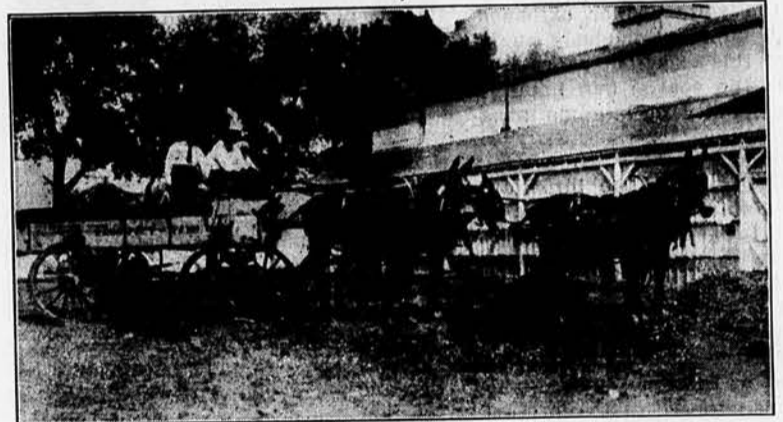


KANSAS FARMER

Volume XLVI. Number 38

TOPEKA, KANSAS, SEPTEMBER 17, 1908

Established 1863. \$1 a Year



SCENES AT THE STATE-WIDE FAIR.

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low in this instance and work in the factory was resumed within thirty minutes. Repairs consisted in bending back reinforcing bars and repouring the concrete. Adjoining buildings however, were not so fortunate. The roof of a city fire engine house, twenty-five feet distant, were blown in, while walls cracked and plastering fell in a hospital building a hundred feet away. The latter was an excellent type of brick and timber construction. In the concrete factory there was no scaling of concrete under the shock or falling of plastering in the office portion of the building, which was within a few feet of the exploding drums. The damage was purely local.

The incident affords another example of the tremendous strength of concrete and its resistance to fire and shock. A suggestive feature of this accident was the fact that the damage was confined to a very small area. In that respect the behavior of the concrete corresponds with its record under stress of fire. This is an important virtue in concrete but only one of the many it is known to possess.

Population of Kansas Counties.

The population of Kansas March 1, 1908, was, as returned to the State Board of Agriculture from books of enumerators, 1,656,799, the largest ever reported for the State, and a net increase of 6,639 over the preceding year. Sixty-six counties show an increase of 29,131, and 39 an aggregate decrease of 22,492. The counties showing decreases are for the most part in the southeastern, north central and northwest portions, while the largest percentages of increase are in the southwest.

By far the largest increase reported is in Sedgwick County, which gained 3,961, or nearly 14 per cent of the entire increase for the State. Wyandotte is next with a gain of 1,465, followed by Barton with 1,452, Pratt 1,286, and Riley 1,283. The gain in these five counties represents nearly a third of the increase for the State. The smallest increase is 5, in Logan County.

The largest decrease is in Cowley, whose officials certify to a falling off of 3,616, or 16 per cent of the total decrease for the State. Allen is next, with a decrease of 2,444; then Leavenworth 2,422. Atchison, which makes the first complete returns of population since 1905, certifies to a decrease of 2,221 since its last preceding enumeration; Crawford has decreased 1,394 and Lyon 1,311.

Statements of the per centages of growth and decrease perhaps convey the best idea of the population conditions in many of the counties. Morton shows much the largest per cent of increase, 122; followed by Stanton with 75, Stevens 38, Meade 27, and Haskell and Grant each 24—all these in the extreme southwest. The largest per cent of increase in the eastern half is 9 per cent in Riley. The largest per cent of decrease in the State is 11 per cent in Cowley.

The rank of the five counties leading in population this year reveals two changes. Shawnee, which was last year crowded from second to third place by Montgomery, is this year fourth, changing places with Sedgwick, which now ranks third. The positions of the five leaders are as named: Wyandotte, Montgomery, Sedgwick, Shawnee, and Crawford.

Comparisons of this year's figures with those of ten years ago show some noteworthy increases. The population for the State in 1908 is 265,830, or 19.1 per cent more than in 1898. In the decade 81 counties have increased in population and 24 have lost. The entire northern tier of counties from the eastern border to the center of the State show decreases. In the ten years Finney has increased 136 per cent; Ford 137, Gove 133, Grant 155, Gray 176, and Greeley 201 per cent. Hamilton County shows an increase during this period of 125, Haskell 213, Kearny 220, Kiowa 135, Logan 118, Meade 180, and Montgomery 127. The gain

in Morton is 311 per cent, Scott 195, Seward 413, Stanton 219, and Stevens 312 per cent.

The net gain in the population of the cities of Kansas is 797. This number is subtracted from 6,639, the net gain of the entire State, leaves 5,842 as the net gain of the country districts.

Table showing the population by counties, with the increase or decrease in each, for the year 1908, returned as of March 1, by assessors, through their county clerks; also comparisons with figures of ten years before.

Table with columns: County, Pop. 1908, Inc. since 1905, Dec. since 1905, Pop. 1898. Lists all 105 counties of Kansas with their respective population and change data.

Population of cities of Kansas having 1,000 inhabitants and upwards March 1, 1908, in the order of their rank, together with the gain or loss of each since March 1, 1907.

Table with columns: Rank and name, Pop., Gain, Loss. Lists 37 cities in Kansas with their population and changes from 1907.

Table listing 105 counties of Kansas with their population in 1908 and 1898, and the percentage change. Includes counties like Osawatimie, Clay Center, Olathe, etc.

A Great Mistake of the Live-Stock Shows.

EDITOR KANSAS FARMER:—Our live-stock shows and fairs are for the purpose of educating the breeder, and to this end they should be perfected. When we can plainly see our mistakes we should not hesitate to correct them. I have given the subject of stock-judging considerable thought, and have become thoroughly convinced that the present system of judging by comparison is a great mistake, when considered from an educational point of view.

Suppose A, B, and C are each exhibiting a Percheron stallion at our State fair and are the only ones in their class. A's horse is windbroken. B's horse has a treated spavin. C's horse has Periodic Ophthalmia. The three stallions are led into the ring, before the judge. C's horse receives first premium, A's horse receives second premium, and B's horse receives third premium. Each of these three men go away well pleased. C of course thinks no one discovered the defective eye sight of his stallion and each of the other exhibitors are chuckling up their sleeves to think that the judge never noticed the unsoundness of their horses. Now the question arises. What did these breeders learn? Did they learn anything about what a perfect horse should look like? No.

Next spring when advertising their stallions for the season, they are sure to put on their cards in large letters, that they won such a premium at the Kansas State Fair, etc., etc. Now comes the great harm done by giving such unsound animals premiums of any kind that might be used to defraud the unsuspecting public. The farmer that has some good mares goes some distance and pays an extra price to

Advertisement for 'THE OLD RELIABLE' DIETZ LANTERNS. Text: 'THERE ARE NONE "JUST AS GOOD" WHEN YOU BUY A LANTERN INSIST ON A "DIETZ" MADE BY R. E. DIETZ COMPANY NEW YORK Largest Makers of Lanterns in the World ESTABLISHED 1840 PIONEERS AND LEADERS'

Advertisement for Tenth Annual American Royal Live Stock Show. Text: 'Kansas City Stock Yards, Oct. 12-17, 1908. Annual shows of the National pure-bred Beef Cattle, Draft Horse, Sheep, Swine and Angora Associations. America's Greatest Live Stock Exhibition. Public sale of Herefords, Oct. 13; Gallo-ways, Oct. 14; Aberdeen-Angus, Oct. 15, and Shorthorns, Oct. 16. Ask for catalogue. A. M. THOMPSON, Secretary Live Stock Exchange, Kansas City, Mo.'

breed his mares to the horse that won first premium at the Kansas State Fair. When his colts are old enough for the market, the buyer turns them down because he is afraid they will go blind.

Now what good have we done by giving this stallion this premium, and prestige over better competitors? Why do we horse and cattle breeders let the chicken breeders outdo us? How are chickens judged? By comparison? No. By use of the score card. This is the only way to judge any of our animals and not until we adopt this plan will our judging teach the breeders anything, except to try and cover us with fat every defect possible.

Each fair association should issue a book form of score cards for each breed of live stock. These should be filled out by a competent judge in duplicate, tear out the carbon copy and give it to the owner or exhibitor, leave the original in the book and return same to the secretary to be put on file with the association. With this plan of judging then A, B, and C can get together and study their score cards and learn where their horses are not up to the standard and their points of imperfection become a study with them and they learn to avoid them in buying or breeding in the future.

I firmly believe in these public exhibits, but I think it is time to do away with the old method of tying on ribbons and doing nothing to show an exhibitor wherein his exhibit is defective. I have had people tell me that such a horse must be about perfect or he would not get first premium. So you see how the average man considers a premium.

Another defect in the show ring is allowing unsound animals such as stallions, mares, bulls, and cows to compete in the breeding classes. By unsound I do not mean unsoundness caused by some injury, but I mean any unsoundness that is hereditary, or predisposing.

I would like to see the score card method of judging adopted by all our leading fairs. The score card method is the one taught at the colleges, so why not use it?

DR. HUGH S. MAXWELL. Saline County.

To learn about plowing thirty or forty acres a day, plowing as deep as you please, plowing even when the ground is bad, and doing it cheap, write a postal card or a letter to Reeves & Co., 18 Fifth street, Columbus, Ind., and you will get in return a book on "Plowing" that will give you valuable information.

A Lost Day. Think that day lost whose low descending sun views from thy hand no noble action done.—Jacob Bobart.

