catalog in colors explaining money on Farm Truck or Road Wagons, also steel or wood wheels to fit any running gear. Send for it today.
Electric Wheel Co.
34 Elm St., Quincy, Ill.

has performed regularly work in connection with the application of Federal grain grades, cotton standards, stock and licensing, cotton futures, and food products inspection. Mr. Brand was chairman of the Committee on Cotton Distribution of the War Industries Board, and was liquidating officer of the Federal Division of that board. He also effected the distribution of about 200,000 tons of nitrate of soda to farmers for use as fertilizer.

Prolonging Life of Binder

A farmer called at one of the implement houses in a certain western town to see if he could purchase a second-hand binder of some kind, for said he could not afford to buy a new machine and his old one was about worn out, writes J. W. Sjogren, of the Colorado Agricultural College. "He referred particularly to some worn parts on the roller head and to the worn bevel gear pinion on the main frame. The farmer was shown how the wear in the roller head could be taken up by washers and by replacing other worn parts with new ones. Also that his binder had an adjustment on the main bevel gear shaft by which he could take up wear and properly mesh the bevel gear with the pinion. This farmer had never taken time to examine and study different parts of his machine. After being told about these adjustments he went back home, examined his machine and by proper adjustments and a few repairs he had a binder that would last several seasons.

The above incident is too common in some sections of the grain belt. Machinery is too expensive to throw away because certain parts are worn. Some of the causes for trouble are failure: (1) to make proper adjustments as parts become worn, (2) to replace broken or worn parts immediately, (3) to properly adjust the moving parts of the binder, (4) to properly adjust the tension and make necessary repairs of the canvass, and (5) of driver to acquaint himself with proper adjustments of the reel and other movable parts. Examine your old carded binder; possibly by a little adjustment and a few repairs it will save you the cost of a new machine."

Caring for Horses' Shoulders

The collar of the work horse should be just large enough to permit a man's hand to pass inside the collar between the lower end of the collar and the neck of the horse. If the collar is too loose it will cause friction; if too tight it will choke the horse, and cause sore withers. Test the fitting of the collar by lifting up the horse's head.

The harness should fit the collar; if too tight, they will probably be buckled too tight at the top, and in this way the collar will be made to pinch the horse at the top. Sores thus produced begin as a pimple or very small boil, often overlooked because the mane covers it. Examine your horse continually, and if there is any sore spot, adjust the collar so that it will not touch that spot. If the skin is merely wrinkled, rub it with witchhazel or diluted vinegar. If the skin is broken, bathe it with clean water, containing a little salt.

If the collar "rides up," it can be kept down by a martingale running to the throat, or by an extra girth running from the collar to trace, back of the forelegs.

The best collar for a mature horse, whose weight does not vary much throughout the year, is the leather collar. For most horses, the best collar is one stuffed with hair, and covered with skin. With this collar, if the horse's shoulders become sore at any point, the lining of the collar can easily be ripped, and the hair removed or pushed aside at that point, so that no pressure will come on the sore place.

Collar pads are much used, but they quickly become dirty, cannot easily be cleaned, and thus cause many sores. Still a pad that makes the collar fit is better than an ill-fitting collar without a pad. By all means, clean the inside of the collar every night. If you wait until the next morning, you are likely to forget it. Of course you will clean the

horse's shoulders as soon as the collar is removed. The salt sweat drying on the skin is what does the mischief.

Physical Training in Schools

(Continued from Page One)

progressive counties in country districts have, by simply providing a trained physical director and recreational organizer, started the development of recreational activities which have doubled the interest of the young people in the life of their locality.

Dr. L. A. Nydegger of the United States Public Health Service wrote recently, in "Hygiene of Public Schools," the following commentaries on the rural school problem:

"The rural school is the strategic point from which rural life can be improved. Investigations show that the health of the country school child is from 5 to 20 per cent more defective than that of the city child. Take for instance tuberculosis. One would fancy that here, at least, the country child with all the advantages of fresh air, would suffer less from the great plague of our country, but the number of city children with lung troubles make up only a fraction of one per cent, while 3.7 per cent of the total number of country children have an affection of the lungs. Another condition which is supposed to be more prevalent among city school children is mal-nutrition. We realize its gravity, when we hear that in the cities the proportion of children with poorly nourished bodies is 23 per cent. But should we not be still more amazed to know that 31 per cent of the country school children are listed under mal-nutrition.

Compulsory Physical Education



"The welfare of our country depends upon no factor more indispensable, more vital, than the welfare of our rural life. Our finest crops are our children. The state should see that the rural school is used to the very limit of its possibilities as a factor for improvement."



While, of course, the "limit of possibilities" has not been reached, probably not yet even sighted, still the amount of progress made toward a general system of physical education in the rural schools is reassuring. The response to the call of the law in New York State to institute the system was slow in some sections, but both teachers and pupils are now becoming most enthusiastic over the added zest for regular school work since physical training was added to the curriculum. Without a doubt American people will, state by state, approve the effort of New York and the other states with the same provision for compulsory physical education and pass laws with provisions to improve the physical status of all classes in all districts.

The Playground and Recreation Association of America, feeling the importance of promoting such an ideal as a part of its Community Service, has established a National Physical Education Service (whose address is 818 Connecticut Avenue, Washington, D. C.) The Service aims to provide an adequate machinery for disseminating to the various states the best thought of the leaders in the field of physical education. With the co-operation of more than thirty national organizations, it also aims to stimulate state legislation for compulsory physical education and to render every possible assistance to the states in planning and securing the passage of such legislation.


Is America as a whole going to answer the call of this progressive movement? Are our rural districts going to realize the necessity of physical education with its broad program of instruction in health principles, periodic physical examinations and direction in vigorous recreational activities? Are we as a nation going to keep step with England and France—for they both are reorganizing their educational systems to include physical training and athletics? Only as we enter into the movement for national physical fitness concertedly and as a people, shall we be able to enter with full stride upon the new era of economic and spiritual development now before us.

JUST FIGURE IT OUT—

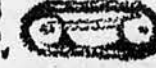
A round wheel  has very little traction. Therefore, weight is put on the tractor to push it into the ground, thus  to get traction.


When a wheel is thus  it does not pack the soil. — But, the wheel thus  ??? Common sense tells you it packs the soil. And how much power does it take to continually climb this hill?

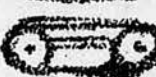
 A lot.

The average farmer standing weighs  10 pounds per square inch.

THE MONARCH TRACTOR because of the broad creeper tread weighs only

30-18 H. P.  4.6 lbs. per sq. inch.

20-12 H. P.  5.1 lbs. " " "

12-7 H. P.  3.8 lbs. " " "

That's the reason the MONARCH TRACTOR is the one the thinking farmer buys.

It is an asset. The tractor that packs soil reduces the productive capacity of the soil. That tractor is a liability.

The MONARCH track-laying tread is wear-resisting, manganese steel.

The ultimate tractor—the MONARCH. MONARCH TRACTOR CO. Watertown—Wis.

THE HOME-MAKER'S FORUM

ETHEL WHIPPLE, Editor

Letters from readers are always welcome. You are urged to send in helpful suggestions, to give your experiences, or to ask questions. Address the Editor of this Department.

What Shall the Family Eat?

WHAT shall I have for dinner?" asks the housekeeper, and we might add "and for supper and for breakfast?" Three meals a day, each day in the year! Do we wonder that this is a perplexing problem? Yet consider the importance of its right solution! Like other animals we are largely the product of two factors, inheritance and food supply. If our ability to live an efficient life is therefore at stake, the planning of meals is indeed an important charge which should be attended to in no uncertain and haphazard manner.

Particularly is care necessary in the dietary of the growing child. Vigorous growth and development are his due, and we should see that his choice of food is wisely guided and that proper foods, well prepared, are set before him. The adult members of the family may have sufficiently weathered the years of poor nourishment to struggle along, but the next generation should be better equipped than the present one. If the automobile is well made and its needs are intelligently supplied, it goes humming along the road and steadily mounts the hills with all its intended power at instant command. Distance vanishes before it and its accomplishment is great and sure. If the machinery becomes clogged and fails to supply the required energy, the smooth running is disturbed, the hill is hard, the shortest distance becomes too great.

And so it is with man. If his road is to be traveled and his hills are to be climbed in the fullness of his powers, his physical needs must be understood and satisfied. If the human engine is poorly fed and is not well cared for, it responds to its task no better than does the poorly supplied and badly cared for automobile.

A dietary may contain ample bone-building material and may lack the substances needed to produce red corpuscles. The needs of muscles may be satisfied while bones and nerves remain hungry, or all tissues may be well supplied, but the dietary may be lacking in substances that regulate such processes as the flow of digestive juices, the activity of the intestine and its ability to empty itself, the purification of the blood through neutralizing harmful compounds produced by the work of the body, or the ability of the body to grow and to keep itself alive. The various body needs must therefore be taken into account in the planning of the dietary. A "balanced ration" is one which supplies in the meals of each day, in a form best suited to the individual, all the substances needed to build the tissues, bone, muscle, nerve, blood; to provide energy for the day's activities; to keep the body in good working order.

The main part of the meals of each day should consist of simply-prepared, mild-flavored, non-stimulating and easily digested foods. Well cooked cereals, thoroughly-baked sweet-flavored bread, potatoes, milk, eggs, fresh succulent vegetables and fruits—these should constitute the background of the dietary. Meats and meat soups, candies, preserves, desserts, cakes and other sweets, rich sauces, pickles, and condiments should be used in moderation in order to give color and interest to the dietary, but they should not furnish the bulk of the food at any one meal.

Milk should be used liberally in order to replace a part of the meat in the average dietary, because of all foods it is richest in lime and because it is rich in those factors which are necessary for growth and for life itself. No food has greater importance than milk. Children,

even after the first year, should use about a quart of milk daily. More than this is inadvisable. Adults need considerably less milk than do children, but they are better nourished if milk is present in the diet. If, as occasionally happens, milk reacts on the individual as a poison, a special study should be made in order to include in the dietary foods other than milk that are rich in lime. Many times, however, a distaste for milk may be confused with inability to use it. If it is merely distaste that prevents its use, milk may be cooked with other foods.

Eggs should be used as long as they can be afforded. One egg a day for each child in the family, and one or two for each adult, are sufficient. If the cost of eggs makes their use impossible, thought should be given to increasing the use of other foods that are rich in iron. Frequently it is objected that milk and eggs cause biliousness. Certainly in the majority of cases the condition is due not to the use of milk and eggs, but rather to the absence of fruits and vegetables from the diet.

