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KANSAS FARMER

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WHEN WRITING TO ADVERTISERS

FARM POWER

Items of Interest About Automobiles,
Engines, Tractors, and Motorcycles

A RECENT automobile storage battery advertisement has the following to say regarding storage battery care:

"Storage batteries are so rugged in construction and so long-lived in service that over 150 car builders put them in all their cars. But any storage battery will finally wear out and have to be replaced. Remember, therefore, that good quality is not all—good care is essential to protect your investment. By all means get in touch with the nearest service station at once and let the storage battery expert in charge explain the operation of your electrical system and how you can prolong your storage battery's life by attention to a few easily remembered details."

Proper care of batteries to insure satisfactory service and life includes the following important points: Cleanliness, maintenance of electrolyte level, maintenance of electrolyte density, care to exclude all foreign matter from cells, keeping the battery in a charged or nearly charged condition, and lastly, immediate attention to any cause for abnormal operation as indicated by failure of any of the above mentioned points to follow their accustomed cycle of changes.

Cleanliness is important, since it indirectly affects the efficiency and life of the battery. If dirt is allowed to accumulate on the tops of the cells, it eventually gets saturated with moisture and then becomes a conductor of electricity, forming a leakage path by which the charge in the cells is lost, running down the battery and causing sulphation of the plates. This dirt is also apt to fall or be blown into the cells when the vent caps are removed for inspection, thus introducing foreign material which will start local action and deterioration, reducing the capacity and life of the battery.

The importance of maintaining the level of the electrolyte cannot be overestimated. The solution should never be allowed to get below the tops of the plates. If this happens, air will get at the plates and cause them to heat and sulphate, thus reducing the capacity and shortening the life of the cells. Evaporation of electrolyte should be replaced at least every two weeks with pure water. If for any reason some of the electrolyte becomes spilled, it should be replaced with an equal amount of electrolyte of the same specific gravity as that to which it is to be added.

The only true criterion of the state of charge of a battery is obtained by readings of the specific gravity of the electrolyte. In order that these readings may be of any great use it is necessary that the density of the solution in all the cells be maintained nearly constant and between 1.275 and 1.300 as read on a hydrometer when the cells are fully charged. This fully charged state is readily determined by the fact that the cells gas or bubble freely and the specific gravity of the solution remains constant for at least an hour while being charged. When discharged the gravity of an automobile battery drops to about 1.150 to 1.175, the gravity lowering proportionately to the amount of charge removed. The gravity of all cells should be evened up at least every six months by fully charging and introducing fresh electrolyte or water to bring the density to the desired point. Never under any conditions put acid directly into the cells, as this is ruinous. Mix the acid and water by pouring the acid slowly into the water and allowing to cool until the density is at least under 1.500. This strong electrolyte can then be added in small quantities to the cells to bring up the gravity if it is low. At least once a year, after fully charging, the solution from each cell should be emptied out, the cells thoroughly rinsed out several times with distilled water, and fresh electrolyte put in of 1.300 density.

Too much care cannot be exercised in watching that no foreign materials enter the cells. Particularly is this true of any of the metals such as copper or iron. These substances act with the materials constituting the cell and cause it to discharge internally continuously, thus consuming the charge and reducing the capacity. Eventually this process,

which is known as local action, will cause sulphation of the plates and the ruin of the cells. The principal means of admittance to the cells is through the use of impure water to replace evaporation and acid used in the mixing of electrolyte; also through the vent, when the plug is removed for inspection, particles of dirt and metal salts from corroded terminals drop in. Be very particular that the water used to replace evaporation is pure. It is safest to use distilled water procured from a druggist or by melting artificial ice. Clean rain water that has not come in contact with any metal or dirt is also all right. Never use tap water or water that has been standing in a metal tank, as it always contains more or less iron dissolved in it. The use of impure water is probably directly and indirectly the cause of more battery trouble than all the other sources put together. The results are not at once apparent and continue to augment with each filling. Only water evaporates and any impurities which that put in contains are left behind in the cell, the amount of foreign material increasing with each filling until eventually serious local action is set up and the cell's capacity greatly reduced. This is immediately followed by sulphation of the plates and ruination of the cell.

Sulphation is the formation on the plates of a white, insoluble, non-conducting compound from the active material of the plates and the electrolyte. The formation of this compound reduces the amount of active materials in the cell and thus its capacity. The reduction of capacity is in proportion to the amount of sulphation and of course when the action has gone far enough to reduce the capacity below that required to perform the functions for which the battery was designed, it is ruined and useless. Sulphation takes place only when the cell has become discharged. It is the natural sequence in the chemical action of a cell after the charge is removed from it. It is for this reason that a battery should never be left in a discharged condition. Because it is possible for parts of the plates in a cell to discharge more rapidly than other parts, thus becoming discharged locally while the cell as a whole still has some charge left, it is wise never to totally discharge a battery and thus perhaps allow parts of the plates to become sulphated and the cells' capacity reduced. For these reasons, always keep your battery as nearly charged as possible and never allow it to stand when completely discharged.

Since sulphation follows so closely on the heels of a discharged cell, anything which indicates that a cell is not functioning correctly should be given immediate attention by some one proficient in storage battery work.

Observance of these few fundamental points about storage batteries will tend greatly to lengthen the life and service obtained.—New Mexico Farm Courier.

Storage Batteries in Winter

It is safe to leave the automobile storage battery in the car during extremely cold weather, if the battery is kept fully charged. The amount of the charge is best determined by testing the specific gravity of the cell with a hydrometer syringe. If the specific gravity is 1.120, the battery is empty and it will freeze at 20 degrees above zero. If the specific gravity is 1.160, the battery is three-fourths discharged and it will freeze at zero. If the specific gravity is 1.210, the battery is one-half discharged and it will freeze at 20 degrees below zero. If the specific gravity is 1.260, the battery is one-fourth discharged and it will freeze at 60 degrees below zero.

The cells should be tested twice each month and should be kept filled with distilled water.

Storage batteries should be cleaned and the acid should be adjusted at least once every other year.

Farmers will find flaxseed the most profitable crop. More money in it than wheat. Booklet from Fredonia Linseed Oil Works, Fredonia, Kan.—(Adv.)

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KANSAS FARMER

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SCHOOL OF AGRICULTURE NEEDED

The Efficiency and Economy Committee appointed at the last session of the legislature, has just made a partial report to the Governor and among its recommendations advocates discontinuing the School of Agriculture now maintained at Manhattan. KANSAS FARMER championed this school when it was started three years ago, and we believe it is still one of the needed departments of the big school at Manhattan. For years the agricultural college adhered to the policy of keeping its entrance requirements low enough so no boy or girl in the state would be denied entrance. Three years ago the entrance requirements of the college were raised, and now no student can enter without having the equivalent of a high school course.

At the time this change was made there were still many communities in the state without high schools, and the School of Agriculture which provides a three-year practical farm and home-making course, was established for the benefit of the boys and girls unable to attend a good high school.

To discontinue the School of Agriculture would debar many from receiving the kind of training it is giving. There are now 374 students enrolled. Most of them are men and women above high school age. They are there in order to secure in the two or three years they remain, all the practical knowledge possible concerning the home, the farm and the shop. This class of students and also those who attend the ten-week short courses given each winter, come directly from the farm, and what they learn is taken back and put to practical use the next summer. Some of the most practical and useful work done at our agricultural college is in the training given students who attend the School of Agriculture or some other of the short courses given. During the past ten years it has been our privilege to travel over practically all of Kansas and throughout the state we have met these young men and women who have taken the shorter course provided and know the truth of the statement made. Through them the college is making its influence most widely felt on the farms and in the homes of the state.

Until there is a good standard high school within easy riding distance of every boy and girl in Kansas, there is a real need for the School of Agriculture with its practical vocational courses of instruction. Its abolition would greatly restrict the service which is now being rendered by the agricultural college.

FARM INVENTORY HELPFUL

To be successful, a man must understand his business. This is as true of farming as of any other business. Farmers generally are paying more attention to the business side of their vocation. More farmers in Kansas kept books during 1916 than ever before. Thousands of copies of the Farmers' Account Book, prepared by Edward C. Johnson and P. E. McNall, of the agricultural college, and published by the Kansas Bankers' Association, were distributed early in the year.

We call attention to this matter of farm accounts now because for many the business year closes January 1, and to make the year's records complete an inventory is necessary. An inventory is also necessary in starting to keep farm accounts, and those who kept books the past year made an inventory at the beginning of the year. It is the most important step that can be taken in getting a line on the profit or loss of the business.

The inventory should include itemized statements of all improvements, live stock, machinery, tools and harness, feed and supplies on hand at the beginning of the business year. Household and personal goods are not to be included. At the end of the year a similar inventory must be made. Land

should be entered the same as at the beginning of the year unless new fences, drains, or other improvements have been added so as to increase its value. Buildings and machinery should show a depreciation or decreased value, the rate depending upon the number of years they will last.

These inventories, with the total receipts of the farm for the year and the total operating expenses, will show the net profit or the labor income. The farm should furnish a living for the family, pay all farm expenses, at least five per cent interest on the total capital invested, and in addition a reasonable amount for the labor and managing ability of the operator. This last item is called the labor income, and shows whether or not the business has been profitably handled.

We hope many more will make a beginning in keeping farm accounts next year. The first step is the inventory. It should be made before the spring work begins, and the sooner it is done the better. The farm account book referred to will be improved and somewhat enlarged. The Kansas Bankers' Association is again publishing the book and it will be furnished to those desiring it by the banks of the state. Ask your banker about it. Meanwhile make your inventory so you can transfer it to the book when you get it.

A BACKWARD LOOK

This is the fifty-third and last issue of KANSAS FARMER for the year 1916. It completes the fifty-fourth volume and marks another milestone in the life of this publication which has through all the years that have passed exerted its influence for the cause of better agriculture and a more satisfying life on the farm.

The year's work has covered practically every phase of farm life. The many articles have been written and selected always with the thought of their value to our readers. We are familiar with agricultural developments all over the state and it has given us much satisfaction to apply this knowledge and experience in being of some service to KANSAS FARMER readers. We know we have made mistakes and have left undone things that we might have done, but it has ever been our purpose to prepare material each week that would be useful to our many readers.

Realizing that the interests of the home are fundamental, we have made a special effort through the year to furnish helpful reading for the home-makers. There is danger of placing too much emphasis on how to make a living. Our home department editor has kept to the front through the year, the importance of how to live.

The importance of live stock in its relation to permanency in farming, has been presented through the year in every issue. No general farm paper has furnished more help to its readers along dairy lines than has KANSAS FARMER during the year just closed.

We have a special feeling of pride in the Kansas Farmer Dairy Club, which was started to interest our boys and girls in this most profitable type of live stock production. No one who has read the letters from the members as they have appeared on the page devoted to their work, can doubt the far-reaching effect of the Kansas Farmer Dairy Club.

We feel grateful for the hearty co-operation and support you have given us in the work of the past year. You have written us many more letters of commendation than of criticism, and we welcome both kinds. Commendation gives encouragement, and honest, constructive criticism is always helpful in enabling us to more nearly meet your needs.

FOOD SUPPLY OF NATION

The food supply of the nation is discussed by David F. Houston, Secretary of Agriculture, in his annual report for

the fiscal year ended June 30, 1916. The Secretary states it is notable that, with the exception of meat and dairy products, the per capita production of the leading food commodities, notwithstanding the increase in population, has remained approximately the same or has increased. It is gratifying to note, he adds, that the alarming decline in beef production reached its lowest point in 1913, and that since that time there has been a material increase, while there has been a marked advance in the number of swine since the census year 1899. The number of sheep has continued to decline, but only to a slight extent. The number of animals slaughtered and the quantity of meat products prepared under government inspection during the past fiscal year are the largest in the history of the service. This heavier slaughtering has been accompanied by an increase in the remaining stock of animals. He points out that with all the agencies now available for improving agriculture there is ground for optimism as to the ability of the nation not only to supply itself with food, but increasingly to meet the needs of the world.

FEED THE COW

There has never been a time when giving proper care to live stock has been of greater importance than at present. The needs of the cows that are to drop calves next spring should be most carefully considered during the winter season. They require plenty of feed of the right kind. It is poor policy, in view of present conditions, to carry them through the winter season on scant rations or on feed that is not adapted to their needs.

Cows that are improperly fed will draw on their own bodies to supply the needs of the calf. This will reduce their vigor and vitality and finally react on the calf. Protein feeds are essential to the proper development of the calf and the production of milk. If the only roughage fed to stock cows is corn, kafir, or cane fodder and wheat straw, the cows in calf will be weakened and cannot supply their offspring with enough milk. With rough feeds of this character, some protein concentrate such as cottonseed meal or oil meal, should by all means be fed. A pound a day to each cow is usually enough to keep them in thrifty, hearty condition. Immediately following calving they should be fed a lighter and more laxative ration. Feed some bran at this time. It will be cooling in its effect and will hasten the return of the cow to normal condition.

REPORT ON WHEAT

The State Board of Agriculture reports that the acreage seeded to wheat in Kansas this fall is 2.8 per cent greater than it was a year ago. There is an increased acreage in seventy-nine counties of the state. In most of the counties of the eastern section there is quite a decided increase in the amount of wheat sown. In this section conditions have been very favorable and wheat has made good growth.

Over the greater part of the state, however, wheat is quite backward. Moisture was lacking preceding the sowing and in some localities it is still too dry. Nearly all of the wheat was sown late and in a few western counties drilling was still in progress December 1. In the principal wheat-growing counties wheat has as yet afforded little or no pasturage.

The condition of the growing wheat December 1 averaged 75.9 over the state as a whole, 100 representing a satisfactory stand and development.

Limestone soils in general are particularly well suited to alfalfa, but even such lands are frequently acid and require liming to grow this crop successfully.

GOOD ROADS AT BOARD MEETING

The State Board of Agriculture has secured Thos. H. MacDonald, chief engineer of the Iowa Highway Commission, as one of its speakers for the annual meeting to be held in Topeka, January 10-12. Mr. MacDonald is recognized as one of the best authorities on highway construction and maintenance in the West. Moreover, it is the general impression of all the highway officials that the State of Iowa is getting closer to the grass roots in the solution of road problems than any other state in the Union, and Mr. MacDonald has been largely responsible for the excellent work that Iowa has done and is doing. As one prominent Kansas road official said, "He will give us more real information applicable to Kansas conditions than any other man I know." It appears there is an excellent chance to crystallize the growing sentiment for a modern system of road building in Kansas into law at the coming session of the legislature, and Mr. MacDonald's visit and address will be most timely not only as an aid in shaping legislation along practical and scientific lines as indicated by the Iowa experience, but in advancing the general project of better roads. Mr. MacDonald is a pleasing and convincing speaker, and will make his address Friday morning, January 12. All legislators and good roads advocates are especially invited to come and hear this talk.

Others who will speak at the same day's meeting are J. A. Shoemaker, rural school supervisor, on "The Standardization of the Rural Schools." This is a work in which the state has only recently engaged and one that is of great importance. Mr. Shoemaker will tell what has been done and the benefits that a full consummation of plans will bring to the schools and school children of Kansas. Chas. R. Weeks, superintendent of the Hays Experiment Station, will review the recent work of that institution with respect to its value in Western Kansas especially. J. H. Mercer, State Live Stock Sanitary Commissioner, is to discuss "The Foot and Mouth Disease." He will give a history of outbreaks in Kansas along with precautionary measures and methods of eradication. "Fire Prevention on the Farm" is the topic that will be presented by L. T. Hussey, State Fire Marshal. Thursday evening Catherine A. H. Hoffman, director for Kansas of the General Federation of Women's Clubs, of Enterprise, will speak of "Women and the State Viewpoint of the General Federation."