Agriculture

Late Alfalfa Sowing.
I have a piece of ground I am plowing and want to sow alfalfa. I would like to know if it is yet too late to sow alfalfa? Would you advise me to sow a patch and try it anyway?
Have you got the seed, and if so, what is it worth? If you haven't got it where would you advise me to get it? Please mail your circular telling about the sowing of alfalfa. My farm is situated seven miles southeast of Altamont, in Labette County.
J. R. WINTERS,

Labette County.
It is not too late to sow alfalfa. In fact with favorable weather conditions, you may seed alfalfa up until the last of September and secure a good stand, provided the seed-bed is well prepared. I prefer to seed early in September. With you the difficulty will be that the seed-bed may be too loose and mellow. The ground should have been plowed a month ago and pulverized by harrowing and disking. By working the ground several times with the disk and harrow you may be able to put it into good seed-bed condition. For further information on this subject, I have mailed you circular 10 on "Seeding Alfalfa." We do not offer alfalfa seed for sale. Refer you to Kansas seedsmen.
A. M. TENEYCK.

Fertilizers.
I have some land near Verdigris River in south Lyon County, directly south of Emporia which is badly worn. It is limestone land with some hard pan. Much of it is considered sandy loam by the people here as compared with more level land near here which they call "gumbo." Can you tell me what properties a fertilizer should contain to be suitable for wheat to be followed with clover and alfalfa? Also what fertilizer to use for alfalfa alone and corn alone?
Manure makes a fine showing here but I have too much land to wait until I have enough manure. Have just moved here and fertilizers have never been used in this immediate vicinity.
G. E. SHIRKY.

Lyon County.
If your plan is to seed to alfalfa or clover after the wheat is taken off it will be advisable to apply the fertilizer and later prepare the seed-bed for the alfalfa or clover. There is nothing better than a surface dressing of barnyard manure on land which is intended to be seeded to alfalfa or clover. Also in applying fertilizers, the fertilizer applied to the wheat would perhaps not effect the alfalfa or clover much. Rather, the chemical fertilizers should be applied directly to the clover or alfalfa or in preparing the soil for seeding these crops.

We have not made much experiment in the use of chemical fertilizers on the preceding crop in preparing the ground for alfalfa. Have one observation experiment on this point. In the fall of 1906 we fertilized a number of plots of winter wheat, manuring part of the land and applying fertilizers in different combinations to other plots. This land was seeded to alfalfa in the spring of 1907. The land has been rented by the college and passed out of our possession when the alfalfa was sown. However, in the spring of 1908 we observed that the alfalfa made a fair stand on the whole field whether fertilized or not, but the crop was much greater on the plots which had received a dressing of barnyard manure the year previous. Little difference in stand or growth could be observed on the plots which received chemical fertilizers.

In this experiment the ordinary chemical fertilizers, nitrogen, potash, and phosphoric acid were added to the several plots in several combinations as stated. The land in question was washy, upland, very low in fertility, lacking however, principally in humus and organic matter.

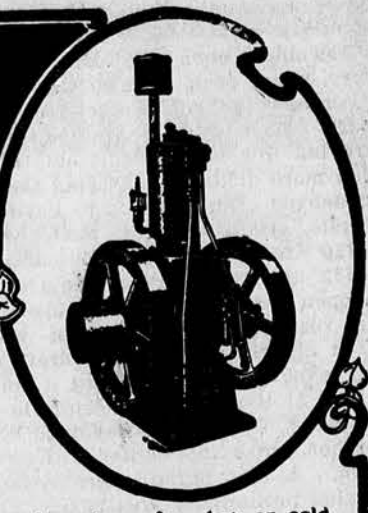
In my judgment the soil which you describe will be more benefited by a dressing of manure, or by plowing under a crop of green manure than by using chemical fertilizers. If you grow a crop of wheat, however, you can hardly plow under a crop of green manure planted after the wheat is harvested and sow to alfalfa in the fall. However, it would be possible to plant cow-peas, rape, or some other crop after the wheat and plow it under for green manure, sowing the alfalfa the succeeding spring. Or, you may plow the wheat, or some crop which you may plant this fall, down for green manure early next summer and cultivate the soil for the balance of the season, sowing to alfalfa early in the fall of 1909, about the last of August or first of September.

In my judgment this would be a safer plan for getting a good stand and start of alfalfa than by growing wheat, using chemical fertilizers and planting to alfalfa in the fall after the wheat is removed. However, if this land is not extremely poor in fertility, by thoroughly disking and harrowing after the wheat is harvested, and continuing the cultivation at intervals until seeding time, the soil may be put into good seed-bed condition, or it may be preferable to plow shallow as soon after harvest as possible and put the soil into good condition by disking and harrowing. The preparation of the seed-bed is the important part in getting a good stand of alfalfa. For further information on this subject I have mailed you copy of circular 10 on "Alfalfa Seed and Seeding." Have also mailed you circulars 2, 3, and 5, of "Fertilizers, Manures, and Rotation of Crops as Regards Maintaining Soil Fertility," and circular 9 on "Wheat Culture."
A. M. TENEYCK.

Alfalfa—Cow-peas or Soy-Beans.
I have recently moved to Dallas County, Mo., from an alfalfa-growing country. I would like to ask if alfalfa can be grown in this part of the State. I have charge of a 600-acre farm on which we wish to raise considerable stock, and as the land has been farmed by renters for a number of years the soil is thin and will have to be built up. What is the best fertilizer crop to use for this purpose, the cow-pea or the soy-bean?
A. B. COMMIOUS.

Dallas County, Mo.
I believe alfalfa may be grown successfully in your part of the country. However, the best proof of this will be to try it. I have mailed you circular 10 on "Alfalfa Seeding."
I prefer the cow-peas to soy-beans for planting for green manure or for rotation with other crops in order to improve the fertility of your soil. Cow-peas have an advantage of soy-beans in being more hardy and a ranker grower. Also the soy-beans require inoculation of the soil with the bacteria which grow on the roots of the plants while the cow-peas appear to find the bacteria in the soil and do not require inoculation. Our publications on cow-peas are exhausted. I refer you to Farmers' Bulletin 318 of the United States Department of Agriculture, Washington, D. C. You can also secure a bulletin on cow-peas from the Missouri Experiment Station, Columbia, Mo.
A. M. TENEYCK.

Treatment for Barley Seed to Avoid Smut.
I have been raising Tennessee winter barley and find the worst enemy it has is smut. To dip seed and dry it makes work and is risky to dry out right, $CuSO_4$, and corrosive sublimate would do, but they rust a drill out if used while the grain is wet. Please tell me of a way to dip this seed and drill wet, if this is not possible, the best way to treat seed and sow dry.
S. P. TALLMAN.
Sedgwick County.
We treated our seed barley last fall with formaldehyde solution. The smut was not entirely destroyed but was much reduced this year. I have mailed you a circular giving information on this treatment. It is possible to sow twenty-four hours after treat-



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sented very desirable characteristics.

Varieties of Fruits and Vegetables.
—Experiments and tests prove that a long list of varieties of vegetables and fruits is well adapted to growing in Oklahoma. The list of varieties is quite as extensive as can be grown in nearly every other State.

Trees, Shrubs, and Vines.—Many varieties of trees suitable for post and fuel production have been tested and the catalpa has proven to be the best on bottom lands. The Osage orange black locust, and Russian mulberry are favorites for upland. A system of planting that will permit of cultivation is always preferred. A study of ornamental trees, shrubs, and vines adapted to Oklahoma planting has been carried on at the same time and a long list of ornamentals can be recommended for planting in special locations.

Native Plants.—A catalogue of over 700 plants native to Oklahoma has been published and in this are listed the most common plants found in the central part of Oklahoma.

Flora of Oklahoma.—The Flora of Oklahoma was taken up several years ago and a very creditable catalogue of the native plants of Oklahoma was prepared.

Plant Diseases.—Several plant diseases have been studied, and remedies found to be of considerable value were published. Among the diseases investigated were Kafir-corn smut, wheat smut, and apple leaf rust.

Weeds.—The most troublesome weeds have been thoroughly described and methods of culture and cropping for the eradication of these weeds are briefly recommended for each.

Spraying.—Actual tests demonstrate that thorough spraying of apple trees will protect as high as 85 to 90 per cent of the fruit from the attacks of any insect or fungus disease. Eighty per cent of the peach crop may be protected from the attacks of insects and fungus diseases by careful systematic spraying. Thorough use of the spray pump is capable of increasing the fruit crop of Oklahoma to five times its present value.

Chinch Bug.—Several lines of experiments have been carried out with the chinch bug. None of these demonstrated any more practical way for fighting the chinch bug than by means of barriers and trap crops. It is found in working with this insect, however, the so-called "chinch bug disease" did not require to be introduced, for it is widely spread over the farms and requires only favorable conditions to make it effectual in destroying chinch bugs.

Bee-keeping.—In bee-keeping, the station has done a little work toward determining the profitableness of bee-keeping in Oklahoma. This work was done in 1899 and 1900 and the results indicated then that on the upland prairies with the ordinary attention given to bees, they will store but little surplus honey; and that they will need to be fed heavily in the fall in order to have them winter safely. In the river bottoms, if one is an experienced bee-keeper he may secure some surplus honey by giving the bees extraordinary care.

Green Bug.—The "green bug" appeared in Oklahoma in 1901 and 1907, and both times experiments were conducted with this insect and each time it was demonstrated that the insect must be held in control by its natural enemies. Spraying experiments were conducted each time with very little success. Each time it was found, however, that the predaceous and parasitic insects were able to destroy this louse whenever the weather conditions were favorable for their operations.

Insects.—The life history of several insects have been closely studied, which information is the first requisite for sane and effectual applications of remedial measures. The plum curculio, the codling moth, the cotton ball worm, San Jose scale, and the chinch bug have been studied under laboratory conditions in all their stages, and the development of these insects has also been closely watched and recorded.

San Jose Scale.—The entomologist has found San Jose scale in several

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The purpose of the company is first to acquire lands in the ore belt, then to develop such lands for all that is in them. To raise a fund for this purpose a limited number of shares of stock in the company are offered for sale. The price of these shares are \$10 each and promise in a very short time to be worth several times that amount. If we strike as rich a vein of ore as has been found on all sides of us our stockholders will realize big dividends on their investments.

This company has already acquired lands in the very heart of the ore belt. On all sides of our holdings rich strikes have been made and millions of tons of ore is the reward the stockholders will have as a result of their investment.