Fruits and vegetables should be used liberally, for they are among nature's best body-cleansing and regulating agents. They furnish substances which stimulate the activity of the intestine, neutralize the harmful acids produced by the tissues, keep both intestine and blood in good condition, and provide the growth-promoting dietary factors. Fruits stimulate digestion and are appetizing additions to the day's food. There is much truth in the saying that "an apple a day will keep the doctor away." If "the onion a day which keeps everyone away" is added, a good beginning is made toward a healthful dietary.

A diet enriched by fruits and vegetables has a tendency to prevent or correct anemia, to prevent constipation and its attendant ills, and to improve general health conditions in that it increases the amount of iron furnished to the blood and helps to prevent a putrefactive condition in the intestine.

Those cereals and cereal foods that contain the larger part of the grain should be given preference. While such a cereal food as white flour retains all the original energy-yielding ingredients and most of the muscle-building, it has lost in the milling process the substance occurring in the outer layers which stimulate the activity of the intestines and which help in such body functions as bone-building and the formation of red corpuscles. White bread is entirely wholesome if thought is given to including, in forms other than bread, the substances lost by the flour during the milling process. This may be accomplished by using fruits and vegetables for their laxative properties, milk for its lime, and eggs for their iron.

Sweets are unquestionably desirable, but they should be served in such manner as not to reduce the appetite for other foods and not to satisfy the appetite with sweet foods only. Fruits and vegetables, simple desserts of various kinds, jam with bread at the close of the meal, and candy occasionally in place of other desserts, are the best ways of using sugar. The craving for sugar between meals generally indicates a badly controlled appetite or a poorly fed individual, or it may be the outcome of some diseased condition of the body.

Candy or other sweet foods when eaten between meals result in poor appetite. Sugar is an abundant source of energy, is easily digested and absorbed, and has its place in the dietary. It is not a bone and muscle-building food and if used in large quantities is very irri-

tating to the mucous membrane. Therefore it should not be eaten to the exclusion of other foods. The candy-fed child, refusing as it does other foods at meal times, is very likely to have poor, decayed teeth, weak bones, flabby muscles, and a disordered stomach. The rule should be to use sugar with other foods and at the close of the meal.

Enough water should be consumed to maintain the body in clean, white condition. It is just as necessary to bathe the body inside as it is outside. Many cases of serious bodily disorder are directly traceable to neglect of the needs of the body for water. Constipation is frequently the result of drinking insufficient water. Food digests better if water is taken at meal times, provided it is not used to wash down the food without proper chewing.

The dietary should be planned so as to meet the needs of all members of the family. The main part of the meal may be made suitable for all, and to this the foods especially needed by each individual may be added. Little children should not eat all foods that are allowable to adults, nor should the grown members of the family be limited to the same simplicity of diet as the children, for children have undeveloped digestive organs that will be overtaxed by heavy foods. The strength of food in the diet of the child should be increased only as the muscles of digestion strengthen and develop. Foods that are too strong overtax the immature digestive tract, and foods that are too weak fail to develop it.

Persons working hard out of doors eat more food than those whose work is of a light indoor character, and not only are they able to digest easily foods that are rated as difficult to digest, but they may actually need food that will require at least moderate work on the part of the digestive tract. They may have a disagreeable feeling of hunger, even when sufficiently fed, if the food consumed does not "stay by them" for a certain period of time. Just the reverse is true of the indoor worker who uses his muscles but little. These facts are often overlooked, and frequently the

whole dietary is shaped to the needs of one member of the family. Hard muscular work increases the need for energy-producing foods, but does not materially affect the need for other types of food. —From Food Series No. 8, New York State College of Agriculture.

Care of Dress Accessories

Mend kid gloves with cotton thread, as silk cuts the leather. Keep gloves folded in pairs in a suitable box.

Wash rubbers when muddy, and keep stuffed with paper if not in use for a long time. Keep them from heat and oiled floors. Use adhesive tape for mending.

Shoes will wear much longer if one has two pairs and wears them alternately. Keep them polished. The polish preserves the leather. Old stockings make good polishing cloths. Wear rubbers in wet weather. Water rots the thread and the sole separates. Keep heels in repair so that the shoe will not run over. Rub the soles of heavy shoes with linseed oil and let dry thoroughly. This renders them nearly waterproof. Repeat occasionally.

Short Cuts in Sewing

The busy mother who makes her children's clothing can save much time and strength if she studies the possibilities of her sewing machine and its box of attachments. The following suggestions for its use are from the extension division of the Michigan Agricultural College:

Use the ruffler for making petticoat ruffles, the underbraider for simple trimming of soutache braid for wool and linen dresses, the binder for pipings, bindings, and buttonholes, hemmers for hems on ruffles and for sewing on lace and hemming with one operation, the shirrer for making puffings on fine organdie or lawn dresses, the tucker for dresses and petticoats, and the bias cutting gauge for bindings, pipings, facings, folds, bias trimmings, etc.

When making up materials in which it is desirable to run tucks by hand this is more easily done if the material is

WAR MANUAL and HISTORY FREE

Send us Just
one new
subscription
for 6 months

Our War Manual and History is a ready reference chronology of events of the great war; an up-to-date, convenient booklet of great historic value.

WHAT IT CONTAINS

1. Dates of nearly 1,000 events of the war, arranged in order for handy reference.
2. A concise review of each year of the war.
3. The complete terms of the armistice.
4. A separate article on WHAT KANSAS DID IN THE WAR.

YOURS FOR A FAVOR

OUR OFFER: Send us one new trial subscription to Kansas Farmer for six months at 50 cents and we will send you the War Manual and History free and postpaid.

NOTICE: The subscription you send must be a bona fide NEW subscriber to Kansas Farmer.

USE THIS COUPON

KANSAS FARMER COMPANY,
Topeka, Kansas.

Enclosed please find 50 cents, for which send KANSAS FARMER for six months to

Name..... R. F. D.....

Town..... State.....

Send the War Manual and History to me at the following address:

Name..... R. F. D.....

Town..... State.....

put through the tucker properly adjusted, using a fine machine needle unthreaded to mark the place for the stitches.

When sewing buttons on heavy material sew over a pin held on top of the button, and the shank of thread between the button and the garment will make the button stay on longer.

Fasten rompers with large snap fasteners.

Use adhesive tape for marking rubbers, caps, etc.

Run a line of loose tension, close machine stitching around the tops of stockings just below the garter line, to prevent runs.

Put all buttonholes on a separate

piece of material, as they often outwear several garments.

Up to the Minute Styles

A pretty style for a slender figure is misses' dress No. 2803. Shantung, serge, voile, duvetyne, gabardine, or taffeta are suitable materials for this model. Navy blue serge with braid trimming, brown gabardine with trimming of sand color satin, or natural color pongee silk with trimming of some contrasting color, such as dark green, would develop this style effectively.

Blouse pattern 2831 and skirt 2830 make a stylish costume. As shown, the vest is of white organdie, the skirt of silk jersey cloth, and the blouse of striped wash satin. This design is also appropriate for combinations in gingham, shantung, serge and satin, or linen and batiste.

Unrivalled for neatness and simplicity is the suit formed by combining waist pattern 2834 and skirt pattern 2849. As here illustrated, white linen was used. One could have the skirt of serge, jersey cloth, or sport silk, and the waist of linen, crepe or batiste.

There is no reason why the women and girls as well as the boys should not enjoy the pleasures of the "ol' swimmin' hole," if there is one conveniently located. A modest, comfortable bathing suit is 2861. It may be worn with tights, bloomers, or knickerbockers. Suitable materials are panama, gabardine, flannel, drill, or linen. An old silk dress might furnish enough material. The closing is under the panel front.

Wash materials, serge, voile, repp, and poplin are all fine for pattern 2804. No. 2847 is a one-piece garment with body and sleeve in one. A pretty sash or ribbon girdle in a bright color is enough for trimming. No. 2815 comprises a kimono waist and sleeveless rompers which close on the shoulders. Gingham, percale, khaki, drill, seersucker or galatea may be used for this style.

An ideal sleeveless play dress for warm weather is pattern No. 2853, which might also be used for a combination undergarment of waist and bloomers or a bathing suit. Drill, khaki, gingham, cambric, percale, seersucker, repp and poplin are suitable materials.

Cucumber Catsup

- 1 dozen large cucumbers
- 1 quart vinegar
- 1 tablespoon salt
- 1/4 teaspoon cayenne

Gather cucumbers before sun strikes them and keep in a cool place until used. Peel and grate the cucumbers and drain off the water. Heat vinegar and spices to boiling point, pour at once over the grated cucumber, bottle and seal. Cucumbers bottled in this way retain their freshness and make a particularly good sauce for steak.

Codfish Balls

- 1 cup codfish, shredded in very small pieces
- 2 cups mashed potato
- Whites of 2 eggs
- 1 tablespoon butter
- 1/2 teaspoon pepper

To mashed potato add fish, butter, pepper, and stiffly beaten egg. Shape into croquettes, roll in flour, egg, and crumbs, and fry in deep fat.

The Little Things

They matter a lot, the little things, And they measure their bit in the sum Of the music of hope that sings and sings, And the roll of the battle-drum— The little things, that can turn us away, Oh, they must be reckoned with, too, For they save, sometimes, from the things that slay, And they help us to know the true.

We meet them here and we meet them there,

They are in the paths we tread; They are sometimes dark and sometimes fair,

And they weave through our lives a thread—

And the thread may snap or the thread may hold,

But whatever happens, it seems That the little things have been part of the gold,

Or the bitter iron of our dreams.

You can not get out of the little things, Nor ignore the part they play

In the roaring tide of life as it swings Around you from day to day—

For it's how we manage and master them That shows us the way we'll meet

The mighty issues of life's great strife, With success, or a grim defeat.

—Baltimore Sun.

FASHION DEPARTMENT



No. 2817—Child's Dress: Cut in four sizes—2, 3, 4 and 5 years. Size 4 requires 2 3/4 yards of 27-inch material. No. 2853—Child's Rompers: Cut in four sizes—1, 2, 3 and 4 years. Size 4 requires 2 3/4 yards of 27-inch material. Nos. 2834-2849—A Practical Business Suit: Waist 2834 is cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 2 3/4 yards of 27-inch material for a 38-inch size. Skirt 2849 cut in seven sizes—22, 24, 26, 28, 30, 32 and 34 inches waist measure. It requires for the 28-inch size 3 3/4 yards of 44-inch material, and measures about 1 1/2 yards at the foot. Two separate patterns—10 cents for each pattern. No. 2861—Ladies' Bathing Suit: Cut in four sizes—small, 32-34; medium, 36-38; large, 40-42; and extra large, 44-46 inches bust measure. Size medium requires 3 3/4 yards of 44-inch material.