"Never before have I known such great interest in the board's meetings prior to their assembling, as is manifested for this one," said Secretary Mohler, in speaking of the outlook for a successful gathering. "Men from all parts of the state have written that they would be on hand, and asking for the full printed program. The program will be ready for distribution this week. If pre-meeting signs count for anything the January convention will be the most largely attended in the history of the board. The speakers and their subjects should be enough to induce anyone interested in Kansas and the promotion of her chief industry to come. Everybody is welcome and everybody is invited. It's open to all."

Farming is a business and more and more is this fact being recognized. "Like any other business," says H. L. Russell of the Wisconsin College of Agriculture, "it is held down and encumbered by the multitude who are unwilling to apply the results of modern science or are indifferent to its value. Just so long as they are content to move along in the same rut, to ignore the findings of modern science and the tested experience of others, to let well enough alone and drift rather than push, just so long will the returns of the average farm be absurdly low."

FASHIONS IN PEDIGREES

Leader in Cattle Improvement Urges Reform in Valuation of Breed Families

IT IS the height of folly to base the value of a pure-bred animal solely upon the fact that somewhere back in its pedigree appears an individual that entitles it to be classed as belonging to one of the fashionable tribes or families. It is true that the ancestry of an animal is of the greatest importance, but the customary method of indicating the breeding of individuals in many of our breeds is absolutely without reasonable basis. It really gives but a faint clue in many instances as to the principal blood lines carried by the animal in question. The things that have grown out of this method of exploiting families and tribes of pure-bred animals have seriously retarded the spread of improved live stock.

This matter was the subject of the address given by H. M. Brown, president of the American Aberdeen-Angus Association, at its thirty-third annual meeting recently held in Chicago. Mr. Brown attacked most fearlessly this shortsighted policy of featuring certain fashionable families as it has developed in that breed, and his remarks were fully as applicable to the breeding and improvement of other breeds of pure-bred stock as Angus cattle. He said:

"As the executive of this association, I feel it incumbent upon me, in this connection, to raise a warning finger of apprehension relative to certain tendencies that are brewing throughout our extensive membership, which I fear may be carried to unreasonable lengths if we fail to see and appreciate the damage that may be wrought in the practice now prevalent, at our sales, of failure to give full credit to the so-called plain families, but extending unwarranted credit to those families that some of us have been pleased to designate 'fashionably bred tribes.' I believe that there are many more tribes fashionably bred according to the standards, than are accepted as such by the cattle breeding fraternity of the present era, and contend that they should be so considered if we wish to make use of all the improving elements available.

"There can be no doubt of the advantages a carefully cultivated family of animals may possess over another family that has been indifferently selected, mated and brought up but so, also, conversely the facts can easily be shown to work the other way around—that is to say, should a careless breeder start with the best and most highly developed units obtainable there would soon result a deterioration in excellence, even to the extent of practical disqualification, yet, adhering to the practice in vogue, at many of our breed sales, those deteriorated ones would be more sought after and make prices vastly higher—because of the foundation name—than very much better specimens possessing incalculably more potential value as members of a herd—but yet discredited, according to the mode—only because the foundation name does not appear within the circle of light that has, in most instances, been illuvisly drawn about the heads of certain charmed tribes.

"No one can deny that superior acumen in selection, mating and feeding, will inevitably bring great reward to the promoter of a herd, but the thing that should forever be discarded from our code of ethics and fundamental principles of progress, is the present tendency to arrogate to just an arbitrarily selected few combinations of blood lines all—and exclusively—the excellence of the breed.

"Such a course, I am convinced, will eventually drive many prospectively influential young men out of the business of breeding Aberdeen-Angus cattle into the ranks of the friends of other breeds where such inexcusable and unscientific dicta have never dominated to the detriment of the good work possible along these lines of human endeavor.

"Can you imagine anything more discouraging than the awakening of a young man of discriminating judgment and serious intent, who has by dint of commendable zeal, embarked, with might and main, in the business of developing a high-class herd, or flock, and, having accomplished such a degree of success as to meet all the required standards of superiority of quality, form and breeding function—not to mention show yard successes—suddenly to be initiated into the mysterious realm of exclusivists

whose code, and fetich, seems to be an occult but imperative concept about certain narrow lines of kinship in cattle, which without reason or excuse, sets artificial values upon certain lines of breeding and relegates to the limbo all else whatever?

ACCEPT MERIT FROM ANY SOURCE

"I think I am justified, in the interest of all concerned, in advising that when any family of our breed has by judicious improvement, established its right to credit, we should accept and place an adequate value upon it without question, and even more; we should await with open arms the advent of the next finished product, and all that can be produced, without prejudice or bias—no matter from what source it may come—all in the spirit of genuine interest as regards the future of this great breed of cattle.

"We should require, first, that they shall be good and made permanently and dependably so by a series of years of proper selection, care and mating, and seek no further for a basis upon which

hitherto regarded trifling tribes of the breed, which now hold respectable sway, and will be instrumental in re-establishing the credit of the race; but years have been wasted and inestimable damage done.

"Animals of outstanding merit placed by good judges at the heads of the classes in the big shows were boycotted in the sale ring, and inferior individuals many times out of the money altogether in the same big shows, were boomed to fancy prices because they carried the magic blood in their veins which at that time was the only sort of that red material worthy of notice.

"As a case in point, I have certain knowledge of a first rate hog that took grand championship at one of the leading shows of this nation, bringing \$70 at a sale held at the time, whilst a very ordinary one that stood sixth in the same class sold for \$1,350, and all because the grand Sanhedrin decreed that it was not excellence, but certain lines of kinship that must and shall control in the hog breeding industry of this land,

ened arrest of the magnificent forward march which we are now experiencing.

TRIBE NAME MEANINGLESS

"Of course there is no use to dally, in this present, with a play upon words, in an attempt to show the unreliability of family name as a guide to the real descent of any individual; because it is well known to you all that an animal listed, for instance, as a 'Maggie of Aldbar' or a 'Sibyl,' both most respected old tribes, may be so attenuated by intercurrent admixtures that they scarcely can claim any relationships at all, yet they are rated as such.

"On the other hand, animals listed under other foundation names may be almost pure 'Maggies' or 'Sibyls.'

"The thing is so disconcerting to a tranquil mind that I can hardly speak upon it with any sort of complacency, but for the benefit of those who are confused relative to the exact requirements in order to be classed as fashionable in cattle lore, I am constrained to try to elucidate the matter.

"In the main any tribe, in good hands, carefully mated, fed and culled, until that tribe uniformly produces good animals, may be said to be fashionably bred—for there has never been produced a fashionably bred family in any other way. That is the history of the breed from the beginning to the present time.

"In Scotland, the great herds were started by building from anything that appeared promising, which could be purchased by the prospective founder under any circumstances whatever. The open markets for butcher cattle seem to have furnished the most of the early ones. To be sure the breeding was not known, as there were no records at that time, but keen discrimination in selection and careful cultivation have brought the breed to its present great excellence from those uncertain foundations. And so, any ordinarily good foundation can, by years of care, be brought to a state of consistent superiority, and when they have been so developed they most certainly should be recognized to the full extent of their merit.

"I am not contending that the families which are rated as leaders now are not entitled to leading positions, but what I wish to have done is to frankly give credit to all deserving tribes of cattle, regardless of origin, and not to set up a line of demarcation between the few and the many, or rather, I would have that line removed entirely and henceforth select breeding stock according to merit and pedigree, the latter to be rated on individuality and good breeding, but never upon name alone."

A sale slip of a breeder that just came to our attention illustrates the manner in which families and tribes are advertised. It says:

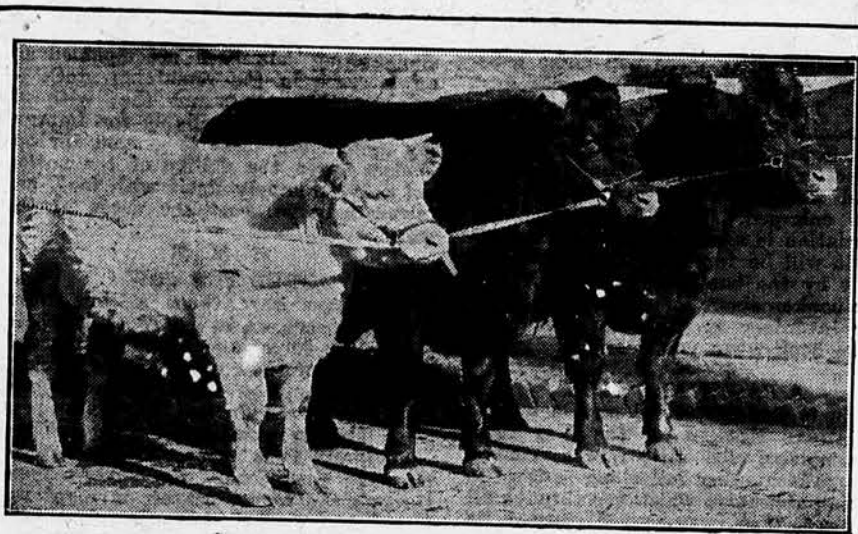
"This sale includes more Trojan-Ericas and K. Prides of Ballindalloch than have been put through a sale ring in many years, and it will be years before such an opportunity will be presented to secure such a class of cattle in every-day condition.

"There are listed: One Blackcap Blackbird, ten Trojan-Ericas of the most aristocratic Enchantress branch, seven Queen Mothers, nine Ballindalloch K. Prides, two Heather Blooms, three Drumin Lucys, ten Easter Tulloch Beautys and Kathleens, two Princesses, three Delias and three Bonny Bees."

In this list the tribes are arranged in the order of their generally accepted fashionableness.

We trust that breeders and those who are becoming interested in pure-bred stock will use their influence in the right direction in this matter so ably presented by Mr. Brown.

Kansas claims 11,343 silos in use in that state. It shows the growing popularity of the silo throughout the country, but what we don't exactly understand is why such an array of silos should not put Kansas in the forefront of dairy states instead of away back. Silage is good for all farm animals, including beef animals, but it is through milk that the best results come from the silo, and especially in conjunction with alfalfa. Cows, silage, alfalfa and 40-cent butter fat is a quartet that can't be beat agriculturally.—Pacific Dairy Review.



FIRST PRIZE SHORTHORN STEER HERD AT INTERNATIONAL STOCK SHOW.—BRED, FITTED AND SHOWN BY THE KANSAS STATE AGRICULTURAL COLLEGE

to predicate our appraisal of values; anything else my confreres, is false pretense and fraudulent.

"How can it be possible for us sensibly to expect to reach the splendid heights of our ambitions, as improvers, if we do not admit into the materia of our armament all the new and progressive elements that are of proven value from time to time offered for consideration by the entire working force of our profession, to the end that the individual units of all our handiwork may have the advantage of everything that will tend to promote health, constitution and reproductive power, as set against the chances of failure pursuant to a system which by injudicious incestuous practices, may undermine, in time to come, the very foundation of our structure, and defeat inevitably the whole purpose of our long and exhaustive labor.

"Persistent and arbitrary refusal to recognize good wherever found, and to value it according to its inherent merits, can only result one way, and that will be a complete paralysis of individual initiative and a setting of a limiting barrier before all attempts at original work; for what would be the good of effectively creating superior animal quality if the designer thereof can have no assurance of adequate recognition when it is done?

BLOOD LINE BOOMS DISASTROUS

"We have had set before us, in lurid halo, time and again, in recent years, examples to illustrate this point.

"Within the present decade an organized clan of swine breeders setting themselves the task of booming the animals of special blood lines, to the exclusion of all others, succeeded in obtaining fabulous prices and driving the country to mad frenzy over a select few—many of which were of the most ordinary quality.

"Fortunes were made in the beginning, but irretrievably lost in the end; the breed was wrecked in short order, and a revolution took place that brought into prominence the most despised and

and to show its displeasure at the judge's decision subjected a really good individual to ignominy and elevated a worthless weed to unprecedented heights of laudation.

"In another state along about that time one of the most painstaking and capable judges of swine in this great country, placed at the head of a famous class a young boar with transcendent merit and outstanding superiority over his fellows, evident at a glance to all who saw the show. The general expression of admiration was unstinted and never a word of criticism was forthcoming. Thereupon a small syndicate of forward-looking farmers was formed intending to buy the boar for \$2,500—but the leading 'powers that be' of that day decreed that they would have none of it and boldly indicated to the prospective purchasers that this animal had not the blood lines requisite and that they would withhold their approval of any such unorthodox procedure, the result was that an indelible odium was maliciously stamped upon its escutcheon and the greatest pig of its time was relegated to the pork barrel.

"Can you imagine a more short-sighted policy?

"Such a state of affairs may develop among the votaries of any breed of animals and I can see that, even among ourselves, there may be danger.

"There was a time when the craze for all red in the Shorthorn breed of cattle worked almost irremediable disaster to the whole structure builded by such masters of the art as Bates, Booth, the Collings and Cruickshank.

"The Percheron breed of horses was, at one time, on the verge of collapse because it was decreed they must all be black, and so we might go on indefinitely, with example after example.

"The damaging evidence is irrefutable, but I bespeak for our own association an intelligent treatment of the subject and a complete escape from this threat-

GLENWOOD CANNING CLUB

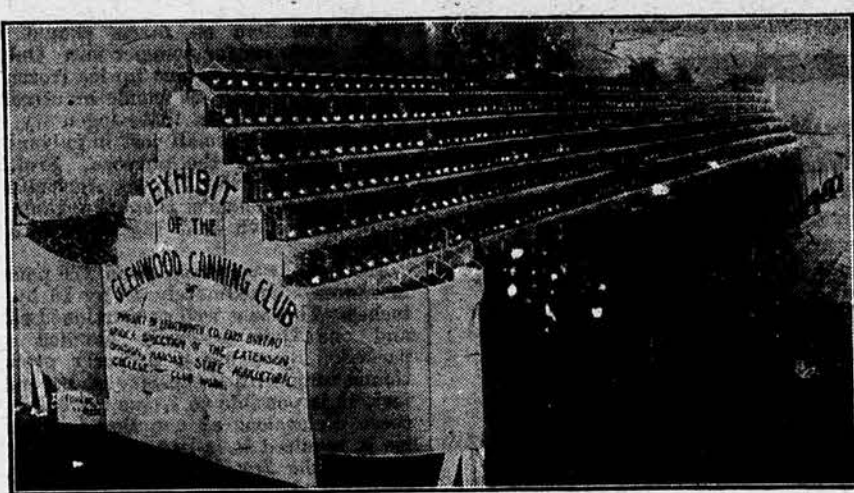
Object is to Save Surplus Products of Farm That Can be Used by Family

By JANETTE LONG

TWO years ago the women of the Glenwood Church neighborhood in Leavenworth County, Kansas, were canning only the common fruits and tomatoes. Today the accomplishments of the Glenwood Mother-Daughter Canning Club, which is made up of the same women, are brought to the attention of members of similar clubs all over the United States, because these women have so thoroughly mastered the canning of all surplus fruits, vegetables and meats.

The history of the work of this canning club is intensely interesting and for it much credit is due the members themselves, P. H. Ross, who was county agricultural agent when the club was organized, and Otis E. Hall, state leader of agricultural club work in Kansas. Much encouragement has also come from the U. S. Department of Agriculture through O. H. Benson in charge of agricultural club work.

