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PAGES-\$1.00 A YEAR.



HEREFORD COW, BEAU REAL'S MAID 60927, OWNED BY SUNNY SLOPE, EMPORIA, KANSAS.

Beau Real's Maid 60927, sweepstakes two-year-old Hereford heifer of 1897, dropped November 25, 1895, sire Beau Real 1105, dam Barton's Maid 3896. Weighed when 2 years old 1,600 pounds. First in class, first in sweepstakes at Minnesota State fair in 1897. First in class and first in Hereford special at Indiana State fair in 1897. First in class and Hereford special at Wisconsin State fair in 1897. Second in class and Hereford special at Illinois State fair in 1897. Second in class and Hereford special at St. Louis in 1897. At some time during circuit defeated every animal shown against her. Beau Real's Maid dropped a fine bull calf May 3, 1898, at a time when so many calves were lost last spring. She has a nice udder and is a good milker. Her half brother, Wild Tom 51592, is one of the best sires in America. At the recent sale, March 2 and 3, thirty-eight of his get sold for \$14,610.

BREEDERS' DIRECTORY.

Cards will be inserted in the Breeders' Directory as follows: Four line card one year, \$16.00; six lines, \$23.00; ten lines, \$30.00; each additional line \$3.00. A copy of the paper will be sent to the advertiser during the continuance of the card.

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SWINE.

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Spring crop of pigs by Wren's Model, What's Wanted Wilkes and Tanner by Hidestretcher. Dams by Black Corwin, Wren's Medium, Protection Boy, Moss Wilkes Tecumseh, Hadley M. Washington. Get a Corwin Sensation, Darkness 1st, or Moss Wilkes Maid boar before my sale this fall. Some extra fine gilts for sale now. Tanner pigs are marked perfectly and have fine finish. Write me for particulars.

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When writing advertisers please mention Kansas Farmer.

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SEVENTY-FIVE HEAD OF SHEEP FOR SALE—Pure-bred Cotswold and American Merinos. This includes our tops and show sheep; must be sold by October 1; rams and ewes, all five years old and under. Write at once to Hague & Son, Box 140, Walton, Harvey Co., Kas.

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F. D. TOMSON, 514 Monroe St., Topeka, Kas. Portraits for framing and cuts prepared for advertising purposes. Breeders' correspondence solicited.

Agricultural Matters.

WINTER WHEAT EXPERIMENTS IN ONTARIO IN 1898.

By C. A. Zavitz, B. S. A., Experimentalist at the College, and Director of Co-operative Experiments in Agriculture for Ontario.

The winter wheat grower who does not give special attention to the varieties which he sows in his fields is certainly not looking after his best interests. To this fact thousands of farmers who saw the varieties of winter wheat grown side by side under similar conditions in the experimental grounds at the Agricultural College during the present season can testify. The varieties grown on these plots in 1898 varied from forty-three to sixty inches in height; from 0 to 92 per cent. in amount of crop which lodged before being ready for cutting; from 2 1-5 to 4 7-10 tons in yield of straw per acre; from 58 2-5 to 65 4-5 pounds in weight of grain per measured bushel; and from 30 to 52 bushels in yield of grain per acre. For heavy rich soils which usually produce a large growth of crop which is apt to lodge badly, those varieties possessing short stiff straw should be selected, while for light, weak soils, those varieties with long, heavy straw would likely give the best satisfaction. Generally speaking, the white wheats possess stiffer straw and yield more grain per acre than the red varieties, but the latter produce grain which weighs about one pound per measured bushel more than that produced by the white varieties. The hard, flinty red wheats produce a strong flour, which is comparatively dark in color, while the white wheats produce a beautiful white flour, which is sometimes lacking in strength. Millers frequently mix the red wheat of Manitoba with the white wheat of Ontario in order to get a flour having a proper combination of both color and strength. The very hard wheats, such as are principally grown in the Canadian Northwest and in the Northwestern States, are nearly all red in color, while the softer wheats are represented by varieties of both the red and the white classes.

The seven varieties of winter wheat which have given the highest average yields per acre among seventy varieties grown for five years on the experimental plots at the Ontario Agricultural College are as follows:

Varieties.	Weight per bushel.	Yield per acre.
	5 years.	5 years.
Dawson's Golden Chaff	59.7 lbs.	52.6 bus.
Early Genesee Giant	59.8 lbs.	48.7 bus.
Egyptian	60.4 lbs.	48.6 bus.
Imperial Amber	59.8 lbs.	48.6 bus.
Early Red Clawson	58.9 lbs.	48.5 bus.
Reliable	61.2 lbs.	48.0 bus.
Golden Drop	61.2 lbs.	46.9 bus.

The first two of these are white and the rest are red varieties and none of them are very hard wheats. In comparison with these varieties the hard wheats yield less grain per acre but in most cases produce wheat which weighs a little more per measured bushel, as illustrated by the records of the five following varieties of very hard wheat, taken from the average of the five years' tests:

Varieties.	Weight per bushel.	Yield per acre.
	5 years.	5 years.
Tuscan Island	60.6 lbs.	42.8 bus.
Red Velvet Chaff	58.3 lbs.	41.3 bus.
Longberry Red	60.8 lbs.	39.8 bus.
Kentucky Giant	60.0 lbs.	38.8 bus.
Turkish Red	61.5 lbs.	36.8 bus.

The Dawson's Golden Chaff and the Early Genesee Giant are among the stiffest strawed varieties, and the Tuscan Island, Longberry Red, Kentucky Giant and Turkish Red are among the weakest strawed varieties of all those grown in our experimental grounds within the last nine years.

A bulletin giving the results of forty-eight varieties of winter wheat, grown for five years in succession, and of forty-four new varieties grown in 1898, and also of experiments conducted on different dates of seeding, methods of soil preparation, methods of seeding, selection of grain for seed, quantities of seed per acre, treatment of smut-infested seed, yield and quality of wheat cut at different stages of maturity, etc., is now in the printer's hands, and will be distributed from the Department of Agriculture, Toronto, as soon as printed.

CO-OPERATIVE EXPERIMENTS THROUGHOUT ONTARIO.

One million acres of winter wheat will likely be sown in Ontario within the next three weeks. As the variety sown has a marked influence upon both the quality and the quantity of the crop produced, it is very important that the very best kinds be used. An average increase in yield of one bushel of winter wheat per acre means a total increase of one million bushels for the Province. The average annual yield of winter wheat

per acre in Ontario for the past fifteen years is about 27 per cent. lower than that of Great Britain and Ireland, and about 31 per cent. higher than that of any of the winter wheat growing States of the American Union. The aim of Ontario should be to approach the record of the former rather than that of the latter. The average yield of winter wheat in Ontario for the eight years ending with 1898 is 21.9 bushels per acre, and that for the eight years ending with 1890 was 18.5 bushels per acre. Hence the change in average yield of winter wheat per acre in Ontario is moving in the right direction.

The growing of this important crop has received a good deal of attention in the experimental department of the Ontario Agricultural College within the past ten years. Varieties obtained from the United States, England, Germany, France and Russia are being carefully tested along with those secured from the wheat-growing sections of Canada. After the varieties have been carefully tested in the experimental plots at the college in each of the five years, the leading kinds are selected for co-operative experiments throughout Ontario. It has been found that the varieties which have given the best average results in the experiments conducted at the college for a few years in succession have nearly always given good satisfaction on the farms of the Province.

Seven varieties of winter wheat were sent out for co-operative experiments in the autumn of 1897. These were divided into three sets, with three varieties in each set, the Dawson's Golden Chaff being used in all the sets as a basis by which the results of all the varieties could be compared with one another. We have received 191 full and satisfactory reports of carefully conducted winter wheat experiments for 1898.

The following table gives the comparative yield of straw and grain per acre of the varieties of winter wheat tested in 1898 on 191 farms:

Varieties.	Straw per acre.	Grain per acre.	W'g'h'd.	Tons. bushels.
Dawson's Golden Chaff	1.8	30.6		
Imperial Amber	1.9	29.3		
Early Genesee Giant	1.7	28.2		
New Columbia	1.6	27.5		
Early Red Clawson	1.7	26.5		
Pride of Genesee	1.5	25.5		
Poole	1.5	24.6		

This table should be of great value to the wheat-growers of Ontario, as none except the 191 good reports are included in the summary. Much credit is due to the careful experimenters who sent us the reports of the tests made on their farms.

CONCLUSIONS OF CO-OPERATIVE TESTS.

1. In the average yield of winter wheat per acre, the Dawson's Golden Chaff stood highest among eleven varieties tested over Ontario in the year 1898, among nine varieties in each of the years 1894, 1895 and 1896, and among seven varieties in each of the years 1897 and 1898.

2. Three of the varieties of winter wheat have been tested over Ontario for five years in succession with the following average yields of grain per acre: Dawson's Golden Chaff, 32.0 bushels; Early Genesee Giant, 28.9 bushels; and Early Red Clawson, 28.7 bushels.

3. Dawson's Golden Chaff was the most popular variety with the experimenters in each of the past five years.

4. In the co-operative experiments for 1898, the Dawson's Golden Chaff and the Early Genesee Giant came through the winter the best and the New Columbia the poorest.

5. The Early Genesee Giant, Dawson's Golden Chaff and New Columbia possessed the strongest straw, and the Poole and Imperial Amber the weakest straw in 1898.

6. In the co-operative experiments of each of the past five years the Dawson's Golden Chaff was one of the least and the Early Genesee Giant was one of the most affected by rust.

7. In 1898, all varieties were practically free from smut, which is nearly always the case when no smut is sown with the wheat.

8. The Pride of Genesee and the Imperial Amber produced the longest and the New Columbia the shortest straw.

9. The New Columbia, Early Red Clawson and Dawson's Golden Chaff were the first and the Early Genesee Giant and Pride of Genesee were the last to mature.

10. The Dawson's Golden Chaff and New Columbia produced the plumpest and the Poole the most shrunken grain.

Don't forget the excursion to Boston over the Nickel Plate road, September 16 to 18, inclusive, at rate of \$19 for the round trip. Good returning until September 30, 1898, inclusive.

Corn Questions.

Editor Kansas Farmer:—I have been interested in reading an article in a recent issue of the Farmer on the "Reason for a Low Yield of Corn," by the Assistant Botanist Kansas Experiment Station.

The reasons given are: First, an inherited tendency on the part of the corn plant for some stalks to be barren. Second, a poor or uneven stand of corn upon the land.

In regard to the first reason, the tendency to barrenness, he truthfully says it is a difficult condition for farmers to overcome, and expresses the belief that "seed breeders" in time will solve the problem. The idea that barrenness in the corn plant may be attributed to the seed, or that its cause, if in the seed, may, by some process of breeding, be eliminated from it, is altogether a new one to me. I have always attributed barrenness to the prevalence of peculiar climatic conditions during the fruitage period of the plant—such conditions as have prevailed the present season in many portions of Kansas, as well as last year. I noticed this season corn fields in which more than 50 per cent. of the plants are barren, while some distance away, in the same county, about every corn plant has fruited—the cause of this difference, in the mind of the average farmer, being found in this, that the latter had good and timely rains to assist the plant in the performance of its highly important function to reproduce itself after its kind, while in the section where barrenness existed no rains fell when needed. That is, rains produce fruitage; the lack of them, barrenness.

However, if "seed breeders" or any of the "scientific fellers" can produce seed corn which will fruit under all sorts of weather conditions, they will certainly be classed among the public benefactors of our country.

In regard to the second reason given for a low yield of corn, namely, a poor or uneven stand of corn upon the land, the Assistant Botanist advances the idea that in order to get an even stand the farmer should drill the corn nine or ten inches apart, and then cut out every alternate plant when necessary to have a uniform stand of one plant at a place every eighteen or twenty inches.

That is nice in theory, but there will be two or three generations before farmers can be induced to hoe or pull out the superfluous corn plants, in Kansas. I remember well in Pennsylvania, fifty years ago, how four or five of us followed the last plowing of corn with hoes and pulled the "suckers" and thinned the plants where too thick. We had all the way from twelve to fifteen acres of corn to care for. Now one man plants and cares for from seventy to one hundred acres, and with the improved implements now used he can handle and care for that acreage as well as fifteen acres were cared for in Pennsylvania fifty years ago.

However, to secure a good stand of corn is important, and the Assistant Botanist has done well to call attention to it. But what is a good stand of corn? An even stand, with plants ten to twelve inches apart, may be a good stand in Missouri river counties, but a bad stand 200 miles west. The distance between corn plants in Kansas should increase at least one inch with every 100 feet increase in altitude. This rule makes the distance between plants in middle Kansas counties from twenty-two to twenty-four inches, which, as we learn from experience, is quite close enough. This important fact is ignored by farmers generally and they continue to plant their corn too thick from year to year.

A farmer said to me, a year ago last spring: "My corn is entirely too thick, but next year I will have it thin enough." Last spring it was too thick again, and he has but little corn, while a neighbor who had the misfortune (?) to get only a half stand in the spring has a fairly good crop—at least five times as much corn as the other.

A thin stand in central Kansas often times makes the difference between a failure and a good half crop. Frequently corn is too thick because kernels of unequal size are used for seed. Two small kernels go through the plate when only one was wanted. The tip and butt kernels of corn ears should not be used. A careful selection of seed, so as to secure kernels of the same size as nearly as possible, is very important when machinery is used for planting.

Just one thought more: Why do not our farmers grow more early varieties of corn? The late varieties are obliged to run the gauntlet of July and August, while early varieties planted early are not. These are so far advanced by July 1 that even with unfavorable weather a fairly good crop is usually grown. This year early varieties yield from twenty



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WM. AYRES & SONS, Philadelphia.

to thirty bushels per acre, while late varieties in the same field produce less than five. It was just so last year, and it is so as a rule. In a really good corn year, which comes as often as once in ten years, the later varieties yield more corn to the acre, and the average farmer gambles on that chance. If asked why he does so, he is apt to say he would rather have big ears than smaller ones; but if the question is between smaller ears and no ears at all, what then? especially if corn is worth 35 cents per bushel.

There are good reasons why three-fourths of Kansas is not a good corn country. The Lord could not make it a good corn country and yet build the Rocky mountains where they are. A lot of good horse sense with gumption enough to use it is a prime requisite of a Kansas farmer, or indeed of a farmer anywhere.

September Notes.

Finish up the wheat seeding.
Crowd the early fattening hogs.
Get a good lot of fodder stored under shelter.

The corn that has matured early may be shucked out.

Build the corn-crib not only rat-proof but also water-proof.

Have only such fences as are necessary for practical purposes.

When the nights begin to get cool shelter the young growing stock.

Remember that kind treatment and warm shelter lessen the feed bill.

Provide plenty of good feed racks in the feed lots in which to feed out the foder.

Provide good drainage for the low places in the newly-seeded wheat and grass fields.

Unless shelter is provided, except on warm days, the hens cannot be expected to lay in winter.

Whenever there is a little spare time nail on all the loose boards around the stables and sheds.

When sheep and hogs are kept on wooden floors constantly the hoofs often grow greatly out of shape.

It will be found that a good time to decide what to plant next spring is in the fall after the crops are harvested.

A good part of the spoiled butter, especially during the winter, is due to keeping the cream too long before churning.

Be sure to keep a sufficient supply of feed. Selling off now and buying again in the spring is likely to prove poor economy.

When the crops are sufficiently matured in the garden remove them and plow thoroughly and then apply a good coat of manure.

Take every opportunity to improve the condition of the farm, as with improved conditions comes the ability to produce better results.

Plan to make, save and apply all of the manure possible. Continually taking out and putting nothing back will exhaust the fertility of any soil.

Fruit trees may be set out at any time now after the leaves fall. It is rarely advisable to strip off the leaves; better wait until the frost kills them and they drop off.

The meadows and pastures will give a better yield of grass next spring if they are not pastured down too close now and the stock is kept out of them in wet or muddy weather.

Generally sweet potatoes, in the root crop, should be the first to be harvested; then the Irish potatoes, beets, carrots, and lastly the turnips. Leave the parsnips until after the ground freezes at least once.

Push the fall work as rapidly as possible, in order to have everything in good shape, ready for cold weather. Better be a little early than a little late in having everything in readiness.

Eldon, Mo. N. J. SHEPHERD.

The Stock Interest.

THOROUGHBRED STOCK SALES.

Dates claimed only for sales which are advertised or are to be advertised in this paper.

SEPTEMBER 14—W. H. Wren, Poland-Chinas, Marion, Kas.
SEPTEMBER 28—Blair, McDonald and Wampler, Poland-Chinas, Girard, Kas.
OCTOBER 10—Ziegler Bros., Poland-Chinas, McCune, Kas.
OCTOBER 18—Robt. I. Young and U. S. Byrne, Poland-Chinas, St. Joseph, Mo.
OCTOBER 19-20—Tom C. Ponting, Herefords and Horses, Monequa, Ill.
OCTOBER 24—E. E. Axline, Poland-Chinas, Oak Grove, Mo.
OCTOBER 25-26—K. B. Armour, Herefords, Kansas City, Mo.
OCTOBER 31 AND NOVEMBER 1, 2, 3—C. H. Whitman, Herefords, Kansas City, Mo.
NOVEMBER 3—John Bollin, Poland-Chinas, Kickapoo, Kas.
NOVEMBER 8—Guss Aaron, Poland-Chinas, Leavenworth, Kas.
NOVEMBER 15-16—Gudgell & Simpson and Jas. A. Funkhouser, Herefords, Kansas City, Mo.
NOVEMBER 17-18—W. T. Clay and H. C. Duncan, Short-horns, Kansas City, Mo.
NOVEMBER 22—George Bothwell, Short-horns, Nettleton, Mo.; sale at Kansas City, Mo.
NOVEMBER 23—W. P. Harned, Short-horns, Bunceton, Mo.

SANITATION—HOG CHOLERA.

By Dr. J. I. Gibson, Iowa State Veterinarian, read before the Iowa Swine Breeders' Association.

Sanitation, in my judgment, means the cleanliness which is mentioned in Holy Writ as being second only to godliness. Under this head comes all the sanitary laws and regulations and rulings of State and local boards of health. These laws and rulings are based upon scientific facts regarding the nature of certain diseases, their means of propagation and how they are spread from place to place and from victim to victim. The pathology and treatment of diseases are ever advancing, and to be effective sanitary laws must keep pace and be founded upon scientific truths.

When we view the progress of this closing decade of the nineteenth century along the lines of sanitation we cannot but feel thankful that we have been permitted to live at this wonderful age, when the hog that was once so objectionable as to be considered by the "God Man" a fit temple for the indwelling devil spirits, has become a creature of wonderful beauty and value. So much so that we are all here to-day to talk hog in his various colors, forms and families.

While we may dispute with one another as to which particular kind or breed of hog is preferable, I am glad to be able to state that sanitation works on red, white and black alike. With this fact in view I am going to give you a few rambling thoughts and facts on sanitation in as plain English as I can convey them, in the hope that I may be able to advance some thought, idea or fact that may prove beneficial to some hearer in after years. So great and rapid is the advancement in sanitation, however, that the man who records his name with the up-to-date facts of to-day may be caused to blush at the crudeness of his ideas in a very short time.

STATE SANITATION.