No. 2803—Misses' Dress: Cut in three sizes—16, 18 and 20 years. Size 18 will require 6 1/2 yards of 40-inch material. Width No. 2831-2830—A Smart Costume: Blouse 2831 cut in seven sizes—34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 2 1/4 yards of 44-inch material. Skirt 2830 cut in seven sizes—22, 24, 26, 28, 30, 32 and 34 inches waist measure. Skirt measures about 1 1/4 yards at the foot. Two separate patterns, 10 cents for each. No. 2849—Girls' Dress: Cut in five sizes—2, 3, 4, 5 and 6 years. Size 6 will require 3 3/4 yards of 27-inch material. No. 2815—Child's Play Suit: Cut in five sizes—2, 3, 4, 5 and 6 years. Size 6 requires 1 1/2 yards for the waist and 2 1/4 yards for the rompers, of 27-inch material.

Drink

Coca-Cola

DELICIOUS and REFRESHING

Coca-Cola is a perfect answer to thirst that no imitation can satisfy.

Coca-Cola quality, recorded in the public taste, is what holds it above imitations.

Demand the genuine by full name—nicknames encourage substitution.

THE COCA-COLA CO.
ATLANTA, GA.

26F

Sold Everywhere

To Prevent Fading of Beets

Beets are at their best for canning when small enough to run about forty to the quart. The older the beet the more chance there is for loss of color. Leave on one inch of the stem and all of the tail while blanching. Blanch not more than five minutes, then dip into cold water. The skin should be scraped from the beet, not peeled. Stems and tails may now be removed. Beets should be packed whole if possible. The jar may be filled up either with the water in which the beets were blanched or with diluted vinegar. If it is desired to pickle them, one cup of the water in which they were blanched to two cups of good vinegar will dilute the vinegar sufficiently and restore both color and flavor that have escaped in cooking. Sterilize by the hot water bath, or wash boiler method two and one-half hours, fifty minutes in steam pressure canner under three to eight pounds pressure, or thirty-five minutes under eight to fifteen pounds pressure. The time given is for quarts. Give pints 10 per cent less time, and half-gallon jars 10 per cent more time. Well-canned beets will show a slight loss of color when removed from the canner, but will brighten up in a few days.

Steamed Chicken

Cut chicken into pieces for serving. Wash and dry well, roll in beaten egg and bread crumbs. Brown in an oiled pan. Sprinkle with salt and pepper. Steam for two hours, or until tender.

A Philosopher

One of the dark skinned warriors in camp just back from the Champagne grinningly indorsed the war. "No sah, boss, Ah ain't got a kick. Dis ahmy is

Girls Prepare for Business

Tremendous business boom of Peace and Prosperity has created opportunities for women Stenographers, Accountants, Private Secretaries. The positive, complete training that you can get at the **Gem City Business College** Established 1870—Quincy, Ill. will enable you to easily fill these places and receive the good salaries they pay. Write today for handsomely illustrated Year Book describing all courses. Address **D. L. MUSSELMAN, Pres., Quincy, Ill.**

LEARN TELEGRAPHY
Students Earn Board while Learning
A practical school with railroad wires. Owned and operated by A. T. & S. F. Ry. Earn from \$55 to \$165 per month. Write for catalogue. Santa Fe Telegraph School, Desk F, 505 Kansas Ave., Topeka, Ks.

DAISY FLY KILLER PLACED ANYWHERE ATTRACTS AND KILLS ALL FLIES. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 5 by EXPRESS, prepaid, \$1.25. **HAROLD SOMERS, 150 De Kalb Ave., Brooklyn, N. Y.**

the real life. Why, do you know all dah time Ah was in France Ah nevah missed a meal—not a meal."

Surprise of course from the listener. A row of grinning teeth: "Well, of cohse mah meals was about three to foah days late—but Ah got 'em all right."—Trench and Camp.

Space may be saved in a closet by running a pole the length of the closet for hangers. This allows each garment to hang by itself. It always pays to have plenty of hangers. A frame such as is used in stores for skirts may be attached to the inside of the closet door.

Classified Advertising

Advertising "bargain counter." Thousands of people have surplus items of stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. Your advertisement here reaches over 90,000 farmers for 5 cents a word per week. No "ad" taken for less than 60 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms, always, cash with order.

SITUATIONS WANTED ads, up to 25 words, including address, will be inserted free of charge for two weeks, for bona fide seekers of employment on farms.

AGENTS WANTED

AGENTS—MAKE A DOLLAR AN HOUR. Sell Mendets, a patent patch for instantly mending leaks in all utensils. Sample package free. Collette Manufacturing Co., Dept. 103, Amsterdam, N. Y.

CATTLE.

COME TO THE GREAT DAIRY COW market and buy dairy cows from a choice selection of milkers and springers. Write or wire Frank Luhrs, South St. Paul, Minn.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16th pure, from heavy milkers, five to seven weeks old, beautifully marked. \$25, crated and delivered to any station, express charges paid here. Send orders or write. Lake View Holstein Place, Whitewater, Wisconsin.

THE STRAY LIST.

TAKEN UP—BY MRS. G. W. BACH-man, of R. F. D. No. 2, Kansas City, Kansas, on the first day of July, 1919, one dark bay horse, weight 950 pounds. Appraised at \$50. William Beggs, County Clerk.

TAKEN UP—BY JOHN CONNOR OF Holington, Barton County, Kansas, on the 30th day of May, 1919, one two-year-old mare mule, twelve hands high; color black, white on nose. W. E. Beardsley, County Clerk, Great Bend, Kansas.

TAKEN UP—BY CONRAD POOP, OF Wheatland Township, Barton County, Kansas, on the 7th day of November, 1918, one red cow about 2½ years old, with horns, appraised at \$45. W. E. Beardsley, County Clerk, Great Bend, Kansas.

DOGS.

AIREDALES, COLLIES, AND OLD ENG-lish Shepherd dogs. Trained male dogs, brood matrons, pups all ages. Flemish Giant, New Zealand, and Rufus Red Belgian rabbits. Send 6c for large instructive list of what you want. W. R. Watson, Box 128, Oakland, Iowa.

HONEY.

REGARDING THE LAST WORD IN FINE honey, write to Drexel, the Bee Man, Crawford, Colorado.

HONEY—CHOICE ALFALFA, 60 LBS., \$12.50; 120 lbs., \$24. Amber Dark Honey, 60 lbs., \$11; 120 lbs., \$20. Bert W. Hopper, Rocky Ford, Colo.

REAL ESTATE.

WRITE FOR FREE MISSISSIPPI MAP and land list. Land Market, Box 843, Meridian, Miss.

FARM LANDS—TEXAS.

BIG CROPS IN NORTHWEST TEXAS ON the new line of the Santa Fe. The Federal Railroad Administration has authorized the completion of the new Shattuck branch of the Santa Fe Railroad to take care of this year's big crops—wheat, oats and sorghums. This will open for immediate settlement and development a large block of my land in a wheat and stock farming section of Ochiltree and Hansford counties in Northwest Texas near Oklahoma state line, where the first crop has in a number of cases paid for the land, and where cattle and hogs can be raised at low cost. Land is of a prairie character ready for the plow, no stone, stumps, no brush to be cleared, at attractive prices on easy terms. Climate healthful, rain falls during growing season. Write for free illustrated folder, giving experience and results settlers have secured in short time on small capital. T. C. Spearman, 927 Railway Exchange, Chicago, Ill.

FARMS WANTED.

IF YOU WANT TO SELL OR EX-change your property, write me. John J. Black, 56th St., Chippewa Falls, Wis.

WANTED—TO HEAR FROM OWNER OF good farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn., 1E.

MISCELLANEOUS.

DO YOU KNOW THAT YOUR AUTOMO-bile will furnish practically all the stationary power needed on your farm? It will grind feed, saw wood, fill silo, shred fodder, etc. Absolutely no change made in car. Ready in half a minute. Write today. Belt Power Unit, 301 Kasota Bldg., Minneapolis, Minn.

TRACTORS.

FOR SALE—A 10-20 TITAN TRACTOR and a 20-inch Racine Separator. J. J. Hebert, Route 2, Hillsboro, Kansas.

TANNING.

LET US TAN YOUR HIDE—COW, HORSE or calf skins for coat or robe. Catalog on request. Crosby Frisian Fur Co., Rochester, New York.

In the location of the poultry house, if it is impracticable to select a soil that is naturally dry it should be made dry by thorough underdrainage.

Real Estate For Sale

HOME FARM, 320 ACRES

Out 6¼ miles. Good buildings. Fine water, 160 wheat, half with sale; some alfalfa. Only 08,500, with \$2,500 cash, balance long time. One good 160, out 9 miles. Small house, 100 smooth, 60 wheat, 40 spring crops, one-fourth with sale; shallow to water; only \$2,500, with \$500 cash, balance terms. Have other farms and ranches on small payments now, another payment after harvest.

E. C. BUXTON, Urica, Ness County, Kansas

SOUTHEASTERN KANSAS—Farms, all sizes; lowest prices. Terms, \$1,000 and up. Send for booklet. **THE ALLEN COUNTY INVESTMENT CO., Iola, Kansas.**

—OTTAWA—
Business College
OTTAWA, KANS. CATALOG FREE

PURE BRED POULTRY

BABY CHICKS AND EGGS—STANDARD-bred Leghorns, Rocks, Reds, Orpingtons, Wyandottes; best laying strains. Free delivery; reasonable prices; catalog free. Missouri Poultry Farm, Columbia, Mo.

Chicken Pox

During wet seasons chickens are apt to be troubled with chicken pox unless they are kept from running in high grass and weeds. There is some doubt as to whether this is simply a skin disease or a form of roup. It is generally believed that the contagion exists in the blood as well as in the nodules or warts which appear upon the skin. In order to be on the safe side, chickens dying from chicken pox should be burned.

The trouble manifests itself in the form of little warty nodules which appear about the head and in the nasal passages. They are of a yellowish gray in color sometimes covered with a red brown crust. As the disease develops the nodules become rougher and deeper. Frequently the eyes swell shut so the chickens cannot eat. Following a severe attack, even if the chicken recovers, it is practically useless for breeding purposes.