As Mr. Ross, the county agricultural agent, was invited to the farms of the different members of the County Farm Bureau, to consult with them regarding conditions affecting their farm business, he talked with the women of the households about the new methods of canning which had been thoroughly proven by experts in the U. S. Department of Agriculture. The canning of all kinds of vegetables and meats was entirely new to these women—as it is to many of us who have never tried canning anything except fruits and tomatoes in the old, open-kettle way—and they were eager to try the new methods. Mr. Ross announced a visit of Otis E. Hall, state



SAMPLES OF BALANCED RATION SUPPLIED TWENTY-NINE FAMILIES REPRESENTED IN THE CLUB

other worthy community projects. One of the club members who has a large family to care for, found time the past season to spend a day with a neighbor who was sick, and canned forty-four quarts of beans for her. We doubt not this is only one of many similar acts which might be chronicled in the short history of the club.

There is no competition among the members, theirs being a spirit of community co-operation rather than competition, and all have worked toward the goal of a comfortable community home.

CLUB OBJECT OF COUNTY PRIDE

All along the way this club has enjoyed recognition in its own county, having been pointed to with pride by all. A few weeks ago the Bonner Springs Commercial Club invited the Glenwood Club to bring its display into that town where it might be seen by those outside of the neighborhood who had heard much of the canning possibilities which had been so practically proven by these women. This was done, and it was an object lesson of value to all who saw it.

The city of Leavenworth in a similar manner entertained the members of this club and their families on December 8. Here the Chamber of Commerce and the County Farm Bureau officers were the hosts, and a pleasant and profitable program had been arranged. The canning exhibit was placed in a building where it was seen by hundreds of people during the day. Special visitors on this occasion were O. H. Benson of the States Relations Service of the U. S. Department of Agriculture, President Waters of the Kansas Agricultural College, and Dean Johnson of the extension division of the college, Otis E. Hall, state leader of agricultural club work in Kansas, and P. H. Ross, former county agricultural agent of Leavenworth County.

CREDITABLE DISPLAY OF CANNED GOODS

The morning was given over to an inspection of the exhibit, and many were the friendly gatherings around it. It was particularly noticeable that the husbands of the women who were responsible for the day's celebration were even more proud of the showing made than were the club members themselves, and no one who was present questioned their reason for being. That our readers who did not see the exhibit may have an idea of its size and variety, we give the following list of teams and their respective showings:

Team No. 1, Mrs. J. M. Timmons and Miss Helen Timmons, 110 varieties; No. 2, Mrs. E. L. Marshall and Miss Ruth Marshall, 253; No. 3, Mrs. Gus Timburg and Miss Edith Timburg, 60; No. 4, Mrs. E. C. Shaw and Miss Frances Shaw, 110; No. 5, Mrs. M. E. Duncan and Ethbert Caulk, 109; No. 6, Mrs. R. Clemmons and Miss M. Clemmons, 36; No. 7, Mrs. James Hampton and Miss Lela Hampton, 244; No. 8, Mrs. George Elmer and Miss Maude Elmer, 48; No. 9, Mrs. D. W. Sowers and Miss Viola Sowers, 48; No. 10, Mrs. Mat Elmer and Miss Louise Elmer, 60; No. 11, Mrs. Will Sowers and Miss Elsie Sowers, 31; No. 12, Mrs. H. W. Ranney and Kenneth Ranney, 72; No. 13, Mrs. Luther Sowers and Miss Ruth Sowers, 60; No. 14, Mrs. Frank Grimes and Eton Grimes, 21; No. 15, Mrs. Reston Heath and Miss Resline Heath, 42; No. 16, Mrs. L. Stover and Gilbert Stover, 120; No. 17, Mrs. Theresa Caulk and Miss Mary Caulk, 38; No. 18, Mrs. Charles Oliver and Miss Neva Oliver, 24; No. 19, Mrs. Jess Wood and Miss Lois Marshall, 60; No. 20, Mrs. Mary Emery and Melbourne Emery, 103; No. 21, Mrs. Carl Liebenon and Miss Clara Liebenon, 60; No. 22, Mrs. Charles Myers and Miss Frances Myers, 156; No. 23, Mrs. John Rodenbeck and Miss Daisy Rodenbeck, 163; No. 24, Mrs. Wil-

liam Fiddler and Miss Hazel Fiddler, 56; No. 25, Mrs. Thomas Dews and Miss Helen Dews, 32; No. 26, Mrs. P. Reiger and Miss Burnadette Reiger, 30; No. 27, Mrs. Lynerson and Marvin Lynerson, 24; No. 28, Mrs. B. Brokam and Miss Edith Brokam, 32; No. 29, Mrs. Will McConnell and Cleo Adams, 110.

There was a total of 2,312 jars, one team showing as many as 253 varieties, and none less than twenty-one. It was indeed interesting to note the things that had been canned in order to add to the number of varieties. There was fried chicken, roasted chicken, fried squirrel, rabbit, spare ribs and sauer kraut, o'possum and sweet potatoes, racoon, new peas and new potatoes, corn, beans and tomatoes, and all the single vegetables and fruits known. The members of the club explained that in their canning work their object is not to see how many varieties can be put up for home use, but to see that no fruits, vegetables, or meats that can be utilized by the family, are allowed to be wasted or sold from the farm. The pint jars containing the meats, vegetables and fruits were all alike, and the jellies were in regulation jelly glasses. In canning for home use, the members of the club use such jars as they have on hand, and when new ones are needed the type agreed upon by them as best, is bought.

In describing the size and quality of the Glenwood exhibit, the statement of Mr. Benson cannot be improved. In his talk of the afternoon he said he had attended state fairs all over the country and could think of but two that had exhibits of canned goods as fine or as



ENTERTAINING LEAVENWORTH BUSINESS MEN AND THEIR FAMILIES AT DINNER

leader of club work, for the purpose of demonstrating the new canning methods, and invited all who were interested to meet with Mr. Hall and himself for the demonstration.

That meeting proved to be the beginning of the Glenwood Mother-Daughter Canning Club. The members of a mother-daughter club work in teams—a mother and her daughter, or her son, between the ages of ten and eighteen years. If she has no daughter or son of the right age, she may have as her partner the daughter or son of a neighbor, and the two must work together.

"CAN THE SURPLUS" SLOGAN

The members of this club have worked quietly along, ever keeping in mind the slogan, "Can the surplus," and filling their cellars with food which out of season is obtainable only at the store at a much higher cost for a grade not to be compared with that put up at home. They have also held regular meetings in which have been developed a warm community sociability and interest. One of the notable expressions of the progress of the club in this direction was its invitation to the business men of Leavenworth and their families to drive out to the church for dinner, where true hospitality was meted out to the seventy-five automobile loads of townspeople, in a way which will long be remembered by the guests.

INTEREST IN COMMUNITY INCREASES

As is generally the case when a number of capable women plan together, these home-makers have found time for much valuable work outside their own homes. While they have been improving and varying the diets for their families, they have been strengthening the neighborliness of the community, have been responsible for new life and interest in the work of the church for which their club is named, have improved school conditions, and have helped carry on all



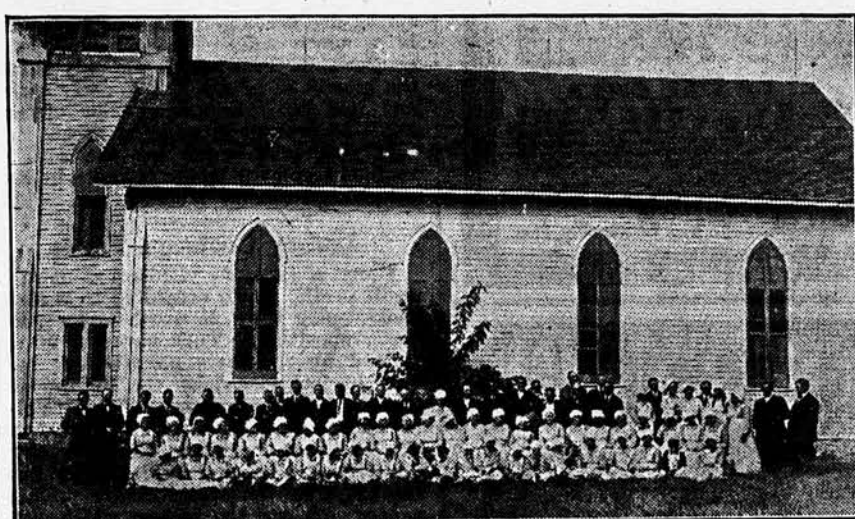
THE FIRST LESSON ON NEW CANNING METHODS

large, that he had seen no other community exhibit up to that time that compared with it, and that the display of canned products at the Eastern States Exposition held in connection with the National Dairy Show this year, for which exhibit Congress appropriated \$15,000, was not more than twice as large as the Glenwood one, though it represented the products grown in ten states. Mr. Benson did not tell us how many of the community clubs he had not yet visited, but it is hard for us to imagine a more creditable exhibit than the one shown at Leavenworth.

SPEAKERS APPROVE HOME CANNING WORK

President Waters emphasized the necessity for every farm family utilizing more of the products grown on the farm. He said that in the face of the present situation among the warring nations of Europe, unless we soon give serious attention to this great question and learn to make use of those products, thereby cutting down the quantity of manufactured goods needed, the time will come at the end of the war when we will find ourselves with poor markets for our offerings, which will react to the point that we will be unable to buy the manufactured articles, no matter how low the cost may be. He did not advocate going back to the days when the housewife's life was one of drudgery because of the duties imposed upon her in providing food and clothing for her family, but he did advocate practicing economy to the point of utilizing those things at hand instead of depending wholly upon commercial sources for the necessities of life. As illustrating the two opposite conditions, President Waters told of two farm families whom he had recently visited. In one home the table was provided with commercially prepared food so far as possible, including bread, canned fruits

(Continued on Page Eleven)



SPECIAL OPEN MEETING OF THE GLENWOOD MOTHER-DAUGHTER CANNING CLUB, HELD AT GLENWOOD CHURCH



Blood Tells in Cattle, Workmanship Tells in Woodwork

A cow is a cow, but it's the well-bred ones you point to with pride. It's the same way with woodwork for the home you intend to live in all your life. The cheaper sort will not give the long service, appearance, and pride of ownership that home builders get from Curtis

Woodwork. See this woodwork at your dealer's. You can tell it by the Curtis Trademark that's on every piece. Your dealer, too, will show you a big catalog containing every Curtis design—doors, windows, stairs, porch finishings, colonnades and built-in furniture.

Home Books FREE

These books show exteriors and floor plans. They picture Curtis Woodwork as it is used in good homes. Send for the one you want. "Better Built Homes"—\$300 to \$3000; "Homelike Homes"—\$3000 up; and "Attractive Bungalows."

THE CURTIS COMPANIES, SERVICE BUREAU, 1309-1409, Second Street, Clinton, Iowa

"The Permanent Furniture For Your Home"

1866 CURTIS WOODWORK

The Makers of Curtis Woodwork Guarantee Complete Satisfaction to its Users. "We're not satisfied unless you are."



The Curtis Companies, Service Bureau
1309-1409 South Second St., Clinton, Iowa.
Without obligation, please send me

Name.....
R. F. D..... Town.....
State.....

STOP!

Man! Here's Greatest Offer You Ever Saw! Read!

Send me your name now—on a postal—and you'll get FREE, the surprise of your life.

First—I will prove that your straw—every ounce of it—is worth \$2.50 to \$3.80 a ton! Then I will show you how to prove to yourself that you can get \$2.50 to \$3.80 per ton for it. Easily! Quickly! Surely!—before you have spent or risked one little cent!

MANSON CAMPBELL

Yes, Sir, I take all the risk—you take none! Furthermore, if you decide to buy my "SIMPLEX" I'll trust you and

not a cent do I ask till next October! As a money-maker the Simplex will skin any machine on your farm.

WRITE ME AND I'LL PROVE IT!

Simplex Straw Spreader

Makes Straw Worth \$2.50 to \$3.80 per Ton

Straw as a fertilizer, a conservator of moisture, a protection against "winter kill" and "soil blowing", is easily worth \$2.50 when spread on your land. And spreading is easy with a SIMPLEX.

Just think! Twenty feet at a time! Thick or thin! Twenty acres per day! Machine pays for itself in three working days! Fits high or low wagon! Has a double-drive (both rear wheels) and double-width carrier! Five years' proven success behind it! Thousands already in use! Thirty days' FREE TRIAL—no money in advance! Plenty of time to pay! Man, it's the biggest and best offer you ever saw!

MY SPECIAL OFFER

I've got a very Special Proposition for one farmer in each township. I won't make it public. But when you write—I will explain all. I'll send you my new Straw Spreader Catalog together with several hundred actual letters from owners—greatest bunch of letters you ever saw! Can't help convincing any man that it's folly to burn straw or allow it to rot.

Write! Do it now. You'll get the big book—the interesting letters—my special proposition—by return mail—ALL FREE!

MANSON CAMPBELL, President
598 Traders Bldg. Kansas City, Mo.

HARLEY-DAVIDSON SERVICE STATION
PARTS For Kansas REPAIRING
SHAWNEE CYCLE CO. TOPEKA KANSAS

MENTION KANSAS FARMER WHEN YOU WRITE.



PUT UP YOUR OWN ICE

THERE is no reason why people who live on farms should not store ice for summer use. Only a limited number can put up ice frozen in the ordinary way on ponds or streams, but by exercising a little ingenuity, ice can be frozen at small cost in galvanized tanks made for the purpose. Prof. J. D. Walters of the Kansas Agricultural College recommends that the tank be large enough to hold 12½ cubic feet of water.

An ice cake weighing about 120 pounds measures approximately 10 by 18 by 20 inches. This is a well proportioned cake, and one that is easily handled and packed. By using a properly proportioned tank with a capacity of 12½ cubic feet, it is possible to freeze six cakes of these dimensions at one time. If more ice is required it is but a matter of extending the freezing process to supply the demand.

Two tanks are arranged, one inside the other, in such a manner as to leave a free space of about one-half inch between the two. Both tanks should be slightly larger at the top than at the bottom, so that in the freezing of the water there will be no danger of their bursting. In order to make a division in the ice cakes, the inner tank is divided into six compartments by galvanized iron strips.

This double tank is placed near the well or spring, where the compartments can be easily filled with water. In cold weather the water will freeze in a few hours, since the tanks are exposed on all sides. The ice should be dumped immediately after it is frozen solid. To remove the ice cakes, hot water is poured into the narrow space between the two tanks. Within a minute the sides will be loosened so the cakes will slide out when the tank is turned over.

Fourteen freezings will make more than five tons of pure, clean ice, or enough to last an ordinary family a year. This estimate allows for an average daily consumption of 20 pounds, winter and summer, and also a liberal amount for melting. Figured at 60 cents a hundred pounds, this will represent a value of \$60. The tanks and the necessary ice house, together with a load of sawdust or straw for packing, should cost considerably less than this sum.

Importance of Soil Drainage

A wet soil is a cold soil. It weakens seed and sickens plants. The way to warm a soil is to drain it. It takes five times as much heat to warm a pound of water as it does to warm a pound of soil. It takes thirty-eight times as much heat to evaporate a pound of water as it requires to raise the temperature of that water 30 degrees Fahrenheit, from freezing to 62 degrees, which is a normal soil temperature for growth.

Better let gravity draw off the excess water without using up the sun's heat for this purpose. Good drainage also gives favorable conditions for plant growth in other ways. It favors the free circulation of air in the soil and the development of soil bacteria. Such a soil can be cultivated earlier in the spring and seeds germinate more rapidly in a warm soil. The soil becomes a reservoir for heat which not only favors the growth of plants, but in early spring and late fall this accumulation of heat tends to prevent damage by frost.