Under the head of State sanitation I desire to call attention to the lack of force accompanying the laws already enacted. Strange as it may seem, it is true, nevertheless, that the individual feels no responsibility and the law makes it nobody's business to see to it that there is a sanitary condition of affairs in connection with the lives and habits of our animals. The law always provides for the care and custody of money or realty, but overlooks the real values which exist in live stock, and swine in particular. The only man connected with the township government who knows anything about sanitation is the health officer, and his professional duties do not take him about the yards, barns or farm, where he may notice the sanitary conditions and give advice when there is evidence of an unhealthy and unsanitary state of affairs. It is out of his line and no wonder he does not make it his business to investigate. If any person or number of persons exhibit symptoms of smallpox, diphtheria or some other contagious or infectious disease, the same health officer is alive to his duty and at once declares war against the army of germs which attempts to invade the township of which he is the principal guardian and protector. I hope you see what I am trying to get at. One-half of the sanitation of the township is left entirely unattended, unless as the trustees may undertake to look after it, and with all due respect to the many conscientious township trustees throughout the State, let me say they know little or nothing about sanitation, which has more to do with the health and prosperity of the people than all else beside. Through the strictest of rules regulating the care and custody of swine and the

proper disposal of all that die of whatever disease it may be, the great losses that our people suffer from year to year would be almost entirely prevented, and the raising of hogs would then be the surest means of making money for the farmers of Iowa. When you think of the careless farmers who never bury a dead hog or any other animal, unless forced to do so, and begin to figure on the number of them in Iowa, it seems very reasonable that we should have regular outbreaks of disease. There are thousands of such men in Iowa, and just one is enough in a township to prevent a successful result from the attempts of all the others at a cleanly and sanitary condition of the township. Again, when you think of the infectious nature of hog cholera and notice how farmers go about the neighborhood from one hog lot to another, even where the disease exists, to sympathize with the unfortunate owner, and thence to the lots of the fine breeder to congratulate him on his success, while possibly carrying on their shoes the germs of disease which may cause financial ruin of the man whom they wish to congratulate on his apparent success.

HOG BUYERS.

Again, when we consider the number of hog buyers throughout the State who go from yard to yard and farm to farm, carrying disease germs, and who, upon hearing of the first symptoms of an outbreak, either go or are sent to make an offer for the herd in which cholera exists, and as the neighbors are fearful of their herds he proceeds to visit every farm in the community, looking for good bargains, and about the only escape is to sell for what he offers you, for if you don't he may drop from one shoe the germs that will claim your herd without remuneration to you.

Following this cholera scare a little further, you see that the buyer purchases the remainder of the affected herd, and as it is important to get them to market at once, his good neighbors turn out with teams and wagons and haul them to market, and upon returning home the infected wagons are unhitched from where the hogs can rub around the wheels and lick the traces of animal matter found thereon, and with it receive a good infection of cholera, and we still wonder how the cholera spreads.

Again, we think of the number of dogs that traverse the country at will, carrying portions of dead hogs and with infected feet run all through your hog pens and yards. A hound, for instance, whose only mission on earth is to hunt by scent certain kinds of game. Is there any reason on earth why hundreds of hounds should be roaming at will day and night all over the farms of our fair State? No. Hunting is their sole business, and when allowed to run for any other business they should be shot.

DEAD HOGS, ETC.

Another great source of infection and spread of disease is the unsanitary practice of leaving the carcasses of dead hogs a prey to carrion birds of all kinds, whose excrement is said to carry the germs of disease to all parts of the country. The germs of anthrax have been found in the excreta of a fly. Streams of water are a source of infection and spread of cholera and, therefore, a detriment to the hog breeder. Sanitary precautions, practiced individually and collectively, will materially lessen the number of outbreaks and consequently the loss of property. How many men disinfect the premises around the spot where a sick or dead hog has lain? How many men disinfect themselves, their shoes especially, after attending to a sick or dead hog? We never forget to disinfect the premises where a glanderized horse has been, nor do we neglect to disinfect our hands after examining such a case. It is just as necessary to protection against cholera that we do these things as in the case of glanders or any other infectious disease. The germs of cholera will live for several months in the soil or litter containing animal matter, hence the necessity of disinfection. In view of this, hogs should not have forty to eighty acres of a pasture run at once, but rather a small lot comparatively with the number in the herd. I prefer a floored feed lot that can be cleaned once or twice a week and sprinkled with disinfectant solution, for which purpose corrosive sublimate, one to 500 parts of water, or creolin one to 100 parts, or carbolic acid two to 1,000 may be used with good results. I know when a person begins to talk about doing something to control hog cholera and swine plague a great many of the hog raisers turn a deaf ear and say, "useless, fruitless investment," etc., but I want to say here and now, that hog cholera can be controlled and prevented just as surely as any other disease, and the man who thinks not must fall into line, because one doubting Thomas in a com-

munity who fails to keep pace with his neighbors will upset all attempts at sanitation. Some people don't think a dirty pig needs any care or attention, which is all wrong. A hog needs clean, pure food as much as any animal. If you would have pure, sweet flesh when you slaughter, the animals must have pure food and drink. Impure, improper food vitiates the blood and system generally, and leaves the animal an easy prey to any form of contagion or infection, while good sanitary food and drink strengthen the system and its power of resistance is upheld. Each township in Iowa could well afford to pay a sanitarian a salary to go from farm to farm saving them from the results of conditions unfavorable to life and health of swine alone, which so many owners fail to see. The money now lost in any county would hire thirty to thirty-five professional men instead of only one to the township. This may seem stretching the facts, but the government experiments of last year will prove my statements and very much more along this line. The State of Minnesota, through her Veterinary department, is attempting to control hog cholera as it would any contagious or infectious disease, and Dr. Reynolds, State Veterinarian, has sent me copies of their regulations relative to the movements of swine in Minnesota, which show the thorough business way in which they propose to go about it.

MIGHT PROGRESS FASTER.

If our people were agreed and united in the work we might progress much faster. We have taken steps in Iowa to protect our swine breeders while exhibiting at the State fair, which seems to be a real protection for which the swine breeders have very generally expressed thanks and appreciation. If we could do so, I would be in favor of such supervision of every swine breeder's farm and yards, and see to it that the same protection was extended by placing rigid quarantine over all diseased premises.

The Veterinary department is seldom called upon to assist in controlling outbreaks of cholera and the law is so weak that it is often questioned whether the Veterinarian has any power or right to interfere unless called upon by the trustees, who may be the violators of sanitary regulations themselves. If the trustees of a township happen to be men who feed the flesh of cholera hogs to the remaining herd as the surest cure or preventive, the majority of the men in that township are apt to resort to the same treatment. If there is a man connected with our form of government who should be posted in sanitation, it is the township trustee. He is the governor of his locality and the man whose business it is to inquire into the sanitary conditions of each family and premises.

GOVERNMENT EXPERIMENTS.

I have been requested to explain the government experimental work carried on in Page county last year and the results of the work of attempting to control and stamp out hog cholera and swine plague, but as the work is almost under secret service regulations, it is impossible and imprudent for me to give you the exact workings if I could. However, from repeated visits to Page county last year, and correspondence with Hon. James Wilson, National Secretary of Agriculture, to whose efforts we are indebted for the work, and Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, under whose direction the work was conducted, and from association with Dr. McBurley, who had charge of the work, I have learned something of the nature of the work done and results accomplished. The first act was to take a complete hog census of the county, and in doing so get the number of hogs each man lost the previous year, etc. Then began the work of answering calls to investigate outbreaks of cholera, and as the department was confined to the expending of but a small amount of money they proceeded to examine a diseased herd, and, as nearly as possible, separate the well from the sick, destroy the sick, paying two-thirds or three-fourths their market value, disinfect the premises where they had been, and if possible remove the well to uninhabited ground. This work was looked after by townships, and a thorough report made of the work by townships. The experiment thus far proves that a great amount of money can be saved the farmers by even killing the sick, burning the carcasses, disinfecting the premises and giving an internal treatment with government formula, or hog cholera prescription. This part of the work proved that even when cholera starts in a herd it is not necessary to allow it to claim or even affect the entire herd. After two or three months' work, as above stated, orders were issued to kill the entire herd when cholera existed, burn the carcasses and disinfect the premises. This form of experiment was practiced for

Was Never Well

But Hood's Sarsaparilla Has Given Her Permanent Health.

"I was a pale, puny, sickly woman, weighing less than 90 pounds. I was never well. I had female troubles and a bad throat trouble. I came across an advertisement of Hood's Sarsaparilla and had faith in the medicine at once. I began taking it and soon felt better. I kept on until I was cured. I now weigh 103 pounds, and never have any sickness. Hood's Sarsaparilla will not cure. My blood is pure, complexion good and face free from eruptions." MRS. LUNA FARNUM, Box 116, Hillsgrove, Rhode Island.

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier.

Hood's Pills are tasteless, mild, effective. All druggists. 25c.

several months and brought to light wonderfully good results. Whilst it appeared that this form of experiment was very expensive, yet the statistics of this experiment, compared with former years, show that it was a great saving to the farmers. Where the second form of the experiment was shown to be especially effective was in lessening the number of outbreaks of the disease, while the first form very materially lessened the number of deaths from the outbreaks. Of these two methods of controlling the cholera, the second, which apparently cost the most, in the end proved to be the most economical. Better pay for and destroy 100 on one man's premises and have only one diseased or infected farm, than pay for and destroy ten on ten different farms, all of which must be slated as farms infected with cholera, which brand is not a good advertisement for swine breeders. Therefore, I want to impress upon your minds firmly the fact that destroying the entire herd where cholera exists, burning the carcasses and disinfecting thoroughly the premises, does control cholera to a wonderful extent, and very much better than simply killing the sick ones in a herd and disinfecting the premises, although the latter is a great improvement on the old methods of treating cholera. The way to look at it is this: This year, while you lose or kill a number and control the disease, you are saving your neighbor's herd, instead of him losing as well as you, as has been the case, and next year your neighbor may be doing the same thing in order that he may return the compliment, and that you may fill the purse that was emptied for his sake the former year.

THE SERUM THEORY.

The third, and I believe the best method employed by the government, is the serum theory of inoculation, which produces immunity for a few months. The government officials are laboring with a view to lengthening the period of immunity by a better serum. The serum from the blood of an immunized ass is considered best, and produces a longer period of immunity than the serum from the horse, mule or cow. The theory of immunity has been proven beyond a doubt, not only in relation to cholera, but in connection with numerous other diseases, such as anthrax, blackleg, etc., in animals, and smallpox in the human family. The only hope of ever being able to cope with yellow fever and bubonic plague is in vaccination, producing immunity. In Page county the serum treatment saved over 80 per cent. of diseased herds. The serum treatment will always be most desirable for the fine breeder because he never wants to destroy one of his best breeding animals, but will hang on and hope on as long as there is evidence of life. The fine breeder need not stretch the period of immunity, but repeat the injection before immunity of the animal becomes a question, because the value represented in a good herd animal is great as compared with the price of an injection of serum. In all three methods of dealing with cholera and swine plague the government has proven beyond a doubt there is virtue, and great gain to the community that will unitedly practice any of the methods. The experiments in the eastern half of Page county have proven that from \$50,000 to \$150,000 can be saved in any county with about one-fifth the amount expended. This is surely a paying profit. The next year's experiments will give even better results, because the department will know better what is desired to be accomplished and how better to proceed with the work.

WHEN YOU FIND HOG CHOLERA.
In closing let me answer in a general

Fair Notes.

Ellenwood & Son, Bayard, Allen county, are making an exceptionally fine exhibit of Percheron horses at a few fairs this fall. At the Anderson county fair, last week, their horses won all the first and sweepstakes premiums for which they made entries.

The Anderson County Fair Association held its twentieth annual fair last week. It was the most successful financially of any held by the association. The attendance on Thursday was fully 5,000. The show of live stock was perhaps the best ever held on the grounds. There was a large exhibit of horses and cattle, three exhibits of sheep and two exhibits of Poland-China swine by J. M. Collins, of Welda, and E. F. Walker, of Garnett. Mr. Collins won sweepstakes for best boar, also sow.

A new Kansas firm which is making exhibits at the fairs for the first time this year is E. A. Eagle & Son, Rosemont, Osage county, Kansas. They made the first show for the Maple Lawn herd. The exhibit consisted of the herd cow, LeRoy 65896, and young male, Modifer. Also two females, Bessie 50377 by Monarch 2d and Fanchon 6953. This latter was sired by Wild Tom and was sold at the Sunny Slope sale last March. Their card appears in this week's Farmer, and we trust that they may enjoy a good business from our readers.

In the cattle department there was a show of all breeds of beef cattle in the same ring and but a few small premiums were offered in the limited classification.

to Fowler, of Kansas City, for his Maple Hill (Kas.) ranch, afterwards closed out at public sale at Kansas City, Mo., when C. S. Cross, the present owner of Sunny Slope Herefords, was the principal buyer and at that time bought the famous show bull and sire, Beau Real, the sire of Wild Tom, the noted herd sire at Sunny Slope.

There is a brand of beer that is said to have been the brand "that made Milwaukee famous," and likewise there is a breeder that made Hereford cattle famous, and that person is E. S. Shockey, who established, recently, the Consolidated Grain and Stock Exchange, at Kansas City, Mo., with office in the Exchange building, where he will be pleased to meet old breeders and readers of the Kansas Farmer.

Mr. Shockey has the present honored distinction of being the Hereford breeder that discovered and developed Beau Real, the sire of the subject of our first-page illustration this week, Beau Real's Maid. He also bred Kansas Lad, head of the K. N. Armour herd, also the breeder of Free Lance, Mr. Funkhouser's great herd bull, and notwithstanding that Mr. E. S. Shockey is not actively identified in breeding he still retains a very lively interest in Hereford matters and will be glad to meet his old friends when in Kansas City.

Herefords at Sunny Slope.

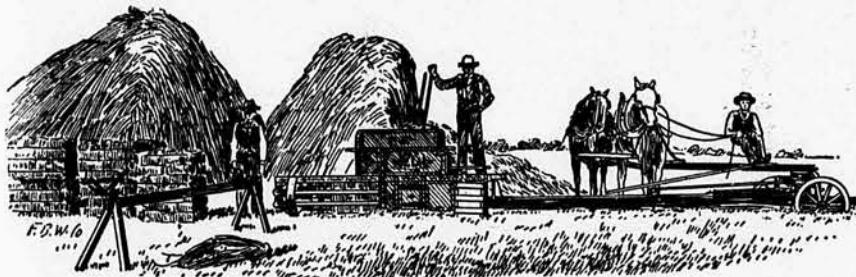
The Sunny Slope breeding establishment, at Emporia, Kas., of which Mr. C. S. Cross is the well-known proprietor, has come to be recognized as one of the most important

to be overlooked. Many of these females have been bred to Wild Tom, Imp. Keep On, or one of the other half dozen bulls in service. Wild Tom, a noted son of the famous Beau Real, proudly holds his position at the head of the herd, and can justly be classed by his demonstrated ability as a sire as one of the greatest breeding bulls of the age. His get are distinguished for their size, robustness and uniformity of type. He was himself the most admired by all visitors at the Sunny Slope sale last March, and the prices at which the young things sired by him sold indicated the appreciation the breeding public held for the kind of cattle he is producing. Among the splendid lot of bulls now on sale there are forty head which are over one year old. Among these are some capital young bulls fit to head any herd, sired by Wild Tom, Archibald V., Climax, Stone Mason and others. Among those to which we would call especial attention is Prince Tom, an August 10, 1897, calf, sired by Wild Tom, dam Lily 2d, she a daughter of the famous show cow, Lady Laurel. One of the best of the older Wild Tom bulls is Tom Hillhurst, calved February 9, 1897. He is a level-topped, deep-ribbed, low-flanked, short-legged bull. Another bull to which we would call attention is Lundy Lane, calved February 16, 1897. He is an extra good all-round bull, which should suit some one wanting a first-class herd bull. One of the blankest, thickest, smoothest, best balanced young bulls on sale is Brick Mason, a grandson of Stone Mason. He was calved May 5, 1897, and from the feeder's standpoint has all the feeding and early maturing qualities that could be desired. An Archibald V. bull of extra size is Archibald Anxiety. This is a bull of great scale, yet having no lack of quality. The show herd in preparation for the fall fairs will be headed by the imported bull, Keep On, whose breadth of rib and general thickness from end to end, together with his heavy body and low flanks, on short legs, will command him for careful consideration. The aged cow class will be represented by Lady Matchless 2d, and the sensational Beau Real's Maid. Lady Matchless 2d is raising a bull calf sired by Theodore. Beau Real's Maid's calf, we regret to say, was lost when only a few days old. She has, however, developed a beautiful udder, and with her wonderful wealth of flesh and extraordinary quality gives promise of making a better show than she did last year as a two-year-old. The next outstanding good one in the show herd is Diana, winner as a calf last year, and now in her yearling form carrying more flesh on her crops, back and ribs than is usually found on mature cows. She is simply a prodigy in the matter of flesh carrying ability and early maturity. Another yearling heifer which will command attention on account of her refinement and beautiful character is Grace Beau Real, also a daughter of Archibald V. The yearling bulls Climax 4th and Nobleman, the former a son of Climax, and the latter by Wild Tom, out of the great breeding cow, Dolly, are a great pair, differing somewhat in general character, but each presenting many strong points for consideration. We have hardly begun to mention the list of good things to be seen at the farm, and for further evidence as to their merits and other desired information we refer to the new advertisement which will be found on page 16.—Kansas City Live Stock Indicator.

a high degree by the Eli Continuous Travel Press No. 1, a cut of which is shown here-with in operation in the field. The baling chamber of this and other Eli horse-power presses is made from one-fourth inch steel plate. The bale chamber corner angle plates are three-eighths inch thick. The powers of these presses are composed entirely of malleable iron, which the manufacturers guarantee cannot be broken in operation. This obviates the danger of breaking which attaches to the ordinary cast-iron powers in frosty weather. Some idea of the power of these machines is afforded by the knowledge that a 500-pound pull of the team applies over thirty thousand pounds pressure on the charge. Surely this means compact bales, which in turn means lowest procurable freight rates. These presses can be telescoped for convenience in long hauls or in storing away when out of use.

The Collins Plow Co., of Quincy, Ill., who make these presses, also manufacture a full line of steam power presses with automatic condensers, block-placers, signal bells, self-feeders, etc. Write them for catalogue and prices before buying.

We assume that every man who has had any experience knows that the two prime essentials of a baling press are: First, large capacity so as to be economical in operation; and, second, sufficient strength and power to make heavy, compact bales when a large quantity of hay or other material is fed to the machine. Those large, loosely-bound bundles which we so often see in the market result directly from a lack of the above-named essentials in the machine which produced them. A very simple and primitive machine may have a large capacity, but if the bales are not heavy, compact and closely compressed, such a machine fails utterly of the object of its construction. The prime object in baling hay is to reduce its great bulk to a form that admits of its being marketed like any other product. To get full weights in a car, therefore, the bales must be uniform and closely compressed. It necessarily follows that a machine to produce such bales must be very strong and rigidly constructed, so as to stand the pressure of the great power necessary to produce these results. The requisites first mentioned are possessed in



HAY BALER ESSENTIALS.

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Short-horn cattle were shown by C. F. Wolf & Son, Ottawa, and Dr. H. G. Slavens, Neosho Falls, and Herefords by J. C. Curry, of Quenemo, and C. A. Eagle, of Rosemont, Osage county. The bulk of the awards were given to the Short-horns of Wolf & Son, including sweepstakes for herd, best bull and best cow. Both breeds had to show in the same ring, which was not satisfactory in either case. However, the association promised to give separate classifications another year.

Notwithstanding the fact that the Anderson county fair made no classification for Herefords, the Greenacres herd of J. C. Curry, Quenemo, was nicely represented at this fair and did much to promote the Hereford interest in that county. The display consisted of Archibald 1st 39258, the sire of Sunny Slope's Archibald V and Archibald VI, the latter sold during the Sunny Slope March sale to L. L. Young, of Nebraska. The other animals shown were Mattie 42730, Primrose 42736 by Banker by Illinois. Also Alice 64492 by Monarch 2d. This, including two heifers by Archibald Duke, constituted the Greenacres display, and Mr. Curry was constantly surrounded by farmers eagerly inquiring as to the merits of the white-faces.