On all sides of this company's property are drillings showing vast deposits of iron ore, and within 80 rods **forty million tons of ore have been blocked out.** The accompanying illustrations show examples of the active mining operations now going on near our lands.

Now is the time for you to invest in a company owning ore lands ready for development. Don't hesitate and when the big stake is struck regret that you couldn't see ahead far enough to get in on the ground

IRON PRODUCING LANDS CO.,
860 Bank of Commerce Bldg., Minneapolis, Minn.

floor. The ore belt is limited and the opportunity to increase your fortune in this way will soon be gone forever.

The increasing demand for iron makes the development of new iron producing fields a profitable enterprise and one which offers attractive inducements to investors, being a much different proposition than ordinary mining schemes.

Millions of tons of ore underlie the lands in the Cuyuna District of Minnesota. Heavy options for leases have been paid since the discovery of iron ore in this locality. In one instance \$10,000.00 cash was paid for the privilege of exploring fifteen 40-acre tracts. The Northwestern Improvement Company, organized by the Northern Pacific Railway interests to develop iron deposits along their railroad paid a \$40,000.00 fee on a tract of land which only a few years previous was sold by their agent for \$200.00.

The lands owned by this company have every indication of being as valuable when they are developed as any in this rich district. Won't you join with us in this work?

Every dollar invested in shares in this company participates directly in all operations carried on by the company and in all dividends declared.

Don't hesitate to send any amount you care to invest. But if you prefer more information write for free prospectus full of facts and figures that explain conditions as they actually exist. Remember only a limited amount of this stock is available, so write today.

parts of Oklahoma, and has given advice to the owners of infested trees as to the best method of destroying this pest. A series of experiments with different spraying solutions were followed and it was found that the lime and sulfur solution was the best substance to use for destroying this insect.

Nursery Law.—The spring of 1905, the entomologist became by law the acting nursery inspector under a new nursery law. The duties of this inspection required the entomologist to visit all the nurseries of the territory or State during the summer months. This work has been faithfully performed each season and as a result, the nursery conditions of the State have markedly improved.

Grasses for Forage.—Tests made of over two hundred different grasses showed that very few tame grasses are adapted to our Oklahoma soils and climate except in favored localities. Hardy Bermuda grass is far superior to all others both for hay and pasture purposes and will grow equally well on clay or sandy soil. Bermuda can be cut two or three times each season and yields a hay superior to any other grass. Hogs, sheep, cattle, and

horses can be pastured upon it. Large quantities of the hardy Bermuda roots have been sent free of charge to all parts.

Water Analysis.—Analysis of river and creek waters with a view of determining their value for irrigation purposes show that the water in all the rivers except the Cimarron and Salt Fork of the Arkansas maybe used for irrigation. The only creek that is unsafe is the Black Bear. A large number of bacteriological examinations of water from ponds, tanks, wells, and cisterns is made each year. In this way the station has been of great assistance in the building and maintenance of sources of a pure water supply.

Chemical Analysis.—The chemical laboratory has analyzed from two to five hundred samples of material of various kinds. Most of this work has been done in answer to inquiries concerning the composition of mineral, stones, ore, etc. The results of these analyses have usually been of interest to communities.

Feeding Trials.—A number of feeding trials have been made with both hogs, and cattle. Cotton-seed, cottonseed-meal, corn, Kafir-corn, and wheat

have been used in rations, also various kinds of roughness. Cotton-seed to the amount of eight or ten pounds per day is profitable cattle feed. It should be fed with alfalfa or cow-peas for roughness. Kafir-corn should be ground if fed to steers. Fifty-six per cent of the whole grain passes through the animal undigested while only twelve per cent of the ground grain is lost. The same is true to some extent of wheat. Hulls or chopped hay should be fed with ground grain. Cottonseed-meal and hulls or chopped hay makes a cheap ration. Corn and alfalfa at average prices are the best and most economical for fattening steers. Cottonseed-meal should not be fed in any form to young pigs or calves. Older animals may be fed a ration containing one-fifth cottonseed-meal with good results.

The veterinarian has manufactured and distributed in Oklahoma over 700,000 doses of vaccine for the prevention of black leg in cattle. It is estimated that not less than \$100,000 per annum has been saved for the stock men of the State through this one branch of the station's work.

A complete life history of the Texas
(Continued on page 988)

Home Departments

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GENUINE ENTERTAINMENT.

EMILY BIRD MCDUFF, ATCHISON COUNTY.

You see, father an' mother an' us kids dwell in town. While gran'pa, gran'ma, an' Uncle John Brown live in the country where the wheat-fields grow. An' corn an' pum'kin, an' well, everything, you know. Uncle John told us kids one day, He'd come to haul us, as if we was hay; N then, on that rack, He piled us, an' all the neighbors kids in a stack. Mother said to father, "Really my deah, This is not my choice of transportation, I feah." N father got a 'mobile, an' took her in style; I reckon they run mos' a quarter o' a mile. An' then, cachuling, the thing wouldn't go. Oh but didn't us kids laugh though!" The black mares bowed their proud necks and pranced by, Uncle John stroked his mustache an' looked out of one eye; But when we arrived all safe at the farm, Gran'ma came a'runnin', with "I hope there's no harm, But the 'phone keeps a'ringin' for Mr. John Brown. An' it sounds mighty like it's as far off as town." "It's Susan," said Uncle John, as he hung up the receiver. "She says they're just a'sittin', an' I reckon I'll believe her. 'Won't you come, please deah, and take us on the rack?' It's most humiliating to have you turn back." Gran'pa, in his frock coat, billed shirt, an' Sunday hat, Gran'ma in stiff gingham, white 'kerchief an' all that; Set about to entertain' us with jumpin' ropes an' swings, An' then they got to talking of some mighty pleasant things. Gran'pa told—that—when he was young, and Jumped the rope with Gra'ma he squeeze her hand. Gran'ma dropped her eyes an' just quietly sat, An' twisted her handkerchief into a knot. An' gran'pa said, "Once I kissed her, An' then gran'ma sat up stiff an' said, 'Mister Brown, I dare you to do that again!' "Well, you see chillun, a man can't take a dare, an' then I kissed her, an' squeeze her hand, too. Now you know the old story that always is new." When father, an' mother an' Uncle John came, The jumpin' ropes was idle, an' the swings was just the same, They had furnished entertainment in a most delightful style. But they never mentioned bridge whist, nor bid eucher, all the while.

The Father's Example.

A little boy about 8 and his sister, a couple of years older, were riding their bicycles. The boy was the better rider, although the younger, and was in advance of his sister when her pedal came off and she stopped to fix it. When the boy noticed she was not following him, he turned and hastened back and gallantly took the pedal, which she was trying to put back, and fixed it for her, and then held the wheel till she was started. Then bringing up the rear he called "I will go slower so you can keep up." I was impressed with the little boy's courtesy and respect for his sister. It was not natural to him any more than to the majority of boys. He has had an object lesson every day from his father. He never saw his father treat his mother and other women in a manner other than kind, thoughtful, and courteous, so he naturally grew that way. He knows without being told, in so many words that a true gentleman is never harsh or unkind to a woman, but tender and gentle. Happy is the boy who learns courtesy in this way.

The whole responsibility of bringing up the children has rested too heavily upon the mother and the father has not been shown his share in the business. It is true that the mother necessarily has the most of it for she is with them more and knows them more intimately. She has a better chance to study their various habits and characteristics, thus being enabled to combat with their evil tendencies and to turn them away from them. She can give them the tender mother love that no one else can and that counts for so much, even more than any other one thing. But the father can not shake himself free from a share in

the responsibility, and an important one, too. His example, his daily life, makes such lasting impressions upon his boys. They unconsciously follow in his foot-steps and imitate his ways. If he smokes they are apt to think it the thing to do. If he swears or uses rough language, they will be loose and careless in their speech. If he is a drinking man they may see the evil consequences of the habit and abstain if they do, but they will have the excuse that father set them the example. Happy is the boy who can look up to the father with pride, and fearlessly and without harm follow his example.

The way in which the husband treats his wife counts for a great deal in the eyes of his children. Her influence over them for good is increased or made less by the amount of respect he shows the mother of his children. Whether she be worthy or not does not count, although if she is not it makes it a task instead of a pleasure. When the children grow up they may despise their father for his injustice and unkindness to their mother, but more than likely they will imitate the same spirit and will have become too calloused to discern the wrong, and he wishes and admonitions will be considered of little consequence, especially will this be so in the case of the boys, who when they grow up often resent the oversight and care of the mother any way. Happy is the mother who can fearlessly say to her children "follow your father's example," and who know that back of her stands one who approves of her and supports her in her efforts to make them the right kind of men and women.

The Habitual Fretter.

The grumbler's lot is harder than falls to other mortals; their home is the worst of anybody's; their street is getting worse every day; they have more trouble than anyone else, and always expect to have, and would be disappointed if they did not have; they are never so happy as when they grumble, and if everything worked to their satisfaction, they would still grumble because there was nothing for them to grumble about.

While we're perfectly willing that the grumbler should go to Heaven at death, we are heartily glad to get rid of him on earth.

The most lovable people have their nervous days, their fretful days, and their days of being generally out of sorts; but this is one thing, or even to reprimand where reproof or rebuke is a duty, but it is quite another to keep up an intermittent, never-ending, still-beginning patter of faultfinding, fretting, and nagging; keeping up a scattering fire of small shot in the way of sarcasm and complaint day by day.

A wasp is a comfortable housemate in comparison with a fretter. A wasp only stings when disturbed, but an habitual fretter buzzes if he does not sting.

Nothing goes right with fretters. Even the common movements of Providence are all wrong, the winds are everlastingly perverse, blowing dust in the face or not fanning them as they should, too wet or too dry; the seasons roll on badly, the climate is vicious, and when you greet them on the most beautiful sun-shiny morning with a "A fine day, is it not?" they will dolefully warn you that "You will have to pay for it before night."

A cross-grained old farmer caught a young girl going through his field. "Who gave you leave to go through that field?" "I thought there was a path," "A path—no there is not." "I'll go back, then." "Back, indeed! I own back and front." So the girl could not move to please him.