Among the carriers of disease are pigeons, mosquitoes, gnat flies, lice, and mites. If a scab is torn off, any blood that flows will inoculate a fresh surface, especially if there happens to be a break in the skin.

The use of carbolized vaseline is as good treatment as can be suggested. Before applying it the sores should be washed well with soap suds. Iodiform is also a good remedy. Another is a salve made of lard to which has been added five drops of iodine to the teaspoonful of lard. Unless treated, fully half the chickens will die. The best method of handling this trouble is by preventing it if possible. This can be done by keeping the chickens from running in wet grass or weeds, keeping their litter dry, and keeping them free from lice and mites. Drinking vessels should be kept clean and sanitary and affected chickens should not be permitted to eat or drink with well ones.

A coop that was large enough for the baby chicks will not do when they are two or more months old. Growing chicks require plenty of room. A good way to obtain room is by culling the flock, marketing many of the cockerels and pullets, retaining only the vigorous birds as breeders or winter layers.

Prof. Albert Dickens, of the Kansas Agricultural College, Manhattan, has announced a sale of Jersey cattle to be held July 15. Professor Dickens owns one of the best Jersey herds in the state. His herd consists of forty cows and heifers and a herd bull. Sixteen of the cows are registered. The entire herd will be sold.

HELPFUL POULTRY HINTS

Practical Ideas on How to Fill the Egg Basket and Increase Profits

Egg Laying Contest Report

THE egg laying contest being conducted by the American Poultry School at its experimental farm in the outskirts of Leavenworth, Kansas, is proving two very interesting points. First, that T. E. Quisenberry, the head of the school, was right when he said seven months ago that "In spite of high feed prices, more money can and will be made on eggs produced from choice fowls, if properly housed, yarded, fed and cared for, than ever before." Second, this contest, the second of its kind to be made up very largely of choice standard-bred hens, has proven that in most cases the best average and most consistent layers are also those hens most nearly approaching standard specifications.

The month of May was favorable to high egg production in so far as reasonably cool weather was concerned. The heavy rains and showers of the month were favorable to moist fresh earth, green roots, worms and bugs. On the other hand several dark rainy days were encountered which kept the hens indoors more or less.

Considering all varieties and all hens together, the month of May must go down on the records as recording some wonderful laying accomplishments on the part of these many hens of fine exhibition quality. All hens in the contest, numbering close to 400, averaged 22½ eggs each for May. Each contesting pen consisted of five females. Forty-nine pens each produced over 100 eggs in the month. Twenty-four pens each produced 120 eggs or more. Ten pens produced 130 eggs or more, while the greatest record ever made in any contest by pens containing five females was made here in May when six pens each produced from 140 eggs to 149 eggs each. The detailed record of these six pens, which we are sure have broken all previous world's records, follows: White Wyandotte pen No. 37, owned by John Martin, Port Dover, Ontario, Canada, produced 146 eggs; White Wyandotte pen No. 33, owned by John Martin, Port Dover, Ontario, Canada, produced 140 eggs; White Leghorn pen No. 13, owned by Hillview Farm, Benlo, Ill., produced 141 eggs; White Leghorn pen No. 90, owned by the Coleman Miles Egg Farm, Mt. Carroll, Ill., produced 144 eggs; White Leghorn pen No. 50, owned by Pennsylvania Poultry Farm, Lancaster, Pa., produced 147 eggs; Single Comb Brown Leghorn pen No. 10, owned by H. T. Tormohlen, Portland, Ind., produced 149 eggs.

Five females could have been selected out of the White Wyandotte pens No. 33 and 37 which would have produced very close to a perfect record. One pen had two females which produced thirty-one eggs each. The other pen had three females with records of thirty, thirty and twenty-nine eggs each.

A White Orpington pullet of excellent exhibition quality is in the lead for high individual records with a production of 165 eggs for the first seven months.

Eight of the fourteen varieties competing in the contest each has one or more pullets with a record of 140 eggs or better for the first seven months. Thus it will be seen that it is next to impossible at this date to even predict what variety will produce the individual winner by the close of the contest.

Thirty-four hens have averaged twenty eggs each or more per month in the first seven months. Most of these should finish the year with records of 220 up to 300 or more eggs each.

The leading pens to date is a White Leghorn pen with a record of 742 eggs. Should they continue as per their past average they will end the year with an

average performance of about 260 270 eggs each. This would indeed make them a very valuable pen. Even this fine pen must keep up a great stride if it is to outlay another pen of White Leghorns from Washington which has a record of 738 eggs. The race between these two pens should be worth watching.

White Leghorns still lead in high average performance, their average for females being 118.6 eggs. Second place in this respect was secured by the Barred Minorcas with an average performance of 100.4 eggs, they having crowded the White Orpingtons into third place with an average of 98.2. White Wyandottes are in fourth place with an average of 97.9 eggs, and the Barred Plymouth Rocks now hold fifth place in average production with a record of 97.7 eggs. The Anconas, Buff Plymouth Rocks and Single Comb Rhode Island Reds are but a short way back of these averages, and we may expect to see changes in position any month.—RUSSEL F. PALMER.

"Better Egg" Meetings

As a part of the co-operative state and federal campaign for more and better eggs in Kansas and to save waste between the hen and the consumer, demonstration meetings will be held in twenty-four towns in July and August. At these meetings demonstrations of egg candling and the proper packing of eggs will be given by P. L. Sanford of the food research laboratory, Bureau of Chemistry, United States Department of Agriculture, working in co-operation with the state agricultural college and the poultry and egg industry of Kansas.

Poultry raisers and all others interested in the subject are invited to attend. The following meetings are scheduled between the hours of 10 a. m. and noon, and 2 and 4 p. m.: July 1, Lawrence; July 16, Pratt; July 17, Anthony; July 18, Winfield; July 19, Independence; July 21, Emporia; July 22, Cottonwood Falls; July 23, Marion; July 24, Newton; July 25, McPherson; July 26, Salina; July 28, Solomon; July 29, Beloit; July 30, Concordia; July 31, Smith Center; August 1, Clay Center; August 2, Washington; August 4, Sabetha; August 5, Atchison; August 6, Paola; August 7, Garnett; August 8, Ottawa; August 9, Council Grove; August 11, Topeka.

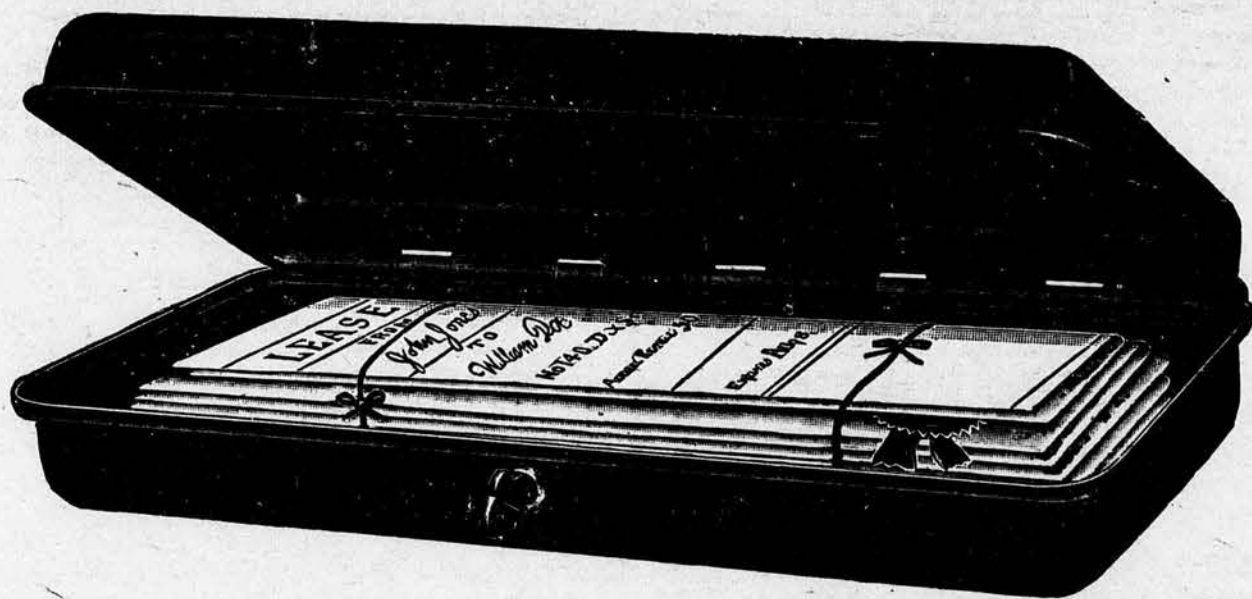
Rooster Selling Contest

Merchants of a Missouri town are conducting a rooster selling contest as one of the features of the drive to secure infertile eggs. A cash prize of \$50 is being offered to the person who brings in the largest number of roosters during Rooster Week. "Every bunch of roosters will be carefully counted," says Alfred Raut, county agent of Perry County, but he adds significantly, "No question will be asked." Lively competition is likely to develop between the various ladies' aid societies of the county to see which can round up the biggest load of roosters to compete for the prize. The indications are that country ministers who have been in the habit of expecting rooster for dinner on their visit to country church members will have to be satisfied with sausage or ham after this drive is finished.

Growing chicks will not eat too much if they have plenty of range so they can get the desired exercise. A good growing mash should be accessible at all times, one with plenty of bone meal ground very fine, fine ground oats or barley. The best success with any mash is to have it ground very fine. This is a point that should not be overlooked.

Keep Your Pedigrees Where You Can Find Them

Have a Safe Place For Your Deeds, Notes, Mortgages, Liberty Bonds, Insurance Papers, Wills, Jewelry, Valuable Letters, Etc.



THIS STEEL DOCUMENT BOX GIVEN WITH YOUR SUBSCRIPTION TO KANSAS FARMER

It does not pay to take chances with valuable papers. They are liable to theft, to be destroyed by fire, to be misplaced or destroyed through carelessness or to be lost unless a safe place is provided for their keeping.

This DOCUMENT BOX is made of best Bessemer steel, has good strong hinges and lock and is provided with two keys. It is 11 inches long, 6 inches wide and 2½ inches deep—just the right size for filing away your valuable papers.

The box is deep black in color with lustrous polish, and makes a handsome appearance.