Shockey's Satisfaction.

The illustration on first page this week of Beau Real's Maid, the great show cow of Sunny Slope Herefords, brings to mind quite vividly a pioneer personage in the person of E. S. Shockey, of an old firm of Hereford breeders, known as the owners of Early Dawn Herefords, located at Lawrence, Kas. This herd was sold

of its kind in America. For several years the farm has been devoted exclusively to the breeding of registered Hereford cattle, during which time show yard records and public sale records have been made which emphasize in no uncertain manner the superior quality of the Sunny Slope Herefords. From the beginning it was Mr. Cross' ambition to own and breed a herd of Herefords second to none, and, being possessed of both the means and judgment required to found such a herd, it was only a natural sequence that the Sunny Slope herd should take the leading position it has among the foremost herds of the breed. Mr. Cross has been deeply interested in the building up, breeding and general conduct of the herd, and has put into operation the most complete system of private herd records we have ever seen, which has been kept up as promptly and systematically as a banker's ledger. All of this requires a vast amount of his time and personal attention, until he now finds, with the growth of the business, it is taking more of his time than he can well spare from his other business interests. He has, therefore, concluded to reduce his Hereford breeding operations to the capacity of the home farm, and will consequently place upon the market, at private treaty, a large number of cows and heifers which were originally intended for his own use. We have not the space at our command to undertake to describe this offering, but will state from a personal knowledge of the situation, and the class of cattle he is offering, that he will be able to meet the demands of any customer as regards individual merit, quality, breeding and price. While inspecting the herd last week we learned that the prices at which he was offering many of the breeding cows, which are just coming into their prime as producers, were very little in advance of what their last calves sold for as shown by the records. While he expects to retain enough females to stock the home farm, yet he is practically making no reserve on any especial animal or any number of animals, and will put a price upon such stock as his customers may select. This is an excellent opportunity to secure some of the very choicest breeding stock from a herd whose reputation is world wide, and since there is such a great variety to select from it places before buyers an opportunity not

HARNESS BEST QUALITY FOR LESS MONEY THAN ANY OTHER CONCERN ON EARTH. BAR NONE. **LARGE ILLUSTRATED CATALOGUE, NO. 24, TILLOTSON BROS., CHICAGO. FREE**

THE STRAY LIST.

FOR WEEK ENDING AUGUST 25, 1898

Cowley County—S. J. Neer, Clerk.

HORSE—Taken up by J. C. Sulton in Ninnescah (P. O. Seely), July 20, 1898, one dark bay horse, medium size, star in forehead; valued at \$20.

FOR WEEK ENDING SEPT. 1, 1898.

Lambeth County—E. H. Hughes, Clerk.

MARE—Taken up by O. E. Harmon, in Richland (P. O. Chetopa), July 24, 1898, one dun mare, 10 years old, fourteen hands high, no brands or marks; valued at \$10.

MARE—By same, one gray mare, about 5 years old, no brands or marks; valued at \$10.

MULE—By same, one dun mare mule sucking colt, about 4 months old, no brands or marks; valued at \$10.

Reno County—W. S. Yeager, Clerk.

STEER—Taken up by I. J. Teter, in Hutchinson (P. O. Hutchinson), August 2, 1898, one black steer, medium size, Z on left shoulder, XIK on left hip; valued at \$25.

Wyandotte County—Leonard Daniels, Clerk.

HEIFER—Taken up by Nellie Ward Albright, in Kansas City (P. O. Eighteenth and State avenue, Kansas City), August 9, 1898, one light red heifer, 1 or 2 years old, with some brindle stripes, brands none; valued at \$10.

Clay County—J. G. Cowell, Clerk.

MARE—Taken up by John Emerich, in Athelstane (P. O. June 19, 1898, one sorrel mare, about 4 years old, white blaze on forehead, white on all four legs, no brands; valued at \$30.

MICA AXLE GREASE lightens the load—shortens the road.
Makes the wagon pull easier, helps the team. Saves wear and expense. Sold everywhere.

We want the readers of the Kansas Farmer

TO BUY THEIR
DRY GOODS
AT THIS STORE.

It's a big store—almost five acres of floor space—over half a hundred departments—and with a fair chance will win your preference, with large assortments of choice goods at LESS PRICES.

"LESS PRICES"

means lower than you can get the same sort for any place else. Less, because we're big buyers, pay cash and sell for a small profit.

Write for samples of any SILKS or DRESS GO'DS, and let them—style and quality and price—prove how much it pays you to send here for what you want.

See what values in choice new Dress Goods, 25, 35 and 45 cents a yard. Fine Dress Goods and Suitings, 50 cents upward to the finest imported.

Nobby new Plaids, 20, 25, 45 and 50 cents. Lot dollar Velour Plaids, handsome colorings, 46 inches wide, 65 cents a yard.

Efficient Mail Order Department here to do nothing but attend to mail order business.

BOGGS & BUHL,
Department G. G. Allegheny, Pa.

W. E. SPEARS
RICHMOND, KAS.

For Sale—22 Head of Herefords.

Five registered cows—Lord Wilton and Anxiety—bred to Dial 3d No. 71453; fifteen grade cows, all bred; one yearling bull, Lord Wilton and Anxiety; one five-year-old bull, sired by Banker No. 1324, by Illinois No. 920 (5595).

WRITE FOR PARTICULARS.

When writing advertisers please mention Kansas Farmer.

Administrators' Sale of Real Estate.

Pursuant to the will of the late David R. Youngs, I offer at private sale all the real estate belonging to his estate, as follows:

1. The "Home Place," w. hf. of nw. qr. sec. 26, and e. hf. of ne. qr. sec. 27, t. 12, r. 15, 160 acres. Contains good house, barn and sheds, outhouses, corrals, wells and cisterns, wagon scales, three orchards, and all appurtenances constituting a first-class farm. About 130 acres plow land, 12 acres clover, 5 acres alfalfa, remainder pasture land, timber land and creek, all well and conveniently fenced. Price, \$8,000. Terms, one-third cash, one-third in two years and balance on long time. Interest on deferred payments 7 per cent. per annum, secured by mortgage.

2. Also the e. hf. of nw. qr. of said sec. 26, 80 acres. About 40 acres first-class plow land and about 40 acres hay land. Well and separately fenced. Price, \$3,200. Terms same as above.

3. Also about 101 acres of pasture land in one body, well fenced and well watered, being nw. qr. of ne. qr. frl. and sw. qr. of ne. qr. frl. of said sec. 27, and about 34 acres off the east side of the nw. qr. frl. of said sec. 27. Price \$20 per acre. Terms same as above.

4. Also about 101 acres of good prairie land, being w. hf. of nw. qr. frl. of said sec. 27, and about 34 acres off the west side of the e. hf. of nw. qr. frl. of said sec. 27. Price \$25 per acre. Terms same as above.

5. All of the above described land lying contiguous and constituting one large and complete farm and situated about seven miles southwest of Topeka near the Burlingame road, will be sold together for \$15,000, on the same terms already stated.

6. Also 42 acres in se. qr. of sec. 9, t. 12, r. 15, near Six Mile creek. Mostly first-class plow land; well fenced. Small house and some other improvements. Price \$1,250. Terms same as above.

For further information write or call on the undersigned at his office, Bank of Topeka building, Topeka, Kas.

CHAS. F. SPENCER,
Administrator, with will annexed, of said estate.

The Home Circle.

FOUR FAIR SEASONS.

Little laddle and little maid,
Playing amongst the cowslips' gold—
She so small and so soon afraid,
He so rosy and strong and bold!
Over their heads the May flower's shine,
Snowy white 'gainst the blue, blue sky;
Oh, but Life is a thing divine—
Glad days come as the glad days fly!

Lovers twain in the Summer night,
Pacing beside the moonlit lake;
The iris gleams in the mystic light,
The water lilies are all awake,
Sweet as love is the scented air
That folds them close in a dream of bliss;
Never did Eden's bowers bear
Joy more pure and more deep than this!

A noble husband, a gentle wife,
On the terraced walk where the peaches grow;
The wind and the trees, in laughing strife,
Colored leaves on the smooth grass straw.
She holds her baby against her breast;
Her fair boy climbs on his father's knee.
The sunset deepens—oh, peace and rest,
Oh, love and home—best joys that be!

All the earth lieth cold and white,
Wrapped in a robe of sparkling snow;
The Christmas dawn is breaking bright,
With joy in heav'n and peace below.
He clasps her thin white hands in his
As she smiles her last in the old man's face;
Oh, scarcely shall either the other miss
Ere they join again in a new embrace!

VISITING A SUGAR PRINCE IN CUBA.

When the present war began Cuba had 1,521 prosperous sugar plantations. To-day "the sound of the grinding is low," for only six of them are in operation. A few weeks ago I visited one of the six, which is situated in the southeastern corner of the province of Matanzas. It was an all-day journey, leaving Havana at 5 a. m., and reaching the goal soon after sunset. Probably the distance is not more than 200 miles, as the crow flies, but the road—originally built to accommodate some large estate—zigzags to and fro like the tacking of a ship. Travelling by rail in Cuba is never unalloyed delight, and in these troubled times discomforts are doubled. Besides the usual slowness and irregularity of service, the heat, dust, and absence of eating stations—nowadays trains are in momentary danger of being fired into, derailed or exploded by bombs, and each has its disquieting attachment of two ironclad cars filled with Spanish soldiers standing by their guns at the loop-holes. Sophisticated travelers watch every thicket, hill and hollow which might possibly shelter an insurgent, and throw themselves flat on the dirty floor of the car at the first indication of attack.

After hours of slow riding through a totally unoccupied country, between burned cane fields, the smoke from more burned fields visible on either side, at nightfall we reached a miserable little hamlet of palm-thatched huts. What was our astonishment, on alighting in the mud of this desolate place, to behold a modern horse car. Everything about it was fresh and trim—spotless windows, cushioned seats, straps to hold on—nothing missing but the nickel box or the conductor with his bell-punch. We were within the boundaries of the sugar estate, and the car is the private property of the planter, who had come with his family to meet us. Then away we were whisked over three miles of car track, between rows of stately palms, hedges of giant aloes and boundless stretches of sugar cane to the door of the manor house. There new surprises awaited us. The great two-storied casa, with its latticed veranda and innumerable windows, was brilliantly illumined with electricity, and is furnished with all the comforts and elegancies of city life. The apartment assigned to my use was the most beautiful I have occupied in many a day, with its handsome French furnishings and delicate frescoes, under the soft glow of electric lights in the form of pink lilies, and, better than all, after the long day's dusty ride it had the welcome adjunct of a perfectly appointed bath-room. Presently dinner was served in the wide, cool hall, and fine old silver, monogrammed china, exquisite drapery, well-drilled servants, oysters, game, rare wines, made it difficult to remember that we were in the heart of an impoverished, war-beleaguered island. I have been told that the wealthy Cuban planters live like princes, and now believe that many old world potentates might change places with them and get the best of the bargain.

The estate of which I speak is by no means one of the largest in Cuba. The proprietor told me that it is only sixteen miles long by ten miles wide, comprising about 30,000 acres. At present it supports something over 5,000 people, collected in four villages. In ordinary times, 2,000 was the average number of retainers, all employed upon the estate. Since the war the planter has been compelled to maintain 1,500 Spanish soldiers, in twelve forts, erected at his own expense along the edges of the estate. After Weyler's concentration order, 2,000 reconcentrados were also quartered upon him. The poor people were driven from their homes, and forced to go to the cities or the fortified plantations. There is no city in this end of the province, and no other plantation in operation; so they flocked in here, and could not be left to starve. The humane planter built them houses and protected them as best he could, and for more than two years has furnished them with food, clothes and medicines. Of course, they have more than absorbed the profits of the plantation, but some of them are able to work a little, and are grateful and well-behaved. The greatest trouble is with the so-called "protect-

ors," the soldier guard. If the latter want beef they kill the first cow they see, though it be the finest Jersey; if fresh horses are needed they help themselves to the best the plantation affords. When the spirit moves them to recreation, they troop over to the manor house and demand its use for a dance. "A high old time" but tamely expresses the night that ensues. The soldiers pick up female partners whenever they can—camp followers, the daughters of plantation hands, and reconcentrado girls. Champagne (the proprietor's, of course) flows like water—or, rather, as water never flowed for the external use of these sons of Mars; and if they do not end the orgie by smashing things generally and making a bonfire of the building, the planter considers himself lucky. There has never been any danger from insurgents to make this alleged protection necessary, as the proprietor is known to be in sympathy with the Cuban cause; but there is everything to fear from the "protectors." When the crisis comes, if Spain is compelled to withdraw her forces, they will celebrate their departure by burning the place, if not murdering the family upon whose bounty they have so long subsisted.

The magnitude of things in this "small" estate amazes the stranger. Besides this tramway, there are twenty-five miles of broad-gauge railway within its limits, equipped with five locomotives of largest size, 300 freight cars and 150 box cars. There are thousands of mules and horses and carts; a general supply store, pharmacy, school house, church, ice-making plant, machine shop, carpenter and blacksmiths' shops; in short, all the requirements of an isolated community. The grinding house contains several enormous engines, and a wilderness of wheels, bands and machinery. It is lighted by electricity, and has 720 tanks, each of which holds a ton of crude sugar, a railway to run them on, scales for weighing, and an apparatus for hoisting them and emptying the contents into bags. In prosperous times this plantation turns out 100,000 bags of crude sugar every year; but this year, when more than ever ought to be made, in order to meet unusual expenses, it will hardly make half that amount. The sugar is sent to New York to be refined, and this year it will bring low prices, because of a large admixture of scorched cane. Passing bands of soldiers or insurgents often burn a few acres, by accident or design, and the scorched stalks are generally ground with the rest, but the juice comes from the first squeezing black as ink. It lightens considerably in the process of refining, but is yet too dark for first-class sugar.

We occupied a long day going over this plantation; but several days would be required to see all its points of interest. Besides the flower gardens which surround the house, with their fountains and statues and acres of roses, there is an extensive park, containing the choicest trees and shrubs of the tropics—a regular "zoo" and botanical garden combined; artificial lakes covered with water fowl; an aviary, deer and other animals. Then we took a steam car ride of sixteen miles, to visit one of the villages at the farther end of the plantation. What would my reader give to have just one of those sky-scraping palm trees in his front yard? And here were thousands of them to spare! Our host sent a man to climb one of them, to show how it is done. The smooth, round trunk looked like a telegraph pole—fully seventy feet from the ground to the tuft of splendid plumes on top, without a branch between. The man took a bit of rope, thrust one bare foot into a loop at the end of it, and wound the rest around his waist and the tree; then holding his machete in his teeth, up he shinned like a lizard—to the very top, where he whacked off one of the huge leaves. As with most things in this wicked world, the descent was more rapid and dangerous than the ascent; but he came down grinning, elated by the 20-cent piece, for which reward he would gladly climb palm trees the rest of his natural life.

Later we went to witness the cutting of a field of cane. Several hundred men and women were ranged in long lines, each line headed by a leader, who starts the cane and takes the initiative in every movement. All together they swing the machete, grasping the cane stalk with one hand and bending in unison, as though moved by machinery, the whizzing sound of blades cutting the air and the click of falling cane making an appropriate accompaniment to the wild song they are singing. The newly-cut cane is thrown into ox-carts and conveyed to a queer machine, patented by a Cuban, which hoists the stalks, weighs them, and dumps them evenly into waiting carts, to be carried to the mill. There an army of women throw it into the grinders, chanting a rude chorus as they work, in which one detachment responds to another in musical recitation.

This letter is already too long to go into the details of sugar-making. Cane is cultivated like Indian corn, and closely resembles it in appearance, only more yellow in color. At the first laying-out of a plantation, which afterwards continues fruitful for years by simple processes of renewal, the cane is planted in rows (not in hills like corn), and must be hoed and weeded until it gets high enough to shade its own roots, after which it needs no more attention until the cutting. When thoroughly ripe, the long yellow leaves are streaked with red, the top a dark green, from the center of which a silvery stem shoots up two or three feet high, tipped with a lilac plume. A cane field in its maturity, shining like gold in the torrid sun, and gently undulating in the breeze, is a picture to live in the memory. Sugar cane, unlike most tropical products, yields only one crop a year. Between the time when enough of it is ripe to warrant getting up steam in the mill

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and the season when rain and heat spoil its quality, all the sugar of the year must be made. In Louisiana, the grinding season lasts only eight weeks; in Cuba it continues four months. It is always a very busy time, "relays" of hands working night and day; and this year, with war on hand, there is greater haste and industry than ever, for the mills may be burned down any day.

The juice, pressed out by machinery, leaves the stalks as dry as tinder, so that they serve well for fuel. The crude sugar, when thoroughly dried in the tanks, is put into jute bags, each bag containing 240 pounds. These sacks, by the way, furnish a fair sample of Spain's methods. The cost of an English jute bag is 9 cents; but the duty thereon, unless it be made in Spain, is 10 cents, and its price to Cubans is 20 cents. So the thrifty mother country gets the job of making the bags and supplies them to her colonies at twice their value and 5 per cent. over! That is no worse, however, than the matter of flour. Cubans might get it direct from the United States for \$6 per barrel; but it sells in Havana, in the best of times, at \$15 per barrel, because every ounce of it must first go to Spain and come back with a brand on the barrel. A few years ago the value of Cuba's plantations, all told, was officially estimated at \$380,553,527, yielding a net yearly income of \$34,000,000. Remembering that only about one-third of the island's 117,000 square kilometers is under cultivation, these figures speak well for its fertility. Heaven knows it ought to be fertile, from frequent baptisms of blood through 400 years. Within the last two years it has been enriched by upwards of 400,000 human carcasses.—Fannie F. Ward, in St. Louis Globe-Democrat.

The Cuban Disillusionment.

It was a sad day for the Cuban insurgents when our army landed near Santiago and got their first sight of them. Up till that time the most beautiful illusions had been cherished in this country—fairly hugged to our bosoms, in fact—about the character of the Cuban army of independence. As to its size, we had begun to have our doubts after the war had been going a week or two. After waiting anxiously for those promised thousands who were going to burst from the chapparal and drive the Spanish into the sea, as soon as we had supplied them with arms and given the signal, we concluded that perhaps we had been taken in as by "the cheap numerosity" of an army on the stage. But of the character of the Cuban patriot, of his unselfishness and bravery and humanity, we retained a most pleasing idea. Our soldiers went to Santiago prepared to embrace him; they had not been there long before they felt like shooting him.

What really turned the stomachs of our men, seeing the Cuban insurgent for the first time, was that he was lazy, greedy, cowardly, thieving, and a perfect wild beast for cruelty. The stories that have been coming home in thousands of private letters and public reports are too many and circumstantial on this point to be doubted. Here, for example, is what Ensign Powell, of New York, wrote to his friends of what he saw the brave and suffering Cuban soldiers doing on July 3:

"We saw one nice little example of Cuban bravery there. Those sweet, kind, considerate, gentle, abused Cuban soldiers whom we are fighting for were on the beach, shooting every Spaniard that came within range, so that swimmers and boats had to turn back to the ship. And that ship blew up early! We saw a dozen small explosions, and finally one big one that tore the afterpart of the ship to bits. The Iowa sent a boat, and a torpedo boat also went in, and I'll bet those Cubans stopped their butchery in short order under the persuasion of their guns."