There are such peculiar people at large. They live in a perpetual storm. Suddenly, when you least expect it,

the sky becomes black, the wind rises, and there are growing thunder and pelting rain.

Life takes its hue, in a great degree, from the color of your own mind. Be frank and the world will treat you kindly. Be suspicious and the world will be cold to you. Cultivate what is warm and genial and not the sullen and sour; cheerful looks will make every dish a feast.

Of course you will have troubles—so have others. No sailor ever gets skill on the dull sea. Any dead fish can swim with the tide. What if the times are hard—it will not make them easier to wear a gloomy countenance. If the showers make the roses bloom, why lament their fall; the sky is blue ten times where it is black once. In the long run the great balance rights itself.

"How dismal you look!" said a bucket to his companion as they were going to the well. "Ah!" replied the other, "I was reflecting on the usefulness of our being filled, for let us go away ever so full, we always come back empty."

"Dear me! how strange to look at it in that way," said the other bucket. "Now I enjoy the thought that however empty we come, we always go away full; only look at it in that light and you will be as cheerful as I am."

School Children's Lunches.

Children's lunches are not of small importance and to make healthful, appetizing lunches five days in a week for many weeks takes some forethought and planning. The following are for two weeks and the menu is made by Lotta J. Crawford, of the Colorado Agricultural College:

Monday.—Two small white bread sandwiches, spread with minced chicken, moistened with a little cream and seasoned; two small whole wheat wheat sandwiches with chopped olives, gingerbread, a jar of apple sauce, two stuffed dates.

Tuesday.—Two small white bread sandwiches with crisp bacon, two small whole wheat bread sandwiches, spread with chopped dates, two sugar cookies, an orange, two pieces of fudge.

Wednesday.—Two small white bread sandwiches with chopped celery, moistened with French dressing, two small brown bread sandwiches with chopped figs, a deviled egg, a ginger snap, an apple, a few almonds.

Thursday.—Two small white bread sandwiches spread with peanut butter, two small whole wheat bread sandwiches containing lettuce dipped in French dressing, a banana, a piece of angel food cake.

Friday.—Three small white bread sandwiches, two slices of cold chicken, one whole wheat bread sandwich spread with brown sugar, two olives, two chocolate cookies, a jar of stewed prunes, two macaroons.

Monday.—Two small whole wheat bread sandwiches with chopped hard cooked egg and French dressing, two small white bread sandwiches with jam, a sugar cookie, a pear, several English walnuts.

Tuesday.—Two small white bread sandwiches spread with chopped ham, two small whole wheat bread sandwiches spread with peanut butter, a piece of gingerbread, three olives, a peach, two chocolate creams.

Wednesday.—Two small brown bread sandwiches spread with creamed cheese and chopped nuts, two small white bread sandwiches filled with lettuce dipped in French dressing, three thin slices of beef salted, a cup custard, an apple.

Thursday.—Two small white bread sandwiches spread with sardine paste, two small whole wheat bread sandwiches with chopped celery with French dressing, three tiny sweet pickles, two ginger snaps, three figs.

Friday.—Three small white bread sandwiches filled with cooked oysters, chopped and seasoned, one whole wheat bread sandwich spread with orange marmalade, a piece of celery salted, a small piece of spice cake, a bunch of grapes (grapes may be removed from the stems and placed in a jar and a cover placed on the jar).



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was so charmed by her beauty that he wished to make her a present. Silently, he threw a white lace mantle, wonderfully dainty in texture, over her shoulders, and, as he did so, slyly he kissed her good night.

Very beautiful she looked in her lace drapery, but the maiden's heart was sad, and her eyes were not as bright as they had been, and her lips were not so red, nor her cheeks so rosy, for she knew this old man had taken a liberty in kissing her.

She was infatuated with him, and he was bewitched by her beauty, and the old man became very devoted to her. They were seen more and more in each other's society.

Then their engagement was announced. The last night of November, at midnight, was the appointed hour for their marriage.

Rich and costly presents, the old man bestowed on her; many and many were the lace mantles she had worn, but she did not love the old man, and as their nuptials approached, she grew less and less like the lovely maiden she had been.

In vain he tried all modern devices to renew his youth; his aged limbs would not respond. The light and buoyancy of youth had fled, never to return. She grew more and more like him, instead of her dear old self.

She wore more sober gowns now, often appearing in a sober brown or a subdued gray, with one of his costly mantles about her shoulders.

The last night of November, the feast was spread, the guests were assembled. The bride was arrayed in pure white, her robe being a present from the groom. As the clock struck twelve, and all were impatiently awaiting the bridal procession, the lovely maiden expired in her ill-mated lover's arms.

Many were the tears Winter shed on his lovely bride-to-be, Autumn, and in vain he twined his old arms about her and tried to woo her back to life again with his kisses. They only chilled her the more, as they had done before, and she responded not, nor did she open her lovely eyes again on him.

The wedding feast was turned to mourning, and they laid the beautiful Autumn away in a bed, which Mother Earth kindly gave them, then Old Winter cast another mantle over her, and all the friends, the Oak and Maple, and Hickory, and Walnut came and shed a tear over her grave. Then Autumn was forgotten, save by Old Winter, who grew crabbed and stiff, and more forbidding than ever. No one could rouse him; he only growled and stormed if disturbed.

Men came and picked at him and cut into his very heart, to see if there was any life in him. They took great pieces of his body from his sides, and underneath found the gurgling streams, his veins, then they knew that he was not dead. They piled those great chunks together and laid them away in a safe place.

At last a maiden came tripping along. She was Soft Wind. She touched Old Winter's cheek and he felt her warm breath, and, opening his eyes, smiled at her. She smiled in return, and came again and again, bringing with her many friends, the Black Bird, the Red Bird, the Oriole, and the Loving Dove.

They sang such sweet songs that Winter began to rouse with the melody.

Then came the loveliest of all maidens, tripping along, Delightful Spring. She was shy and timid, and gentle and fair. Her eyes were like the morning stars, quiet, peaceful, and bright. Her face was like the morning light, pale and serene. Her hair was like the peaceful cloud, light and smooth. As she looked at Winter and touched him, she shed tears on him, for she pitied the old man.

Her tears awakened him as Soft Winter's smile had done, only more. Opening his sunken eyes, he beheld the graceful, warm, sympathetic maiden by his side. Throwing out his stiffened arms, he caught her and embraced her many times. And she

promised to be his bride, his child-wife.

Old Winter learned to depend on Delightful Spring, so he cast away his staff and leaned on her.

All her friends, the Trees and the Birds, said:

"Why are you so devoted to that old man? We hate him."

Spring said: "I pity him; he is old and has no one to think or care for him. He is like a father to me."

Then Old Winter said: "If Delightful Spring pities me, I am satisfied, for pity is akin to love."

Again the wedding feast was spread, and all the guests assembled.

This time poor Old Winter shook, tottered, and trembling fell at the feet of Delightful Spring.

He was laid beside his dear bride, Beautiful Autumn, and Delightful Spring carried wreaths of violets and red-buds, and, covering both of their graves, wept for her dear old lover.

Youth soon forgets sorrow. Soon Spring was smiling as ever, dancing with all the April Clouds, kissing the dew-drops, entwining her arms about the Apple blossoms, the Cherry, and the Peach. The Plum Blossoms were throwing showers of delicate petals over her and telling her it was Snow, while all were happy and gay. She spread a lovely green carpet over Old Winter's grave, there he rests.

After a while, Delightful Spring made the acquaintance of a jolly old matron, Warm Summer. They became very true friends, exchanging flowers for fruits, and were generally neighborly.

Warm Summer took Delightful Spring to a dark, deep vault where a memento of Old Winter was safely laid away.

When people grew weary of Warm Summer, they touch this memento, this charm, to their lips, are refreshed, and go on their way rejoicing.

But none of the youths or maidens in all Superstitionville will appoint the last of November or the last of February for their wedding day.

"Lest," they say, "like Beautiful Autumn, or hoary Old Winter, we die at that hour."

Highway for Unseen Power.

The most wonderful highway in the world is described by Eugene R. White in Technical World Magazine.

It stretches like a broad ribbon—from 30' to 100 feet in width—through the heart of New York State, beginning at the brink of Niagara Falls and ending at the city of Syracuse, 160 miles away. Though this highway is so long and so broad, and so costly to build and construct—though it will be patrolled night and day and kept constantly in perfect repair—never a wheel will turn over its entire length. No man will ever be able to hear or see anything passing along it. Yet it is, none the less, truly a highway, over which will continually pass an invisible current of electricity strong enough to do the work of 90,000 horses. It marks the present climax of the long-distance transmission of great quantities of electric power.

Scattered along this private roadway at frequent intervals, are great steel towers. From top to top of these towers run huge cables of aluminum; and it is along these cables, of course, that the power, generated by the resistless rush of the Niagara water, really passes in its long search for work. The capacity of the right of way will allow 200,000 horse-power to be sent as far as Rochester, New York, which is ninety miles from Niagara Falls.

If you are not willing to stand up and dodge the bricks, don't reach for the boquets that may be thrown.

One of the most beautiful, practical and inexpensive wash goods is Simpson-Eddystone Prints. There are so many pretty patterns and the fabric is so substantial. It stands the frequent washing that children's dresses must have, and it doesn't fade. Make them up simply. They are so pretty themselves that they do not need elaborate trimming. The shepherd checks are particularly good for children's dresses.



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The Little Ones

ALL IN AN HOUR.

"Eight o'clock. Why, it's almost school-time!"

And Ted looked up at the sun. "There's really no use in beginning. When you can't get anything done! So he wasted a whole long hour. Tick! tick! it went slowly by. What wonders he might have accomplished. Had he only the pluck to try!"

"An hour! why, that's sixty minutes!"

Cried Dick, with his face aglow. "I've time to read over my lessons, and run on an errand or so!"

He blacked father's boots in addition, Combed Brother Bob's curly brown hair, Mailed some letters, and brought in the eggs—

And then had three minutes to spare!