Read Our Special Offer and Send for Your Box Today

HOW TO GET THE DOCUMENT BOX

This valuable safety box will be sent FREE and POST-PAID with your renewal subscription to KANSAS FARMER for one year or more at the following rates:

Kansas Farmer one year and box.....	\$1.00
Kansas Farmer two years and box.....	1.50
Kansas Farmer three years and box.....	2.00

USE THIS COUPON

KANSAS FARMER, TOPEKA, KANSAS.

Enclosed find \$.....for which renew my subscription for.....years and send me the Steel Document Box postpaid.

Name.....R. F. D.....

Town..... State

JERSEY COW SALE

The Kimball Farm Jersey Dairy Herd will be Sold at Auction at the R. H. Kimball Farm, Three Miles Northwest of Manhattan, on

TUESDAY, JULY 15, 1919—Sale Begins at 1 o'clock p. m.

50 PURE BRED JERSEYS

Send for Catalog for Full Description of Herd

This is one of the best Jersey herds in the state. The cows are all profitable, high producing animals. Sixteen of them are registered and the others are equally good producers. This herd has been built for practical dairy purposes under farm conditions. Every heifer had to prove herself good enough for the Register of Merit of the Jersey Breeders' Association. The entire herd, consisting of the herd bull, about forty cows and heifers giving milk, or soon to be fresh, and some younger stuff, will be sold, as the owner is retiring from the dairy business. They will be sold in good working condition and will not be dried up to secure show conditions.

This herd contains only such cows and heifers as make money under ordinary care and conditions, milked twice daily. They are cows that any breeder or dairyman would be proud to own. They have health and vigor and will appeal to anyone who wants an extra fine Jersey cow for milk, for butter, or for breeding.

TERMS

Cash or Six Months' Time at 8 per Cent will be Given on Bankable Notes.

KIMBALL FARM JERSEY DAIRY HERD

COL. L. R. BRADY, Auctioneer

ALBERT DICKENS, Owner

HOLSTEIN CATTLE.

HOLSTEIN CALVES

CHOICE HOLSTEIN COWS FOR SALE

One carload fresh Holstein Cows—One carload heavy Springers

These cattle are extra good. A few choice registered bulls.

HOPE HOLSTEIN FARMS - - - HOPE, KANSAS

SAND SPRINGS FARM HOLSTEINS

On yearly test fourteen cows in our barn average 13,329.6 pounds milk, 522.6 pounds butter, in 348 days. Average age 4 years, 10 months, 23 days. Possibly we could interest you in a young bull. Have one whose dam made nearly 20,000 pounds in a year.

E. S. ENGLE & SON - - - ABILENE, KANSAS

HOLSTEINS!

We are offering a choice selection of both registered and high grade springer cows and heifers. Also pure-bred bulls and young females. All reasonably priced. Come and see them or write.

T. R. Maurer & Co.
EMPORIA - - - KANSAS

Selected Holstein Calves

Calves from four to six weeks old of either sex from selected cows and pure-bred sires. Satisfaction and safe delivery guaranteed at \$25 each. Write us for description and prices on older stock.

Spreading Oak Farm, R. 1, Whitewater, Wis.

GOLDEN BELT HOLSTEIN HERD

Herd headed by Sir Korndyke Bess Hello No. 166946, the long distance sire. His dam, grand dam and dam's two sisters, average better than 1,200 pounds butter in one year. Young bulls of serviceable age for sale.

W. E. BENTLEY, MANHATTAN, KANSAS

CHOICE HOLSTEIN CALVES

12 Heifers and 2 Bulls, highly bred, beautifully marked, and from heavy producing dams, at \$25 each, crated for shipment anywhere. Safe delivery guaranteed. Write.

FERNWOOD FARM, WAUWATOSA, WIS.

BUTTER-BRED HOLSTEINS

Three choice registered Holstein bulls, ready for light service, and some bred heifers to a 32-pound sire.

J. P. MAST, - SCRANTON, KANSAS

REGIER'S HOLSTEINS

Registered bulls ready for service and bull calves, out of good producing dams. Sire: Sir Rag Apple Korndyke De Kol and Duke Ormsby Pontiac Korndyke.

G. REGIER & SONS, Whitewater, Kansas

BRAEBURN HOLSTEINS

Looking for a bull? I can generally offer you choice of half a dozen, by two different sires. That saves time and travel.

H. B. COWLES
608 Kansas Avenue Topeka, Kansas

When writing to KANSAS FARMER live stock advertisers, please mention this paper.

Attention, SHORTHORN Breeders

FOR SALE—A Grandson of Avondale, Full Scotch in All Crosses—Avondale Goods 430634. Roan, bred by Allen & Son, Nebraska. Calved October 15, 1914. Sire, Avondale's Best, bred by Carpenter & Ross, Ohio, by Avondale. Dam, Gloster Lady 3d by Victor Sultan, son of Whitehall Sultan 2d; dam by Roan Gauntlet 180450 and tracing to Imp. Duchess of Gloster 12th by Champion of England. He is right down on the ground and is massive. He is straight in every way. Fit to head any herd.

WILLIAM DUNCAN

YODER, COLORADO

SEGRIST & STEPHENSON, WOLTON, KANSAS.
Brokers exclusively of pure-bred prize-winning record-breaking Holsteins. Correspondence solicited.

DUROC JERSEYS.

Woodell's Durocs

A choice lot of extra well bred gilts bred for late farrow. Few fall boars.

G. B. WOODDELL, WINFIELD, KANSAS.

OTEY'S DUROCS

One spring yearling sire, fall boars by Pathfinder Chief 2d, "the mighty sire." Real herd headers. Priced right. Would exchange for good gilts.

W. W. OTEY & SON, WINFIELD, KANSAS

HIGHVIEW DUROCS

FOR SALE—TWENTY FALL BOARS By Repeater, Golden Repeater and Pathfinder. Guaranteed and priced to sell quick.

F. J. MOSER - SABETHA, KANSAS

WHEN WRITING TO ADVERTISERS PLEASE MENTION KANSAS FARMER

SHORTHORN CATTLE.

It Pays to Grow Shorthorn Beef



You get quality and weight both with the Shorthorn. **AMERICAN SHORTHORN BREEDERS' ASS'N.** 13 Dexter Park Avenue Chicago, Illinois Ask for a copy of "The Shorthorn in America."

ALL SCOTCH SHORTHORNS Herd headed by Walnut Type, a grand son of White Hall Sultan, and Silver Plate, a son of Imp. Bapton Corporal. A few young bulls for sale. **Robert Russell, Muscotah, Kas.**

SHORTHORN CATTLE

For Sale—Five young Scotch bulls and ten head of females, bred or calves at foot. **H. H. HOLMES, R. F. D. 28, Topeka, Kan.**

How About an Account Book?

Hundreds of farmers have sent to Kansas Farmer for their Farm Account Book. Have you got yours? If not, HURRY!

Our Liberal Offer Will Soon Be Withdrawn

Do not delay in starting your records for this year, but get the best and cheapest book. The account book furnished by KANSAS FARMER is small, convenient, easy to understand and easy to keep. **ORDER IT TODAY.**

HERE IS OUR OFFER

We will mail you absolutely free and postpaid one of these Account Books with your renewal subscription to KANSAS FARMER for one year at \$1.00.

ORDER BLANK

KANSAS FARMER, TOPEKA, KANSAS.

GENTLEMEN: Inclosed please find \$1.00, for which renew my subscription for one year and send me the Farmers' Account Book as per your offer.

Name.....R. F. D.....

Town..... State

POLAND CHINAS



Faulkner's Famous Spotted Poland

The World's Greatest Pork Hog

Now booking orders for spring pigs. Shipment when wanted. Pairs or trios, no kin.

H. L. FAULKNER, Box K, Jamesport, Missouri

CLINTON HERD

BIG TYPE POLAND CHINAS

Is ready to ship you a spring boar that will make you a real herd boar, sired by Giant Buster's Equal. Will sell a few trios not related. We have satisfied customers in 25 different states and can satisfy you. Everything immune and we record them.

P. M. Anderson, Holt, Missouri

SPOTTED POLANDS—SHROPSHIRE Choice fall boars. Registered ram lambs by Broughton 2434 and Senator Bibby VI. **R. W. SONNENMOSER, WESTON, MO.**

Big-Type Poland Weanling Boar Pigs Bargain prices. Satisfaction guaranteed. **Isaacs Stock Farm, Peabody, Kansas.**

FARM AND HERD NEWS NOTES

G. C. Wheeler, Live Stock Editor
W. J. Cody, Manager Stock Advertising
O. W. Devine, Field Representative

Address All Communications to Kansas Farmer, and Not to Individuals

Personal mail may have to be held for several days, or be delayed in forwarding, and Kansas Farmer cannot assume any responsibility for mistakes occurring thereby

CLAIM SALE DATES.

Hereford Cattle.
July 28 and 29—J. O. Southard, Comiskey, Kansas.

Jersey Cattle.
July 15—Prof. Albert Dickens, Manhattan, Kan.

Red Polled Cattle.
Aug. 20—L. W. Poulton, Medora, Kan.

Holsteins.
July 26—U. S. Disciplinary Barracks Farm Colony, Ft. Leavenworth, Kan.

POLAND CHINAS.

CHOICE LOT OF POLAND CHINA BRED SOWS AND GILTS FOR SALE.

A Few Fall Pigs. **CHAS. E. GREENE** Peabody, Kansas

MYERS' POLAND CHINAS

Large spring pigs in pairs or trios, priced to sell. Write your wants. Annual sale October 14. **H. E. MYERS - GARDNER, KANSAS**

POLAND CHINA BOARS

For Sale—25 Spring Boars by Giant Lunker by Disher's Giant and out of Old Lady Lunker, from my best herd sows. Pigs are good, the tops from 80 head, priced reasonable.

H. R. Wenrick, Oxford, Kan.

Poland Chinas.

Aug. 6—A. J. Erhart & Son, Ness City, Kan. (Sale at Hutchinson.)

Aug. 21—Earl Bower, McLouth, Kan.

Sept. 27—Ketter Bros., Seneca, Kan.

Oct. 3—Ezra T. Warren, Clearwater, Kan.

Oct. 4—Geo. Morton, Oxford, Kan.

Oct. 7—Jones Bros., Hiawatha, Kan.

Oct. 8—Dr. J. H. Lomax, Leona, Kan.

Oct. 9—Herman Groninger & Son, Bend, Kan.

Oct. 6—Ross & Vincent, Sterling, Kan.