It is this sort of thing, repeated again and again, which explains the frequent intimations from Washington that the government is "much concerned" over the conduct of the Cubans, and which is rapidly producing throughout the country the conviction that it was the victim of a gigantic bunco game in this whole business of Cuban intervention. Yet such a mistake about the character of the Cubans was inexcusable. They were perfectly well known. Travelers, statisticians, historians, geographers had left in no doubt, to any one who could read, what they

were. Ask any American business man settled in Cuba his opinion of the general run of the natives, and he would have told you any time these twenty years that they were as wretched and God-forsaken a set of human beings as you could find off the Andaman islands. In particular was it perfectly certain what kind of men the bulk of the insurgent troops would be found to be. Many of them bandits by profession, they had all been living the lives of bandits for three years, and could not but have the marks of their calling too plainly stamped upon them to be concealed. Yet our people had gone on idealizing them in stump speech and gutter newspaper, until they had become such superhuman heroes in the popular conception that the authentic stories coming from the front in the past few weeks of Cuban skulking and stealing and murdering have been most disagreeable reading for Americans, and have produced a great revulsion in the general feeling.

Of course, there are Cubans and Cubans. That the island has produced some noble men we should be the last to deny. Jose Marti, who did as much as any one man to bring about the revolution, was confessed by all, even by Spaniards, to be of lofty soul and perfect purity of motive. Cuba can point to distinguished poets like Gertrudis de Avellaneda and Heredia, and to many a finely educated man of great ability and claim them as her own. And it is not to be doubted that many of her sons have given their lives to free her with the noblest devotion. Physicians and lawyers and engineers have left their homes and taken to the bush to fight against intolerable Spanish oppression. But these were all along the exceptions. And these were men who owed most of what they were to Spanish blood or training. This was the most frightful evidence of the curse of Spanish rule in Cuba—it was so bad that even those Cubans for whom Spain had done most were driven into revolt against her. General Polavieja gave the home government an awful warning, unheeded though it was, when he told them in 1890 that it took but one generation in Cuba to turn loyal Spaniards into rebels.

But, as we say, it was inexcusable for the American people to judge the Cubans as a whole by the exceptional Cubans. Cuba was not in the middle of the South Pacific. It was but half a day from our shores. Ample sources of information about its population were open to us. Its dense illiteracy, its sunk morals, its political incapacity jumped in the face of every one who looked at the accessible facts. But we took a fairyland view of them and went to war to free them, only to find out, a trifle late, that they do not know what freedom is, in our sense of the word, and do not want it if they do. It has been a terrible disillusionment, but it may be a salutary one if we now consent to use our eyes, from which the scales have fallen, to look steadily at the work which remains for us to do.—New York Evening Post.

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THE WATCH ON THE RHINE.

A peal like thunder calls the brave,
With clash of sword and sound of wave,
To the Rhine, the Rhine, the German Rhine!
Who now will guard the river's line?
Dear Fatherland, no fear be thine!
Firm stands thy guard along the Rhine!

A hundred thousand hearts beat high,
The answer flames from every eye;
The German youth devoted stand
To shield the holy border-land.
Dear Fatherland, no fear be thine!
Firm stands thy guard along the Rhine!

He sees above him heaven's blue dome,
Whence souls of heroes watch their home,
And vows, with battle's pride possessed,
Be German, Rhine, as is my breast!
Dear Fatherland, no fear be thine!
Firm stands thy guard along the Rhine!

So long as blood shall warm our veins,
While for the sword one hand remains,
One arm to bear a gun, no more!
Shall foot of foeman tread thy shore!
Dear Fatherland, no fear be thine!
Firm stands thy guard along the Rhine!

The oath resounds, the wave rolls by,
The banners wave, advanced on high:
To the Rhine, the German Rhine!
We all will guard the river's line.
Dear Fatherland, no fear be thine!
Firm stands thy guard along the Rhine!

DIE WACHT AM RHEIN.

(The German for "The Watch on the Rhine.")
Es braust ein Ruf wie Donnerschall,
Wie Schwertgeklirr und Wogenprall,
Zum Rhein, zum Rhein, zum deutschen
Rhein,

Wer will des Stromes Huter sein?
Lieb Vaterland, magst ruhig sein,
Fest steht und treu die Wacht am Rhein!

Durch Hunderttausend zuckt es schnell,
Und aller Augen blitzten hell,
Der Deutsche, blieder, fromm und stark,
Beschützt die heil'ge Landesmark,
Lieb Vaterland, magst ruhig sein,
Fest steht und treu die Wacht am Rhein!

Er blickt hinauf in Himmelsau'n,
Da Heldenvater niederschau'n,
Und schwört mit stolzer Kampfeslust,
Du Rhein bleibst deutsch wie meine Brust
Lieb Vaterland, magst ruhig sein,
Fest steht und treu die Wacht am Rhein!

So lang ein Tropfen Blut noch glüht
Und eine Faust den Degen zieht
Und noch ein Arm die Buchse spannt
Betrifft kein Feind den deutschen Strand.
Lieb Vaterland, magst ruhig sein,
Fest steht und treu die Wacht am Rhein!

Der Schwur erschallt, die Woge rinnt,
Die Fahnen flattern hoch im Wind,
Am Rhein, am Rhein, am deutschen Rhein,
Wir alle wollen Huter sein.
Lieb Vaterland, magst ruhig sein,
Fest steht und treu die Wacht am Rhein!

So fuhr uns, Du bist bewahrt,
In Gottvertrau'n greif' zu dem Schwert,
Hoch Wilhelm! Nieder mit der Brut!
Und tilg' die Schmach mit Feindesblut!
Lieb Vaterland, magst ruhig sein,
Fest steht und treu die Wacht am Rhein!

Written for Kansas Farmer.

YOUNG FOLKS IN THE OLD COUNTRY.

BY ANNA MARIE NELLIS.

NUMBER 37.

THE NATIONAL MONUMENT.

The Niederwald is a little mountain which marks the southern boundary as the Drachenfels guards, the northern limit of the grandest scenery of the German Rhine valley. Between these two points have been enacted some of the greatest events of German history. Upon this theatrical staging, less than sixty miles long by about two miles wide, have appeared world-renowned actors during every one of the past eighteen centuries, whose exploits, mythical and actual, will be told in history, poetry, song and romance for more than eighteen centuries to come.

As one proceeds up the river, just before Bingen comes in view, the Rhine seems to make a beautiful bend to the east, and off to the left front, upon a beautiful wooded mountain, appears the form of a woman, holding aloft something which cannot be identified at the long distance when first seen; but so charming is it among the tall trees from among which she towers above the highest ones, that all eyes immediately gaze with questioning admiration. This, we are told, is the emblematic figure, "Germany," with the national monument for a stepping stone, holding up to the gaze of all nations the imperial crown of United Germany.

After crossing the river from Bingen, we loitered but a short time in the little village of Ruedesheim, to see its ancient houses and inspect some of the relics of German-French warfare, maps, pictures and other souvenirs of German conquest and the monument erected to commemorate the same.

The Niederwald is 750 feet higher than the streets of Ruedesheim, and we walked to the top. The monument stands on a prominent point near the edge of the mountain, so it can be seen a long distance away, especially from up or down the river.

When King William of Prussia, with Bismarck, his right hand, had completely conquered and humbled the French na-

tion in January, 1871, and had been crowned Emperor of United Germany, at Versailles, the project was instituted to fittingly celebrate and perpetuate the memory of the victories. The Niederwald was selected and this monument erected. It is not far from the newly-acquired territory of Elsass-Lothringen.

The design for the monument was prepared by the famous sculptor of Dresden, Schilling, but it required thousands and thousands of dollars to build it.

It was not begun till 1877, and was completed six years later, in 1883, and then the greatest celebration in German history was held on the Niederwald. The old Emperor attended, with hosts of German Princes and other nobility generally. The base of the monument is seventy-eight feet high, and the figure Germania, standing on the lofty perch, is thirty-three feet in height. She holds in her right hand a representative of the imperial crown, while in her left she extends a laurel-wreathed sword, emblematic of military conquest.

On the right and left, below "Germany," stand two figures, "War" and "Peace," while below these are "Rhenus" and "Mosella"—the latter as the future guardian of the western frontier of the Empire. The principal relief, on the side of the monument toward the Rhine, symbolizes "Die Wacht am Rhein," with the words of the famous song, beginning—

"Es braust ein Ruf wie Donnerschall"
on a tablet beneath.

On the monument are reliefs also of the old Emperor and some of his most famous officers. While it all is most inspiring to the patriotic Germans, it cannot awaken any happy memories in the bosoms of the many French people who have to see it when passing up or down the river. I can just imagine how "Germany" must twinkle her eye and shake that imperial crown at them if they dare to scowl while passing. The top of the Niederwald, in the vicinity of the monument, is one of the fairy-like beauty spots of Germany and one would enjoy lingering a long while.

But we still had "other worlds to conquer," and it wasn't our monument, any way, so we adjourned to Ruedesheim, mounted our wheels and went on our way rejoicing. We rode around the west and south sides of the Niederwald, and then, with the Rhine to our right, we turned eastward toward Wiesbaden, and soon the beautiful river was beyond our gaze, and a twenty-mile ride brought our party to the Saratoga of Germany.

But I did not fare so well as the rest. My wheel received a wound and I took the train, expecting to be in Wiesbaden first. I forgot to "change cars" at a little town, and soon found myself in the city of Mainz, on the Rhine, several miles east and south of Wiesbaden. I had to wait at the station till after 8 o'clock, and reached my companions, who were anxiously waiting for me at the hotel, at 9:30 p.m. My mistake enabled me to see one fine city of Germany which the others did not visit.

WIESBADEN.

This beautiful city of 75,000 population lies at the southwest spur of the Taunus mountains and only three miles from the river Rhine. The public grounds of the city are attractive and the environs very beautiful. Its chief attractions are the hot springs, whose waters attempt to heal the miseries of 100,000 visitors who come there annually. This is not a young city, nor have the springs been patronized only recently. The ancient Romans used to soak their corns in the hot water and drink the unpleasant stuff more than 2,000 years ago. About that time the great Roman writer, Pliny, said of these springs: "Sunt et Mattiaci in Germania fontes calidi, trans Rhenum quorum haustus tridus fervet." Now, I didn't hear him say that, but I believe he did make the remark; any way the springs were there at that time.

Wiesbaden has many very pretty tree-lined avenues, which seem ever gay with wealth and fashion. The general air and whole appearance of the city is very much like Saratoga, but the numerous hotels (and fine ones for Germany) do not have the grand appearance of the "United States" and others of the kind in Saratoga.

There are two places of great attraction to the casual visitor, the "Kursaal" and "Trinkhalle." The Kursaal, the chief resort for visitors, is situated in front of the beautiful park, which is the favorite afternoon and evening lounging place for visitors to the baths. Every afternoon and evening fine band concerts are given.

The Trinkhalle afforded me much amusement in watching the different nationalities there represented. I believe there were specimens from every geographical division of the globe. The building consists of a central pavilion

and three colonnades enclosing a beautiful garden. In the central pavilion rises the "Kochbrunnen" or boiling spring (156° Fahr.). Around on every side are settees and chairs for the visitors, and in the center, by the spring, are two pretty maids, in white caps, serving the water. Around them are large tables with hundreds of glasses of all sizes and kinds, with numbers on the handles. The regular visitors would select their number and hand it to the maid and she would fill it and mix it with other waters or serve it in whatever way the patient wished. Some would take their glasses of boiling water and go sit down and wait for it to cool. Here was a Jewess trying to reduce her excessive supply of obesity by boiling it down a bit; one might say she was trying out the fat. Beside her was her maid and pug dog. Over there was a pretty widow, drinking and doing some fancy work, her fingers heavily laden with diamonds, while her eyes cast numerous and witching glances at a couple of gentlemen who seemed considerably interested. Near the widow was a sour-looking mamma with two old maid daughters who were trying to appear shy and attractive. Next came a gouty old gentleman with cane and crutch, his serving man at his heels carrying a rug and other conveniences for the cross old master. We took one sip of the boiling water, which was plenty; we wouldn't have given one cent for a barrel full.

We took the "Zahnradbahn" (tooth-wheel road) to the top of the Neroberg, a small wooded hill west of the city. Here we obtained a magnificent view of the city and environs. Mainz, to the left front, can be plainly seen, and the Rhine appeared like a silver band off to the south.

Descending the hill on foot we came to a Greek chapel, whose gilded dome we had seen from the city. This chapel was erected in 1855 as a mausoleum for the Duchess Elisabeth Michailowna, a Russian Princess who died in 1845. The richly decorated chapel, ninety feet in height, in form of a Greek cross, is covered by one large and four smaller domes, all gilded. The highest is surrounded by a Russian double cross 190 feet from the ground, secured by gilded chains. The interior is entirely of marble and beautifully finished. Surely the Duchess has an ideal resting place among the beautiful trees which surround the magnificence in which she sleeps.

From the chapel we returned to the summit of Neroberg, whence we took the cable cars to the point where we had left our wheels. A pleasant ride of ten miles brought us to the town of Hochst, where we took the cars northward to Soden, from which point we endeavored to go by stage two miles up the mountain to Koenigstein. But the stage could not take our wheels. What should we do? "Why, fraulein, you can walk; it is but a little ways," said the pleasant little wife of the stage driver. So we enjoyed a short journey "zu fusse" again, and pushed our wheels to the summit, where is located the pretty summer resort of Koenigstein, in the vicinity of which reside in summer time the Duke of Luxemburg, Baron Rothschild, and my German teacher, Fraulein Klemm.

KOENIGSTEIN.

When we reached the highest point in our road, we stopped to enjoy one of the finest pictures that nature and man combined can possibly make. Opposite us the sun was nearing the crest of the mountain, behind which he had evidently

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decided to retire in a few minutes. Before disappearing, he spread a broad golden smile all over the tree tops, grassy lawns and city lying before us. To the left were the imposing ruins of Koenigstein castle, which, bathed in the sunshine, appeared like some fairy palace transplanted from a charming story book. The towers and gables of many handsome modern villas and chateaus were scattered liberally all over the large picture presented to our view. Even now the moon was coming up, as though to get a glimpse of the charming artistic work his glorious rival was performing just prior to leaving the stage and passing behind the curtains of night.

As the last rays of the sun shone through the paneless windows of the big empty castle, we hastened on and soon were enjoying the company of friends we were to meet at this place. Strawberries and cream, music and pleasant conversation were our entertainment until time to retire for the night.

At 8 o'clock next morning my German lady friend and myself visited the sanitarium to witness the exercises of the gymnastic class. The sanitarium is situated at the edge of a "thick wood" and surrounded by a beautiful garden, which had numerous easy reclining chairs for the patients, who lie in the beautiful shade all the day long, simply resting and imbibing health in the life-giving atmosphere of Taunus mountain.

In this garden the gymnastic class are exercised every morning. I was introduced to the "Herr Professor Doctor" and was invited to take a seat in one of the easy chairs and watch the exercises.

The "class" numbered about thirty, and each one was provided with an iron rod about a yard long, and the weight was suited to the strength of each patient. They were formed in two lines and for a half hour were drilled much like gymnastic classes are in America, and the last act was a run around the whole garden, the Doctor counting time, which was followed in thirty distinct ways by the different members of the class.

Myself and friend were then shown through the whole establishment, which was very interesting to us, but it would require too much space to describe it all, as I want to write something about the ancient Koenigstein castle.

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KANSAS FARMER

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The wealth of the United States is estimated to be \$60,000,000,000, that of England \$50,000,000,000, and that of France \$40,000,000,000. The aggregate wealth of the world is \$300,000,000,000.

The honey crop for the present year (1898) is one of the greatest failures for many years in this country. California has not only failed in her usual big honey crop, but in almost everything else, on account of the drought.

Western Kansas was never in better plight at this season of the year than at the present time. The grazing land is in excellent condition and stock are thriving nicely. The hay, Kaffir corn and sorghum crops are unusually bountiful this season.

Hon. Wm. Lawrence, President of the National Wool Growers' Association, is doing all in his power to promote the interest of the wool-growers. In a recent letter to the editor he says: "Kansas should have 10,000,000 sheep, and thereby make an increased demand with increased prices for pasture, hay, corn and oats and thus add to the value of your farms. The western half of Kansas is worth but little except for grazing. Kansas should manufacture all the wool grown in the State."

The Executive committee of the Utah Wool Growers' Association met recently at Salt Lake City and an assessment was levied on all members of the association for contingent expenses and to establish a fund for fighting coyotes. Estimates submitted to the committee showed that sheep to the value of \$150,000 are destroyed every year by coyotes in Utah. An effort will be made by the Executive committee of the Wool Growers to have a coyote bounty bill passed by the Legislature. To whatever sum the Legislature agrees on the committee proposes to add something. In addition, hunters will be employed and every possible means taken to get rid of the pests.

The State Horticultural Society has removed from its former cramped quarters to the elegant large room on the east side of the north wing on the ground floor of the State house. Here the officers of the society hope to make the pleasantest and most attractive rooms in the State house. The Secretary is acquiring many pictures for the walls and is compiling valuable statistics and works of reference. He proposes to keep always on exhibition the Kansas fruits in their season, and will preserve many specimens. He will in time place on view cases containing specimens of such insects as prey on the fruit and fruit trees of the State. A reading table with the latest horticultural papers and magazines will be at the service of any one desiring such knowledge. The rooms are open to the public during the usual hours.

Who Has Such a Mill or Grinder?

Editor Kansas Farmer:—Mr. J. L. Porter, of Altus, Okla., writes me as to a mill or feed grinder that will grind Kaffir corn heads. The sweep mill which I have grinds the seed all right when threshed. Farmers here feed without threshing, a few running the heads through a feed-cutter.

J. M. RICE.

Winview, Okla.

A DAY'S JOURNEY IN SHAWNEE COUNTY.

BY H. R. HILTON.

CORN ON CLOVER SOD.

A trip this week through the upland farms of Shawnee county, west of Topeka, reveals many interesting problems with which our farmers have had to deal this season. The excessive rains in April and May not only prevented proper preparation of the soil for the crop, but also greatly increased the difficulty of securing a uniform stand of corn. The early cultivation had necessarily to be omitted, and when the ground finally reached a condition that it could be worked, most of the farmers found themselves with more corn to cultivate at a time when laborers were few than they could well handle. For this reason the weeds got a good start, which they have successfully maintained in a good many fields ever since. In these the yield will be light. Where weeds were fairly well subdued the corn crop is very fair. A good many fields have been greatly helped by failure to get a good stand in the spring, and these, where clean, have not been injured by dry weather and generally have developed large, well-filled ears.

But the one thing that attracted the writer's attention on this trip, probably more than all others, was the marked superiority of the corn growing on clover sod. A sloping field on the farm of Mr. C. S. Baker, near Valencia, on which a five-year-old clover sod was plowed under last winter about eight inches deep, was noticeable for a long distance by the deep green color and very healthy appearance of the corn growing on it.

This was planted in June, and while not receiving all the cultivation Mr. Baker thought necessary, and undoubtedly better results still would have been secured by the use of a one-horse cultivator through it a time or two after being "laid by," yet the crop is an excellent one and far above the average of crops on similar soil in this county this season.

Uplands that have been continuously cropped for twenty years without manuring or rest are to-day hard and badly cracked from the effects of the packing the soil received by the heavy spring rains and the dry weather which followed in July—but on this clover sod on Mr. Baker's farm the soil is mellow and has dried out for two to three inches on top without any evidence of baking. It is a natural mulch, although not disturbed since the last rain of over two inches. The clover has for five years been taking nitrogen from the air and storing it in this soil. The slender roots of the clover plant, running deep into the subsoil, have been bringing up the potash and phosphorus and lime from the subsoil and storing these in the thicker portions of the roots near the surface, so that this sod when plowed under is rich in the essential food elements, and all this vegetable matter that has accumulated, in its process of decay, supplies the much-needed humus, giving the loamy, mellow condition that increases the water-holding power of the soil and prevents it baking in the wet periods or drying out in the dry ones.