If your land is too wet the best investment you can make is to drain it.—Winnebago County Monthly.

Living Costs on Farm

Many a farm is yielding at least a small profit, when, according to a strict bookkeeping tally, it seems to be a losing proposition. This paradox is explained by the facts brought out in a bulletin just issued by the Federal Department of Agriculture entitled "Value to Farm Families of Food, Fuel, and Use of House." These items, namely, food, fuel, and shelter, which every farm furnishes to the farm family without money cost, are the factors which strict bookkeeping does not take into account and which constitute the difference between profit and loss on the farm which

seems to be losing money when in reality it is breaking even or perhaps making a little profit.

The facts brought out in this bulletin were gathered by a survey of a thousand families representing widely separated sections in fourteen states. Figures were gathered covering the value of all food, fuel, and shelter, itemized to show what part was bought and what part furnished by the farm.

Following is a brief summary of the more significant averages established by this inquiry. The figures given are based on reports from 950 families, averaging 4.8 persons per family.

Annual value of food, fuel, and use of house:

Average per family\$642.00

Furnished by farm...\$424.00

Bought 218.00

Annual value of food:

Average per family\$448.00

Animal products (per

cent) 58

Groceries (per cent)..... 25

Vegetables (per cent)..... 11

Fruits (per cent)..... 6

From farm (per

cent) 58

Bought (per cent)..... 42

Annual value of fuel:

Average per family\$ 62.00

Wood (9.4 cords)....\$ 36.32

Cobs 1.00

Coal (2.6 tons)..... 17.85

Oil (55 gallons) 6.33

From farm (per

cent) 54

Bought (per cent)..... 46

Annual value of use of house:

Average per family\$132.00

It was found that the average annual value of meats consumed per family (other than poultry) was \$107.25; of poultry products, \$55.40; and of dairy products, \$98.36. The quantity of dairy products consumed per family was equal to 2,640 quarts of milk.

The total value of food consumed per family was found to vary directly with the amount of meat used. As the relative value of meat consumed increases, the total value of food consumed per family increases.

Families living on their own farms reported higher consumption of food and a larger percentage of food derived directly from the farm than of those living on rented farms.

The average quantity of fruit canned annually per family was found to be 122 quarts; of vegetables, 32 quarts.

Water Tank Inside Barn

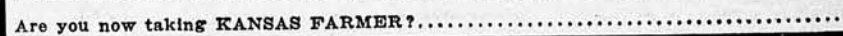
In building a barn it is a good plan to arrange for a water tank on the inside. If the barn is reasonably warm, the water will not freeze and the stock will drink more of it when it is not ice cold. When the tank is out of doors, much time is wasted in chopping ice. Unless the stock drink immediately, the water soon freezes again.

Tank heaters have been used with some success, but putting the tank inside the barn does away with the necessity for heating, and the stock are not compelled to go out in the cold to drink.

The cement tank is satisfactory for inside purposes. It should be wider at the top than at the bottom, and the walls four inches in thickness. A drain pipe should be placed underneath the tank so it can be emptied frequently and cleaned.

A Texas reader of KANSAS FARMER writes that he is wonderfully pleased with hegari, a new grain sorghum he has tried. He says it is a decidedly dwarfed plant, not growing more than four feet tall. Like the other sorghums it roots deeply and is very resistant to dry weather. He states that it has yielded from 40 to 80 bushels an acre and in the South two crops can be grown the same season.

Farmers will find flaxseed the most profitable crop. More money in it than wheat. Booklet from Fredonia Linseed Oil Works, Fredonia, Kan.—(Adv.)



Kansas Farmer Dairy Club

Comments on Some November Feed Reports

WE HAVE just been going over the November milk and feed records sent in by our Dairy Club members. We wish we could meet all of you and talk over this matter of feeding your cows so as to get the most profitable results possible. Being unable to do this, we are going to make a few suggestions that have come to mind as we have studied your records. These may be helpful to others in the club as well as those directly concerned.

On one feed record we see that the grain ration consists of three pounds of cottonseed meal daily. The roughage being fed is ten pounds of alfalfa hay and thirty pounds of silage. It is not usually a good plan to feed cottonseed meal alone, but we presume in this case it is being sprinkled over the silage. If you are trying to feed cottonseed meal without other grain, feed it in this way. When sprinkled over the silage the meal sticks to it and will be better digested than if it is eaten alone. This record suggests another point. It gives the price of the cottonseed meal being fed as \$1.70 a hundred. This may have been purchased last summer or fall when cottonseed meal was low in price. Prime cottonseed meal is costing considerably more than this now. We recently learned that a cottonseed feed is being sold that contains only about half the feeding value of prime cottonseed meal. It is diluted with cottonseed hulls, which have little or no feed value, and this mixture is sold for a little less than the price of prime cottonseed meal but not enough to make up for the difference in its feeding value. In buying such feeds, be sure that the guaranteed composition, which should show on the label, is right. You buy cottonseed meal primarily because of its richness in protein. The best meal should have a protein guarantee of about 40 to 43 per cent.

On another record we see that linseed oil meal is being fed as the only grain, alfalfa and silage being the roughage. The same suggestions as given above will apply in feeding oil meal.

We notice another point in comparing these two records. While the amount of silage fed daily is the same in each case—30 pounds—one cow is being charged with ten pounds of alfalfa hay daily, and the other with twenty. You have been told that you cannot be expected to weigh all the roughage you feed and that you are to estimate it. This does not necessarily mean that you are to simply guess that your cow is eating ten pounds of alfalfa a day, or twenty, and so mark it on your record. Every member of the club expects every other member to figure the feed just as closely as possible. In making your estimates on roughages you should weigh every week or so what your cow is eating. In this way you can make a fairly accurate estimate of the roughage she eats in a month.

A member in a section of the state where alfalfa is not very much grown, is feeding nothing but prairie hay for roughage. This is not a very good milk-making feed, and if any alfalfa can be bought in the neighborhood it would be better to sell the prairie hay on the market and buy alfalfa to feed your cow. Prairie hay is very low in protein and if you must feed it the grain fed should make up for this lack in protein. This cow is being fed four pounds of corn chop, eight pounds of bran, and one pound of oil meal daily. This is not rich enough in protein to go with prairie hay. A better mixture would be two pounds of corn chop, four of bran and two of oil meal or cottonseed meal. We are suggesting that this member make up a mixture in this proportion and gradually increase the amount fed daily until the cow's capacity is reached. He is now feeding fourteen pounds of grain. Ten pounds of this mixture should give as good a milk flow as what he is now feeding.

One of the girls fed corn fodder as the only roughage during the greater part of the month, beginning to feed clover hay the last three or four days. She was feeding nine pounds of grain a day mixed in the proportion of corn chop four pounds, bran two pounds, oil meal one pound. Corn fodder has about the same feeding value as prairie hay and the grain ration just suggested to go with prairie hay would have been better. Clover hay is a very good milk-

making roughage and perhaps the grain ration could be reduced a little. This mixture is all right to go with clover hay. To find out whether the grain can be reduced, feed a pound or two less a day for a week and watch the milk record closely.

One of the boys who is feeding twenty pounds of alfalfa hay daily as the only roughage, gives his grain ration as twelve pounds of shorts daily. Shorts alone is not a very good cow feed. It gums up her mouth and she does not eat it with a relish. Out in the western part of the state, where this boy is located, shorts may be cheaper than corn chop. If so, it may be fed as a substitute for chop, but should have a little bran with it to overcome its stickiness. We would suggest mixing the ration in the following proportions: Four parts shorts, three parts bran, and one part cottonseed meal or oil meal. This will be a better milk cow ration than will shorts alone and will not cost any more, since nine or ten pounds will give fully as good results as will the twelve pounds of shorts now being fed.

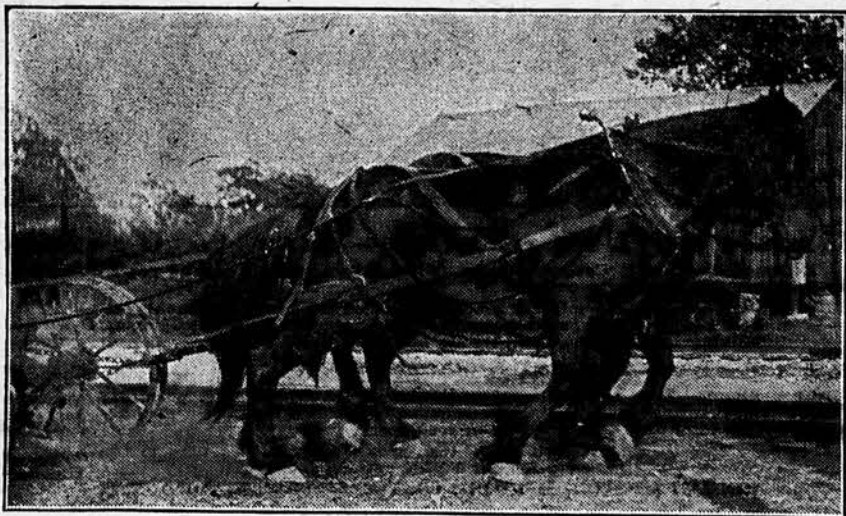
A member in the southeastern part of the state is feeding fifty pounds of silage daily to his cow, and kafir fodder, corn fodder and prairie hay—as extra roughage. He is feeding her no grain at all. The cow is giving about twenty pounds of milk daily. These roughage feeds are all low in protein and the cow cannot eat enough to give very much milk. It is nearly always cheaper to supply some of the protein required in the roughage by feeding alfalfa, clover, or cowpea hay, since this is grown on the farm. But if this is impossible, a cow that is a good milker will pay for some grain rich in protein. Get some cottonseed meal or oil meal and sprinkle it over the silage. These are the richest protein feeds on the market. If the cow does not like the cottonseed meal or oil meal when fed in this way, try mixing a little bran with it. If she has any capacity for milk, we feel sure it will pay to feed her better than she is now being fed.

One of the girls in the club who has a pure-bred cow, is feeding a grain ration of seven and a half pounds of corn chop and four and a half pounds of bran. The cow is eating fifteen pounds of alfalfa hay a day and fifty pounds of silage. The milk record indicates she is a cow with considerable capacity for milk-making, but she is not giving as much milk as she should in view of the large amount of feed she is consuming. Her ration ought to have more protein in it. This can be most cheaply supplied by feeding some oil meal or cottonseed meal. This does not cost very much more than corn chop. Why not try feeding two or three pounds of cottonseed meal daily and reducing the amount of corn chop an equal amount? This will not increase the total amount of the grain fed but will greatly increase the protein. A pound of cottonseed meal contains over four times as much protein as does a pound of corn, and your cow must have all the protein she needs or she cannot give a large amount of milk.

We want you all to make the most profit possible from your cows. If you do not know what is the best ration to feed, write and ask us about it.

The money-making dairyman learns to know cows—their likes and dislikes, their needs and what is hurtful to them. A cow that gives a large yield is always notional and has many petty whims about the way she wants her feed arranged, and the manner in which she wants her milker to treat her. An increase in yield is often secured by humoring these whims.

The "loafing barn" with separate milking room is strongly favored by dairymen who have adopted this plan. These are advantages claimed: Saves labor, improves cleanliness and gives increased comfort to cattle. Objections are: More bedding required and larger feed room for cattle, making the building expenses, as a rule, somewhat greater than the stanchion method. The plan is to have a small sanitary milking stable, and a large "loafing shed" attached where the cows retire after milking, to eat roughage and rest.



You Cannot Break Them

The picture shown above was taken during a test of the celebrated Anderson Doubletree, made by Mr. J. F. Ellis, of Osage City, Kansas. Read what he has to say:

To WHOM IT MAY CONCERN:

Osage City, Kansas.

This is to certify that I own a team of horses weighing 2,640 pounds with harness on. They have been on heavy work for a number of years and are well used to pulling, and I will put them against anything their weight for a pull. I had the pleasure of testing a pair of doubletrees for the Anderson Manufacturing Company of Osage City, Kansas. The doubletrees in question weighed ten pounds, completely ironed. I hitched them to a traction engine, and the brake was set unknown to me. The horses made as hard a pull and repeated pulls on this doubletree as I ever saw them make. I made at least a dozen hard pulls and at a few times the team lunged, but could not break it.

(Signed) J. F. ELLIS.

We, the undersigned, employees of the Anderson Manufacturing Company, witnessed the above when Mr. Ellis of this city tested the doubletrees, and will say that every word in the above statement is true.

(Signed) OSCAR JOHNSON

(Signed) CARL GREENQUIST

(Signed) FRED ANDERSON

(Signed) CHARLES C. ANDERSON

(Signed) J. D. RAMZY.

Here is one of the most practical doubletrees ever made for all ordinary work on the farm: Plowing, harrowing, lead team work, road work—in fact any work requiring a doubletree of medium weight and extra strength.

Fred Anderson, the inventor of the new celebrated Anderson Manure Loader and Scraper, has personally designed the Anderson Doubletree along scientific lines to develop the greatest amount of pulling strength possible, without excessive weight, and Mr. Anderson personally guarantees these doubletrees to stand the terrible strain of a steady pull of a team weighing up to 3,000 pounds.



This doubletree is constructed from carefully selected hardwood, thoroughly seasoned, painted with two coats of good paint. It measures 38 inches long, 3½ inches wide, and 1½ inches thick. The hooks and center irons are of a special design, and will never slip off the end or center of singletrees.

All iron parts are made of ¾-inch round forged mild steel and strong enough to stand the strain of every use.

KANSAS FARMER takes pleasure in offering its readers a doubletree which cannot be equalled for less than \$1.35, absolutely free. For a short time, and while our supply lasts, we will send one pair of doubletrees complete, all charges prepaid, to anyone sending us only \$2.00 for a three-years' subscription to KANSAS FARMER. This offer is open to all, new or renewal. If you are already paid in advance, we will extend your subscription. Don't delay, but order now, for this offer may not appear again.

Kansas Farmer
Circulation Dept. Topeka, Kansas



Quantity of Feed Important

IT TAKES feed to make milk. Feeding scant rations to milk cows is poor policy and the better the cow, the greater will be the loss. Quantity of feed ranks next to the kind of feed in dairy rations. Economical feeding demands that cows be fed as individuals, and not as a herd. Too frequently each cow in a herd is fed the same amount of grain, regardless of how much milk she is producing. By this practice some cows will be underfed, while others will be overfed.

It should be understood that an animal always uses a certain amount of the feed it receives to maintain the body. This is the first use to which the feed is put, and is called the ration of maintenance. This amount is required by the animal whether or not she is producing milk. All feed above this amount is used for milk production, or is stored on the body of the animal as fat. In the case of the young animal, part of this excess is used for growth.

In a recent circular on feeding milk cows, Prof. C. H. Eckles of Missouri states that of the two mistakes made in feeding, perhaps underfeeding is most common. It is a serious mistake to feed a cow only enough to keep up her body. She must receive feed to keep her milk production up to capacity. If a cow loses weight while in milk, she is not receiving sufficient food. A good cow, if not fed enough, will produce milk for a time at the expense of her body, and convert it into milk and thereby will lose live weight. On the other hand, when a cow is overfed she will begin to fatten in a short time. This condition may be corrected by giving her only the amount she needs for maintenance and for milk production. Such feeding will maintain practically a uniform weight.

Roughness is the first important consideration in feeding cows. A cow is not contented unless her stomach is full. She should always have all the roughness that she will clean up and then the amount of grain she receives should be regulated by the amount of milk produced. A dry cow in good condition should be fed roughness only, and does not need any grain. In feeding grain to milk-producing cows, the following rule may be used, and is found to work fairly well: Feed one pound of grain for each three pounds or pints of milk produced. A Jersey cow producing very rich milk may need a little more grain than the amount given.