—A. F. Caldwell, in Youth's Companion.

Mary Louise's Picnic.

Mary Louise had the mumps. Now mumps alone at any time of the year are bad enough. But to have them way along in June when every one else is through with them, and to have them at the time of the Sunday school picnic—this was too much for even a sweet-tempered little girl like Mary Louise.

So all the morning, while every one else was hurrying about to get ready for the picnic, Mary Louise, with one cheek swelled up to twice its natural size, sat curled up in the big rocking-chair and cried about it.

To make matters worse Elsie was going.

Elsie was two years older than her little sister, and had all the nice things and all the good times, Mary Louise thought. She even had the pretty name, while Mary Louise had the plain, old-fashioned one. She had always wished that she had been called by just one name like other girls. And when one would like to be called Flossie it is rather hard to have to answer to Mary Louise.

Now added to all these troubles, she had to have one side of her face puffed all out of shape, and stay at home, while Elsie could look sweet and pretty and go to the picnic. No wonder Mary Louise cried.

To be sure, mother had said that if Elsie could have helped her she would have staid home, but Elsie was not even allowed in the room with Mary Louise, for she had never had the mumps, and mother did not want her to take them if it could be helped. So Elsie could just put her head in the door to say a quick little good-by, and then run away.

"If she could only have kissed me good-by," Mary Louise thought, "it wouldn't have been so bad."

"But of course she couldn't," she added with a little sniff. "It would be too bad if she got the mumps, but nobody cares about me. If my papa were only home!"

Mary Louise stopped crying and began to think, "What if he should come home?"

Papa had always called Mary Louise his brave little girl.

"Would he call me that now," she wondered.

She rubbed her eyes and decided not to cry any more—if she could help it.

Mother was busy all the morning, so Mary Louise hardly saw her at all. But she wanted to be brave, so she sat in the window seat and read her new book or played with her dolls, and tried to forget there was such a thing as a picnic.

But O, how long the morning seemed! No matter how hard she tried to think of other things, she just could not help remembering the picnic; it seemed as if she would never want to go to anything in the world quite as much as she wanted to go to that picnic. She was almost afraid she was going to cry again in spite of herself, when all of a sudden there came a knock at the parlor door.

"How funny for any one to rap there," she thought, as she went to see who it could be.

She opened the door, and there stood mother with a sunbonnet on her head, a big basket in one hand and a tin pail in the other.

Mary Louise just stood still and stared.

"Good morning," said mother. "I am going to a picnic, don't you want to come with me?"

"Why, mother," said Mary Louise, "how can I? You know the doctor said I must not go outdoors for a whole week yet."

"O, you have special permission to go to my picnic," said mother. "I know the doctor will not mind; so get your bonnet and come along."

Mary Louise ran for her little sun-bonnet.

"Wouldn't the children like to come too?" asked mother. "I am sure Anabel and Susette would enjoy it, and I have lunch enough for all of us."

"Why, yes," said Mary Louise, "I'm sure they would be delighted."

She picked up the two dolls from the window seat, and was ready to see what would happen next.

"All right, we are ready to start," said mother. "We have a long way to go, but you just follow me, for I know the way very well."

"Where can she be going?" thought Mary Louise.

"We go out through this gate," said mother as she went through the parlor door into the sitting-room. "Then we go across this field, and out into a lane."

Mary Louise forgot her mumps, and began to smile as she followed her mother down the hall.

"Now we have a hill to climb. It's pretty steep, but just follow me, and you will get to the top all right."

Here Mary Louise laughed out loud. "The idea of calling the stairs a hill!"

When they had reached the top, they went on down another lane, and through more fields, till they found themselves at the top of another hill.

"When we get down this hill," said mother, as they went down the back stairway, "we shall be almost there. Now just across this field," as they crossed the kitchen, "and through this gate, and here we are at the picnic grounds!"

Mary Louise clapped her hands in delight, for the dining-room did look like a picnic ground, sure enough. The table had been moved from the room. No chairs were to be seen, but the big palms had been moved in from the hall and the fern and the geranium plants were on the floor. So all you had to do was to make believe just a little bit, and you were right outdoors.

"Now help me unpack the things," said mother, as she took a tablecloth from the basket and spread it on the rug between the plants.

"We will eat our lunch right here among the trees," she said.

Mary Louise helped her take out the sandwiches and cake and pressed chicken and cookies and all sorts of good things.

"Now we have some nice iced tea to drink," said mother, as she took out two cups and opened the pail. "I don't care for lemonade, do you?"

"No I don't, either," said Mary Louise. "Sometimes I do, but I don't seem to want any to-day."

You see they were not going to say that Mary Louise could not drink lemonade because it hurt the mumps.

When everything was ready, Anabel and Susette and Mary Louise and mother sat down on the floor for their picnic dinner. And things tasted just as good as they do on a real picnic, and everybody ate just as much. The warm wind blew in through the south windows and rustled the leaves of the fern, till it seemed like real out-of-doors, and when a petal of a geranium blossom fluttered down into Mary Louise's cup, she told mother it did seem like a really, truly picnic.

And when mother said she didn't believe she had ever been to a nicer picnic, Mary Louise said she didn't think she had, either. "And I am hardly a bit sorry I missed the real picnic now," she said.

Then all of a sudden the front door opened, and somebody came down the hall into the dining-room, and somebody grabbed Mary Louise right up in his arms. And who was it but Mary Louise's own papa who had been way off in New York for a whole month. And he kissed Mary Louise twice right on her biggest cheek. He didn't care a bit for the mumps, he said. He'd had 'em himself.

Then Mary Louise was not one single bit sorry that she had missed the

other picnic.—Mary Katherine Reely, in The Congregationalist and Christian World.

Club Department

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- Excelsior Club (1902).....Potwin, Butler Co.
- Women's Literary Club (1902) Osborne, Osborne Co.
- Women's Club (1902).....Logan, Phillips Co.
- Domestic Science Club (1888).....Osage, Osage Co.
- Ladies' Social Society No. 1, (1888).....Minneapolis, Ottawa Co.
- Challiso Club (1902).....Highland Park, Shawnee Co.
- Cultus Club (1902).....Phillipsburg, Phillips Co.
- Literateur Club (1903).....Ford, Ford Co.
- Star Valley Women's Club (1902).....Lola, Allen Co.
- West Side Forestry Club (1903).....Topeka, Shawnee Co., Route 8.
- Fortnight Club (1903).....Grant Township, Reno Co.
- Progressive Society (1903).....Rosalia, Butler Co.
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(All communications for the Club Department should be directed to the Club Department, Kansas Farmer, Topeka, Kans.)

Greeting.

The editor of the Club Department makes her bow to all the country clubs. Indeed, a bow is hardly enough, she wants to get each one by the hand, and to look into each face and ask how fares it and what of the coming year. We come to you with new enthusiasm, renewed interest, fresh desire to help and be helped, and we hope before the year is over to have been able to meet face to face very many of the women whose existence is one of the things which make us love our State above all other States. We hope to be very helpful to you and we are eager to know new ways of being helpful. There will be occasionally suggestive programs, hints, as to the conducting of meetings, reports of current doings in club life, and best of all, we hope letters from different country clubs over the State. We shall be very grateful indeed for suggestions for improving this department, and any questions or requests for information will be most gladly attended to.

A Visit to the Traveling Libraries.

I made a visit to the headquarters of the Traveling Libraries last week and I was astonished to observe how the project has grown in three years. The large room in the State House, in which the books are kept, was crowded with closely filled book-cases, and the collection of books is very good indeed. There are books on almost every subject and whether you wish a miscellaneous library or volumes on very particular subjects, you may be sure of procuring a very good set of books. Mrs. Adrian Green, the librarian, is a very thoughtful and intelligent woman, and gives each request for libraries, special and personal attention. These Traveling Libraries are certainly a boon to the country clubs. Many of the clubs hand their programs to Mrs. Green, who then chooses for them the books needful and useful for them. One club is going to study Japan this year—a most interesting topic, by the way—and the list of books shown me which were to be sent made me wish I were to have the privilege of studying with this particular club. Another club has chosen domestic science for this year's consideration, and a most valuable library was being prepared for immediate shipment. Whatever the topic, you may be sure of help from the Traveling Libraries.

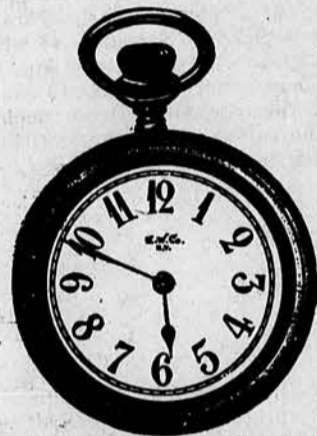
Do You Want a Watch?



No. 49. Man's Watch. Sixteen size, open face, German silver watch with a genuine jeweled movement. "The Knickerbocker." Stem wind and set, porcelain dial, engraved case that is guaranteed to wear permanently. Guaranteed an excellent time-piece. Not a clock but a real watch. Given for three subscriptions at \$1.00 each.



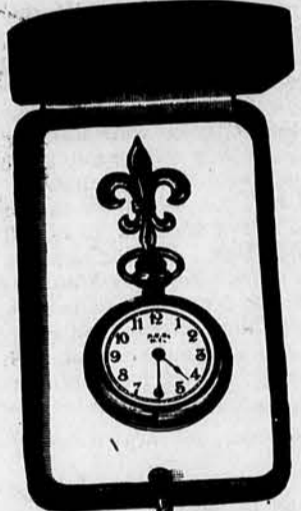
No. 458. Lady's Nickel Silver Watch. Popular 6 size, genuine American watch movement, finest of material and adjustment, an excellent time-piece, enamel dial, nickel silver case will never change color, antique bow, fully guaranteed, furnished in satin lined box. Given for three subscriptions at \$1.00 each.



No. 478. Boy's or Outing Watch. Nickel silver, 8 size, will never change color, engraved back, full bezel, heavy Arabic dial, genuine watch movement, regulated and fully guaranteed, antique bow and crown, stem wind and set. Given for three subscriptions at \$1.00 each.