I found practically the same conditions on the farms of Hon. Bradford Miller and Mr. A. H. Buckman, and Mr. B. F. VanOrsdal, of Silver Lake, reports that the corn on his three-year-old clover sod greatly encourages him to continue his rotation of three years in clover and then three years in corn and repeat till he finds a better method.

These pioneers, in introducing clover to restore the wasting fertility of the farm and stop the soil robbing that has been and is still going on so persistently, have rendered an invaluable service to the communities in which they live, and will soon show a larger production per acre, taking one season with another, if they have not already done so, than their neighbors on the rich Kaw valley who practice continuous cropping and soil-robbing without giving any attention to soil restoration.

Clover and crop rotation have become a necessity on all farms in cultivation over a dozen years, and our farmers are rapidly waking up to this fact. Every season witnesses the seeding of clover on farms that never knew clover before, and this season gives a specially interesting object lesson, not only as to the value of the clover crop itself, but also as to its value as a fertilizer.

FALL PLOWING FOR WHEAT.

Wheat-growing is not practiced much in Shawnee county now, but coming into town near the close of the day, I was pleased to note that some of the progressive farmers plowing for wheat were then harrowing the day's work before leaving the field, so as to dry out the top soil and thus form an earth mulch.

Several fields examined revealed a nice, moist soil underneath two inches of dry soil—a good seed-bed, so far as moisture is concerned. Some of these farmers were turning under clover sod and some a considerable growth of weeds, and while the ordinary tooth harrow was a great help, in my judgment it would have been better to have first used the disc with axles at right angle to line of draft, so that cutters would sink in as deeply as possible and not stir the soil much, and this on the same day the land is plowed, then follow with the roller and harrow a few days later, and harrow again after every rain. The reason for this preference is that the disc packs the soil better around the weeds or sod turned under and starts it rotting quicker than the ordinary harrow, thus giving the growing wheat earlier benefit from the decayed vegetable matter, and especially a greater supply of nitrogen available the following spring. It firms the under soil much better than even a roller can do it. The order of work is, the plow, the disc, the roller, the harrow, and then harrow again and again, especially after every rain till seeding time. A heavy rain will settle the soil better than disk or rolling, but in fine-textured soils it is better to do this work with tools than leave it for the rain to do so, as the latter may make it too compact. The rain will not settle it so closely where it has been worked down first by cultivation and the air circulation will not be so much interfered with. There is a two-fold purpose in the tillage suggested, to save the moisture and to get the greatest good for the next crop out of the green weeds and clover sod.

ROTTING THE CORN STALKS.

The farmers of Kansas are coming to realize more and more that the corn stalks should not be burned—that by rotting them in the soil its physical texture would be improved so as to resist drought better. The problem is, how to get them sufficiently decayed the first season.

Try this plan on a few acres this fall and note result: Where corn is cut up and shocked, first break the stubs as much as practicable and use the stalk-cutter. Follow this with disc harrow, mixing the corn stubble and top soil together. This stubble in contact with the soil all winter, absorbing water from rain and snow, freezing and thawing while damp, will by spring become fozy and discolored and so far decayed that when turned under it will soon disintegrate. If the crop is not cut up, gather the corn as soon as it can be cribbed; pasture it at once if it is wanted for pasture and break down the remaining stalks, treating them in the same way as already suggested. If the stalks can be partly or wholly rotted in this way they are worth more to feed to the next crop than their value as pasture. Test both stubble and stalks this winter. It may not be the best way, but it may lead to the discovery of a much better way to dispose of the stalks than by burning up that which is so much needed to improve the physical texture of our soil, even if it does not add much nitrogen. When the stalks are rotted in the soil then there is only lost from the soil that which is carried off in the ear, and if this is fed on the farm and the manure saved and spread on the land again, the loss of fertility will be reduced to the minimum, a loss that an occasional crop of clover will fully replace.

THE BENEFITS OF PEACE.

Now that the Spanish-American war is over, the attention of the citizens of the United States is directed to industrial and other business pursuits with an energy and vim that is something remarkable in the history of this nation. The new conditions and bright prospects for a prolonged period of prosperity, especially for the farmer, was never better than now, but to realize this to the fullest extent it is highly important that the farmer keep posted and thoroughly in touch with all affairs pertaining to every branch of farm industry and its products, as well as the trade relations of the world in all the products of agriculture. In order to meet all these new requirements the "old reliable" Kansas Farmer, the best general farm journal in the West, published weekly at Topeka, Kansas, has in every way equipped itself to meet all the essential needs of every member of the farmer's family. The management, with its corps of department editors, will make the Kansas

Farmer an indispensable home and business necessity for all intelligent and progressive farmers of Kansas and the great West generally.

The low subscription price of only \$1 per year, 50 cents for six months and 30 cents for three months, for a sixteen-

to twenty-page edition of the Kansas Farmer certainly puts this journal within the reach of all farmers.

We want every able-bodied and progressive farmer in Kansas to become a regular subscriber. We will thank any of our readers to send us a list of their neighbors who are not now subscribers and we will cheerfully send them a sample copy of the paper.

MR. LEITER AND THE PRICE OF WHEAT.

The falls in the price of wheat, so continuous from 1882 to 1896, as well as declines in prices for other food staples, have been natural and inevitable, as have the advances obtaining during the last two years. Therefore, we need not attribute the prosperity of the farmer, and the resulting prosperity of the nation, to such an ephemeral incident as the operations of Mr. Joseph Leiter upon the produce exchange. Such operations were impossible without such shrinkage in the world's wheat supply as occurred in 1897. Mr. Leiter's operations, and the rise in prices erroneously attributed thereto, resulted from a wheat crop which gave an aggregate outturn of but 1,900,000,000 bushels from the areas inhabited by the populations of European lineage as against aggregates from the preceding five harvests averaging 2,180,000,000 bushels. That is, the "bread-eating world's" (the world inhabited by bread-eaters of European blood) outturn of wheat in 1897 was 280,000,000 bushels below the annual average from the same fields in the preceding five years, and more than 300,000,000 bushels below the world requirements. Under such conditions a material advance in price was inevitable, as was the entire dissipation of all reserves, and the making of large drafts upon the harvests of 1898 at an exceptionally early day; these conditions indicating that the grain harvested in 1898 must cover the consumption of more than twelve months. With such conditions obtaining Mr. Leiter's operations resembled those of the late lamented Mrs. Partington on the ocean's shore.—From "Prosperity, Present and Future," by C. Wood Davis, in *Self Culture* for September.

DAIRY PROGRESS IN KANSAS.

Assessors' returns compiled by the Secretary of the State Board of Agriculture indicate that the dairy interests of Kansas have been in a very healthy and prosperous condition during the past year. The butter made in families and factories is reported as 41,450,981 pounds, worth at home \$5,320,144. This is an increase for the year of 4,237,053 pounds or 11.38 per cent., and the increase in value amounts to over 16 per cent.

Of cheese the quantity made was 1,418,969 pounds, worth \$113,517, an increase in quantity and value of 24.09 per cent.

The value of milk sold for other than butter- or cheese-making was \$615,890, an increase of 5.64 per cent.

The total value of the State's dairy output was \$6,049,552, which amounts to an increase over the preceding year of \$789,800, or 15.01 per cent.

The following table shows the value of butter, cheese and milk sold in Kansas in each of the last ten years:

1889	\$4,451,927
1890	4,145,555
1891	4,958,961
1892	4,665,497
1893	4,846,738
1894	4,870,480
1895	4,510,631
1896	4,937,385
1897	5,259,752
1898	6,049,552

Total in ten years \$48,696,978
Annual average value 4,869,697

Soil Moisture and Soil Stirring.

The Chemical Department of Kansas Experiment Station has issued a bulletin in which it says:

"The proper time for fall plowing for wheat is in the summer; as soon as possible after the removal of the preceding crop. Scarcely, if ever, a summer passes in Kansas without a period of drought between July 1 and September 1. Water is the most important constituent likely to be deficient in Kansas soils. The annual rainfall in nearly all parts of the State is nearly always sufficient to produce a crop if its precipitation could be controlled, or if, when fallen, the moisture could be conserved. Rain-makers have fallen into deserved obscurity, but means of moisture conservation are worthy of careful investigation."

"The Kansas Experiment Station is studying the effect of various modes of soil treatment upon soil moisture. That the well-known effect of a mulch can be approached by proper tillage of soil is a fact not as widely acted upon as good farming dictates. One of the sta-

tion fields which contained in round numbers 26 per cent. of water in the first foot of soil, on July 7, 1898, had one portion plowed, another disk-harrowed and a portion left untreated. The ensuing dry weather in the course of four weeks, notwithstanding several light rains, reduced the moisture of the untreated part to 15 per cent. and that of the disked land to 18 per cent., the plowed ground retaining 21 per cent. The last two were in excellent condition for seeding, while the first would plow up lumpy and unsatisfactory.

"The weight of an acre of the dry soil to the depth of one foot may be taken as 1,600 tons. Each per cent. of water in soil to that depth represents about sixteen tons of water per acre, or one-seventh of an inch. The water apparently lost by the untreated soil was 176 tons per acre, equivalent to over one and one-half inches of rain. This is about one-half of what the soil would hold after a soaking rain. The real loss was much more than this, since as water escaped from the upper foot, other would be drawn up from below by capillary attraction. The figures given are minimum quantities, therefore.

"Stubble ground should unquestionably be plowed while the moisture is still in the soil. Experiments of the station show that simple plowing is quite as effective for moisture conservation as any tillage yet tested. If time does not permit plowing, the speedy work of the disk harrow compares favorably in efficiency. In either case if rain follows sufficient to start the weeds, kill them with a harrow. This will at the same time break up any crust and preserve the soil mulch. This treatment not only insures a perfect seed-bed for wheat in respect to moisture, but the soil has time to settle to the firm condition so advantageous to wheat, and the bareness, warmth and moisture are most favorable to the formation of nitrates from organic matter. Nitrates are highly important for successful wheat production."

Weather Report for July, 1898.

Prepared by Chancellor F. H. Snow, of the University of Kansas, from observations taken at Lawrence:

The weather for August was marked by the absence of extremes. The rainfall, temperature, and run of wind were about the average for this month. In respect to cloudiness the month was unusually clear, and the barometer was slightly below the average.

Mean Temperature was 76.54°, which is 1.46° above the August average. The highest temperature was 94.5°, reached on the 16th; the lowest was 56.5° on the 1st, giving a range of 38°. The mercury reached 90° on eleven days. Mean temperature at 7 a. m., 71.59°; at 2 p. m., 84.58°; at 9 p. m., 74.93°.

Rainfall was 3.46 inches, which is .62 inch below the August average. The entire rainfall for the eight months of 1898 now completed is 30.77 inches, which is 4.43 inches above the average for the same months in the thirty years preceding. Rain in measurable quantities fell on six days; in quantities too small for measurement on one day. There were three thunder showers during the month.

Mean cloudiness was 18.70 per cent. of the sky, the month being 51.8 per cent. clearer than usual. Number of clear days (less than one-third cloudy), twenty-three; half clear (one- to two-thirds cloudy), six; cloudy (more than two-thirds), two. There were eight days entirely clear and none entirely cloudy. Mean cloudiness at 7 a. m., 37.1 per cent.; at 2 p. m., 23.20 per cent.; at 9 p. m., 5.80 per cent.

Wind was north, 6 times; northeast, 5 times; east, 7 times; southeast, 20 times; south, 37 times; southwest, 6 times; west 1 time; northwest, 11 times. The total run of the wind was 7,428 miles, which is 751 miles below the August average. This gives a mean daily velocity of 239.61 miles and a mean hourly velocity of 9.98 miles. The highest velocity was 29 miles an hour between 10 and 11 a. m. on the 15th.

Barometer—Mean for the month, 29.072 inches; at 7 a. m., 29.086 inches; at 2 p. m., 29.074 inches; at 9 p. m., 29.061 inches; maximum, 29.228 inches at 7 a. m. on the 12th; minimum, 28.920 inches at 9 p. m. on the 22d; monthly range, 0.308 inch.

Do You Intend Moving?

Why not investigate southwest Missouri, southern Kansas, northwest Arkansas, Indian Territory or the Texas coast country?

The manufacturing, farming and stock raising industries of these sections are attracting considerable attention. The chief centers are reached via the 'Frisco line. For ticket rates and full particulars, address Geo. T. Nicholson, Gen'l Pass. Agt. St. Louis, Mo.

OUR TWO PUBLICATIONS BALANCE OF THE YEAR



FOR TWENTY-FIVE CENTS

We will mail *THE LADIES' HOME JOURNAL*, beginning with the next issue (October number), to January 1, 1899, also *THE SATURDAY EVENING POST*, every week, from the time subscription is received to January 1, 1899, for Twenty-five Cents, for the purpose of introducing our weekly with our well-known monthly.

The regular subscription price to *THE SATURDAY EVENING POST* is \$2.50 per year. It was founded in 1728, and published by Benjamin Franklin up to 1765, and has been regularly published for 170 years—the oldest paper in the United States. Everybody knows *THE LADIES' HOME JOURNAL*, with its 800,000 subscription list. The Post will be just as high a grade of literature and illustration, but entirely distinctive in treatment and in kind. The best writers of the world contribute to both of our publications, and the illustrations are from the best-known artists.

The Curtis Publishing Company, Philadelphia

Omaha Exposition Notes.

The General Superintendent of live stock has been named, in the person of Mr. C. H. Elmendorf, of Lincoln, Neb. He is proprietor of the Elmendorf herd of Hereford cattle, and Superintendent of the Animal Industry at the Nebraska Experiment Station. He will be a very valuable assistant to Commissioner Dinsmore.

During the present week the judges for the various classes of live stock will be named. Mr. Dinsmore, the Commissioner, in a recent letter, says: "You can certainly say to the exhibiting public that there will be nothing left undone in order to get a good and competent man to pass upon the various classes of live stock."

The terminal charge for live stock exhibited at the Trans-Mississippi, under rules as published in the premium list, has been reduced fully 50 per cent. Charges will be as follows: "Car-loads of horses, cattle, mules, jacks and sheep not crated, \$5 per car in and \$5 per car out. This sum includes regular switching charge of \$2 per car into and out from the exposition grounds and all assistance in unloading, drayage and delivery to space. Car-loads of sheep and hogs in crates, \$8 per car in and \$8 per car out. This charge to include switching charge of \$2 into and out from the exposition grounds, necessary help in unloading, drayage and delivery to space. Parties

shipping less than car lots may, if they desire, have such consignments switched from Missouri Pacific transfer into and out from the grounds at an expense of \$2 in and \$2 out. Charge for drayage and delivery to space on less than car-loads of hogs, sheep, etc., loose or in crates, on cars switched into the grounds, 6 cents per hundredweight, with minimum charge of \$3; maximum charge of \$6. Shipments unloaded at local depots in the city 12 cents per hundred for drayage and delivery from city depot to space, with minimum charge of \$1.50."

Horse-power Pumping.

The Kansas Farmer is in receipt of a letter from one of its subscribers, asking for information. We will be pleased to hear from any one who can, from his personal experience, give the advice needed. The letter is as follows:

I would like to have a little information through the columns of the Kansas Farmer from men who have had experience with attaching horse-power to deep-well pumps. I would like to know how to fasten them and what kinds of material to use.

I have a windmill attached to my pump, but in weather as we frequently have, it does not furnish water enough for my stock. I was obliged to pump water by hand several days last week and it certainly is not pleasant work to do it for a drove of cattle and hogs from

a well 120 feet deep.

Any information you can give will be thankfully received, as others may also be profited by it as well as myself.

E. A. UMSCHEID.

St. George, Kas.

In our issue of August 25 we printed a picture of the Falls of the Rhine, Schaffhausen, which accompanied Miss Nellis' letter No. 35. The cut was loaned to us for that purpose by the Gentleman Farmer magazine, of Chicago, Ill., and by an oversight we failed to give the proper credit with the picture. "The Gentleman Farmer" has displayed a good deal of journalistic enterprise in presenting to its readers some very good descriptions of scenery from various lands and accompanying the same with very pretty pictures.

Excursion to Boston.

The Nickel Plate road will sell excursion tickets from Chicago to Boston and return for trains September 16, 17 and 18, inclusive, at rate of \$19 for the round trip. Tickets will be valid returning until September 30, inclusive. On account of heavy travel at this particular time, those desiring sleeping car accommodations should apply early to J. Y. Calahan, General Agent, 111 Adams St., Chicago.

Cool and comfortable dining cars on Santa Fe Route are obtained by use of electric fans.

Horticulture.

HOW THEY KEEP APPLES.

The Western Fruit-Grower publishes a symposium on keeping apples, from which we take the following valuable practical suggestions:

It should be understood by those who have winter apples to gather and store that what we call a winter apple is one that has not fully matured when fall comes on. If the warm weather should continue until all varieties had time to ripen on the tree, we would have no winter apples—they would all be summer and fall varieties. As it is now, the summer apples of one section are the fall ones of another section, and the fall varieties are the winter apples of a third section. The reverse is true as we go from north to south. Thus we see that the climate has much to do with the whole matter of the time of maturity of any and all varieties of fruits.

Another thing that we should all have fully impressed upon our minds is that the stage of maturity at the time of picking from the tree has much to do with the keeping qualities of winter apples. The greener, that is, the farther from maturity an apple is when gathered, the longer it will keep. And on the contrary, the riper it is, the sooner it will decay. It is equally true that the

Ohio we used to gather Rambo early, which is there a true fall apple, and keep it well into the early winter.

On general principles it is best to take winter apples off the trees as soon as they are well colored with red. It may seem too early sometimes, but a comparison with those of the same variety left on later will prove the wisdom of early picking.

H. E. VAN DEMAN.
Parksley, Va.

During the past twenty-five years I have had some experience in the keeping of apples, or in trying to keep them. I find it difficult to determine the best method, as the conditions are so different. I remember when a boy our custom was to sweat the apples before packing them in the cellar.

Our custom was to hand pick carefully, and carry the apples to some shady place—generally the north side of a building was preferred.

Here bins were constructed and a slight covering of straw was added. The apples were then "sweated" until the first cold weather, when they were picked over carefully and removed to bins in the cellar. This was the only method then in vogue, and the result was satisfactory. I question if a better method has been discovered. In the immense orchards of the present day this method would not be expedient. Of late years I have barreled them in the orchard, using



The Loudon Raspberry.

Introduced and sold by Green's Nursery Co.,
Rochester, N. Y.

nearer ripe an apple may become on the tree, the richer and better will its quality be.

There is, therefore, an opportunity, if not a necessity, for the exercise of good judgment as to when is the best time to pick winter apples of all kinds, in all climates, and under all the variations of different seasons. If the weather should be cool after picking they will keep much better than if it is warm. Warmth induces maturity and cold retards it.

Hence, the safest place for winter apples is a cool place, and one where there are few changes of temperature. I have often laid them on the ground beneath the trees and covered them over with corn fodder, straw or like material to keep out heat and rain, and left them there until cold weather. I have also found it a good plan to put in barrels directly from the trees, head them up, turn the barrels on their sides, in the shade, and cover them with fodder or anything that will keep out the heat until the time to remove to the cellar or sent to market.