Oct. 13—H. L. Glover, Grandview, Mo.

Oct. 14—H. E. Myers, Gardner, Kan.

Oct. 15—H. B. Walter & Son, Elmhurst, Kan.

Oct. 16—A. J. Erhart & Son, Ness City, Kan.

Oct. 17—Adams & Mason, Gypsum, Kan.

Oct. 20—P. M. Anderson, Holt, Mo.

Oct. 22—Fred G. Laptad, Lawrence, Kan.

Oct. 23—McClelland & Sons, Blair, Kan.

Oct. 24—Dubauch Bros., Watheha, Kan.

Feb. 11—Ross & Vincent, Sterling, Kan.

July 25—F. J. Moser, Sabetha, Kan.

Aug. 20—W. T. McBride, Parker, Kan.

Oct. 22—Fred G. Laptad, Lawrence, Kan.

Spotted Poland Chinas.

Feb. 14—R. W. Sonnenmoser, Weston, Mo.

Oct. 11—R. W. Sonnenmoser, Weston, Mo.

H. R. Wenrich, of Oxford, Kansas, has raised eighty-five spring pigs. They are mostly March and April farrow and about half of them are sired by the great breeding boar, Giant Lunker by Disher's Giant and out of the great brood sow, Lady Lunker. Mr. Wenrich also has a number of extra good spring pigs by a number of other sires, a number of real herd boars prospects that would be profitable if used in most any herd in the country.

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS

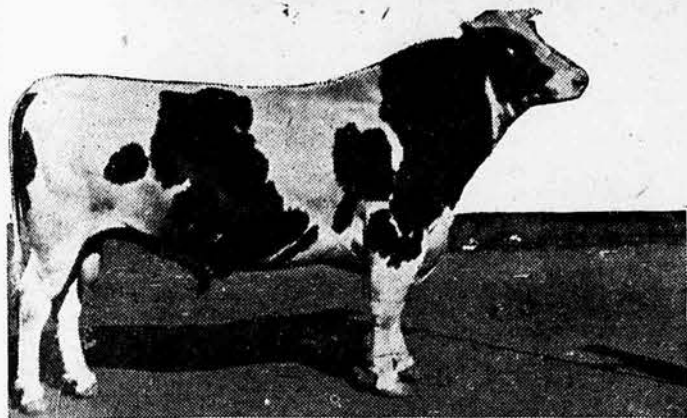
U. S. Disciplinary Barracks---Farm Colony

SECOND SEMI-DISPERSAL SALE TO BE HELD ON

SATURDAY

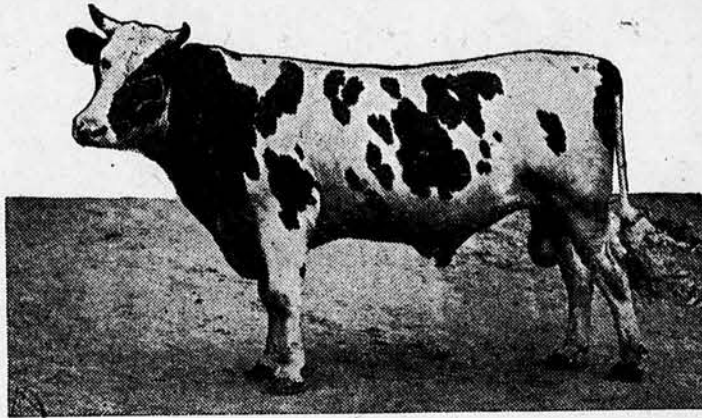
JULY 26

Offering For Sale Seventy- five Head of High Class Pure Bred Holstein Cattle



JOHANNA BONHEUR CHAMPION 2D 143420—Eleven times a Grand Champion, including the Dairy Cattle Congress and the National Dairy Show.

REFERENCE SIRE—Grand Champion International Bull for the Year 1918



SIR VEEMAN RUBY VALE WAYNE 202240—A Son of a 40-Pound Cow, for which the U. S. D. B. Farm Colony paid \$8,000.

REFERENCE SIRE—40-Pound Bull, Whose Dam Has Three Consecutive Records Above 30 Pounds

The above lot of cattle includes some of the best bred stock in the country today. Some of the cows included in our sales list will be in calf to either one of the above mentioned famous sires.

THE LIST INCLUDES

- One 30-pound bull, whose dam was the first 30-pound cow in the State of Kansas. This young bull is sired by a 1,240-pound bull.
- One 30-pound bull whose dam has a daughter who made 40 pounds butter during this last year, and who is sired by the bull above mentioned.
- One bull from a 29-pound three-year-old heifer who also holds the Kansas state record for her class.
- One yearling bull who was first at the Kansas State Fair last year, and who has for a dam a 20-pound three-year-old heifer, who also held the Kansas state record.

- One 30-pound cow who has a 40-pound daughter.
- Fourteen cows due to freshen before September, all in calf to 30-pound bulls.
- Twenty-five heifers of breeding age, some of which will be bred to 30-pound bulls.
- Fifteen heifer calves sired by 30-pound bulls and out of high-testing dams.
- Six cows with records above 24 pounds.
- One 27-pound show cow, due in August, 1919.
- Ten bull calves from dams with records above 20 pounds and sired by 30-pound bulls.

This sale has been made necessary because of the fact that we shall not have accommodations for all of our cattle this fall. All animals sold will be guaranteed to be breeders, and will be exactly as represented in every respect. All cattle offered for sale will be tuberculin tested.

Auction will be held at Fort Leavenworth, Kansas, at the U. S. D. B. Farm Colony, on the above mentioned date, and will start promptly at 10 a. m., Saturday, July 26, 1919. A free lunch will be served to breeders and buyers. Send for catalogue. Sale will be held, rain or shine.

HARLO J. FISKE, SALES MANAGER

Auctioneers: J. E. Mack, R. E. Hager, McCullough & O'Brien.

L. T. Wood in Box

JOE KING ORION BRED SOW SALE

AT FARM

FRIDAY, JULY 25th, 1919

FORTY CHOICE DUROC BRED SOWS AND GILTS TEN FALL BOARS ; REAL SHOW PROSPECTS

Fifteen Choice Sows bred to Joe King Orion for September farrow.

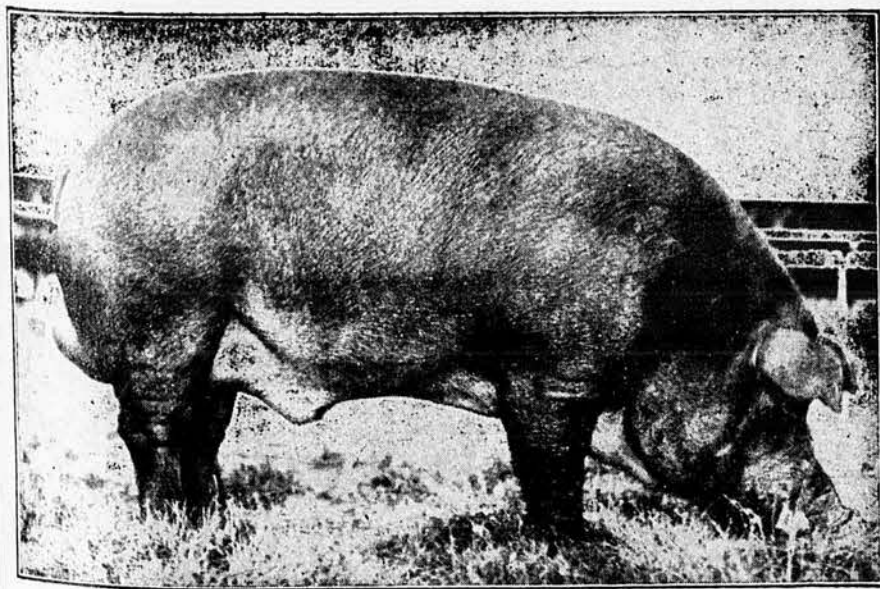
Ten head bred to Goldfinder, he by old Pathfinder.

Ten head bred to Golden Wonder by Great Wonder I Am.

We are offering the best lot of sows and gilts we ever sold, and they are mated to three real herd boars. At the Iowa State Fair last fall Joe King Orion was given second honors, in one of the strongest hog shows ever held in Iowa. He was not fat, but he has the size, bone, good back and extra good feet—weighs 840 pounds in breeding condition.

I want all the Duroc breeders of Kansas to attend my sale. Everything guaranteed right in every way. Please send for catalog today and arrange to come. Mention Kansas Farmer when you write.

FERN J. MOSER, SABETHA, KANSAS



Joe King Orion

HORSES AND MULES.



Percherons--Belgians--Shires
Some choice stallions and mares for sale. All registered. Terms, Fred Chandler, Route 7, Charlton, Iowa. Above Kansas City.

JACKS AND JENNETS
Registered Jacks and Jennets. Good individuals, good colors. Have some choice young jacks that are priced to sell quick.
GEO. S. APP. ARCHIE, MISSOURI

AUCTIONEERS.

LIVE STOCK AUCTIONEER—Fifteen years' experience. Wire for date.
JOHN D. SNYDER, HUTCHINSON, KAN.

RED POLLED CATTLE.

RED POLLED BULLS

Twelve head coming two-year-olds and twenty head of coming yearling bulls. This is an extra nice and well colored bunch of bulls sired by ton sires. Inspection invited.
E. E. FRIZELL & SONS, FRIZELL, KAN.

RED POLLS, BOTH SEXES, BEST OF BREEDING.
Charles Morrison & Son, Phillipsburg, Kan.

ANGUS CATTLE

Dietrich's Aberdeen-Angus
Aged bulls, fifteen choice spring bulls. Females, all ages.
GEO. A. DIETRICH, CARBONDALE, KAN.

SHROPSHIRE SHEEP

FOR SALE



A bunch of registered Shropshire rams ready for service, priced worth the money.
HODARD CHANDLER, Charlton, Iowa.

SPOTTED POLAND CHINAS.

Herd Boar Prospects by Spotted Colossus, Spotted to Date, and Woodrow Wilson; \$50 to \$250. T. T. Langford & Sons, Jamesport, Mo.

HAMPSHIRE HOGS

Registered Hampshire Hogs—Sows and Spring Gilts, bred or open. Choice spring boars. Double treated. Geo. W. Ela, Valley Falls, Kansas

MULEFOOT HOGS.