Skim-Milk Calf Needs Grain

A skim milk calf cannot successfully be grown without grain. Whole milk is a balanced ration and the calf that runs with the cow does not need grain if it gets plenty of milk. Skim milk is un-

balanced and grain is absolutely necessary to take the place of the butter fat removed. The general rule in balancing rations on the farm is to use protein concentrates, as oil meal, cottonseed meal, tankage or meat meal and bran. Balancing a skim milk ration is an exception. Instead of feeding the calf a high protein feed like oil meal, give corn or kafir. These grains rich in starch and fat take the place of the fat removed from the milk.

Do not make the mistake of assuming that oil meal is a feed high in starch and fat.

Even when only a few weeks old a calf will begin to eat grain and nibble at hay. It is best to feed cracked corn or kafir at first and later shelled corn. Bright prairie hay is the best hay for the young calf that is being fed skim milk. Alfalfa is too laxative and the protein is not needed. An excess of protein is harmful, as it must be removed from the body by the kidneys.

Dairying Brings Prosperity

The editor of the Fort Scott Daily Tribune Monitor is an enthusiastic dairyman as well as an editor. In a recent issue of his paper he tells some of his experiences in another state.

He was travelling through Wisconsin studying dairy conditions and results, and he was attracted in the railway stations by a poster issued by the agricultural college of the State University of Wisconsin. It showed in a striking way the comparative values of different farm products—grain, live stock and milk.

This poster showed the soil losses of the respective crops, the comparative ease of marketing and the comparative prices paid per ton. The creamery market for milk was used figuratively as being representative of any of the varied milk products which the great dairy enterprise of Wisconsin has developed. It is only typical of the condensery, the cheese factory or the wholesale supply market of cities, all of which are in keen competition for Wisconsin milk—as they will be for Kansas milk when dairying is so developed here as to attract milk markets.

He found the dairy products of Wisconsin amounted to hundreds of millions of dollars annually. It is possible for Kansas to equal the Wisconsin production. We have the crops, the climate, and could easily have the markets if we would get the cows and produce the milk.

Allowing animals to harvest corn saves the labor of cutting, husking, hauling to the feed lot, and hauling the manure back on the land.



LEAVENWORTH COUNTY MEMBERS OF KANSAS FARMER DAIRY CLUB WHO ATTENDED THE MEETING WE TOLD ABOUT LAST WEEK. ONE MEMBER IN THAT COUNTY IS MISSING. FROM LEFT TO RIGHT: MAHALA SMITH, PAUL STUDDARD, ERNEST WENDEL, BEN ZOLL, RALPH EDWARDS, ERNEST ASBURY, GUS AARON

Reliable Poultry Breeders

LEGHORNS.

R. C. W. LEGHORN COCKERELS, \$1.50 each. F. Cornell, Wakefield, Kansas.

FINE SINGLE COMB WHITE LEGHORN cockerels. Smith strain. \$1.50 each. P. J. Wirtz, Ellinwood, Kansas.

SINGLE COMB WHITE LEGHORN COCKERELS, \$1. Young hens, \$9 per dozen. Good stock. Chas. McFadden, Morland, Kansas.

S. C. BROWN LEGHORN COCKERELS, strictly pure bred, \$1.50 each, \$15 per dozen. Order early before they are gone. Mrs. L. H. Hastings, Thayer, Kansas.

RHODE ISLAND REDS.

ROSE COMB REDS EXCLUSIVELY. Cockerels for sale. Bean strain. M. L. Puckett, Puxico, Mo.

BIG FANCY AND UTILITY S. C. RED cockerels. Satisfaction guaranteed. Lela Osterfoss, Hedrick, Iowa.

SINGLE COMB REDS—FINE BREEDING cockerels at reasonable prices. This is the last chance this season. Order early and you will not be disappointed. Fine colored, large size birds, guaranteed to please. Write for prices. H. H. McLellan, Kearney, Neb.

ONE HUNDRED ROSE COMB RHODE Island Red cocks and cockerels, sired by cockers costing \$15 to \$35—\$2, \$3.50, \$5 and \$7.50 each. A few higher. Order at once. They will go fast. Our pens mated for 1917 are the best we ever had. W. R. Huston, Red Specialist, Americus, Kansas.

TURKEYS.

BOURBON RED TURKEYS, LARGE with splendid color and markings. Mrs. Elmer Nicholson, Route 5, Wellington, Kan.

EXTRA GOOD BOURBON RED TURKEY toms, prices reasonable for immediate sale. Julia Haynes, McDonald, Kansas.

OAK HILL FARM—PURE-BRED M. B. turkeys from high scoring stock. Pure-bred Duroc pigs. Lawson, Missouri, Route 3.

MAMMOTH BRONZE TURKEYS, "GOLD-BANK" strain. Beautifully bronzed, pure white edging, big boned, splendid birds, \$8 to \$10. Mrs. Iver Christenson, Jamestown, Kansas.

SARVER'S FAMOUS NARRAGANSETT turkeys, large boned stock, unrelated. Sunlight Poultry Farm, Mt. Moriah, Mo.

DUCKS AND GEES.

GEES, EMBDEN, TOULOUSE, CHINA; turkeys, ducks. All leading breeds of poultry. Emma Ahlstedt, Roxbury, Kan.

RUNNER DUCKS, FAWN HEADS, FINE markings, \$1 and \$2 each. Mrs. E. M. Jones, Granger, Mo.

SIXTY VARIETIES PRIZE WINNING geese, ducks, turkeys, chickens, peafowls, guineas, stock, eggs. Cheap. Write wants. F. J. Damann, Farmington, Minn.

ROUEN DUCKS, FINELY MARKED; Wild Mallards, good and tame; White Guineas, White Wyandottes, French Houdans from scored stock. Guarantee safe arrival. Robert Fulliton, Austin, Neb.

SEVERAL BREEDS.

WHITE ROCKS AND BUFF ORPINGTON cockerels. Utility and exhibition stock for sale. Limited number. Write Virgil Taylor, Holton, Kansas.

WHEN WRITING ADVERTISERS, MENTION KANSAS FARMER

ORPINGTONS.

FINE BUFF ORPINGTON COCKERELS, \$2 each. Mary E. Price, Route 7, Manhattan, Kansas.

WYANDOTTES.

EXTRA CHOICE ROSE COMB SILVER Wyandotte cockerels, \$2 each, six for \$10. Mrs. Phillip Schuppert, Arrington, Kansas.

WHITE WYANDOTTE COCKERELS, also eggs for hatching; \$1.50 and up. Satisfaction guaranteed. N. F. Whiting, Pella, Iowa.

FOR SALE—BUFF WYANDOTTE COCKERELS, price \$1, and also White Pekin ducks and drakes, price \$1. Address Gus Sauer, Belvue, Kansas.

COLUMBIAN WYANDOTTES—WINNERS at Kansas State Fair, Hutchinson. Choice cockerels. Stock for sale. Eggs in season. Fancy pigeons. John J. Pauls, Hillsboro, Kansas.

CAMPINES.

CAMPINES—GOLDENS, SILVERS. 261-egg Buff Orpingtons. Both sexes. Bargains. M. Spooner, Wakefield, Kan.

LANGSHANS.

BLACK LANGSHAN COCKERELS FROM blue ribbon and sweepstakes winners. Mrs. D. A. Swank, Blue Mound, Kansas.

PLYMOUTH ROCKS.

WHITE ROCKS, SIZE AND QUALITY, priced reasonable. Write G. M. Kretz, Clinton, Kansas.

BIG BONED BARRED ROCK COCKERELS, fancy breeding, \$2 each. Bred to lay strain. C. D. Swaim, Geuda Springs, Kan.

PURE-BRED BARRED ROCK COCKERELS. The Taylor strain. Price \$1.50 if taken soon. C. H. Wempe, Seneca, Kansas.

BARRED—FIRST PEN ST. LOUIS SHOW. First cockerel and cock, State Fair exhibition; breeding males. J. K. Thompson, 205 The Drive, Topeka.

BARRED PLYMOUTH ROCK COCKERELS, Bradley strain. Parks 200-egg strain. \$3 to \$5 each. Eggs in season. Gem Poultry Farm, Haven, Kansas.

WHITE ROCK COCKERELS, SIZE, quality and color. Fawn and White Runner ducks, all prize winners. Mrs. Ben Miller, Newton, Kansas.

BARRED PLYMOUTH ROCK COCKERELS—Grand breeding birds, large and well marked. Dams have trap nest record 225 eggs in year. \$3 each, two \$5.50, four \$10. Ike Hudnall, Milan, Mo.

ANCONAS.

FOR SALE—SINGLE COMB MOTTLED Ancona cockerels, Sheppard strain, from sweepstakes winners; \$1 up. Write me your wants. Frank Glenn, Newton, Kansas.

SINGLE COMB ANCONA COCKERELS, two dollars each; good ones. Mrs. Cecile McGuire, Pratt, Kansas.

POULTRY WANTED.

PAYING FOR TURKEYS 23c, HENS 15c, ducks, geese, 12c, guineas 40c each. Coops free. The Copes, Topeka.

CORNISH

FOR SALE—DARK CORNISH COCKERELS, English strain. O. E. Daykins, Ottawa, Kansas.

Here Is What You Have Been Wanting

A perfect riveting machine, uses tubular rivets, no punch or rivet set required, one pressure on the handle and the job is done. It will save you many dollars in repair bills each year.



Made of japanned iron with steel plunger. This riveter, measuring 12 inches long and 6 inches high, will be given free to KANSAS FARMER readers.

Send us \$1.50 for two years' subscription to KANSAS FARMER and we will send you absolutely free, one riveter, all charges prepaid. Your subscription may be new, renewal or extension.

KANSAS FARMER, - - - TOPEKA, KANSAS

SUBSCRIPTION BLANK

Kansas Farmer, Topeka, Kansas.

Gentlemen: Please find enclosed \$.....for which send me

KANSAS FARMER.....year.....

One year for \$1.00; two years for \$1.50; three years for \$2.00.

Name

Post Office

State..... R. F. D. No.....

Are you already taking KANSAS FARMER?

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 300,000 readers for 4 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.

HELP WANTED.

TAKE A HOME AGENCY AND A FAIR profit. Eureka Co., Franklin Grove, Ill.

WANTED—LIVE AGENTS AT ONCE. Excellent terms. Falls City Nursery, Falls City, Nebraska.

MEN—100% PROFIT GUARANTEED selling spray pump and automobile washer. Write Rusler Company, Johnstown, Ohio.

BE A GOVERNMENT FARMER. GOOD pay; steady, interesting job. Write Central Institute, 44-F, St. Louis.

BOYS, GIRLS, SEND US THIRTY OR more names of farmers who will need seed corn this spring and we will send you a nice premium free. Seed Corn Armstrong's, Shenandoah, Iowa.

THOUSANDS U. S. GOVERNMENT JOBS now open to farmers, men and women. \$65 to \$150 month. Write immediately for list positions easily obtained. Franklin Institute, Dept. S-82, Rochester, N. Y.

MAN OR WOMAN TO TRAVEL FOR old established firm. No canvassing; \$1,170 first year, payable weekly, pursuant to contract. Expenses advanced. G. G. Nichols, Philadelphia, Pa., Pepper Bldg.

CATTLE.

FOR SALE—AN EXCELLENT REGISTERED Shorthorn bull, of serviceable age. Red in color. C. W. Merriam, Columbian Building, Topeka, Kansas.

HIGHLY BRED HOLSTEIN CALVES, either sex, 15-16ths pure, crated and delivered to any station by express, charges all paid, for \$20 apiece. Frank M. Hawes, Whitewater, Wis.

REAL ESTATE.

TRADES EVERYWHERE—EXCHANGE book free. Bersie Agency, El Dorado, Kan.

FOR SALE—STOCK FARM WITH A splendid summer and winter range. Write today. Charlie Hughes, Roseland, La.

FARM LANDS THAT WILL SOON DOUBLE in value and raise from fifteen to forty bushels of wheat to the acre while doing so, is the proposition I have to offer. Your investigation will prove my statement. J. H. Morison, Sterling, Colorado.

FARMING OUR FERTILE FLORIDA lands means growing crops the year round. Sandy loam with clay subsoil, ideal for early vegetables, oranges and grapefruit, live stock and staple field crops. Tract in prosperous community, close to transportation and Dixie Highway. Our book, "Farming in Florida," points way for right man to make big profits. Write for free copy today. O. P. Swope Land Company, Oviedo, Seminole County, Florida.

THE STRAY LIST.

TAKEN UP, BY MARSHALL RIFE, Union Township, Rice County, Kansas, one red bull calf, about one year old, appraised value \$20. L. W. Pulliam, County Clerk, Rice County, Lyons, Kansas.

TAKEN UP, BY O. L. FREY, ABOUT eight miles northwest of Elmdale in Diamond Creek Township, Chase County, Kansas, one red yearling heifer; no marks or brands; valued at \$30. November, 1916. J. A. Mann, County Clerk, Chase County, Cottonwood Falls, Kansas.

HORSES AND MULES.

FOR SALE AT A SACRIFICE OR WILL trade for western land, two good registered jacks, extra good breeders; a yearling jack, two jennets in foal. E. J. Devon, Parnell, Missouri.

SALE OR TRADE FOR YOUNG STOCK, 15-16ths Belgian stallion 9 years old, weight 2,000 pounds; 85 per cent breeder. W. G. Shideler, Silver Lake, Kansas.

HOGS.

FOR SALE—BIG-TYPE POLAND CHINA male, weighs over 325 pounds. Will make a 700 or 800-pound boar. Sure getter of large litters. Price \$30, crated and with papers. A guaranteed bargain. R. J. Blackman, Cole Camp, Mo.

SHETLAND PONIES

SHETLAND PONIES FOR CHRISTMAS— Charles Clemmons, Coffeyville, Kansas.

SEEDS

SUDAN GRASS SEED FOR SALE—FREE from Johnson grass or other mixtures. Write for samples and prices. Miller Bros., Bliss, Okla.

LENHARDT'S SELECTED EARLY PRO- lific seed corn. Every ear inspected by us. You get best results by using this corn. Lenhardt Bros., Gainesville, Ga.

FOR SALE—LIMITED AMOUNT SUDAN grass seed at 50c per pound. W. H. England, Ponca City, Okla.

WANTED—TO BUY.

WANTED, SEEDS—CLOVER, CANE, millet, kafir, milo, English blue grass, Sudan grass, pop corn. Send samples. Mitchellhill Seed Co., St. Joseph, Missouri.

WANTED—CAR LOAD OF THREE AND four-year-old likely looking molly mules. Lancaster & Hudson, Brenner, Kansas.

ALFALFA.

I CAN SHOW YOU RAW LANDS THAT I sold less than two years ago at \$85 per acre that are now renting by the year at fifteen dollars per acre. Why not get some of this wonderful alfalfa bottom land now? I have several choice pieces at \$100 on long time payments. Under best irrigation system in America. For names of farmers from your own state now here and printed matter, write H. H. Clark, 100 Main, Calipatria, Imperial Valley, California.

DOGS.

COLLIE PUPS—U. A. GORE, SEWARD, Kansas.

AIRDALE—THE GREAT TWENTIETH century dog. Collies that are bred workers. We breed the best. Send for list. W. R. Watson, Box 128, Oakland, Iowa.

MISCELLANEOUS.

YOU CAN MAKE A GOOD LIVING IN your back yard raising Belgian hares. Full particulars and price list of all breeds, 10c. W. G. Thorson, Aurora, Colo.