There are many kinds of apples that do not keep well if left on the tree until the ordinary time for picking winter apples, that if gathered early and kept cool will become quite late keepers. Jonathan is of this class in the West. By gathering early I have kept it in southwest Kansas until March. In southern

tight barrels, conveying to cellar or cold storage. One year's experience with another is quite dissimilar in results. One year they may keep all right, when at another time they decay badly. Why this is so, is, I think, the condition of the apples, possibly occasioned by the peculiarity of the season in their development.

To keep apples well I feel certain that ventilation is necessary. I lost several hundred barrels one winter, having placed them in a cellar, under a store building that had no other ventilation than the door through which entrance to the cellar was had.

I found that the apples next to the walls kept much better than those in the center of the room. Thus, in taking them out, those in the center were hardly worth caring for, while those next to the walls were still in pretty fair condition.

My experience with apples in cold storage is a stand-off. One year I got good results, another indifferent.

The method that I expect to follow in the future is the outdoor cellar. I believe this offers the best mode, and the cheapest, to the orchardist.

A cellar that will last for a term of years can be constructed to keep 1,000 barrels of apples for less money than the storage will cost you for storing them one year, and will give you greater satisfaction in the care of your apples than any other method that I have tried. In the keeping you must be careful to give good ventilation, with which, if

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NOTWITHSTANDING the extravagant assertions of the manufacturers making White Lead by quick process, comparative painting tests, carefully and honestly made, show that Pure White Lead made by the "old Dutch process" will cover more surface and cover it better than White Lead made by the quick or so-called "up-to-date" process.

FREE By using National Lead Co.'s Pure White Lead Tinting Colors, any desired shade is readily obtained. Pamphlet giving valuable information and card showing samples of colors free; also folder showing picture of house painted in different designs or various styles or combinations of shades forwarded upon application to those intending to paint.

National Lead Co., 100 William St., New York.

your apples have matured properly, been handled carefully, and kept at an even temperature, they can't help keeping.

How construct an outdoor cellar for keeping apples? I would prefer a knoll running east and west. With plow and scraper make an excavation across the said knoll, the width you desire, at least four feet in depth. Now plant posts in the center, along which, on top, place some stout logs. Now place rails or other timber, one end resting on the bank, the other on the ridge pole. Now scatter a thick mat of straw, fodder or leaves on the rails or timber, and then cover with the earth thrown out—six or eight inches will be sufficient to keep out frost. Insert in the comb of roof at intervals of eight feet a stovepipe for ventilating purposes.

Put in double doors at each end, and it is ready—that is, if you have been careful of the drainage. Always keep a thermometer in the cave or cellar. When too hot or too cold you can regulate it by opening or closing the doors.

When the mercury falls to zero, see to plugging your ventilators in the comb with straw or hay. A cellar of this kind is suited to the keeping of vegetables as well. I know one such cellar that the party told me did not cost him \$20, in which he stored successfully one winter 1,000 bushels of sweet potatoes and much other stuff; and although three years old, it was still in good condition.

FRANK HOLSINGER.

Rosedale, Kas.

About keeping the apples (something we have not), but if I had, I would put them into first-class cold storage if I wanted to keep them; that is, on a large scale. For my own use I can keep them nicely in a good clean cellar. To keep apples long they should be picked early, before they get too ripe, at a time when it requires quite a pluck to get them off the tree; then they should be sorted and only the best selected for long keeping. It is worse than folly to store or in any way attempt to keep imperfect or wormy apples very long. I would pack them in new, clean barrels. N. F. MURRAY.

Oregon, Mo.

I first tried keeping them in barrels in a cellar under the house. This was a failure. I have a cellar under the work shop and grafting house, 18x36 feet. The building sets close to the ground and has one outside door and a small trap door from the inside. It has a double floor, with six inches of sawdust between; no windows in the cellar to regulate temperature, but I open the trap door according to weather. I keep the cellar dark and cold and keep apples here very nicely until April.

Having a very heavy crop the past two seasons, I had to have more room, so I made a cheap cave, 18x46 feet. I excavated to the depth of five feet, then set posts seven feet high from bottom of the cave and put heavy timbers crosswise. Then I split small trees and crossed lengthwise. This is, as you will see, a flat roof. I then scrape on earth to the depth of from three to four feet. The space from the top of posts to the earth (two feet) was boarded up to hold dirt in place. I made one double door on the north end. Had no ventilator except the door, and no windows.

This is the best place of all, and I can keep apples here until May just as perfect as when they were picked from trees. Just open the door once in a while when you have an hour or so, and then shut them up in the dark. If cellar gets too dry, sprinkle it well and keep it damp. My experience is, a cold, damp, dark place for apples is the best. I sold 200 barrels to a commis-

sion man of our city the last of April and he pronounced them the finest he ever saw at that season of the year. Apples to keep well must be picked and handled well. I pick in sacks, barrel at once and place in the cellar as fast as picked. I never put an apple in a barrel to keep for winter that has dropped to the ground, no matter how nice it looks, for there is a bruise on it somewhere. I store in open barrels, setting one on top of another. W. E. CHAPIN.

Des Moines, Iowa.

Leaf Rust.

Experiment Station, Kansas:—Please give the Kansas Farmer readers some useful information concerning a disease that is causing trouble among plum trees. The leaves inclosed are of the Wild Goose variety, which is worst affected. Four years ago, after maturing a full crop of fine fruit, the disease made its first appearance. Since then they bloomed very lightly and have borne almost no fruit, but the disease attacks them at the same time each year. The leaves gradually get blacker, wither and fall prematurely. J. M. FOY.

Brainerd, Kas.

The diseased specimens just received are badly affected with the so-called "leaf rust" (*Puccinia Pruni—spinosa*). This disease could have been arrested in the early season had spraying been properly done with the Bordeaux mixture, applied at opening of the leaves and again in about two weeks following this, with a spray ten days later. The Bordeaux mixture is made as follows: Six pounds of copper sulphate, four pounds of lime, fifty gallons of water. I would advise the burning of the affected leaves in the fall and the treating of the trees in the early spring as directed above. E. E. F.

Experiment Station, Manhattan, Kas.

How's This?

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

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Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials sent free. Price 75 cents per bottle. Sold by all Druggists.

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In the Dairy.

Conducted by D. H. OTIS, Assistant in Dairying, Kansas Experiment Station, Manhattan, Kas., to whom all correspondence with this department should be addressed.

A Good Yield From a Large Herd.

Hon. F. P. Gillespie, Towanda, began in 1895, as an experiment, to sell the milk from his five cows to the Towanda skimming station of the Hesston Creamery Company, and was so well satisfied with the results that the following season he increased by purchase his herd to thirty-five cows. This was such a herd as one will always get by buying—good, bad and indifferent. Ten were two-year-olds or under. For the year 1897 he sold to the creamery from these thirty-five cows 176,463 pounds of milk, which contained 6,913.9 pounds of butter fat, an average test of 3.89 per cent. The creamery paid him for this milk \$1,050.07. No account is taken of the milk used at home, on the table, in making butter for the family, nor of that fed to the calves. Only what was sold at the station and weighed there is reported. There are two other important items which must be considered in making up the estimate. The first of these is the skim-milk brought home from the creamery and for which no charge was made against the patron. Of this there was 132,347 pounds, and at 15 cents per hundred this will amount to \$198.52. The other item is the calves; of these thirty head were raised, and estimating them at \$10 per head at the time they were put on skim-milk, we have \$300. These three items give the gross income from the herd.

Received for milk.....	\$1,050.07
Value of skim milk.....	198.52
Value of calves.....	300.00

Total income from thirty-five cows \$1,548.59

An average income of \$44.24 per cow. The average yield per cow was 5,042 pounds of milk and 197.8 pounds of butter fat, equal to 232 pounds of butter.

Mr. Gillespie is confident that by weeding out the poor cows and supplying their places with better ones much larger returns will be received. Through May, June and July the cows depended entirely upon prairie grass pasture. In August and September the grass was supplemented by grazing on sorghum and in October and November the cows were grazed on alfalfa fields. The winter feed was alfalfa hay fed in mangers, the cows being given all they would eat; and sorghum, Kaffir corn and shock corn were fed in the pasture during the day when it was not too stormy for cows to be out. Six to ten pounds of corn in the ear were fed to each cow and hogs followed and took up the waste. Mr. Gillespie's experience has convinced him that it does not pay the Kansas farmer to feed his cows ground grain.

Kansas Creamery Co., Topeka, Kas.

The President of the Kansas Creamery Company is J. K. Forney, Abilene; Vice President, C. H. Patterson, Abilene, who is also Treasurer of Dickinson county; Secretary, Treasurer and General Manager, J. E. Nissley, Topeka; Chairman of the Executive committee, J. B. Case, Abilene. The company has 2,000 patrons. They have churning plants at Belleville, Emporia, Topeka and Wichita, and skimming stations at Alta Vista, Benton, Caldwell, Colby, Dresden, Elmdale, Fairview, Formosa, Furley, Goddard, Horton, Kensington, Lebanon, Mt. Hope, Narka, Norton, Norwich, Osage City, Oskaloosa, Paxico, Peck, Phillipsburg, Riverdale, Rochester, Rossville, Saffordville, Scandia, Selden, Smith Center and Stuttgart. They are also starting skimming stations in Oklahoma and have in operation altogether forty plants. In 1897 they bought 11,356,450 pounds of milk, made 512,040 pounds of butter, and paid their patrons for milk \$63,748.83. Besides this they paid \$20,000 for running expenses, fuel, freight, packages, etc. Many of their stations were not started until late in the year and others in the list were put in operation in 1898. Their record shows an average of 22.2 pounds of milk per pound of butter and 3.83 per cent. of butter fat. For 1898 they expect to receive, approximately, 16,000,000 pounds of milk, make 800,000 pounds of butter, the value of which, besides other expenses, will bring up the pay-roll for the year to \$150,000.

They issue monthly a dairy paper, "The Primrose Bulletin," which is furnished free to their 2,000 patrons. The members of the Kansas Creamery Company are leading business men of the State and are prominent in social and political work as well as in the dairy business. Mr. Nissley was one of the founders of the State Dairy Association

and is well known in butter circles from the Atlantic to the Pacific. The success of the last national creamery convention was largely due to his untiring efforts as Secretary.

Grain Rich in Protein.

Mr. E. C. C., Sidney, Kas., writes: "You told us in a late Kansas Farmer about alfalfa as a protein forage crop. What we farmers need is a grain crop which, when mixed with corn, will give us sufficient protein. Tell us what it is and how to grow it."

The crop that comes the nearest to meeting these requirements is doubtless the soy bean. This bean is very rich in protein and it is said that when the whole plant is ground up the resultant meal is equal to bran for feeding purposes, and the beans alone contain a little more digestible protein than linseed meal. The following figures show the amount of digestible protein in 100 pounds each of corn, linseed meal and soy bean meal:

Protein.	Carbohydrates.	Fat.
Corn.....	66.7	4.3
Linseed meal.....	32.8	7.1
Soy bean meal.....	23.8	14.4

These figures show that, as far as protein is concerned, soy beans are worth nearly four times as much as corn and are equivalent if not superior to linseed meal. On the Kansas Experiment Station farm the yield of soy beans has averaged all the way from ten to twenty bushels per acre. As a catch crop the soy bean can be planted after wheat or oats, in the latter part of June, and when there is moisture enough to germinate the seed it will yield a fair crop before frost. Soy beans also have the valuable property of being drought-resisters and soil-enrichers. For information on the growing, cultivation, harvesting and threshing of the soy beans, we refer our readers to the Kansas Farmer of April 21, in which Mr. F. C. Burtis relates the college experience in growing the soy bean.

It might be well to note that those who have plenty of good alfalfa hay do not feel the need of grain rich in protein as those who do not have it. The alfalfa in a measure takes the place of grain. Twenty pounds of alfalfa and seven or eight pounds of corn or Kaffir corn meal makes a balanced ration for a dairy cow of 1,000 pounds live weight, though, of course, it would be well to have other feeds to give variety and appetite. To those who do not have alfalfa soy beans help to fill a long-felt want and can doubtless be grown and fed with profit.

D. H. O.

Value of Skim-milk Illustrated.

Mr. J. G., of McLouth, Kas., reports his experience in feeding sweet skim-milk to pigs. He bought two weanling runt pigs for \$1.25 each, and after keeping them fifty-eight days and feeding nothing but four gallons of skim-milk daily he sold them for \$5 apiece.

Analyzing the above figures, we find that Mr. G. fed during this period 232 gallons of skim-milk. The increase in value of the pigs was \$3.75 each, or a total for the two of \$7.50. This gives a value to the skim-milk of 3.2 cents per gallon or 37 cents per hundred pounds. The skim-milk cost Mr. G. 10 cents per 100 pounds; this leaves him a profit for the handling of 27 cents per 100 pounds. Had these pigs been good, thrifty ones, instead of runts, and had the skim-milk been fed in connection with other feeds the profit would doubtless have been much larger. But, be that as it may, the above figures show that skim-milk is an excellent feed and should be so considered by every dairy farmer in the country.

D. H. O.

A Seven Months' Record.

Mr. I. B. Steele, of Belvoir, a patron of the Douglas County Creamery Company, writes that he has kept a record since January, 1898, only. He milked fifteen cows, which produced for the seven months ending July 1, 36,400 pounds of milk, containing 1,710 pounds of butter fat. Mr. Steele received for the milk \$225, and raised twelve calves worth \$125, a total income of \$350. This makes an average per cow for the seven months of 2,426 pounds of milk and 112.6 pounds of butter fat—an average of 4.67 per cent. of butter fat. Income per cow for milk, \$15; milk and calf, \$23.33.

Mr. Steele writes: "About one-half of my cows are from one-fourth to three-fourths Jersey, the balance common cows of various breeds. Their feed in winter has been good stalk fields, corn fodder, clover and timothy, with some alfalfa and a small feed each day of corn chop. Since grass, wild and tame grass pasture, and no grain. Plenty of good well water."

Skim-milk Calves.

C. O. Gilfillin, of the Standard Creamery, Yates Center, writes:

"We are using the hand separator system this summer and are highly pleased with the results. Saw thirteen calves yesterday which had been raised on hand separator skim-milk only, without grain, for which an offer of \$15 each was refused, some being only two months old. They were good-sized and healthy, of course not fat like calves running with their dams, but we consider them better for dairy purposes."

A Profitable Small Herd.

Mr. D. Uber, Lyndon, a patron of C. G. Smith's creamery, milked six cows last year and sold to the creamery milk containing 1,142 pounds butter fat, for which he was paid \$177.51. He received for the sale of calves \$108, making the total income from the six cows \$285.51, an average per cow of \$47.58. Besides the milk sold, butter needed for the family was made from the milk of these cows and skim-milk was fed to the pigs. The cows were Short-horn and Red Polled and were fed in winter clover hay and corn and in summer pastured on alsike and white clovers.

Meeting Sovereign Grand Lodge, Boston Mass., September 19-24 Inclusive.

For this occasion the Nickel Plate Road will sell tickets at rate of one fare for the round trip. Tickets on sale September 16 to 18, inclusive, good returning until September 30, inclusive. For particulars address J. Y. Calahan, General Agent, 111 Adams St., Chicago. 59

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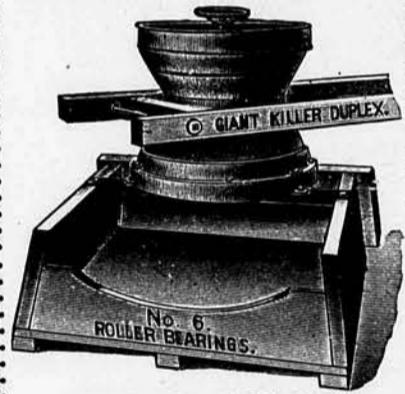
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ELY'S CREAM BALM is a positive cure. Apply into the nostrils. It is quickly absorbed. 50 cents at Druggists or by mail; samples 10c. by mail.

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Laying aside all speculation these remain as the regulations of a perfect fence. Our Duplex Automatic Machine makes just such a fence in 100 styles at the rate of sixty rods per day, at a cost for wire of only

18c. for a good farm fence; 16c. for poultry fence; 16c. for a rabbit-proof fence; and 18c. for a good hog fence. We will sell you plain, coiled spring or lamb wire direct at wholesale prices. Get our catalogue before buying.

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WEEKLY WEATHER-CROP BULLETIN.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending September 3, 1898, prepared by T. B. Jennings, Section Director:

GENERAL CONDITIONS.

This has been one of the hottest weeks of the season, "dry, hot and windy," being the prelude to nearly every report. A few light local showers fell in Reno and the counties northeastward to Wyandotte and Doniphan, with a light shower in Cherokee; dry over the rest of the State.

RESULTS.

EASTERN DIVISION.

Corn-cutting continues, and in the central counties much of it is now in shock; in some few the cutting is finished. The dry, hot weather has been trying on late corn, but the showers the last of week have been timely and have afforded much relief. Haying is nearly finished and threshing continues. In Johnson the second crop of clover is being cut. Peaches are on the markets but are generally small. Potatoes generally a good crop.

Anderson county.—A dry week; corn-cutting continues; pastures remain good; haying and threshing nearly completed.

Atchison.—Dry, hot week; corn is being damaged every day; fruit of all kinds dropping off badly; pastures dry; corn-cutting begun.

Bourbon.—Early corn being cut rapidly, about half in shock now, late corn standing the dry weather better than expected, though suffering some; stock water low and unfit for stock; pastures failing for want of rain.

Chase.—Strong dry southwest winds drying up everything; light shower Saturday.

Chautauqua.—Too dry for plowing; corn-cutting is well under way.

Cherokee.—A fine week for farm work; heavy dews continued the first half of the week; wheat ground working up in fine condition; all forage crops large.

Coffey.—A good week for corn-cutting, haying, threshing, and cutting millet, but ground getting dry for plowing.

Crawford.—Dry high wind; corn drying rapidly and a good crop; sorghum and Kaffir hay very heavy; a large acreage of wheat will be sown.

Doniphan.—Dry, hot week; corn curled some but rain Friday night afforded relief; fall plowing nearly done; threshing progressing, wheat yielding fairly well.

Elk.—Rain needed for seeding and pastures.

Franklin.—A hot, dry week; sufficient

ing completion and is generally a good crop. On account of the large amount of hay and forage crops the usual amount of corn will not be cut this year.

Barton.—A hot, dry, windy week, stopping plowing entirely and drying forage plants up badly; hay is put up but the crop is short; wheat threshing continues with better results, near Ellinwood it has threshed twenty bushels to the acre of sixty-two-pound wheat.

Butler.—Two weeks of clear, dry, hot weather have hastened the maturing of corn; early corn all right and being cut, later corn would be benefited by more rain, while very late corn—a small per cent. of the crop—will depend upon more rain for its success; plowing for wheat still in progress, ground hard and lumpy; threshing vigorously pushed.

Cloud.—Very hot, dry week; pastures in bad condition; corn practically a failure; wheat being sown in the dust; plowing is about done; threshing and haying have made fine progress.

Cowley.—A hot, dry, dusty week; rain needed to lay the dust and revive the pastures; ground too dry to plow well.

Kingman.—Dry and hot, with but 0.02 inch rainfall since August 7; too dry to plow.

Harper.—Very hot and dry; pastures drying up and fall plowing stopped; threshing in full progress.

Harvey.—Hot and dry; corn fast drying up, and ground difficult to plow.

Mitchell.—Dry, with intense heat; hay, alfalfa, millet and other forage crops good; wheat extra; oats fair; corn variable; apples scarce; late Kaffir is suffering.