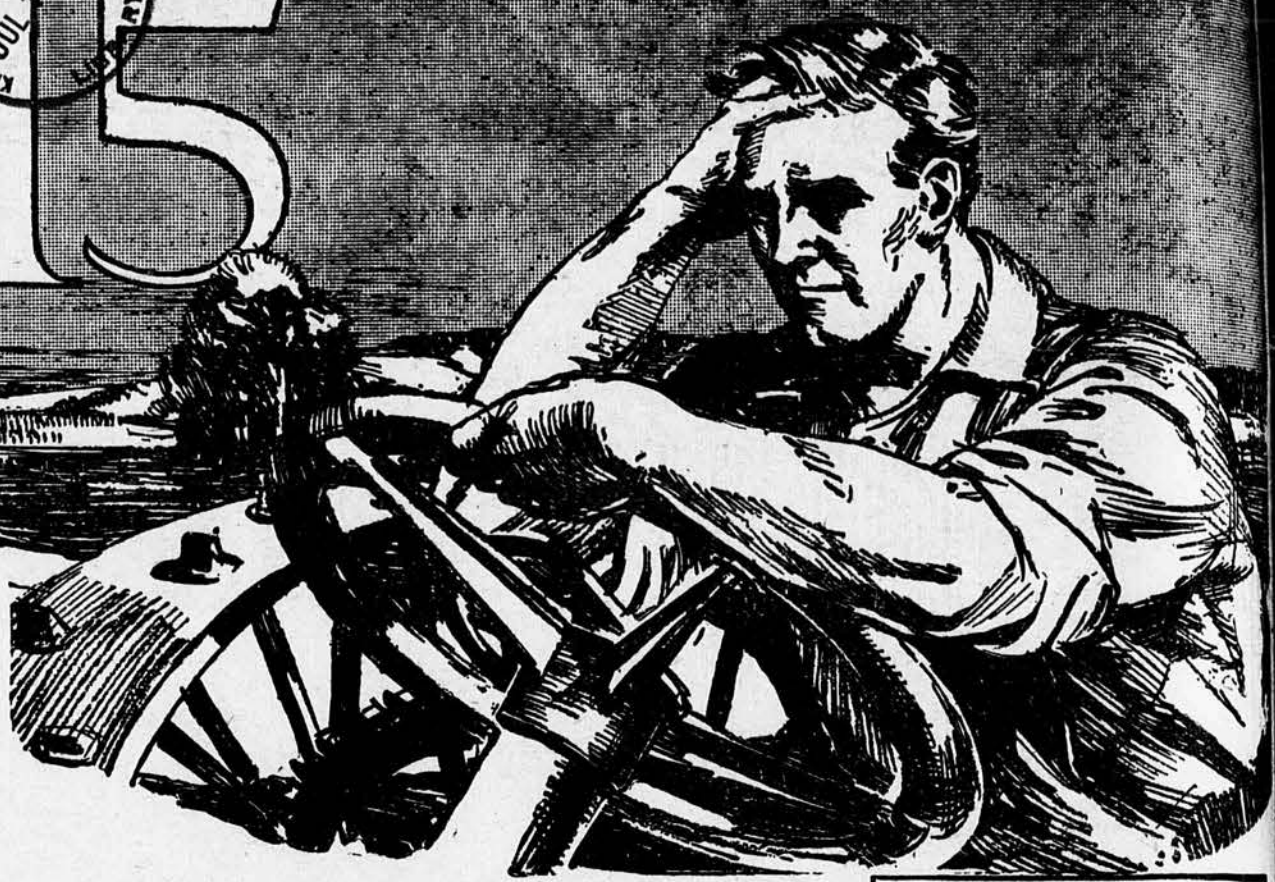
REGISTERED MULEFOOTS

Twenty choice weaned gilts; ten fall gilts; a few bred sows. Boars no kin. Catalog and prices on request.
KNOX KNOLL STOCK FARM, Humboldt, Kansas

BREEDERS' DIRECTORY

RED POLLED CATTLE
Mahlon Groenmiller, Pomona, Kansas.
Horn Dorset Sheep
H. C. LaTourette, Rte. 2, Oberlin, Kan.

If on the market for pure-bred stock, read KANSAS FARMER live stock advertisements. You will find what you want.



**Correct
AUTOMOBILE Lubrication**

How to read the Chart
The four grades of Gargoyle Mobiloils, for engine lubrication, purified to remove free carbon, are:
Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "E"
Gargoyle Mobiloil Arctic

In the Chart below, the letter opposite the car indicates the grade of Gargoyle Mobiloil that should be used. For example, "A" means Gargoyle Mobiloil "A." "Arc" means Gargoyle Mobiloil Arctic, etc. The recommendations cover all models of both passenger and commercial vehicles unless otherwise noted.

This Chart is compiled by the Vacuum Oil Company's Board of Engineers and represents our professional advice on Correct Automobile Lubrication.

AUTOMOBILES	1934 Models				1935 Models			
	Spring	Summer	Winter	Winter	Spring	Summer	Winter	Winter
Alfa Romeo (6 cyl.)	A	Arc	A	Arc	A	Arc	A	Arc
Auburn (6 cyl.)	Arc	Arc	Arc	Arc	Arc	Arc	Arc	Arc
Auburn (8 cyl.)	A	A	A	A	A	A	A	A
Cadillac (6 cyl.)	A	A	A	A	A	A	A	A
Cadillac (8 cyl.)	A	A	A	A	A	A	A	A
Chevrolet (6 cyl.)	A	A	A	A	A	A	A	A
Chevrolet (8 cyl.)	A	A	A	A	A	A	A	A
Cord (6 cyl.)	A	A	A	A	A	A	A	A
Cord (8 cyl.)	A	A	A	A	A	A	A	A
Crysler (6 cyl.)	A	A	A	A	A	A	A	A
Crysler (8 cyl.)	A	A	A	A	A	A	A	A
Dodge (6 cyl.)	A	A	A	A	A	A	A	A
Dodge (8 cyl.)	A	A	A	A	A	A	A	A
Edsel Ford (6 cyl.)	A	A	A	A	A	A	A	A
Edsel Ford (8 cyl.)	A	A	A	A	A	A	A	A
Ford (6 cyl.)	A	A	A	A	A	A	A	A
Ford (8 cyl.)	A	A	A	A	A	A	A	A
General Motors (6 cyl.)	A	A	A	A	A	A	A	A
General Motors (8 cyl.)	A	A	A	A	A	A	A	A
Hudson (6 cyl.)	A	A	A	A	A	A	A	A
Hudson (8 cyl.)	A	A	A	A	A	A	A	A
Hupmobile (6 cyl.)	A	A	A	A	A	A	A	A
Hupmobile (8 cyl.)	A	A	A	A	A	A	A	A
Kelley Springfield (6 cyl.)	A	A	A	A	A	A	A	A
Kelley Springfield (8 cyl.)	A	A	A	A	A	A	A	A
Kelley (6 cyl.)	A	A	A	A	A	A	A	A
Kelley (8 cyl.)	A	A	A	A	A	A	A	A
Knight (6 cyl.)	A	A	A	A	A	A	A	A
Knight (8 cyl.)	A	A	A	A	A	A	A	A
Knight (10 cyl.)	A	A	A	A	A	A	A	A
Knight (12 cyl.)	A	A	A	A	A	A	A	A
Knight (16 cyl.)	A	A	A	A	A	A	A	A
Knight (20 cyl.)	A	A	A	A	A	A	A	A
Knight (24 cyl.)	A	A	A	A	A	A	A	A
Knight (32 cyl.)	A	A	A	A	A	A	A	A
Knight (40 cyl.)	A	A	A	A	A	A	A	A
Knight (48 cyl.)	A	A	A	A	A	A	A	A
Knight (56 cyl.)	A	A	A	A	A	A	A	A
Knight (64 cyl.)	A	A	A	A	A	A	A	A
Knight (72 cyl.)	A	A	A	A	A	A	A	A
Knight (80 cyl.)	A	A	A	A	A	A	A	A
Knight (88 cyl.)	A	A	A	A	A	A	A	A
Knight (96 cyl.)	A	A	A	A	A	A	A	A
Knight (104 cyl.)	A	A	A	A	A	A	A	A
Knight (112 cyl.)	A	A	A	A	A	A	A	A
Knight (120 cyl.)	A	A	A	A	A	A	A	A
Knight (128 cyl.)	A	A	A	A	A	A	A	A
Knight (136 cyl.)	A	A	A	A	A	A	A	A
Knight (144 cyl.)	A	A	A	A	A	A	A	A
Knight (152 cyl.)	A	A	A	A	A	A	A	A
Knight (160 cyl.)	A	A	A	A	A	A	A	A
Knight (168 cyl.)	A	A	A	A	A	A	A	A
Knight (176 cyl.)	A	A	A	A	A	A	A	A
Knight (184 cyl.)	A	A	A	A	A	A	A	A
Knight (192 cyl.)	A	A	A	A	A	A	A	A
Knight (200 cyl.)	A	A	A	A	A	A	A	A
Knight (208 cyl.)	A	A	A	A	A	A	A	A
Knight (216 cyl.)	A	A	A	A	A	A	A	A
Knight (224 cyl.)	A	A	A	A	A	A	A	A
Knight (232 cyl.)	A	A	A	A	A	A	A	A
Knight (240 cyl.)	A	A	A	A	A	A	A	A
Knight (248 cyl.)	A	A	A	A	A	A	A	A
Knight (256 cyl.)	A	A	A	A	A	A	A	A
Knight (264 cyl.)	A	A	A	A	A	A	A	A
Knight (272 cyl.)	A	A	A	A	A	A	A	A
Knight (280 cyl.)	A	A	A	A	A	A	A	A
Knight (288 cyl.)	A	A	A	A	A	A	A	A
Knight (296 cyl.)	A	A	A	A	A	A	A	A
Knight (304 cyl.)	A	A	A	A	A	A	A	A
Knight (312 cyl.)	A	A	A	A	A	A	A	A
Knight (320 cyl.)	A	A	A	A	A	A	A	A
Knight (328 cyl.)	A	A	A	A	A	A	A	A
Knight (336 cyl.)	A	A	A	A	A	A	A	A
Knight (344 cyl.)	A	A	A	A	A	A	A	A
Knight (352 cyl.)	A	A	A	A	A	A	A	A
Knight (360 cyl.)	A	A	A	A	A	A	A	A
Knight (368 cyl.)	A	A	A	A	A	A	A	A
Knight (376 cyl.)	A	A	A	A	A	A	A	A
Knight (384 cyl.)	A	A	A	A	A	A	A	A
Knight (392 cyl.)	A	A	A	A	A	A	A	A
Knight (400 cyl.)	A	A	A	A	A	A	A	A
Knight (408 cyl.)	A	A	A	A	A	A	A	A
Knight (416 cyl.)	A	A	A	A	A	A	A	A
Knight (424 cyl.)	A	A	A	A	A	A	A	A
Knight (432 cyl.)	A	A	A	A	A	A	A	A
Knight (440 cyl.)	A	A	A	A	A	A	A	A
Knight (448 cyl.)	A	A	A	A	A	A	A	A
Knight (456 cyl.)	A	A	A	A	A	A	A	A
Knight (464 cyl.)	A	A	A	A	A	A	A	A
Knight (472 cyl.)	A	A	A	A	A	A	A	A
Knight (480 cyl.)	A	A	A	A	A	A	A	A
Knight (488 cyl.)	A	A	A	A	A	A	A	A
Knight (496 cyl.)	A	A	A	A	A	A	A	A
Knight (504 cyl.)	A	A	A	A	A	A	A	A
Knight (512 cyl.)	A	A	A	A	A	A	A	A
Knight (520 cyl.)	A	A	A	A	A	A	A	A
Knight (528 cyl.)	A	A	A	A	A	A	A	A
Knight (536 cyl.)	A	A	A	A	A	A	A	A
Knight (544 cyl.)	A	A	A	A	A	A	A	A
Knight (552 cyl.)	A	A	A	A	A	A	A	A
Knight (560 cyl.)	A	A	A	A	A	A	A	A
Knight (568 cyl.)	A	A	A	A	A	A	A	A
Knight (576 cyl.)	A	A	A	A	A	A	A	A
Knight (584 cyl.)	A	A	A	A	A	A	A	A
Knight (592 cyl.)	A	A	A	A	A	A	A	A
Knight (600 cyl.)	A	A	A	A	A	A	A	A
Knight (608 cyl.)	A	A	A	A	A	A	A	A
Knight (616 cyl.)	A	A	A	A	A	A	A	A
Knight (624 cyl.)	A	A	A	A	A	A	A	A
Knight (632 cyl.)	A	A	A	A	A	A	A	A
Knight (640 cyl.)	A	A	A	A	A	A	A	A
Knight (648 cyl.)	A	A	A	A	A	A	A	A
Knight (656 cyl.)	A	A	A	A	A	A	A	A
Knight (664 cyl.)	A	A	A	A	A	A	A	A
Knight (672 cyl.)	A	A	A	A	A	A	A	A
Knight (680 cyl.)	A	A	A	A	A	A	A	A
Knight (688 cyl.)	A	A	A	A	A	A	A	A
Knight (696 cyl.)	A	A	A	A	A	A	A	A
Knight (704 cyl.)	A	A	A	A	A	A	A	A
Knight (712 cyl.)	A	A	A	A	A	A	A	A
Knight (720 cyl.)	A	A	A	A	A	A	A	A
Knight (728 cyl.)	A	A	A	A	A	A	A	A
Knight (736 cyl.)	A	A	A	A	A	A	A	A
Knight (744 cyl.)	A	A	A	A	A	A	A	A
Knight (752 cyl.)	A	A	A	A	A	A	A	A
Knight (760 cyl.)	A	A	A	A	A	A	A	A
Knight (768 cyl.)	A	A	A	A	A	A	A	A
Knight (776 cyl.)	A	A	A	A	A	A	A	A
Knight (784 cyl.)	A	A	A	A	A	A	A	A
Knight (792 cyl.)	A	A	A	A	A	A	A	A
Knight (800 cyl.)	A	A	A	A	A	A	A	A
Knight (808 cyl.)	A	A	A	A	A	A	A	A
Knight (816 cyl.)	A	A	A	A	A	A	A	A
Knight (824 cyl.)	A	A	A	A	A	A	A	A
Knight (832 cyl.)	A	A	A	A	A	A	A	A
Knight (840 cyl.)	A	A	A	A	A	A	A	A
Knight (848 cyl.)	A	A	A	A	A	A	A	A
Knight (856 cyl.)	A	A	A	A	A	A	A	A
Knight (864 cyl.)	A	A	A	A	A	A	A	A
Knight (872 cyl.)	A	A	A	A	A	A	A	A
Knight (880 cyl.)	A	A	A	A	A	A	A	A
Knight (888 cyl.)	A	A	A	A	A	A	A	A
Knight (896 cyl.)	A	A	A	A	A	A	A	A
Knight (904 cyl.)	A	A	A	A	A	A	A	A
Knight (912 cyl.)	A	A	A	A	A	A	A	A
Knight (920 cyl.)	A	A	A	A	A	A	A	A
Knight (928 cyl.)	A	A	A	A	A	A	A	A
Knight (936 cyl.)	A	A	A	A	A	A	A	A
Knight (944 cyl.)	A	A	A	A	A	A	A	A
Knight (952 cyl.)	A	A	A	A	A	A	A	A
Knight (960 cyl.)	A	A	A	A	A	A	A	A
Knight (968 cyl.)	A	A	A	A	A	A	A	A
Knight (976 cyl.)	A	A	A	A	A	A	A	A
Knight (984 cyl.)	A	A	A	A	A	A	A	A
Knight (992 cyl.)	A	A	A	A	A	A	A	A
Knight (1000 cyl.)	A	A	A	A	A	A	A	A