FOR SALE—16-HORSEPOWER GASO- line engine on steel trucks; good as new. Double seated carriage, rubber tires, good as new, cost \$480, or will trade either of the above. Make me an offer. H. W. McAfee, Route 8, Topeka, Kansas.

FOR SALE—LATEST PLAT BOOK OF Shawnee County, 44 pages, size 14x19 inches. Shows each township in the county, with name of each property owner on his land, also rural routes, school houses, railroads and complete alphabetical list of taxpayers in county outside Topeka and Oakland. Satisfaction guaranteed. Cloth binding, \$5.00. To close out remaining Bristol board binding will sell a year's subscription to Kansas Farmer and Plat Book for only \$1.50. Last previous county map sold for \$10. Send all orders to Kansas Farmer, Topeka, Kan.

SILOS.

FOR SALE—TWO CONCRETE SILOS, 220 tons each. One has 200 tons of corn silage in it. Barn 40 by 44, 12 lots, the dairy Yates Center. Good location for a dairy. C. H. Welde, Yates Center, Kansas.

HONEY.

PURE HONEY—TWO 60-POUND CANS, \$9.50, f. o. b. Las Animas, Colorado. W. P. Morley.

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS

Trapshooting

The wholesomeness of life in the country with its attendant hard work in the open air is never more manifest than at the traps when the country boy, fresh from the farm, pits his nerve and clear sightedness at the big tournaments against that of the top-notchers.

In the ranks of the aforesaid top-notchers are to be found a majority who shoot regularly once or twice a week throughout the season until, when the big tournament is on, their muscles and nerves are trained to a mechanical perfection. The country boy, however, has no such training and many of them let six months or more slip by before they find an opportunity to face the traps for a little practice. Nevertheless, it is these same bronzed and brawny Americans who offer constant surprises to the gallery and contestants at the big state shooting classics and the old timer cannot but wonder what the result would be if the farmer lad in connection with his clean, homely life had his weekly issue with the animated targets.

It is true that the handtrap is fast finding its place in the farmhouse and who knows but that this combination—the farmer boy and the handtrap—will develop in this country a shooting talent that will make present-day scores seem mediocre?—GEORGE PECK.

A little labor expended in a thorough cleaning of the orchard in the fall after the leaves have fallen and the farm work has become slack, will be unusually profitable. By the simple process of burning all weeds, brush, dead limbs and leaves, thousands and in some cases even millions of insect eggs and fungous spores that have been produced during the past season will be destroyed. In no line of work is a little prevention more valuable than it is here. Each one of these eggs or spores is only waiting for a favorable opportunity to hatch or grow and start its work upon the fruit crop of next season.



We desire to make this department just as helpful as possible, and believing that an exchange of experiences will add to its value, we hereby extend an invitation to our readers to use it in passing on to others experiences or suggestions by which you have profited. Any questions submitted will receive our careful attention and if we are unable to make satisfactory answer, we will endeavor to direct inquirer to reliable source of help. Address Editor of Home Department, Kansas Farmer, Topeka, Kansas.

O what a glory doth this world put on
For him who, with a fervent heart, goes
forth
Under the bright and glorious sky, and
looks
On duties well performed, and days well
spent!
For him the wind, ay, and the yellow
leaves,
Shall have a voice, and give him eloquent
teachings.
He shall so hear the solemn hymn that
Death
Has lifted up for all, that he shall go
To his long resting-place without a tear.
—Longfellow.

Are you worrying because you received a Christmas gift from a friend to whom you sent nothing, or perhaps only a card or letter? Do not do this. The true spirit of Christmas is to give, not exchange. When we make up our lists of those whom we will remember, we should not consider whether or not they will remember us. The card or letter bearing the message of a friend, should be prized as much as a gift. In acknowledging gifts from those whom we have not remembered with gifts, let us not make apologies. There are many ways we can show our friendship through the year as well as at the Christmas season.

Do You Can Vegetables?

We wish all our readers might have seen the exhibit of canned goods shown by the Glenwood Mother-Daughter Canning Club at Leavenworth a few weeks ago. This exhibit and the work that has been accomplished by the club members are described on another page in this paper. These women can all kinds of vegetables and meats as successfully as they do fruits. One woman told us she has canned 1,080 quarts up to December first, but her year's total would be much larger than this for she would refill her empty cans with meat at butchering time, and with sweet potatoes, as these were not keeping well and this was the only way she could save them.

What has been done by these women can be done by all others who will make the effort. Printed matter on the new methods of canning is obtainable from the extension division of the Kansas Agricultural College and from the U. S. Department of Agriculture. This explains the methods so clearly that anyone can follow them. The equipment required for this work is not elaborate or expensive.

Good Advice for Boys

Former President William Howard Taft, in an article telling what the legal profession offers the young man today, published in the December issue of The American Boy, says:

"In the first place, a boy should not enter the legal profession unless he has a taste for law. How shall he know whether he has the taste? He knows whether he is on familiar terms with books, or whether open air work such as engineering appeals to him more. He should like study, for law is a studious profession. In law he will have to use his mind all the time, will have to consult books, and arrange his thoughts in logical order. If he has no intellectual tastes, a boy should not go into law.

"A boy ought not to go into law if he desires to make money. There are lawyers who have become rich, but the average lawyer is not a money maker; the profession ought not to be entered as a money-making profession. In recent years it has been much injured by that tendency.

"If a boy is interested in government and politics, in statesmanship, in making himself useful in public matters, he ought to be a lawyer, because the study of law brings him into the field of governmental action, of legislative and executive activities, and trains him in the practical operation of law. Law offers great opportunities to a boy who wants to be useful, but the law is a jealous mistress. He must be ready to work hard in an intellectual way to prepare to succeed and to make himself useful to the community in which he lives.

"If a boy wishes to rise in the profession, he ought to get a thorough education as he can. He should not attempt to take up the study of law if his resources are limited and he is so situated that he cannot earn enough as he goes along to give himself a complete education in law, as well as a thorough foundation in general education. Men who come to the bar, after preparing for their examinations by the cramming process, may succeed for a little while in private practice, but men whose foundation of general education is very limited never become useful members of the profession. Law is a learned profession. There are instances of men, who, without having good educational opportunities, have made themselves learned, but these are great exceptions.

"The profession is overcrowded. Great numbers of men start and prepare themselves for law and become nominal members of the bar, but do not practice. Law is a good preparation for any business, but those who hang on are too many, and the ones who succeed are the ones who stick to it, and who prepare themselves, both before and after the period of actual study, so that they can do the business which comes to them with thoroughness and satisfaction to their clients.

"A boy ought not to go lightly into law because there is nothing else to do. Law is a great profession, but it has been made great by the self-sacrifice and hard work and earnest enthusiasm of those who have been members of the bar. The ones who lagged, who took short cuts, who were not willing to work hard—they it is who have brought disrepute upon the profession."

Work and Play

The farm where there is time for something besides work, is the one on which the young folks will remain contented longest. It is possible to find enough work on almost any farm to keep folks busy day and night, and it is also possible and very probable that if this practice is resorted to in an effort to finish the work, the young folks will be looking for another job as soon as they are old enough to leave home.

Human nature demands recreation and the one who withholds it from those working under him, will be sure to create dissatisfaction, whether it be farm work or some other kind that demands the entire time.

The farmer who allows his children a few hours each week away from work, will find that his helpers will accomplish as much in the hours they work as they would if made to feel there was no time for play, and they will work much more willingly.

What is the object of all our work if it is not to promote happiness and contentment? Will we ever gain our goal if we under-estimate the value of these as we go along?

One of the most beautiful calendars we have seen has just been received from Clay, Robinson & Company, commission merchants, Chicago. It is a panel 12x36 inches and is a reproduction of a picture of a pretty girl and her dog. This firm has always been liberal in the distribution of its calendars, and a request sent to the address given above would no doubt bring one of this year's exceptionally pretty ones.

Graham Pudding

1/2 cupful molasses
1/2 cupful butter
1/2 cupful sweet milk
1 cupful raisins
1 egg
1 teaspoonful soda
1 1/2 cupfuls graham flour
Spice to suit taste. Steam two and one-half hours.

Ginger Cake

1 egg
1/2 cupful molasses
1/2 cupful lard
1/2 cupful brown sugar
2 cupfuls flour
1 teaspoonful soda
1 cupful boiling water
Salt
Ginger
Cinnamon
Add the boiling water last.

GLENWOOD CANNING CLUB

(Continued from Page Five)

and vegetables, and even cold boiled ham which had been bought in slices ready to serve. The meal in the other home was made up entirely of home-grown, home-prepared products, it being so noticeable a contrast that he had commented upon it. In reply, the housewife laughingly told him that it had been necessary for them to search the alleys of a near-by town for tin cans in which to supply their chickens with water. Both families were very comfortable, financially, but in the one case the saving made possible by the utilization of home products was still recognized, while in the other this had been lost sight of in recent years of easier circumstances.

During the afternoon Dean Johnson, Otis E. Hall, and P. H. Ross also gave short talks.

GLENWOOD CLUB IN MOVING PICTURES

There were two unique features on the day's program, one being a reel of moving pictures taken in the Glenwood Club neighborhood and thrown on the screen at a local theater. Following this a number of moving pictures of the Leavenworth occasion were taken, to be used by Mr. Benson in his club work all over the United States, and by Mr. Hall in his work in Kansas. The pictures included the charter members of the club, the exhibit with all teams sta-

tioned in their sections and explaining to the visitors the process used by them, the arrival of the speakers of the day, and other scenes portraying the interest shown at the Leavenworth meeting.

CLUB EXHIBIT TO GO TO MANHATTAN

Dean Johnson made arrangements with the club to have the exhibit stored in Leavenworth until the time of the Annual Farm and Home Week at the Kansas Agricultural College, in February, when it will be shipped to Manhattan and displayed so that all the visitors of the week may see the very practical results of the home-canning campaign conducted by Mr. Hall the past two years.

To say the Glenwood Mother-Daughter Canning Club has been a success is not enough. The achievements of the club stand as a monument to those who conceived the possibilities of such work, and the effort put into it will increase in value as its influence is felt far and near.

In closing, we wish to drop a word of praise in behalf of the Leavenworth Chamber of Commerce, the County Farm Bureau and the county agricultural agent, I. N. Chapman. The hearty co-operation on the part of all, and their determination to leave undone nothing that will make for a better Leavenworth County, is a stimulus to those in charge of any local project.

Hot toast sprinkled with cinnamon after being buttered, is delicious.

FASHION DEPARTMENT—ALL PATTERNS TEN CENTS

This department is prepared especially in New York City, for Kansas Farmer. We can supply our readers with high-grade, perfect-fitting, seam-allowing patterns at 10 cents each, postage prepaid. Full directions for making, as well as the amount of material required, accompanies each pattern. When ordering, all you have to do is to write your name and address plainly, give the correct number and size of each pattern you want, and enclose 10 cents for each number. We agree to fill all orders promptly and guarantee safe delivery. Special offer: To anyone ordering a pattern we will send the latest issue of our fashion book, "Every Woman Her Own Dressmaker," for only 2 cents; send 12 cents for pattern and book. Price of book if ordered without pattern, 5 cents. Address all orders for patterns or books to Kansas Farmer, Topeka, Kansas.



No. 8067—Girls' Dress: Cut in sizes 6 to 12 years. One of the leaders in dress styles for growing girls is shown in this picture. In each half of the front below a deep yoke, two of three tucks are turned toward the center and a third toward the armhole to gain the panel effect. The dress slips on over the head. No. 8069—Ladies' Dressing Sacque: Cut in sizes 36, 40 and 44 inches bust measure. When one is in just the state of mind for rest and comfort, a dressing sacque like the one illustrated is necessary to complete the picture of contentment. Cut in one piece and in a becoming length at the sides; the surplice closing adds to the attractiveness. No. 8096—Girls' Coat: Cut in sizes 8 to 14 years. Up to date in detail without being a bit fussy, this coat will please any girl. By reason of its deep, wide collar, that comes close to being a shoulder cape, the panel back, belted sides and straight front, it may be classes with the prettiest and smartest of practical coats. No. 8081—Ladies' Dress: Cut in sizes 36 to 42 inches bust measure. One of the models in high style for the season is shown in this illustration. The plain waist is well set off with a pretty collar of contrasting goods. The sleeve has most of its fullness at the wrist where a frill cuff is gathered. The two-gore skirt is prettily draped with a four-gore tunic. No. 8091—Ladies' Skirt: Cut in sizes 24 to 30 inches waist measure. If you like their dressy effect, you will add the pelium to the sides of this skirt, but its style stays even if they are omitted. The garment is cut in four gores, arranged with panel front and back, and may be trimmed with braid as pictured to show fashion's fancy. No. 8085—Ladies' Apron: Cut in sizes 36, 40 and 44 inches bust measure. In this sleeveless apron, the body part is neatly fitted to the figure and rounded out over the shoulders as if to suggest that the military note is still in the air. A belt of material joins a three-gore skirt cut quite full and with a seamed panel front; a large, well-shaped pocket is stitched at either side.

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It doesn't pay to play a joke on a commercial traveler, as a Berkeley grocer discovered a few days ago. A poor old woman seeking alms came in while the grocer and the traveler were in conversation. The grocer, wishing to play a joke on the salesman, told the woman to "ask the boss," at the same time pointing to the commercial traveler. The latter was thunderstruck for the moment, but, regaining his self possession, at once said, turning to the grocer, who is a very small man: "Boy, give this poor woman a dollar out of the till."

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Fall and winter eggs bring big money. Start your early-hatched pullets laying now—keep them at it all winter. Hurry along the late ones. Help the hens through the critical molting period when they are weak and liable to contract many diseases. Make every bird a producer by using

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Activity Life of Laying Hen

ACTIVITY is the life of the laying hen. As her activity decreases, so does her egg production. The hen that stands around all day, and scarcely has enough energy to eat food placed before her, is never a laying hen.

The amount of forced exercise necessary will vary with the breed. The Leghorn, conceded to be the highest egg producer, and most active bird, will take a great deal of exercise. The Brahma is an example of the other extreme, and must always have a strong incentive to exercise. The vigor and productivity of the free-range hen as compared to one yard-confined is largely accounted for by her active life.

During the winter months exercise can best be managed by feeding all the whole grain in a litter ten to twelve inches deep. This will not involve a waste, for if hens are left a little hungry they will scratch long after the last kernel has been found.

Laying hens should never be fed in such quantities as to satisfy their appetite. Whole grain should be fed very sparingly in the morning, and heavily at night. This not only keeps the birds more active, through the day, but a heavy feed of grain at night keeps their bodies warmer.

Straw, hay, alfalfa chaff, leaves and cut corn stover, all make good litters. Shavings and saw dust are not best because they tend to pack, and also hold dampness. Regardless of the kind of litter used, it should be renewed frequently and never allowed to become badly contaminated with droppings.

Exercise can be further encouraged by suspending a head of cabbage or a few roots above the reach of the hens. At butchering time a part of the offal, or a raw bone hung in a similar way, will keep hungry hens on the jump most of the time.—C. S. ANDERSON, Colorado Agricultural College.

The Community Egg Circle

We would call attention to Farmers' Bulletin No. 656, published by the Federal Department of Agriculture. It is intended for those who are interested in forming a community circle for the marketing of eggs. In this bulletin forms are offered to aid in organizing, managing, and auditing a community co-operative egg circle or association. They are subject to such changes as will make them best adapted to the local conditions.

While at first the number of eggs to be marketed may not warrant a central station, with a manager to inspect, grade, and market the whole product, the aim should be to develop to that state. It is the only way to secure a uniform grade, which will attract the highest class of trade.