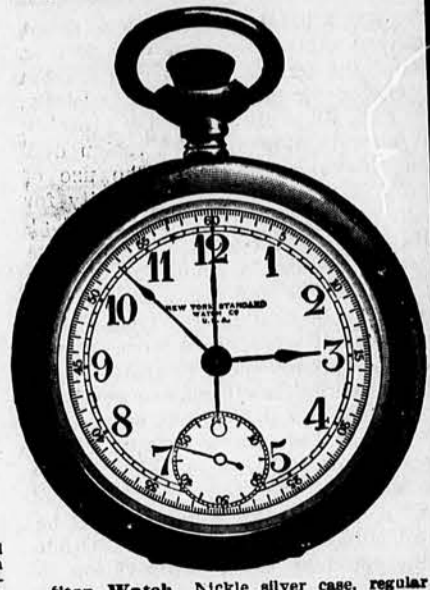
No. 981. The Skeleton Watch. The "Skeleton" is a most excellent watch; the front and back plates of the movement are cut so as to give an unobstructed view of its innermost mechanism. You can see through it. An absolutely guaranteed time-keeper, strong and durable enough to last a lifetime; it is furnished in nickel and gun metal. Given for five subscriptions at \$1.00 each.



No. 136. Lady's 20-year Gold Filled Watch. An O size chatelaine watch with high grade American jeweled movement, the case is gold filled, plain polished, warranted to wear for 20 years, stem wind and stem set, porcelain dial, and fully guaranteed. Given for twelve subscriptions at \$1.00 each.



The Alarm Watch. Novel and most useful in many ways an excellent watch with an alarm attachment will insure your keeping your engagements; the base when opened serves as a desk stand; the alarm but as a desk watch; gun metal case, making it an artistic, novel and guaranteed watch. Given for ten subscriptions at \$1.00 each.



Stop Watch. Nickel silver case, regular high grade 7-jewel New York Standard movement, with split second attachment. A perfect recorder for timing sports, races or mechanical movements; fully guaranteed. Given for ten subscriptions at \$1.00 each.

Address, KANSAS FARMER CO., Topeka, Kans.

Dairy Interests

Milk Production—Feeding.

BY HERBERT A. HOPPER, PURDUE UNIVERSITY EXPERIMENT STATION IN CIRCULAR NO. 13.

(Continued from last week.)

COMPOUNDING RATIONS.

To illustrate the method, let us assume that it is desired to secure from corn fodder, clover hay, cornmeal, and wheat bran a ration for a 1,000-pound cow producing 30 pounds of 4 per cent milk. From the composition of digestible nutrients we find that cured corn fodder contains 2.5 per cent of digestible protein, 34.6 per cent digestible carbohydrates, and 1.2 per cent digestible fat, and through multiplication by each of these amounts, we learn that 12 pounds of corn fodder contain .30 pound digestible protein, 4.15 pounds digestible carbohydrates, and .14 pound digestible fat. In the same way 10 pounds of clover hay contain .68 pound protein, 3.58 pounds carbohydrates, and .17 pound digestible fat. In the same way 5 pounds of cornmeal contain .37 pound protein, 3.33 pounds carbohydrates, and .21 pound fat; 6 pounds of wheat bran contain .73 pound protein, 2.35 pounds carbohydrates, and .16 pound fat. If these amounts were decided upon, the ration would offer nutrients as shown in No. 1.

Ration 1.—A Ration Commonly Used.

Table with 4 columns: Item, Protein lbs., Carb. lbs., Fat lbs. Includes items like Corn fodder, Clover hay, Cornmeal, Wheat bran, and 30 lbs. 4 per cent milk.

This ration contains 2.08 pounds of digestible protein, 13.41 pounds digestible carbohydrates, and .68 pound digestible fat. According to the standard for 30 pounds of 4 per cent milk, it is slightly deficient in proteids, and lacks about .5 pound containing enough carbohydrates, while the fats are slightly in excess. For practical purposes, this is close enough to the standard, as variations in digestibility, wastes in feeding, and the efficiency of the cow must be considered. This illustrates a fair non-succulent ration from foods commonly available. The grain is half the weight of the roughness and has a good physical texture. By subtracting or adding to the amounts shown here a ration may be obtained for less or greater production. Exceptional circumstances might warrant the continued use of such ration, but it is far less satisfactory than No. 2.

Ration 2.—An Economical Home-Grown Ration.

Table with 4 columns: Item, Protein lbs., Carb. lbs., Fat lbs. Includes items like Alfalfa hay, Corn silage, Cornmeal, and 30 lbs. 4 per cent milk.

This is a palatable, nutritious ration differing materially from the former. It contains enough protein and fat, but is deficient in carbohydrates. Usually, it is difficult to obtain enough proteids, but here is a farm-grown ration deficient in carbohydrates. The use of alfalfa hay obviates the necessity for much nitrogenous concentrate. If alfalfa hay is not available, equal quantities of cow-pea hay may be used in its place. The deficiency in carbohydrates can be easily corrected by feeding a small amount of corn stover each day in addition to the ration as it stands. It will hardly pay to purchase oats at present prices, but when they are grown upon the farm it may be a different question. They are a valuable food for the dairy cow and as small a quantity as 2 pounds will be useful mixed with corn-meal. Other grains could be used. This ration illustrates a fact of great significance to the milk producer and should encourage him to utilize more carefully the opportunities offered by each farm for producing all the food for the herd, as it is here shown that a

satisfactory ration can be thus secured.

Ration 3.—Concentrates, Expensive, Roughness Not Palatable.

Table with 4 columns: Item, Protein lbs., Carb. lbs., Fat lbs. Includes items like Corn stover, Timothy hay, Cornmeal, Wheat bran, Cottonseed-meal, and 30 lbs. 4 per cent milk.

The reader will observe that each ration thus far given, contains practically the same quantities of digestible nutrients. They illustrate how foods of different character and composition may be combined to meet the same object. In the light of previous remarks, there is, however, a difference between the rations as concerns cost and influence upon continued production. As will be seen in No. 3, the nutrients, while available, are either expensive or in a non-palatable form. When well cured and reasonably fresh, corn stover is a good food, but timothy hay should find a place in the dairy cow's ration only as a last resort for roughness.

To recapitulate, rough foods should be given freely, up to the animal's individual capacity for them, and grain of a well balanced nature added in proportion to the amount of milk, when the latter is of average composition. A large use of roughness is desirable, yet it will always be profitable to supplement with concentrates. Often when on pasture some hay and a light feed of grain is desirable if continuous maximum results are sought. In feeding each cow, continue to increase the grain gradually as long as she responds with an increased flow. When she fails to increase, reduce the grain gradually until she shows signs of decreasing. The ration that just holds her production at this point is more profitable. Of course, as the lactation period progresses, there will be a natural decline in the production of milk, which will necessitate a corresponding change in the ration.

NUTRITIVE RATIO.

Referring to the function of the various nutrients it will be seen that carbohydrates and fats are used for similar purposes in the animal body. With any food or ration, the nutritive ratio shows the proportion of proteids to the carbohydrates and fats taken together. The value of the fat, however, is 2 1/4 times that of the carbohydrates for producing heat or energy. Consequently, the fats are reduced to a carbohydrate equivalent by multiplying by 2 1/4, then added to the carbohydrates and the sum divided by the proteids which gives the nutritive ratio. The nutritive ratio of ration No. 3 is obtained as follows:

.71 lb. fat x 2.4 = 1.59. 12.56 lbs. carbohydrates + 1.59 = 14.15. 14.15 ÷ 2.14 = 6.6.

For each pound of proteid material this ration offers 6.6 pounds of carbohydrates and fats, so it is said to have a nutritive ratio of 1:6.6. Rations of this kind are called narrow, but where the carbohydrates and fats are in a greater abundance, as for example, 1:12 or 1:20, they are designated as wide rations. Rations having a nutritive ratio of from 1:6.0 to 1:7.5 are best suited for dairy cows.

PHENOMINAL PRODUCERS.

Experience has clearly shown that no set rule, if adopted as a standard for the care and feeding of the dairy cow, can be depended upon to yield



EVERYBODY BUYING DE LAVAL CREAM SEPARATORS

The wonderful improvements made in the 1908 DE LAVAL CREAM SEPARATORS—added to their THIRTY YEARS record of ONE MILLION prosperous users throughout the world—have convinced practically all WELL-INFORMED buyers of their overwhelming superiority, as well as actual cheapness, and they are being bought in even greater proportion this fall than in the spring or ever before.

A catalogue to be had for the asking shows the reasons WHY.

THE DE LAVAL SEPARATOR CO.

General Offices: 74 CORTLANDT STREET, NEW YORK. Locations in Chicago, Philadelphia, San Francisco, Montreal, Winnipeg, and Portland, Oreg.

maximum results in any given case. The individual likes and dislikes of each animal must be studied by the feeder. Good herdsmen are born with a love for the cow and a natural intuition for understanding her wants, a power not acquired from others or learned from books. Large producers are uniformly hearty eaters. Definite rules do not always hold in these cases, though doubtless the principles of feeding do, but at best such animals are largely a law unto themselves.

SUCCULENCE AND SILOS.

It is essential for the large yields and economical results that some succulent foods be given the herd during the winter months. This can be supplied either through the use of root crops or by using silage from different sources. Roots are a useful form of succulence, but the cost of labor necessary to grow them precludes their general use in this country. In view of the fact that corn yields digestible dry matter more abundantly, with a reasonable expenditure of labor than any other plant, its use in the form of silage is universal. Corn silage is especially suited to all intensive operations where it is necessary to support as many animals as possible on a small amount of land. Like the plant from which it is made, corn silage is carbonaceous, yet its succulence stimulates milk secretion to a marked degree and its generous use in winter is the best way to approach ideal summer conditions. Clover, alfalfa, and cow-peas may be fed in the form of silage, but their use in this manner is not common. If the planting of cow-peas is so timed that they will reach maturity when the corn crop is

ready for the silo, one load of green peas to two loads of corn will make excellent silage and overcome the risk and labor of curing the cow-pea hay. The silo is a necessary part of the equipment of any well-regulated dairy farm, and its value is highly appreciated by feeders of all forms of live stock. No dairyman who has ever made and fed silage properly would forgo the advantages offered by it. They contend that it is essential to success. Too much can not be said by way of inducing Indiana farmers to use silos more extensively. Instead of wasting one-third the nutrients of the corn crop each year by allowing the stover to waste in the fields, the whole crop should be converted into silage and fed to dairy cows in well protected stables and yards. The returns from the increased production of milk would add millions of dollars annually to the farmers' revenue. No farmer keeping ten or more cows can afford to hesitate about purchasing a silo.