**The Average Tractor —
how Long should it last?**

*Why tractor manufacturers answer,
"From three to fifteen years"*

Trackon the life of the average tractor to be anywhere from three to fifteen years.

Why?
Partly because some working conditions are harder than others.

But mainly because the owner's care in operation differs so greatly.

One manufacturer puts it this way: "Some of our tractors have run through four seasons and have done an immense amount of work without a dollar's worth of repairs. The tractor is efficient in proportion to the efficiency of the operator."

Another says, "The life of the tractor depends largely upon the operator. A tractor that in one operator's hands might be in good working condition at the end of 5 or 6 years, might in the hands of another operator be ready for junk in two years." The life of the average tractor cannot today be accurately reckoned largely because the care and lubrication of tractors is not uniform.

But this much is plain: Purchasers of the better makes of tractors who are giving their machines proper mechanical attention and scientific lubrication count confidently on from 5 to 7 years of service.

A quick inspection before use shows them that the tractor is ready for work. Careful operation is a habit with them. The correct grade of Gargoyle Mobiloils — used by the large majority of tractor manufacturers at the tractor demonstrations — insures their engines against undue wear, excessive heat, power loss.

These tractor manufacturers knew the real answer to the question, "How long should a tractor last?"

Gargoyle Mobiloils are put up in 2- and 5-gallon sealed cans, in 15-, 30- and 55-gallon steel drums, and in wood half-barrels and barrels.

Write for "Correct Lubrication" booklet containing complete automobile and tractor chart, and other valuable data.



Mobiloils
A grade for each type of motor

In buying Gargoyle Mobiloils from your dealer, it is safer to purchase in original packages. Look for the red Gargoyle on the container.

VACUUM OIL COMPANY, New York, U. S. A.

Specialists in the manufacture of high-grade lubricants for every class of machinery. Obtainable everywhere in the world.

Domestic Branches: New York Philadelphia Detroit Minneapolis Kansas City, Kan.
Boston Pittsburgh Chicago Indianapolis Des Moines

**Correct
TRACTOR Lubrication**

How to read the Chart
The four grades of Gargoyle Mobiloils for tractor lubrication, purified to remove free carbon, are:

Gargoyle Mobiloil "A"
Gargoyle Mobiloil "B"
Gargoyle Mobiloil "BB"
Gargoyle Mobiloil Arctic

In the Chart below, the letter opposite the tractor indicates the grade of Gargoyle Mobiloil that should be used. This chart is compiled by the Vacuum Oil Company's Board of Engineers and represents our professional advice on Correct Tractor Lubrication.

TRACTORS	1934 Models		1935 Models		1937 Models		1938 Models		1939 Models
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter	
Albion-Dover (Square Turn)	BB	BB	BB	BB	BB	BB	BB	BB	
Allis-Chalmers (General Purpose)	BB	BB	BB	BB	BB	BB	BB	BB	
All Work	BB	BB	BB	BB	BB	BB	BB	BB	
Applon	BB	BB	BB	BB	BB	BB	BB	BB	
Aultman-Taylor	BB	BB	BB	BB	BB	BB	BB	BB	
" (15-30)	BB	BB	BB	BB	BB	BB	BB	BB	
" (15-30) (Waukegan)	BB	BB	BB	BB	BB	BB	BB	BB	
Avery	BB	BB	BB	BB	BB	BB	BB	BB	
" (10 H.P.)	BB	BB	BB	BB	BB	BB	BB	BB	
" (10 H.P.) (Louisville)	BB	BB	BB	BB	BB	BB	BB	BB	
Baker	BB	BB	BB	BB	BB	BB	BB	BB	
Ball	BB	BB	BB	BB	BB	BB	BB	BB	
Ball Track-Pull	BB	BB	BB	BB	BB	BB	BB	BB	
Big Bull	BB	BB	BB	BB	BB	BB	BB	BB	
Boysen (Ohio)	BB	BB	BB	BB	BB	BB	BB	BB	
Brooks	BB	BB	BB	BB	BB	BB	BB	BB	
" (10)	BB	BB	BB	BB	BB	BB	BB	BB	
" (10-20)	BB	BB	BB	BB	BB	BB	BB	BB	
" (12-20)	BB	BB	BB	BB	BB	BB	BB	BB	
" (20-40)	BB	BB	BB	BB	BB	BB	BB	BB	
Cleveland	BB	BB	BB	BB	BB	BB	BB	BB	
Columbus	BB	BB	BB	BB	BB	BB	BB	BB	
Commonwealth	BB	BB	BB	BB	BB	BB	BB	BB	
C. O. D.	BB	BB	BB	BB	BB	BB	BB	BB	
Craig	BB	BB	BB	BB	BB	BB	BB	BB	
Crawford Corp. (E.B.)	BB	BB	BB	BB	BB	BB	BB	BB	
Cummins-Brantingham (E.B.)-16 (E.B.)	BB	BB	BB	BB	BB	BB	BB	BB	
" (Big Four)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge City (Heavy Duty)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge (Heavy Duty)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Gas Pull (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Ball	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB	BB	BB	BB	BB	BB	BB	
Dodge Farm (Heavy Co.)	BB	BB							