The preliminary agreement suggested is as follows:

"We, the undersigned, citizens of _____ County, State of _____, do hereby agree to form ourselves into an association, to be known as the _____ Egg Circle, and agree to abide by the rules for the conduct of the business which may be adopted by a majority of the members in regular session."

Write to Division of Publications, Department of Agriculture, Washington, D. C., for copies of this bulletin.

Causes of Egg Shortage

Poultry experts have figured out the reason for the egg famine the past fall, and their logic is reasonable. To secure a large egg yield from the average flock of poultry, it is necessary to feed a balanced ration throughout the entire twelve months of each year. Where a flock is not given this consideration, unusual weather conditions will cause a shortage of eggs and tend to increase the price.

Kiowa County, Oklahoma, has very few poultry raisers who devote much of their time to breeding an egg-laying strain of birds. During the spring and summer months the hens are allowed to hustle their own living. If growing and crop conditions are good in the months of July, August and September, a hen will daily consume enough green food

and insects to keep her body in good laying condition. However, let a severe dry spell come on like was experienced in Kiowa County during the latter part of the summer, owners of flocks must give their hens special attention and supply the deficiency in the food elements which the drought has taken away, or old biddy will lay out her clutch of eggs and quit for the fall and winter months, and no amount of tempting food, proper housing or coaxing will get her back in the mood of laying until spring opens, which is the natural laying period for birds of any kind.

To the dry weather of last summer can be assigned the present egg shortage. Egg kings and corporations hoarding immense quantities of hen fruit, have nothing to do with the present shortage, but their foresight is to be commended from a selfish commercial standpoint.

In the fall of 1915, and even through practically the entire winter, eggs sold on the local market at 15 and 20 cents a dozen. The summer was ideal, there was an abundance of green foliage throughout the summer months, and eggs were plentiful in the autumn.

Weather conditions from season to season to a large extent control the production of eggs.

When experienced poultry raisers have charge of an egg farm, they supply the necessary food elements to their hens when Nature takes it away, and these men report no strike among their flocks and are profiting from years of experience in securing the highest possible production from the flocks.—ROY BENEDICT, Oklahoma.

A hen house may be plastered, cemented or lined with tar paper or oiled muslin. All that is necessary is to tack on the paper and fasten lightly in place with lath. By so doing all the cracks will be closed and the house rendered warm and comfortable. It is not the large openings that cause colds and roup, but the small streams of cold air that come and give the birds that may be roosting near them swelled heads and closed eyes. If the comb is large, a hole no bigger than the head of a pin may let in a constant stream of air which, coming in contact with the comb, may cause it to be frosted, in which case the pain is so severe that the bird will be useless until a portion rots off and the comb heals again.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit-maker, write E. J. Reefer, poultry expert, 4639 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for \$1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantee if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—(Adv.)



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Lousy Hens Won't Lay

During the hot summer months lice propagate and take possession of the poultry house. Your hens are moulting now and to grow new feathers saps all of their vitality. If you allow your hens to be pestered with lice during the moulting period, they are sure to settle with you at the egg basket this winter. Now is the time to make sure your hens are free from lice. Get a package of

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Different from all others. Grind Corn with shucks. Kaffir in the head and all kinds of small grain. 4 and 8 horse sizes. (Also make 10 sizes of belt mills). FREE—Folder on "Seeds and Manures" O.N.P. Bowser Co., South Bend, Ind. Patterson Machinery Co., 1225 W. 11th St., Kansas City, Mo.

OVERLAND RED

A Romance of The Moonstone Canon Trail

(Chap. XXVIII. "Gophertown"—Continued.)

Then came the grunting of heels on the hard-packed trail and Overland Red stood in the doorway. "Mornin', gents—and Saunders," he said, glancing at the figure seated back toward him.

"Hello, Red!" exclaimed Joe Kennedy. "Out early, ain't you. Have a drink." "Not out too early. Hello, Lusk!" "How, Red," said the saloon-keeper. "Where's your friends? Ask 'em in," said Kennedy.

"Shall I ask 'em in, Saunders?" queried Overland, his voice edged with a double meaning.

"Not on my account," said Saunders over his shoulder.

"All right. Let's have a drink, boys." Even "Go-Light" Sago, the vilest of the Gophertown crew, admired Overland's coolness in turning his back on Saunders and facing the bar.

For a second Saunders' fingers twitched. He glanced up.

Joe Kennedy was looking at him over his glass of whisky. "Ain't you drinkin', Silent?" he asked.

"With some folks," said Saunders. Overland whirled round. "Have a drink with me, then."

Saunders laughed.

"Then you don't smoke either, while I'm here," said Overland, his hand on his hip.

"That so?"

"Yes, that's so! When you try to pull that old bluff of a match-game on me, wait till I'm a hundred and four years old, Silent. That gun-trick died of old age. Think up a new one."

"Ain't you talkin' a little loud for polite sassiness?" questioned Sago, addressing Overland.

"Seem' you're the only one that thinks so, I reckon not," said Overland.

"Then," said Sago, moving slightly from the bar, "Saunders smokes."

It was on open declaration of war. Sago, the Inyo County outlaw, sided with Saunders.

According to the ethics of gunmen, Saunders was not armed. He was not "packing iron."

His weapons lay on the table within reach, but he knew Overland would not precipitate matters by shooting him down where he sat.

He glanced at Sago. The other winked.

"Then I smoke," said Saunders, and reached for a match. He shot from the hip, swinging his guns sideways. The stutter of Overland's automatic mingled with the roar of Saunders' heavy Colt.

Sago, jumping clear, pulled his gun. Kennedy clutched his arm. Saunders slid from his chair, coughed horribly, and wilted to the floor.

Overland backed toward the door, both guns leveled.

Sago, jerking his arm free, threw two shots at Overland, who replied with a rippling tattoo of the automatics.

The Inyo County outlaw sank to his hands and knees. Then Overland leaped through the doorway. The Moonstone riders spurred toward the saloon, thinking that the quarrel had provoked too many guns.

Overland tried to stop them, but they were hot for fight.

"It's a clean up!" yelled Parks, running out of the saloon and mounting his horse.

"You framed it, you red-headed son—" He got no further. Brand Williams, thundering down at the head of the Moonstone riders, threw a level shot that cut through Parks, who wavered, but managed to wheel his horse and fire at Overland Red.

Then the outlaw slid from the saddle clawing at it as he fell.

The Gophertown men poured from the saloon, and, seizing their ponies, circled round to the back of the building, firing as they retreated.

Miguel spurred his big pinto in among them and emptied his gun. He rode out at a lope, reloading. The front of his flannel shirt was shot away, but he was not aware of it.

Billy Dime coolly sat his horse and "drew fine" at each shot, till a leaden slug drifted his gun-arm. He swore profusely, and wisely spurred out of range.

"I got one!" cried Miguel, swinging shut the cylinder of his gun. "I go get another one."

"Give 'em my compliments," said Dime, winding a handkerchief round his arm and knotting it with one hand and his teeth.

Williams, keeping under cover, fired slowly and with great precision. Overland Red, utterly unable to manage the Yuma Colt under fire, rode up to Williams. "Let's call it off, Brand. I got my man. They was no need of the rest of it. How did it start, anyhow?"

"That's about what the kid said when he let go the wagon on top of the hill. I counted five Gophers down. Billy's hit, and Miguel's goin' to be, the dam' little fool. Look at him!"

The Gophertown men were drawing away toward the canon. They turned occasionally to throw a shot at Miguel and Pars Long, who followed them.

Bud Light sat his horse, gazing solemnly at the stump of his gun-finger. His shirt was splattered with blood.

Suddenly Williams raised a shrill call. The Moonstone boys wheeled their ponies and rode toward him. Williams pointed up the canon. Down it rode a group of men who seemed to be undecided in their movements. They would spur forward and then check and circle, apparently waiting for their friends to come up to them.

"It's the rest of the Gophertown outfit. We might as well beat it," said Williams. "This here thing's gettin' too popular all to once."

"Did that guy get you?" asked Williams, nodding to Overland.

"Not that you'd notice," replied Overland. "We'll take a drink on the house. She ain't so tidy as she was."

"Neither is the guy behind the bar," said Bud Light, pointing with the stub of his finger to Lusk's face. The saloon-keeper had been hit between the eyes by a chance bullet.

"He's where he belongs," said Williams. "So is this one." And Williams touched Saunders' body with his boot. "Let's drink and vamoose."

Overland Red.—Copyright, Houghton Mifflin Company.

"Here's to the kid!" cried Overland, strangely white and shaky. "Here's hoping!" chorused the Moonstone riders.

CHAPTER XXIX TOLL

None of the Moonstone boys had supposed that Overland Red was hit. He rode joyfully and even began a poem to the occasion. Williams was first to notice that Overland's speech was growing thick and that his free hand clasped the saddle-horn.

The others, riding a little to the rear, burst suddenly into boisterous laughter. "What you think, Brand?" called Pars Long. "Bud's jest been countin' his fingers and he says there is one missin'."

He has to skip when he comes to number one on his right mitt. Says he can't get started to count, that way."

"Some lucky it ain't his head," replied Williams.

"His head? Bud would never miss that. But his pore little ole finger, lay'n' calm and cold back there. A very sad business, brethren."

"I paid twelve sweaty plunks for her in Los and look at her!" cried Pars Long, doffing his sombrero. The high crown was literally shot to pieces. "I guess I am some wise guy. You fellas kidded me about sportin' an extra high lid. Come on, Chico, they're laughin' at us!"

"If they'd 'a' shot the crown off clean down to your ears, you'd never noticed it," grumbled Billy Dime.

"Mebby I am a fat-headed chicken, Billy, but I got both wings yet," retorted Long. Billy Dime looked down at the blood-soaked sleeve of his right arm. "The fella that did it is eatin' grass now," he muttered.

"Now, what's the matter with Miguel? Discovered any bullets nestin' in your manly buzzum, Miguel?"

"I think no. But I lose something," replied Miguel, smiling.

"That so?"

"I did have the tobacco and papers here," he said, and he put his hand on his chest. "Now I look and the pocket and some of the shirt is not there—and my tobacco is gone, and the little papers."

"Is that all? Sad. I thought you'd lost a railroad or a steamship or something. Cheer up! Things might be better."

"I think I like to smoke," said Miguel, quite seriously. "I will ride back and get some tobacco and some more papers."

"That ain't all you'll get. Here, smoke up. You look fine in that peek-a-boo shirt. Never knowed you had such a good shape. What size gloves do you wear, pet?"

And Pars Long passed tobacco and papers to Miguel, who rolled a cigaret and smoked contentedly.

"Billy, you look sick," said Bud Light. "Oh, no! I want to go to a dance, right away. Whoa!"

They drew rein. Williams, dismounting, was bending over his companion Overland, who had suddenly slipped from the saddle. "Where's he punctured?" queried Bud Light.

Williams examined the prostrate man. "Kind of low down, and in the side. 'Tain't bad, but it's bad enough. Got any whisky?"

"You bet! I got a pocket-gun here. Swiped it in the saloon." And Pars Long handed a flask to Williams.

The riders, standing round the fallen man, watched Williams as he bound up the wound, which was bleeding slowly. The whisky partially revived Overland. He managed finally to cling to the saddle, supported by Williams.

"She's thirty hot miles to camp. Red won't last out," said Long.

"I say he does," said Bud Light. "Did you see them puckers in his hide? I counted seven. He ain't made to be stopped by a gun."

"Mebby he ain't stopped, but he's slowed up considerable. Did you see the two guys in two and the other one by the bar had four holes in him. I counted 'em, to quit thinkin' of my arm. Them automatics is fierce!"

"He would never 'a' got out if he'd been packin' a regular old six-gun," said Bud Light. "Both them guys were throwin' lead at him."

"How do you know? You wasn't there."

"Easy. He went in to get Saunders. He gets him. The other one takes a hand. He got him. We didn't do any shootin' inside."

"Guess that's right. But how about the barkeep?"

"Oh, he just got in the way. He was drilled between the lamps. In a mix like that who's goin' to take time to draw fine?"

"Did you see Brand lift the Gophertown guy out of his saddle—the one that was shootin' at Red in front of the joint? Brand threw a forty-five into him, and comin' on the jump, too. The Gopher humped up like he'd been horned by the Santa Fe Limited. Now what's the dope?"

Overland Red had again fallen from his horse. Williams beckoned to Long. "Take the Yuma Colt, Pars, and fan it for the canon. Send the doc back, and you stay with that young Winthrop and look after Collie. Your boss is quieter for Red, anyway. Tell the doc to bring his tools along. I reckon we'll camp over there near the hills till tomorrow."

"Who was it got me?" questioned Overland as he was revived a second time.

"I don't know," replied Williams. "The only distinguishin' brand on him was one I put there. It ain't worryin' him now."

"Like old times," said Overland, trying to smile.

"Like old times," echoed Williams.

"I guess it was Parks," murmured Overland. "He had plenty of chance. I wasn't after him."

Slowly the group of horsemen rode across the desert. The afternoon sun made queer shadows of them and their mounts. Billy Dime rode bent forward. His face was white and beaded with sweat. Overland, on Long's pony, was supported by Miguel and Brand Williams. Pars Long had disappeared in the shadows of the range.

Billy Dime's eyes grew strangely bright.

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CLAIM SALE DATES.

Percheron Horses. Feb. 9—Breeders' Combination Sale, Manhattan, Kan. C. W. McCampbell, Mgr.

Registered Horses. Jan. 30-31, Feb. 1-2, 1917—Breeders' sale, Bloomington, Ill. C. W. Hurt, Manager, Arrowsmith, Ill.

Jacks and Jennets. Feb. 22, 1917—W. H. Roller & Son, Circleville, Kan., and Bruce Saunders, Holton, Kan. Sale at Holton. March 1—H. T. Hineman & Sons, Dighton, Kansas.

Jersey Cattle. March 8—F. J. Scherman, Topeka, Kansas.

Holsteins. Feb. 6—H. C. Gillsman, Omaha, Neb.

Shorthorn Cattle. March 30, 1917—Combination Sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager. April 4-5, 1917—Central Shorthorn Association at Stock Yards Pavilion, Kansas City, Mo.

Hereford Cattle. Feb. 26—Combination sale at Hays, Kan. Prof. W. A. Cochel, Manhattan, Mgr. Feb. 27—Combination sale, Manhattan, Kan. Prof. W. A. Cochel, Manhattan, Mgr. March 6—Moses Bros. & Clayton, Great Bend, Kansas. Combination sale.

Polled Durhams. March 29, 1917—Combination sale, South Omaha, Neb. H. C. McKelvie, Lincoln, Neb., Manager.

Poland Chinas. Feb. 1—P. M. Anderson, Lathrop, Mo. Feb. 7—W. B. Wallace, Bunceton, Mo. Feb. 20—Fred B. Caldwell, Howard, Kan. Feb. 22—A. J. Erhart & Son, Ness City, Kan. Sale at Hutchinson, Kan. Feb. 28—F. Olivier & Sons, Danville, Kan. Feb. 28—Clarence Dean, Weston, Mo. Sale at Dearborn, Mo.

Durocs. Feb. 10—W. W. Jones, Clay Center, Kan. March 6—Richard Rothgeb, Pleasant Green, Mo. March 15—W. T. McBride, Parker, Kan.

O. I. C. Hogs. March 8—F. J. Scherman, Topeka, Kansas.

Otto Plagmann, of Eureka, Mo., owner of one of the best big-type Poland herds in that state, reports his herd doing well. Mr. Plagmann breeds the type that have both size and quality. A feature of his herd is the fine lot of young stock. He had bred a choice lot of gilts for early farrow.