Ottawa.—Dry, hot week with hot winds from 10 a.m. to 3 p.m. daily, hard on man, beast and fowl; all vegetation, even Kaffir corn, dry enough to burn; the leaves are falling from the trees; peaches drying and shriveling on the trees; corn stalk cutting about done.

Phillips.—Very hot south wind all week; hay good and nearly all put up; late corn not good.

Reno.—Clear, dry and windy; too dry to plow; corn about made, some being gathered for present use, some being shocked; cane and Kaffir fine crops, some being cut; alfalfa being cut, fair crop but somewhat injured by web-worms; haying in progress.

Republic.—Warm, dry and windy; no wheat sown yet, too dry.

Rush.—Hot and dry; plowing suspended; threshing progressing slowly; some will begin sowing wheat next week.

Russell.—Hot, dry, windy; hot winds; water scarce; the winds interfering with threshing; too dry to plow; corn-cutting

about done.

WANTED.—Position as creamery manager at once; I am a graduate of Minnesota State Dairy School and also of State Dairy School of Norway and Denmark. Several years experience as manager and butter-maker. Best of references. M. O. Awe, Eskridge, Kas.

WANTED TO EXCHANGE.—The pure-bred Cruickshank bull, My Lord No. 11653, bred by Col. Harris; sire Imp. Spartan Hero 7738; dam Imp. Lady of the Meadow (Vol. 80, p. 616), for a pure-bred Cruickshank bull—can't use him any longer in my herd. H. W. McAfee, Topeka, Kas.

If you are interested in southwest Missouri address H. C. Alexander, Noel, Mo., for information.

WILL EXCHANGE.—Pedigreed fox terriers, greatest ratters bred for Berkshires or Barred Plymouth Rocks. W. T. Ballagh, Nevada, Mo.

HEREFORD CATTLE.—Breeding stock for sale. J. Archibald cattle a specialty. Visitors welcome. J. C. Curry, proprietor "Greenacres Farm," Quenemo, Osage Co., Kas.

FOUR YOUNG BOARS for sale at a bargain; two by Look-Me-Up by Look-Me-Over and two by Tecumseh Short Stop. Also gilts and sows of good breeding, at reasonable prices. Combination Model 2012 heads the herd. W. B. Van Horn, Lawrence, Kas.

WANTED, TO TRADE.—Thoroughbred Poland-China hogs for Shropshire sheep. For particulars, address Walter Roswurm, Beman, Morris Co., Kas.

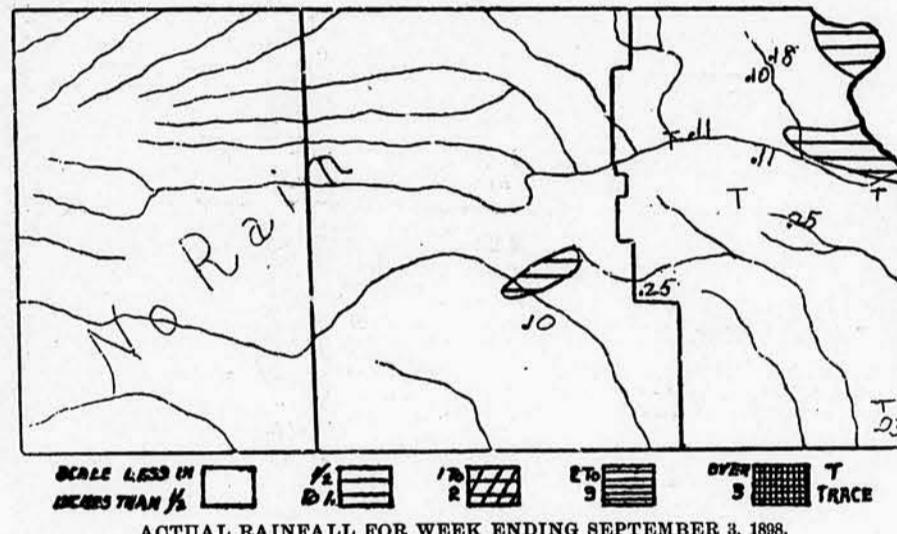
FOR SALE OR TRADE.—A Norman stallion, age ten years, weight 1,900 lbs. For further information address John D. Marshall, Walton, Kas.

RENO POULTRY FARM, Mount Hope, Kas., Ira A. Fisher, prop'r. Breeder of White P. Rocks, White Holland Turkeys, White Guineas, Pekin Ducks. Eggs and stock for sale in season. Prices reasonable.

POLAND-CHINA BOARS.—Sired by the great Hadley Boy No. 18518, at \$12 each. W. S. Powell, Moline, Elk Co., Kas.

MACLEAN FARMERS' SUPPLY CO., Kansas City, Mo. (Between Union Depot and Stock Yards.) Sell machinery and other supplies to farmers direct, saving the consumer middlemen's profits. Send now for 1898 Spring Price List.

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moisture in ground from previous rains and nothing suffering; corn prospects continue favorable.

Greenwood.—Dry, hot week; hot winds three days, hurting late corn; corn-cutting and haying finished; no wheat sowing till rain falls.

Jackson.—The dry southwest wind has hurt the late corn, the ears hang limp on stalk; cutting of early corn begun; corn crop short, fields very deceptive.

Jefferson.—Hot, dry week with a good rain Friday night; corn not materially hurt; some fall plowing done, about the usual acreage of wheat will be sown.

Johnson.—Warm week; second crop clover being cut; early corn maturing a good crop; late corn very promising; new hay of good quality coming into market; pastures good; grapes light crop and poor quality; potatoes good yield but rotting in some low ground.

Marshall.—Very hot, dry week; late corn being hurt.

Montgomery.—Early corn drying rapidly; farmers busy finishing up the hay harvest, cutting fodder corn and plowing for wheat; wheat threshing nearly done.

Morris.—Haying finished; corn-cutting is general; too dry to plow; pastures fair; cattle doing best for this season; apples staying on trees well.

Osage.—Good week for plowing; haying about over; millet a good crop; corn suffered some; peaches on market but of poor quality; pastures improving.

Pottawatomie.—Dry, hot week; corn-cutting begun; too dry to plow, or sow wheat; apples falling badly; late peaches a good crop; late plums scarce; sweet potatoes will be a good crop; pastures getting short and dry.

Riley.—Temperature 13 deg. above normal; a hot, dry week; rain much needed; drought interfering with plowing; hot winds on 29th.

Shawnee.—A trying week on late corn; early corn being cut; haying about finished; some plowing being done.

Wabaunsee.—Corn looks well, corn-cutting under good headway; haying mostly done; early cattle feeding just beginning.

MIDDLE DIVISION.

The mean temperature for the week at Beloit was 84 deg. and at Concordia it was 86 deg.; at Topeka it was 82 deg. Early corn has matured in good condition and is being cut; late corn is being injured by the dry, hot weather. Plowing has generally been suspended, the ground being too dry. Haying and threshing continue, the former near-

and haying about finished.

Sedgwick.—No rain for nearly three weeks; plowing suspended; pastures still good and stock looks well.

Smith.—Hot and dry; many corn fields in north part still green, but many fields will not make a bushel to the acre.

Summer.—Much of the wheat in stacks was damaged by the rain of August 7, now being threshed; rain is needed for plowing; plowing progressing; sorghum hay ready to cut; corn mature, some good, some light.

Washington.—Much sickness resulting from the heat; some wheat being sown, but ground too dry for germination; corn-cutting progressing, also hay and forage crops.

WESTERN DIVISION.

Early corn has matured in the south and is maturing north, but the late corn is being badly damaged by the prevailing conditions. The grass has cured on the range, making a good winter pasture for stock. Much grain was destroyed by prairie fires in Thomas county. Large crops of forage have been raised in this division, and with the range will furnish abundant feed for the cattle. The forage crops are now being secured.

Finnley.—Dry, hot week; range grass drying up; cooler last of week.

Ford.—Prairie grass cured on the ground; very dry, hot and windy; late corn badly damaged.

Gray.—Dry; range dry; forage crops being cut; no substance to last crop of alfalfa cut; wheat awaiting threshers in most of the county.

Morton.—Dry and hot; windy last four days; late plums and peaches are ripening.

Ness.—Dry and windy; grass cured on range and stock in fine condition; rain is needed for fall plowing; no grain being sown.

Sherman.—Dry, windy week; corn ripening very rapidly; late corn will be chaffy; forage a good crop; feed of all kinds will be plentiful; pasture good, stock doing well.

Thomas.—Hot, dry and windy, damaging late corn; too dry for plowing; too windy for threshing; cane and Kaffir will be cut next week; a large prairie fire on 29th, northeast of Colby, destroying some fifty stacks of grain; another prairie fire near Colby on the 2d, some grain burned; cooler at close of week.

Wallace.—Third crop of alfalfa light on account of grasshoppers; irrigated gardens are fine; dry, hot, windy week, drying up late corn; haying and wheat threshing in progress; range grass very good.

Satisfactory Machinery.

A farmer desires machinery that will save him labor; that will not break down; that is not expensive to operate; that will do exactly as it is advertised to do.

THE LITTLE GIANT SEPARATOR

is such a machine. It's easy to run, easy to clean, a remarkably clean and economical skimmer and will last a lifetime.

P. M. SHARPLES, West Chester, Pa.

Elgin, Ill.
Omaha, Neb.
Dubuque, Iowa.

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small special advertisements for short time, will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it!

SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

WANTED.—Position as creamery manager at once; I am a graduate of Minnesota State Dairy School and also of State Dairy School of Norway and Denmark. Several years experience as manager and butter-maker. Best of references. M. O. Awe, Eskridge, Kas.

WANTED TO EXCHANGE.—The pure-bred Cruickshank bull, My Lord No. 11653, bred by Col. Harris; sire Imp. Spartan Hero 7738; dam Imp. Lady of the Meadow (Vol. 80, p. 616), for a pure-bred Cruickshank bull—can't use him any longer in my herd. H. W. McAfee, Topeka, Kas.

IF you are interested in southwest Missouri address H. C. Alexander, Noel, Mo., for information.

WILL EXCHANGE.—Pedigreed fox terriers, greatest ratters bred for Berkshires or Barred Plymouth Rocks. W. T. Ballagh, Nevada, Mo.

HEREFORD CATTLE.—Breeding stock for sale. J. Archibald cattle a specialty. Visitors welcome. J. C. Curry, proprietor "Greenacres Farm," Quenemo, Osage Co., Kas.

FOUR YOUNG BOARS for sale at a bargain; two by Look-Me-Up by Look-Me-Over and two by Tecumseh Short Stop. Also gilts and sows of good breeding, at reasonable prices. Combination Model 2012 heads the herd. W. B. Van Horn, Lawrence, Kas.

WANTED, TO TRADE.—Thoroughbred Poland-China hogs for Shropshire sheep. For particulars, address Walter Roswurm, Beman, Morris Co., Kas.

FOR SALE OR TRADE.—A Norman stallion, age ten years, weight 1,900 lbs. For further information address John D. Marshall, Walton, Kas.

RENO POULTRY FARM, Mount Hope, Kas., Ira A. Fisher, prop'r. Breeder of White P. Rocks, White Holland Turkeys, White Guineas, Pekin Ducks. Eggs and stock for sale in season. Prices reasonable.

POLAND-CHINA BOARS.—Sired by the great Hadley Boy No. 18518, at \$12 each. W. S. Powell, Moline, Elk Co., Kas.

MACLEAN FARMERS' SUPPLY CO., Kansas City, Mo. (Between Union Depot and Stock Yards.) Sell machinery and other supplies to farmers direct, saving the consumer middlemen's profits. Send now for 1898 Spring Price List.

When writing advertisers please mention Kansas Farmer.

BLACK LEG PREVENTED BY PASTEUR "VACCINE."

Write for particulars, prices and testimonials of thousands of American stockmen who have successfully "vaccinated" their stock during the past three years in Dakota, Nebraska, Wyoming, Colorado, Kansas, Texas, etc.

PASTEUR VACCINE CO., 52 Fifth Avenue, CHICAGO.

BERRY EXTRA FINE PLANTS of all the leading varieties of the following: Raspberry, Gooseberries, Strawberries, Blackberries, Currants, Grapes, etc. Each the best of its kind and fully guaranteed. Positively free from disease. Largest grower of berry plants in the world. Don't buy until you get my prices. **SENT FREE.**

PLANTS ALLEN L. WOOD, ROCHESTER, N. Y.

CHAMPION CORN HUSKER. (Ball Bearing.) This improved (ball bearing) implement is the Dewey of the husker tribe. Husks breaks and throws the corn with one motion, and can do the work of two men anywhere. To introduce we will send sample husker for 75 cents, with privilege to return and your money back after one day's trial, if you do not like it or can't say it's worth ten times its cost. (No stamp.) Manufactured by CHAMPION CORN HUSKER CO., Janesville, Wis.

FEED MILLS We make over 85 sizes and styles of Buhr Stone Mills, 2 horse power and up. It has been our specialty for nearly fifty years. A buhr stone mill is the best and only mill suitable for all kinds of grinding on the farm. Easiest kept in order, lasts a lifetime, large capacity, less power. Get our new book on Mills before you buy. It will pay you.

NORDYKE & MARMON CO., Flour Mill Builders, 285 Day St., Indianapolis, Ind.

THE "DEWEY" AUTOMATIC STOCK WATERER. Every objection to hog waterers overcome. Valve eight inches in water; can not freeze; has a brass float which can not rust, water log, or allow mud to collect under it. Attachable to tank, barrel, box or pipe. Will water three hundred hogs a day, any number of sheep, calves, chickens, ducks, horses and cattle. Sent on trial, express prepaid, to be paid for if satisfactory. Costs nothing to try. Send for one. Our offer means something. Costs twice as much to manufacture as any other; retails the same, \$3.00. Address,

The Apiary.

Conducted by A. H. DUFF, Larned, Kas., to whom inquiries relating to this department should be addressed.

Early Feeding the Best.

If bees are to be fed the necessary stores to winter on, it is a mistake to put off feeding until late in the fall. Early-fed colonies are much better and will pull through the winter in better condition. Early feeding always produces a nice lot of young brood in the most important time of the year that brood can be raised. Early-fed stores are well-ripened and sealed up in the combs, and it is always a healthy food for the bees. Late-fed stores are seldom if ever sealed over in the combs, and in this condition it becomes contaminated with the moisture that arises from the bees in cold weather and proves very unhealthy food, frequently producing dysentery. There is no better time to feed bees for the purpose of supplying them with winter stores than during the month of September.

Protection in Winter.

Ordinary hives, such as are used for bees at the present time, are not intended to winter bees in, and those who allow their bees to go through the winter without extra protection need not expect to winter them successfully. The saving of honey alone with extra protection will more than pay for the extra expense and labor that it takes to fix them up comfortably. Bees retain their animal heat during the winter, and do not hibernate, as some suppose; and if they are exposed to severe cold weather they not only consume a much larger supply of honey to keep up the required amount of heat in the hive, but a large number are chilled to death on the outside of the cluster, and more especially when the cluster is divided by the combs. In very cold weather the cluster of bees will contract and frequently the outside divisions of the cluster, which are separated by the combs, will get disconnected entirely, and will become lost. Good chaff hives or protection in some other manner will save such losses, and not only this, but the bees come through the winter more healthy and much stronger in spring. We are an advocate of house apiarists, and when bees are thus kept it is an easy matter to give them good protection in winter.

MARKET REPORTS.

Kansas City Live Stock.

Kansas City, Sept. 3.—Cattle—Receipts, 271; calves, 71; shipped yesterday, 5,286 cattle; 64 calves. The market was nominally steady. The following are representative sales:

NATIVE COWS.
No. Ave. Price No. Ave. Price
8.....1,080 \$3.30 | 1.....1,080 \$3.20
2.....980 3.00 | 1.....1,050 2.50

NATIVE FEEDERS.

2.....1,024 4.15 |

NATIVE STOCKERS.

15.....853 3.75 |

STOCK COWS AND HEIFERS.

2.....750 43.50 | 1.....420 43.90
Hogs—Receipts, 3,543; shipped yesterday, 393. The market was firm to a shade higher. The following are representative sales:

117.....286 43.90 | 78.....222 43.85
64.....294 3.82 1/2 | 76.....225 3.82 1/2
67.....251 3.82 1/2 | 61.....293 3.82 1/2
75.....244 3.80 | 60.....220 3.80
58.....281 3.80 | 69.....199 3.77 1/2
82.....226 3.77 1/2 | 83.....194 3.77 1/2
72.....254 3.77 1/2 | 69.....250 3.77 1/2
70.....230 3.77 1/2 | 68.....228 3.75
82.....217 3.75 | 81.....212 3.75
65.....218 3.75 | 66.....176 3.75
20.....254 3.73 | 82.....139 3.70
28.....123 3.70 | 10.....128 3.70
86.....162 3.67 1/2 | 6.....161 3.65
88.....175 3.63 | 2.....100 3.60
1.....393 3.50 | 1.....360 3.50
7.....317 3.49 | 1.....510 3.80
5.....176 3.25 | 1.....140 3.25
1.....70 3.00 | 4.....307 3.00
Sheep—Receipts, 2,181; shipped yesterday, 1,428. The market was nominally steady. The following are representative sales:

15 lms.....54 45.25 | 33 N. lms.....58 45.00
48 stks.....51 4.45 | 224 sw.....74 4.00
23 drfs.....90 3.93 | 89 N. ewe.....95 3.85
23 lms.....76 3.80 | 12 drfs.....80 3.80

Horses and Mules—The horse markets were pretty well cleaned up and the receipts were moderate for this season of the year. The demand was fair for good southern and good drivers. Prevailing prices are comparatively low. There has been little or no change during the week. The mule trade was fair, but not as active as the trade on horses. There was no change in prices.

St. Louis Live Stock.

St. Louis, Sept. 3.—Cattle—Receipts, 100; market steady for natives and firm for Texans; native shipping steers, \$4.00@5.50; light and dressed beef and butcher steers, \$3.50@5.35; stockers and feeders, \$3.00@4.60; cows and heifers, \$2.00@5.00; Texas and Indian steers, \$3.05@4.30; cows and heifers, \$2.00@4.00.

Hogs—Receipts, 1,500; market strong to a shade higher; yorkers, \$3.85@3.95; packers, \$3.80@3.90; butchers, \$3.90@4.00.

Sheep—Receipts, none; native muttons, \$3.60@4.00; lambs, \$4.00@5.60.

Chicago Live Stock.

Chicago, Sept. 3.—Cattle—Receipts, 200;

Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., CLEVELAND, O.

market quiet; **bœufs**, \$4.00@5.50; cows and heifers, \$2.00@4.80; Texas steers, \$3.25@4.05; westerns, \$3.65@4.60; stockers and feeders, \$3.10@4.40.

Hogs—Receipts, 14,000; market opened higher, turned weak; light, \$3.65@4.00; mixed, \$3.60@4.00; heavy, \$3.50@4.05; rough, \$3.50@3.70.

Sheep—Receipts, 3,000; market steady; natives, \$2.80@4.65; westerns, \$3.50@4.50; lambs, \$3.75@4.60.

Chicago Grain and Provision.