SOILING CROPS AND SUMMER DROUTH.

Too much dependence is usually placed upon pasture for summer feeding. At best it is uncertain and the wise man will insure a high yield during these months when drought is practically inevitable, by providing a succession of green growing crops that can be fed when pastures fail. Pasturing high-priced land is unprofitable in these times. Few stop to consider the destructive effects of trampling, that, while a cow is taking one bite of grass, she is perhaps soiling or trampling the life out of four others. A succession of fresh soiling crops can be provided and used to great advantage.

Table 4.—A succession of crops for soiling purposes.

Table with 5 columns: Crops, Time of Sowing, Seed per acre, Approximate time of use, Approximate yield of green feed per acre. Lists various crops like Rye, Wheat, Alfalfa, Peas and oats, Red clover, Corn, and Cow-peas with their respective sowing and use schedules.

A plan for a succession of crops that will be found practicable throughout the State. The dates for sowing and cutting will vary somewhat for northern and southern sections. (From Bulletin No. 120, Purdue Experiment Station.)

The Woodson County Breeders Association

Will Sell at Yates Center, Kansas, on

THURSDAY, OCT. 1

- 25 Duroc-Jerseys 25
- 10 Berkshires 10
- 25 Poland-Chinas 25

FRIDAY, OCT. 2

- 35 Shorthorns 35
- 12 Angus 12
- 13 Herefords 13

Of both sexes and all of desirable ages. This will be an offering of unusual merit. Every animal has been specially selected for this sale by an expert judge. All are in fine breeding condition but not fattened. They are just what you want for they have been kept so they will do well for you. No sale held in Kansas this year offers a better guarantee of good value for your money than does this our initial sale. Big stock show in forenoon each day. Write for catalogue and state if hog or cattle edition or both is wanted.

J. T. BAYER, Pres., Yates Center, Kans.

G. A. LAUDE, Sec., Rose, Kans.

Auctioneers: R. L. Harriman, J. W. Sheets, W. F. Guy, Geo. Barnes.

quire less care and feed than anything else on the place. Every farmer should keep a flock of sheep to keep down the weeds if nothing more.

Mr. Marshall is prepared to make attractive prices on these young males and now is a good time to order while he has a good supply on hand, which he will not have very long; so get in line and please tell him you saw his advertisement in THE KANSAS FARMER.

Belleville Fair.

Republic County Fair at Belleville, Kans., September 8 to 11 was a success. The new agricultural and horticultural hall was a much needed addition to the grounds and gave plenty of room for the farm products which was a good display. The stock department was not up to the usual numbers but the quality was fairly good. The horse and mule display was good, showing a large number of fine farm horses and colts. The cattle department was light, only one pure-bred herd shown, and that was the Angus herd of Robert Ward.

The hog department was also not up to its usual number. Chas. Jones of Belleville showing the only Durocs, winning champion on Jim Orion, a grandson of old Orion. The champion sow was from the Proud Advance and Ohio Chief families. Mr. F. T. Hadarheck, Wayne, Kans., showed the only herd of Berkshires and brought out a number of fine animals.

Mr. G. L. Stubblefield was the only exhibitor of Chester-Whites and won all the ribbons.

The Poland-China was the strongest show, five exhibitors showing. A very good lot of hogs, none of them very highly fitted but in good, useful condition. Carl Jensen & Son, Belleville, winning second on aged boar; first and second on boar under 12 months; first, second, and third on sow under 12 months; first and second on young herd; first on get of sire; first on produce of sow.

The champion sow was Bonna, sired by Pawnee Chief by Logan's Chief, shown by Jensen & Son. W. H. Bullen & Son won first aged boar; first yearling boar; third on boar under 12 months; first and second on sow pigs; third on young herd; third on get of boar, and champion boar on B. S. Hadley. J. J. Ward won first on boar pig; second on aged sow; first on yearling sow; first on aged herd; first on junior yearling sow, and second on young herd. F. C. Swiercinsky won second on yearling sow; third on yearling boar; third on sow pig. J. Jimison won second on senior yearling boar; third on aged sow; second senior yearling sow; third produce of sow.

R. B. Ward showed the only sheep and of course won all the ribbons.

Coppin's & Worley Sell Durocs.

Coppin's & Worley of Potwin, Kans., proprietors of the Coppin's Crest herd of Durocs held a successful sale Friday, September 4, which was reasonably well attended by local buyers. Their offering which was an excellent one, was presented in the pink of condition, and was appreciated by the buyers, and was a credit in every respect to these enterprising breeders.

While prices did not rule high, they were reasonably satisfactory to the sellers and were such as will surely prove profitable to the buyers. One of the features of the sale was the number of good sows that were sold with fine litters at foot by the herd boars. Chief Justice, a son of Model Chief Again, and Coppin's Notch Higher, a grandson of Kant Be Beat. Among these sows were daughters and granddaughters of such famous sires as Ohio Chief, Improver 2d, Red Chief I Am, Gold Finch, and Kant Be Beat.

The first ten sows that passed through the ring made an average of \$50. The top of the sale was the fine sow Beth, a granddaughter of Ohio

Chief and number one in the catalogue. She sold to W. W. Kemper of Potwin, Kans., for \$76.00. The total of the sale was \$935, and the general average on twenty-eight females was \$31.50.

Colonels Snyder and Moss did the selling in a very satisfactory manner. Following is list of sales of \$20 and over:

- 1 Beth, W. W. Kemper, Potwin, Kans. \$76.00
- 2 Next Best II, O. C. Gray, De Graff, Kans. 37.00
- 3 Red Lady Joe, W. W. Kemper, Potwin, Kans. 38.00
- 4 Peaches, W. W. Kemper, Potwin, Kans. 44.00
- 3 Miss Pauline, Wilson Smith, De Graff, Kans. 52.00
- 6 Orange Belle Top, O. L. Gray, De Graff, Kans. 50.00
- 7 H. A. J.'s Pansy, W. T. Smith, Potwin, Kans. 51.00
- 8 Potwin Belle II, Lee Woods, Towanda, Kans. 52.00
- 9 Second to None, J. Luellen, Eldorado, Kans. 30.00
- 10 Produce Maid II, Strange Bros., Augusta, 35.00
- 11 Lee Woods, Towanda, 43.00
- 12 W. T. Smith, Potwin, 37.00
- 13 U. G. Murray, Towanda, 19.00
- 14 U. G. Murray, Towanda, 21.00
- 15 Lee Woods, Towanda, 17.00
- 16 Lullin, 19.00
- 17 Murray, 19.00
- 18 J. Lullen, 15.00
- 19 J. Lullen, 19.00
- 20 W. T. Smith, 13.00
- 21 W. T. Smith, 13.00
- 22 E. E. Chase, Towanda, 18.00
- 23 O. L. Gray, 20.00
- 24 E. E. Chase, 17.00
- 25 Lee Woods, 14.00
- 26 John Lullen, Eldorado, 16.00
- 27 O. L. Gray, 20.00
- 28 U. G. Stanley, Eldorado, 18.00
- 29 Lee Woods, 15.00
- 30 L. O. McCune, Burton, 10.00
- 31 W. T. Smith, 12.50

Large Increase in Entries of Stock for the St. Joseph Show.

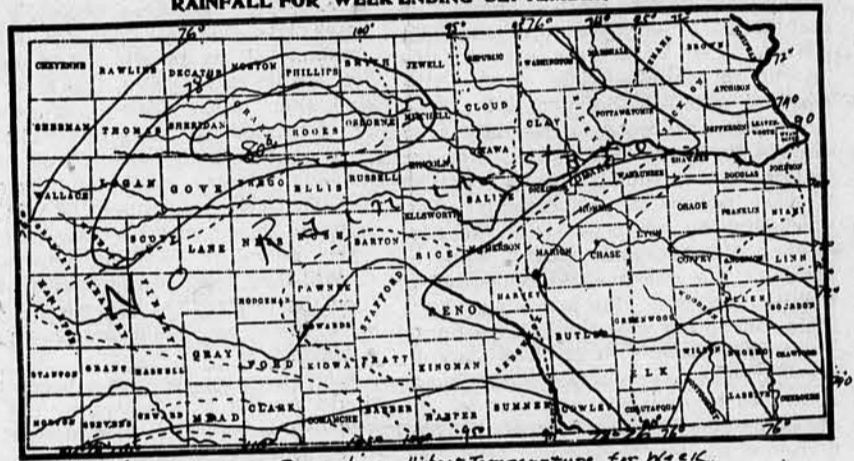
So far as breeding and individual exhibits in the third annual Interstate Live-Stock and Horse Show are concerned, the entry books are now closed. An inspection of the books disclose the fact that entries far exceed those of last year, in fact are fully one-third larger in the total. An exact count of the entries has not been taken but the show will exceed 125 horses, 600 cattle, 750 hogs, and 300 sheep. From these figures it is safe to state that more than 2,000 head entered in the breeding and individual classes will be on hand for the show. These do not include car-lot classes as the books for these do not close until the first day of the show. It is known now, however, that the car lot exhibits of fat cattle, hogs, and sheep and the show of stockers and feeders will far exceed expectations of earlier in the season.

The Oklahoma State Fair, October 1-10.