Ira Romig of Topeka, owner of Bonnie Brae Holstein herd, reports his herd closing the year with a splendid record. Mr. Romig has a herd of producers, both pure-bred and grades. At this time he has a very fine lot of high-grade two-year-old heifers. Many of them are fresh and all will be fresh in the near future.

Richard Rothgeb, of Pleasant Green, Mo., is claiming March 6 for a Duroc Jersey bred sow sale. On this date he will sell sixty head of large roomy bred Duroc sows and gilts. Mr. Rothgeb is a careful and reliable breeder and owns one of the good herds in Missouri.

Combination sales of Hereford cattle are announced for Hays, Kansas, February 26, and Manhattan, Kansas, February 27. These sales will be under the management of Prof. W. A. Cochel of the agricultural college, and the offering will be of a class that will interest Hereford breeders.

J. B. Porter & Son, of Mayetta, Kansas, owners of one of the heavy producing herds of Jersey cattle in this state, report their herd doing well and closing the year with a good record. They have the best producing blood lines of the breed in their herd and a feature at this time is the choice lot of young stock backed by records that stamp them as the profit producing kind.

On December 12, J. B. Branson, Lincoln, Neb., held his annual Holstein sale at their dairy farm, Riverside Place. Although the day was very blizzardy, many of Nebraska's progressive dairymen were on hand to buy his good cattle. The crowd was more than pleased with the offering and the bidding was very spirited. Nearly 100 head were sold in less than two hours. Lot 2, Louise, a nearly white fresh, four-year-old cow, topped the sale at \$250, going with a number of other choice cows to C. A. Bone, of Nebraska City. Thirty-six grade cows made an average of \$165 each. He has recently completed a new modern dairy barn with capacity for fifty head. The crowd was much interested in this barn, which is of Mr. Branson's own design. He is a real dairyman and also has proven himself a good judge of Holsteins. He contemplates another sale in the near future.

He laughed, gazing at the foreman's back. "The whole damn fuss was wrong, wrong, I tell you! We had no business shootin' up that town."

"But it was considerable pleasure," said Bud Light. "You're off your bean, Billy, I guess you forget what they did to Collie."

Billy Dime leered. The fever from his wound was working through his blood. "Don't pretend to me, Bud Light, that you come on this little pasear on account of Collie. It was her eyes that said to go. You know that. She never said words, but her eyes said to go—and to kill!" Do you get that? That's what a woman can do to a man, without sayin' a word. And what did Collie ever do for me? Look at that arm. Look at it! What did Collie ever do for me to get shot up this way?" And Billy Dime began to weep. "I killed two of 'em—two of 'em. I saw 'em drop. I was drawin' fine—fine, I tell you, and I couldn't miss."

Bud Light rode forward to Williams. "Billy's gone off his crust. He's ravin' back there, Brand."

Williams drew Long's flask from his saddle-pocket. "Give him a shot of this. Take some yourself. Miguel and I don't need any. Hold on—I'll give Red a shot first. When it gets to workin', you yip and ride for the hills. We'll all ride—ride, you understand? It'll be a dry camp, and a hard flash, but we'll make it."

CHAPTER XXX TWO ROSES

One morning, some three weeks after the invasion of Gophertown, Bud Light, Billy Dime, and Brand Williams appeared at the Moonstone Ranch office.

Quite casually they had dismounted, and jingling up had asked for Walter Stone. Upon his appearance the younger men applied individually for their old places. The room smelled of cigaret smoke and antiseptics. Quite as though nothing unusual had happened, the rancher reinstated them.

"Have a good time, boys?" he asked.

"Yes, sir. Very good time. Better than we expected," replied Billy Dime. Bud Light nodded.

Stone looked hard at Billy Dime's bandaged arm. "Miguel and Parson Long have a good time also?"

"Stayed to help Overland Red work the claim. Overland Red got hurt a little, doin' somethin'. He's all right now."

"None of the Moonstone boys were injured?"

"Nope. Not a one of us," replied Dime blandly.

Walter Stone's eyes twinkled, but he did not smile. "We will call it a vacation this time, with pay. Tell Williams to step in here, please." And the rancher dismissed his embarrassed and happy punchers with a gesture.

The interview with Williams was not so brief. "The boys came out of it all right?" asked Stone, shaking hands with his old foreman.

"Yes, sir."

"How did you manage that?"

"Didn't. They did."

"Any one—of the other side have an accident?"

"Saunders—and six gents got hurt pretty bad."

"Whew! Our boys were lucky."

"It was nothin' but luck that they ain't all back there now—on the sand. You see, the Gophertown outfit are all what you'd call good with a gun, but it was kind of a surprise, the spreadin' of the thing from Red's little private deal to a six-hand game. We sure was lucky."

"And Collie?"

Williams shook his head. "I don't know. We thought he had crossed over. Seems he took a new holt. The doc and Winthrop brung him to Los in the automobile. He's at the hospital. But they say he don't pick up any since he come there."

"All right, Brand. I think that is all."

"How about my name goin' back on the books?" asked Williams.

"It hasn't been off the books. You know, Louise attends to the time-sheet."

Williams nodded. "I expect Miguel and Parson Long will be sniffin' around lookin' for a job before long. They agreed to stay with Red till he got on his feet again. But they told him they would go just as soon as he was all right, for you couldn't run your ranch without 'em."

Walter Stone smiled broadly. "You're foreman, Brand."

"They was fightin' just as much for the name of the old Moonstone as for Collie, or for fun," said Williams.

"I know it. But I don't believe in such methods. That sort of thing is about done with," said Stone.

"I was readin' about the old days in the Panamint, not long ago," said Williams, gazing at a corner of the office. "I—they was a list of names of the ranchers that cleaned up the rustlers over there, back in '86. It was interestin'—some of them names."

Walter Stone coughed and turned in his chair. He gazed out of the window. Finally he faced Williams again. "We had to do it," he said, smiling.

Williams nodded. They understood each other.

The Marshalls, delighted with Los Angeles, had taken apartments in the city. Dr. Marshall, at the urgent request of Walter Stone, had called at the hospital to see Collie. The wound had healed slowly. Collie gained no strength. He seemed indifferent as to whether he recovered or not.

Dr. Marshall, consulting with the surgeon, agreed that the young man's recovery was still doubtful. His vitality was extremely low. His usual optimism had stagnated.

Later, when Walter Stone, Mrs. Stone, and Louise visited the hospital, Collie had smiled wanly and said but little, thanking them for their visit with a word.

Louise returned home, heartsick and haunted by Collie's eyes that had seemed so listless, so indifferent, so weary. She had hoped to cheer him. His indifference affected her more than his actual physical condition, which seemed to be the cause of it. Louise recognized in herself a species of selfishness in feeling as she did. Like most folk of superabundant health she was unable to realize the possibilities of sickness. She longed for his companionship. She had not dared to ask herself whether or not she loved him. She was glad that he should love her—and yet she was not altogether happy. She had sent him her token, the little gray riding-gauntlet. He had in no

way acknowledged it.

The sentiment incident to Collie's almost fatal misfortune did not blind her in the least. She told herself frankly that she missed him. At the ranch he had been with her much. From her he had gleaned of books and people. The actual advantage to him was not in the quantity of knowledge he had gained, but in the quality and direction suggested by her attitude toward all things. The advantage to her in his companionship had been the joy of giving, of shaping his thought, of seeing him slowly and unconsciously differentiate himself—stand apart from his fellows as something she had helped to create. This much of him she possessed through conscious effort.

Then to have seen him in the hospital, helpless, seemingly beyond any noticeable influence of her presence, stirred in her a kind of maternal jealousy. Straightway she visited Anne Marshall, who kissed her, held her at arms' length, saw the soft rose glow in her face, and spoke to the point, albeit in parables. Dr. Marshall had been very poor—a doctor in the slums—just before they were married. People had said things and had looked things, which was even worse. They subtly intimated that the doctor was marrying her for her money. She was the happiest woman in the world. She thought Collie was the manliest and most striking figure she had ever seen.

To all of which Louise listened quietly, blushing a little. "And he is wealthy," concluded Anne. "For so young a man, he is wealthy. The Rose Girl Mining Company, Incorporated, my dear, pays well. Collie is one of the three largest stockholders. You see, Billy and Overland Red have decided to turn the claim into a corporation."

"Don't you contradict yourself—your theory a little, Anne?" asked Louise.

"No, indeed! It doesn't matter in the least who has the money, so long as the man is the right one."

And Louise was silent, and a bit happier. The little parcel that came to the hospital, directed to Collie, was from Overland. It was accompanied by a vividly worded note and a small, stained, and wrinkled glove, at once familiar.

Overland's note explained the delay in forwarding the glove. "It's some mused up," he wrote, "because I had it in my shirt when I was hit. I was some mused up likewise, or I would not 'a' forgot it so long. The little Rose Girl sent it to you by Brand when she thinks you was going to cross over on the last sunset limited. And I am feeling fine, thanks. Do not rite to me if it gives you cramps.—Yourses very fathefully, Jack."

Collie turned the gauntlet over in his trembling fingers. His eyes glowed. He called the nurse, telling her he was hungry.

Anne Marshall's visits were always refreshing. Well-gowned, cool, fragrant, she came, next afternoon, to Collie's bedside.

"You must get well," she said, smiling. "The doctor will be terribly disappointed if you don't. Isn't that coldly encouraging? What a thing to say!"

"I don't want to disappoint anybody," said Collie.

"Well, you will if you don't get better right away, sir! I wish I could do something to help. I can only sympathize and encourage the doctor."

"I know he's doing a whole lot for me. I think mebbe you could help—a little—if you wanted to."

"Gracious! As though I didn't! Why didn't you tell me sooner?"

"It only came yesterday," said Collie, tremulously drawing the gauntlet from beneath his pillow.

Anne Marshall gazed at the soiled and wrinkled glove with unlightened eyes. Then her quick smile flashed. "Oh! Now I know! So that is the tallman? Came yesterday? No wonder you seem brighter."

Collie's answering smile was irresistible. "It isn't just the glove—but would you—I mean, if you was like me—without being educated or anything—" He hesitated, breathing deeply.

But Anne Marshall understood him instantly, and answered his shyly questioning eyes.

"Indeed, I should. If I had half your chance, I shouldn't waste a minute in claiming the mate to that glove. One glove is of absolutely no use, you know."

"This one was—pretty much," sighed Collie. "I was feeling like letting go inside and not trying to—to stay any longer, just before it came."

"S-s-s-h! Don't even think of that. Some one called on me a few days ago. You are a very fortunate young man."

Anne Marshall's ambiguity was not altogether displeasing to Collie, in that it was not altogether unintelligible.

William Stanley Winthrop, sojourning briefly but fashionably in Los Angeles, appeared at the hospital in immaculate outing flannels. It was several weeks after his sister's last visit there. Winthrop took the convalescent Collie to the Moonstone Rancho in his car.

Bud Light and Billy Dime accidentally met the car in the valley and accompanied it vigorously through Moonstone Canon.

(To Be Continued.)

L. M. Monsees & Sons, the well known jack breeders of Smithton, Mo., announce that they will not hold a sale this spring, but will close out their mature jacks at private treaty.



That heifer calf

should be saved if she carries good milking blood. You can raise her easily and cheaply on skim milk and our Blue Bag Brand Calf Meal. Satisfaction guaranteed. See page 1539, General Catalog.

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Stock of all ages, sired by seven of the very best boars of the East and West. Priced right. Write your wants to the

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Poland China boars and bred gilts for sale. I have six gilts bred to farrow in March that weigh 275 pounds each. Price, \$35 each. Four boars of same weight, \$25 each. Lot of summer and fall pigs, \$15 each and \$10 each, the big kind.

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P. W. Enns, of Newton, Kansas, owns one of the good Holstein herds in this state. It is made up of individuals backed by a long line of producers and is noted for its choice lot of A. R. O. dams. A feature of this herd at present is the outstanding lot of young stock, including a number of young bulls out of A. R. O. dams.

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We have an especially large, choice selection of extra high grade young cows and heifers due to freshen this fall and early winter, all in calf to pure-bred bulls. These females are large, deep bodied, heavy producers, with large udders, all well marked individuals and the right dairy type. Our offerings are at prices that challenge comparison for Holsteins of their breeding and quality. High grade heifer calves, \$25. Send draft for number wanted. Let us know what you want in Holsteins, and we will be pleased to send you descriptions and prices. Keep us in mind before purchasing. Wire, write or phone us.

GIROD & ROBISON --:--:-- **TOWANDA, KANSAS**

FARM AND HERD.

Copla Hengerveldt 2d's Buttercup, a Holstein cow that broke four world records in advanced registry work as a heifer, is lately reported dead from acute indigestion, just as she was about to be tested for a full age record. This, as well as being a loss to her owners, Henry Stevens & Son, of Lacona, N. Y., is a disappointment to H. B. Cowles of Topeka, who some years ago picked a son of hers to head his Braburn herd. Her week's record of 21.55 pounds of butter as a junior two-year-old, corresponds on the Advanced Registry scale to a full age record of 33.51 pounds, and her year's record of 849.03 pounds for the same lactation, corresponds to a full age record of 1,446 pounds, a record yet passed by only two or three cows. Mr. Cowles selected her son, Walker Copla Champion, partly because he furnished the blood lines wanted, and partly because the dam looked to him as though she had it in her to make that sort of record. They won't be made now, but that does not make anything from the bull that was in him before.

W. B. Wallace, of Snodgrass, Mo., is claiming February 7 for a bred sow sale. On this date forty large fall yearling gilts and twenty tried sows will be sold. About 80 per cent of the offering will be bred to the great boar, King Joe, that Mr. Wallace paid \$1,250 cash for. Others will be bred to Model Big Bone, a splendid yearling. It will be remembered by most Poland China breeders that King Joe sired the first under a year and junior champion at the swine show at Omaha. A number of the gilts that go in the sale are by such boars as Caldwell's Big Bob, A Monarch, Grand Mammoth and Big Wonder. A few of the sows are sired by Big Orange, A Monarch and Grand Mammoth.

W. R. Huston, Americus, Kansas, one of the live boosters for pure-bred stock, reports his Duroc herd doing well. Mr. Huston has built up one of the best herds of Durocs in the state. He has the best of breeding and has developed a type that matures early and are very profitable feeders. The great herd boars, Gold Medal 176231 and Long Wonder 2d 168335, that have been in use in this herd, are among the great sires of the breed. A feature of the herd at this time is the choice lot of young stock. Mr. Huston also has one of the finest flocks of Rose Comb Rhode Island Red chickens in the state.

C. H. Wempe, of Seneca, Kansas, is one of the successful breeders of pure-bred draft horses in Kansas. Mr. Wempe has very fine herds of both Percherons and Clydesdales. Both herds are headed by stallions that are among the best in the Southwest. During the past eight years, breeding stock from the Wempe farm has gone to herds and breeding stables in ten states. Features of the herds at this time are the choice lot of brood mares and youngsters, and ten of the eighteen mares in the Percheron herd will bring spring colts.

Spotted Poland China breeders throughout the corn belt will be pleased to learn that H. L. Faulkner, of Jamesport, Mo., will on February 14, 1917, sell a choice draft of sixty head of big spotted tried sows and yearlings, bred for February, March and April farrow to the great boars in service in his herd. Mr. Faulkner owns the biggest herd of old original big-boned Spotted Poland in existence. His herd has supplied the foundation stock for a large per cent of the herds of that popular breed now in various states. His bred sow sales are always the leading event of the sale season and never fails to draw breeders from a large number of states.



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