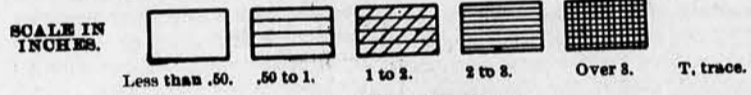
Forty thousand dollars is being expended in improvements at the Oklahoma State Fair Grounds this summer. These improvements will all be complete by the opening of the fair, October 1. The new buildings consist of a poultry house, new barns, an office building, and an addition to the grand stand. The drainage and sewerage of the grounds has been greatly improved, cement walks have been laid, and the grounds will be brilliantly lighted. The accommodations have been made so complete that the visitors can be taken care of equally well on rainy or clear weather.

Five thrashing machine companies have signified their intention of exhibiting at the Oklahoma State Fair, October 1 to 10. Superintendent Geo. Larimore, of Oklahoma City, says that he will have an excellent display of agricultural implements by leading manufacturers, and that the space allowed him will be crowded to the edges.

RAINFALL FOR WEEK ENDING SEPTEMBER 12, 1908.



Solid Lines - Mean Temperature, Broken Lines - Highest Temperature for Week.

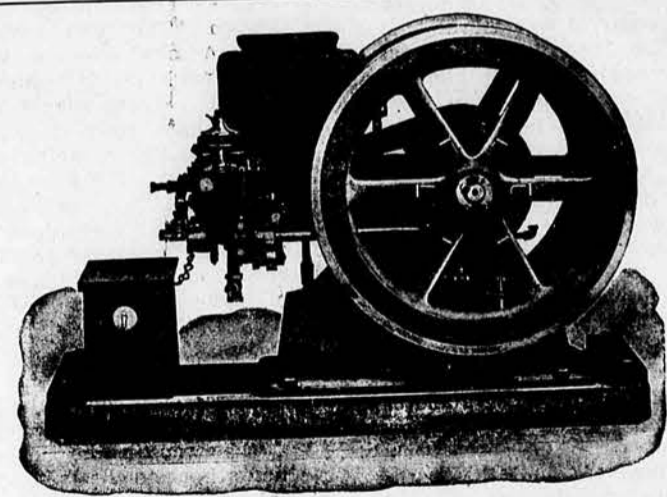


GENERAL SUMMARY.

The week was pleasant and quite favorable. It was one of the warmest weeks of the season, the temperature averaging 6° above normal. The mean temperature ranged from 72° in Bourbon and Linn Counties to 80° in some of the northwestern counties. The maximum temperature was 90° or higher except in Cowley, Butler, and Marion Counties, and was 100° or more in nearly the whole of the western division. The 6th, 7th, and 8th were unusually warm days in the western division, the 8th, 9th, and 10th in the middle division, and the 9th, 10th, and 11th in the eastern division.

The week was one of almost uninterrupted sunshine, the percentage of sunshine being 100 except in a few southeastern, central, and northwestern counties.

There was no precipitation in the State, except a trace in the northern part of Jewell County on the 6th and again on the 10th.



Rockford Engine Works.

The Rockford Engine Works, Rockford, Ill., have just received from the press their new 1908 catalogue which illustrates to good advantage their line "High Grade General Purpose Engines" and any one interested at all in gas or gasoline engines, should not fail to write them for a copy.

It will be interesting to know by the many friends of this progressive concern that their factory is being operated at its full capacity in order to meet the needs and demands of their increasing trade and patronage. It appears it has been the aim of the Rockford concern to design a

really high grade general purpose engine at a reasonably low price to meet the needs of the masses and apparently they are meeting with their full share of success in this respect.

In addition to their regular line of engines they are fast adding the open jacket up to 15-horsepower, having already completed and ready for the trade the open jacket in 3, 4, 6 and 8-horsepower, for these they expect a large demand as it has a number of very desirable features which are eagerly sought for by the trade.

They manufacture a full line of stationary and portable engines, also sawing rigs, etc.

**Summary of Experiment Station Work
at the Oklahoma Agricultural
College.**

(Continued from page 979.)

fever tick was worked out and means of combating it described. Curative treatment is of no avail. The only means of preventing the disease is to destroy the tick. This may be done by dipping the cattle in crude oil or by pasture rotation or by both combined. The different kinds of ticks have been described and the difference between them pointed out.

Disinfectants. — The bactericidal properties of various disinfectants have been worked out and recommendations as to their use given out. Formalin and carbolic acid are the most valuable ones.

Berkshire Excellence and Progress.

PROF. C. F. CURTISS, AMES, IOWA.

The Berkshire is unquestionably the oldest and most widely disseminated of the modern popular breeds of swine. The breed has stood the test of ages and proven its adaptation, in practically every agricultural region on the globe. Its outstanding excellence is universally conceded. Berkshire type and quality have been a potent factor in shaping the standards of many of the other breeds; either by imitation or by direct resort to Berkshire blood.

While this is an enviable record it does not warrant a feeling of security. Breeds do not hold prestige of tradition or sentiment. The laws of practical results are inexorable. Berkshires, like all other breeds, must stand on their own merits; and win on actual merit or give way to their rivals. The Berkshires are not as strong in many sections of the Mississippi valley as they should be. The corn belt has produced the lard type breeds that are strong candidates for public favor. Sometimes a history or a past record is a handicap. The Berkshire history is a history of progress. Yet there are many who remember the old-time Berkshire as a small, nervous, slow-maturing hog. This conception does the modern Berkshire an injustice. It is an old prejudice hard to overcome. They have grown to be one of the largest of all of the modern breeds, and while active and good rustlers their quiet, mild dispositions make them easy feeders and they mature early. The modern demand for firmer meat of finer texture and quality, free from coarseness and excessive fat makes the Berkshire a prime favorite with the butcher and packer. It is doubtful if any breed meets the general market demands in so high a degree. Other breeds have their distinctive points of excellence, but the Berkshire on the block stands in about the same relation to other breeds as the Angus cattle to the beef breeds and the Southdown sheep to the mutton breeds, when put to the final test. A load of well-finished Berkshires almost invariably tops the market.

CARLOADS OF MARKET-TOPPERS.

There should be a more general and concerted effort on the part of Berkshire breeders to finish high-class barrows in carload lots for exhibition and for market-toppers. This is one of the surest roads to the popular favor of the practical feeder. If the merits of the breed were as well known by the feeder as they are by the killer, Berkshires would be in greater demand.

While there is a marked tendency on the market toward smaller carcasses of beef, pork, and mutton, the farmer still demands large hogs. But they must be easy feeders and capable of finishing at nine to ten months.

The breeder of pure-bred Berkshires should bear in mind the market demands and the demand of the feeder who raises hogs for market. No breed can ignore these considerations and hold its place in public favor.

SIZE.

The one outstanding demand on the part of the practical producer of all breeds is size—size not at the expense of quality, but size with quality if possible, and sometimes size regardless of quality. The practical breeder is also placing more emphasis on good

feet than formerly. He has learned that good feet are essential to a profitable hog. The fancy points that are sometimes unduly emphasized by the pure-bred breeder are of little consequence to the feeder for the market. There should be a sound practical reason for every characteristic on which special emphasis is placed by the breeder.

THE BLOCK.

Smooth shoulders are desired because heavy prominent shoulders produce a rough carcass with an excess of cheap meat. Straight, even, side, top, and bottom lines indicate feeding quality and freedom from soft flabby tissue in the carcass. Firm meat of fine fibre and good texture are Berkshire characteristics.

The ultimate end of all breeds is the block; and the practical test is not the most pounds on the scales, but the highest amount of edible meat on the block with the highest returns on net profit to the producer.

FORM.

The ear is generally regarded as a point of fancy rather than utility. This is not altogether true. There is a strong tendency toward refinement of type in all breeds of swine. This is manifest in the ear more strikingly than in any other point. The heavy, coarse, pendant ear has been banished from all the standard American breeds. It is a survival of the old unimproved types. A coarseness indicates a corresponding degree of coarseness of texture throughout the carcass. The law of correlation is certain. The coarseness generally indicates late maturity and an inferior product. It is possible, however, to put too much stress on fine erect ears and short dished faces. These features carried to the extreme will tend to a shorter finer type of hog at the expense of size, scale, and breeding quality. The embodiment of this type is found in the small Yorkshire. The large Yorkshire breeders approached it until they reached the danger point; then the tide turned backward. Berkshire breeders should not make this mistake.

What may be done for a breed by a single breeder is indicated by the success of one of our former students at Ames who is now breeding Berkshires. This young man published a little booklet, setting forth the merits of the Berkshire and stating in a modest business-like way the reasons for his preference for Berkshires. This booklet was circulated extensively among the hog-raisers of his community and throughout the State. In a letter to me last week he said:

"Four years ago I believe that I was the only one in the county that bred the Berkshire; to-day I believe there are over a hundred."

What would it mean to have an enthusiastic young breeder like this in every county?

Berkshire excellence is an established fact. Berkshire progress is dependent upon making this excellence known. The Iowa Berkshire Breeders' Association has undertaken a good work and I commend it most heartily. There should be similar organizations in every county. Public sales and public exhibitions should be encouraged. The field does not lie in distant lands or unexplored regions, but at our very door. We have reached the danger point in Iowa agriculture. By that I mean the period of high-priced grain and other conditions that strongly tempt the farmer to put the greatest area possible under the plow, crop the land under high pressure, and take the highest immediate net returns from the sale of the crop in the nearest market; then stimulate the land with commercial fertilizer. This course will prove disastrous in Iowa as it has in every State from the Atlantic sea board to the Mississippi Valley. When Iowa ceases to be the greatest stock-raising and feeding State she will no longer occupy the position of the foremost agricultural State. The production of more high-class hogs on the farms of Iowa will help to stem the tide, and to sustain a more permanent and profitable system of agriculture.

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OF

Registered Hereford Cattle

Cedar Point, Kans., Thursday, Sept. 24, 1908

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I will also sell 10 head of good horses and colts, and a few registered Berkshires. Sale will commence promptly at 10 a. m. and will be held at the ranch 2 miles south of Cedar Point, Kans.

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**Will be Sold at the Public's
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