Sept. 3.	Opened	High'st	Low'st	Closing
Wh't—Sept....	63 1/2	63 1/2	62 1/2	62 1/2
Dec.....	61 1/2	61 1/2	60 1/2	60 1/2
May.....	63 1/2	63 1/2	62 1/2	62 1/2
Corn—Sept....	30 1/2	30 1/2	30 1/2	30 1/2
Dec.....	30 1/2	30 1/2	30 1/2	30 1/2
Oats—Sept....	19 1/2	19 1/2	19 1/2	19 1/2
Dec.....	19 1/2	19 1/2	19 1/2	19 1/2
May.....	22	22	21 1/2	21 1/2
Pork—Sept....	8 65	8 65	8 35	8 42 1/2
Oct.....	8 67 1/2	8 67 1/2	8 40	8 45
Dec.....	8 72 1/2	8 72 1/2	8 50	8 55
Lard—Sept....	4 92 1/2	4 92 1/2	4 90	4 92 1/2
Oct.....	5 02 1/2	5 02 1/2	4 92 1/2	4 95
Dec.....	5 05	5 05	4 97 1/2	5 00
Ribs—Sept....	5 30	5 30	5 22 1/2	5 25
Oct.....	5 30	5 30	5 22 1/2	5 25
Dec.....	4 80	4 82 1/2	4 75	4 80

Kansas City Grain.

Kansas City, Sept. 3.—Wheat—Receipts here to-day were 312 cars; a week ago, 237 cars; a year ago, 388 cars. Sales by sample on track: Hard, No. 1, nominally 60@61c; No. 2 hard, 58@61 1/2c; No. 3 hard, 56@59c; No. 4 hard, 53@57c; no grade, 51c. Soft, No. 2 red, nominally 67c; No. 3 red, nominally 60@61c; No. 4 red, nominally 53@58c; rejected, 51c. Spring, No. 2, 56@57c; No. 3 spring, nominally 54@56c; rejected, nominally 50@58c.

Corn—Receipts here to-day were 12 cars; a week ago, 19 cars; a year ago, 32 cars. Sales by sample on track: Mixed, No. 2, 27 1/2c; No. 3 mixed, 27c; No. 4, nominally 25@26c; no grade, nominally 23c. White, No. 2, 28@28 1/2c; No. 3 white, 28@27c; No. 4 white, nominally 25@26c.

Oats—Receipts here to-day were 7 cars; a week ago, 15 cars; a year ago, 13 cars. Sales by sample on track: Mixed, No. 2, nominally 20@21c; No. 3 mixed, 19c; No. 4 mixed, nominally 18c. White, No. 2, 22 1/2@23c; No. 3 white, 22@23c; No. 4 white, nominally 20@21c.

Rye—No. 2, nominally 39c; No. 3, nominally 38c; No. 4, nominally 37c.

Hay—Receipts here to-day were 35 cars; a week ago, 55 cars; a year ago, 38 cars. Quotations are: Choice prairie, \$4.25@5.50; No. 1, 84.75@5.25. Choice timothy, \$6.50; No. 1, 85.75@6.25. Timothy and clover, No. 1, 5.00.

Poultry—Hens, 64c; broilers, 9c per lb.; roosters, 15c each; ducks, 5c; young ducks, 64c; geese, 4c; goslings, 7c; hen turkeys, 7c; young toms, 6c; old toms, 6c; pigeons, 50c per doz.

Fruits—Grapes, 12@17c per peck. Peaches, 40@60c per 1/2 bu. Apples, 40@60c per 1/2 bu.

Vegetables—Roasting ears, home grown, 1@6c per doz. Tomatoes, home grown, 5c@8c per bu. Cucumbers, 15@20c per bu. Peas, home grown, marrowfat, \$2.00 per bu. Green and wax beans, 25@35c per bu. Lettuce, home grown, 50@60c per bu. Onions, new, 25@40c per bu. Beets, 2c per 3 doz. bunches. Cabbage, home grown, 50@60c per 100-lb crate. Celery, 30@40c per doz.

Potatoes—Home grown, 35c per bu. in car lots. Sweet potatoes, home grown, 60c per bu.

RIVERSIDE STOCK FARM.

Short-horn cattle, Percheron and Roadster horses and Shetland ponies—stock of each class for sale. A car-load of extra good young bulls.

O. L. THISLER,
Chapman, Dickinson Co., Kas.

MAPLE LAWN HEREFORDS.

E. A. Eagle & Son, Prop., Rosemont, Osage Co., Kas.

For sale, five young pure-bred bulls of serviceable age. Also one car-load of high-grade cows and one car bull calves.

T. P. BABST, PROP., DOVER, SHAWNEE CO., KAS.

150 Poland-Chinas at Private Sale.

Fifty extra fine sows bred; twenty-five fashionable gilt; twenty-five selected young boars and fifty choice spring pigs, both sexes. Herd bears, Wren 17172, Duke of Weston 16374, and Eberly's Model 18982. It will pay you to see this herd before buying.

J. W. HIGGINS, Jr.,
Hope, Kas.

E. E. AXLINE, Oak Grove, Mo.

POLAND-CHINAS.

Most Fashionable Strains.

MODEL BOY, WESTERN WILKES, { Now in Service.
YOUNG STOCK FOR SALE.

BELGIAN HALES FOR SALE.

Choice young, and breeders (first-class stock). The meat of the Hare is pronounced by epicures the best in the market, edible all the year. Will sell cheaper than the cheapest. Address SIMONS BELGIAN HARE CO., 717 N. 5th St., Kansas City, Kas.

CLOVER CLIFF FARM.

Registered Galloway Cattle. Also German Coach, Saddle and Trotting-bred horses. World's Fair-prize Oldenburgh Coach stallion, Habbo, and the saddle stallion, Rosewood, a 16-hand, 1,100-pound son of Montrose, in service. Visitors always welcome. Address BLACKSHERE BROS., Elmdale, Chase Co., Kas.

DEER PARK FARM.

H. E. BALL, Proprietor.

Registered Jersey cattle. Young bulls and heifers for sale.

Registered Poland-China swine. Young boars for sale.

Farm two miles east of Topeka on Sixth street road.

T. P. CRAWFORD, Mgr., Topeka, Kas.

SUNRISE STOCK FARM.

C. A. STANNARD, Prop., Hope, Kas.

Breeder of Hereford Cattle and Large English Berkshire Hogs.

Bulls in service: Kodax of Rockland 40731, who has won more first premiums at leading State fairs in past six years than any other bull in Kansas; Java 64045. Thirty-five yearling heifers and seven bulls 3 to 7 years old for sale.

SPRING VALLEY HEREFORDS.

ALBERT DILLON,
Hope, Kansas.

Young stock of fine quality and extra breeding for sale. Personal inspection invited.

W. S. JAMES, Concordia, Kas.

Single or car lots. First-class, all ages, at prices that will sell them. Will spare 50 breeding ewes—grand, useful, high-class ewes. Write your wants.

KIRKPATRICK & SON, Connor, Wyandotte County, Kansas.

Sir Charles Corwin 14520 and Harry Faultless, Jr.

The Poultry Yard

Conducted by C. B. TUTTLE, Excelsior Farm, Topeka, Kas., to whom all inquiries should be addressed. We cordially invite our readers to consult us on any point pertaining to the poultry industry on which they may desire fuller information, especially as to the diseases and their symptoms which poultry is heir to, and thus assist in making this one of the most interesting and beneficial departments of the Kansas Farmer. All replies through this column are free. In writing be as explicit as possible, and if in regard to diseases, give symptoms in full, treatment, if any, to date, manner of caring for the flock, etc. Full name and postoffice address must be given in each instance to secure recognition.

KANSAS STATE POULTRY ASSOCIATION.
President, A. M. Story, Manhattan.
Secretary, J. W. F. Hughes, Topeka.

Poultry Show—At Topeka, January 9 to 14, 1899. C. H. Rhodes, judge.

PREPARING FOR WINTER.

Many persons engaged in breeding and rearing poultry neglect and procrastinate far too much in regard to making preparation for the winter campaign. Now is the time to begin to get ready—it is none too soon, for there are very many things to do, and many things to prepare and secure for the fowls' comfort and support during the cold winter months that can be done and secured better now than at any other time. In fact, with some things, if not done now the chances are that they will not be done at all, and first thing any one knows, cold weather will be on us, and the fowls will be the sufferers for our neglect.

WARM HOUSES.

One of the first things to look after is to be sure that the houses in which it is expected to keep the fowls during cold weather are tight and warm enough at least to keep the combs from freezing in the coldest weather. The houses need not be costly or fancy affairs, but must be warm and tight enough to keep out all draughts, if winter eggs are wanted when they usually bring the best price. It is as impossible for biddy to lay eggs when she is suffering with cold as it is for the cow to give large quantities of rich milk when she has only the shelter of a rail fence to protect her from the inclemency of winter.

Go out and look over the houses and see what improvements can be made, and then make them without delay. If there are cracks through which the wind will whistle a funeral dirge over the fowls confined therein, cover the house, sides and roof if necessary, with some of the water-proof papers—"Neponset" is best—and, if you can afford it, paint the paper, as it will last much longer. It is best to put the paper on the outside instead of the inside, as many do, as the house will be much drier in frosty weather for so doing.

Clear out everything, while about it—roosts, nests and all litter and filth, and thoroughly renovate and whitewash the inside, making it sweet and clean, and see how your fowls will appreciate your efforts to make them comfortable. While cleaning, don't neglect the windows; clean the dust and cobwebs off and let the blessed sunlight stream in; it is one of the best tonics yet discovered. Before replacing nests and roosts thoroughly clean them also, and put in fresh straw or other nesting material. If the house has been used during the summer, it is quite likely that it is more or less infested with lice and mites; in which case it would be well to thoroughly fumigate with sulphur before whitewashing. Let the fowls go into winter quarters free from these pests if the best results are desired. It is utterly impossible to raise a full crop of both lice and eggs from the same hens at the same time.

FOOD MATERIAL.

Now is also the best time to provide a plentiful supply of food for winter. The grain crops are now being harvested and threshed, and all screenings and light grain should be saved for the poultry. Potato-digging will also soon be the order of the day, and the culls make an excellent food, when cooked and mixed with bran and meal. A plentiful supply of beets and turnips can be put away at a very slight expenditure of time or labor, and make a variety, which is quite necessary. The unsalable cabbage will also come in good play. All such things can be utilized in this way and often be made to pay a better profit for raising than if sold.

While planning for winter feed, do not forget to sow a generous patch of rye for winter pasture for the flocks. It will stay green all winter and it is refreshing to see the fowls run for their feed of green rye as soon as liberated, when not covered with snow. Provide plenty of straw or forest leaves for litter for the hens to scratch in during the winter, and keep the floors of the houses covered five or six inches deep with cut

straw or leaves all the time, renewing as often as necessary to keep it clean and sweet. This makes a good place to feed the grain. Another thing to provide at this time is a plentiful supply of road dust for biddy's bath during the winter. In some places dust is a nuisance, but the up-to-date poultryman knows how to utilize it to the best advantage. Go out in the road and sweep up several barrels full, and place under shelter, where it will keep dry. During the winter, provide a shallow box, three or four feet square, in some sunny part of the house, and keep it well supplied with dust for the fowls to wallow in, and the health of the fowls will be much better, the egg basket better filled, and the fight against lice reduced to the minimum. These are only suggestions. Many other things will occur to the wide-awake poultryman which can be done at this time and which will tend to increase the comfort of the flock and hence the profits derived therefrom.

Shepherd's Notes.

Geese may be fattened on almost any kind of grain, if they are fed all they will eat up clean. The better plan is to feed grain twice a day while they have good pasture, and then about two weeks before intending to market, shut them up in a close pen and feed all they will eat, four or five times a day, and they will fatten very rapidly.

One advantage with the Langshan is that they mature early. Pullets usually commence laying when six months old. They grow rapidly; they are excellent table fowls, the flesh being more like the turkey, being more close, and when properly cooked is of fine white quality. They have fewer faults than most breeds, and are hard to excel as an all-purpose fowl.

Many of the hens will be moulting now, and they will need special attention. It is best to have all hens that are to be kept over moult early, as in all cases if given plenty of good food and dry, comfortable quarters, they can be depended on to lay regularly; and eggs during the winter always command good prices. A little linseed meal, sunflower seed, buckwheat or oats should be given daily, and all reasonable care taken to keep them thrifty.

When raising poultry, especially for the table, size is always to be considered. In nearly all markets fowls are sold by weight, whether young or old, and for this reason it is best to secure as good size as is possible. But when keeping fowls for eggs it will cost less to have small hens. In nearly all cases with fowls and stock, the size of the carcass determines to some extent the cost of support, a small animal or fowl costing less to keep than a large one; so that when keeping for eggs or milk, small size is worth considering as lessening the cost to maintain.

While ducks are hardy, easy to raise, grow rapidly, are rarely sick, and with proper management can readily be made as profitable as any other class of fowls, it is not advisable to keep them unless they can be kept out of the door-yard, away from the kitchen door and the well. Provide a place for them in the orchard or in a lot where they will be somewhat to themselves. A half dozen ducks hanging around the well or kitchen door will cause more filth than fifty chickens. Keep ducks, but keep them in their proper places.

No better use can be made of the table scraps than to feed them to poultry. But it is failing to make the most out of them to simply throw them on the ground. A much better plan is to have a pot or vessel sitting on the back of the stove, and put into it all the parings or leavings of the vegetables and fruit in the kitchen, as well as the scraps that are left after eating into it and keeping sufficient water also to cook well. Give this as a morning ration. If the quantity is not sufficient, add equal parts of bran and corn meal, wetting with milk to make a good feed, stirring all well together.

N. J. SHEPHERD.

Making Hens Lay.

After reading the advice that "Farmer's Daughter" gave to J. R. G., I would say that I have tried a number of different egg foods that were "sure to make hens lay," and all I can say is that they are not worth the paper they are done up in. This is from my own experience, but I will tell J. R. G. what will make his hens lay. That is, if he will go to any feed mill and get bone flour and give his hens about a tablespoonful to every dozen, he will find that they will begin to lay within two weeks, or, if they should not lay in that time, give them more bone mixed in the morning feed. This is better, I find, than any "poultry

Battles and Diseases.

This is the story of one who participated in many naval and infantry engagements during the war. From wounds received then he suffered for years, but to-day rejoices in renewed strength.

There is a distinctly peculiar halo that invests the being of an old soldier in the eyes of the present generation. The sight of him arouses a feeling of admiration for his brave deeds and heroic achievements.

Among those who bravely fought was Dr. L. J. Clark, who, when but a beardless boy, heard the tocsin of war sounded.

It fired his patriotic spirit to a fervency that found relaxation only in his realization of fighting in the battles.

To the call of President Lincoln for troops in the latter part of '61, young Clark promptly responded.

There was need of men in the navy, and he joined that service in the mortar fleet of Admiral Porter, which soon after began operations on the Mississippi River.

At the terrific bombardment of the Vicksburg forts, the hero of this story fell on the deck of the *Juliette* with a shattered arm from a charge of shrapnel.

He lay in the hospital for months, and when he had recovered sufficiently to be moved, was sent to his home at Warren, O.

Though partly incapacitated for active service, his patriotic zeal got the better of him, and when the call for more troops came, young Clark enlisted in a company formed by Capt. Joel I. Asper, at Warren.

It became Co. H. of the 7th Ohio Volunteers and was sent to the Army of the Potomac under General Grant then campaigning in Virginia against General Robert E. Lee.

In a skirmish near Richmond, he was wounded again and was sent to the hospital. He remained there for some time,

but finally recovered, and went home.

Shortly after, he began the study of veterinary surgery, and, when completed, went to Chicago, where he has resided for thirty years, and is now one of the leading surgeons of that profession in the city.

His old wounds began to trouble him several years ago. He grew weak, emaciated and thoroughly debilitated. His friends began to despair of his life.

He was but a shadow of his former self, weighing only 90 pounds, a loss of nearly 50 pounds. He had the best medical attention, but it did not benefit him.

"Finally a friend gave me a box of Dr. Williams' Pink Pills for Pale People," said Dr. Clark. "After taking the pills I was so much benefited that I purchased a half dozen boxes and took them."

"They were of more benefit than the ablest physicians' treatment. By their aid alone, I soon regained my strength."

"I weigh 180 pounds now, and except for injuries that can never be remedied, I am as well as ever."

"I consider Dr. Williams' Pink Pills for Pale People the best remedy I know of to build up a run-down system."

To-day Dr. Clark is a picture of health. He is 59 years old, an active member of Hatch Post, G. A. R., and resides at 4935 Ashland Ave., Chicago.

Many veterans have found Dr. Williams' Pink Pills for Pale People of inestimable value in counteracting the unhealthy effects of army life. All druggists sell these pills and highly recommend them.

food" that is advertised, because it is sure, and it is not necessary to give them meat of any kind when you give them the bone. I am interested in poultry and like to read all the notes I can find, especially in your paper.—X. Y. Z., in Cultivator and Country Gentleman.

The Demand for Eggs.

The farmer seems ever ready to grow any crop that is in demand, but it is wonderful that he has not discovered the demand which seems to be constantly for eggs. Last year we imported over 16,000,000 dozen eggs, many of these coming from Canada, while the rest were shipped from Holland, Belgium, France and Norway. Just think of it! What an enormous number of eggs imported! Sixteen million dozen, or 192,000,000 eggs. A good hen lays on an average of 120 eggs a year, which is rather a low estimate. At that rate it would take 1,600,000 more hens to lay enough eggs to supply the amount im-

ported. And yet farmers do not begin to realize this. If they only paid as much attention to poultry as they pay to their crops they would soon see the value and profit in poultry.

And yet farmers say there is no profit in poultry-raising. The only reason they have for judging so is on account of the numerous failures among people who imagine that there is large money in poultry-raising with very little work, and as their expectations are not realized, they are unable to care for the management of a poultry farm.

The case of only one man need be cited to show that there is profit in poultry which are well taken care of. The man in question rented a small place for three years. His buildings cost him \$1,400, he paid nearly \$600 rent in the three years, supported his family, paid for hire of help, feed, fuel, taxes, hauling, and at the end of the three years he paid himself back all this expenditure, and had \$1,200 clear of everything. Yet this man did not know anything



ONLY ONE DOLLAR
1898 Model Gents' or Ladies' Bicycle by express C. O. D. subject to examination at your nearest express office and if found perfect and satisfactory, exactly as represented, the most wonderful Bicycle Bargain you ever saw or heard of, pay the express agent the balance, \$18.75 and express charges. At \$19.75 we shall sell 2000 SPECIAL regular \$50.00 High Grade guaranteed, 1898 Model Bicycles, either Gents' or Ladies'. We Have Bicycles for 1898 at \$18.95, \$19.75 and \$22.50. Such values as were never offered before.

SEND ONE DOLLAR and we will send you this OUR SPECIAL HIGH GRADE 1898 Model Gents' or Ladies' Bicycle by express C. O. D. subject to examination at your nearest express office and if found perfect and satisfactory, exactly as represented, the most wonderful Bicycle Bargain you ever saw or heard of, pay the express agent the balance, \$18.75 and express charges.

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We Have Bicycles for 1898 at \$18.95, \$19.75 and \$22.50. Such values as were never offered before.

THIS SPECIAL HIGH GRADE \$19.75 is a wonder of value, durability, high grade and equal to any bicycle you can buy anywhere at \$40.00 to \$50.00 to \$60.00 to \$70.00 to \$80.00.

DESCRIPTION, throughout, only first-class mechanics are employed and the finish is such as can be found only in the highest grade wheels. FRAME is 24 inches deep, true diamond. (Ladies') is 22 inches, curve shape with two center braces. 1½-inch highest grade imported German seamless tubing. FORK CROWN, drop forged, highly polished and finished and nickel-plated. HANDLES-BARS, very latest and best wood or nickel, up or down curve or ram's head. WHEELS, highest grade non-warpage wood. TIRE, on special guarantee strictly high-grade single tube pneumatic, complete with pump and repair kit. CRANKS, highest grade forging, 6½-inch crown, highly nickel-plated. PEDALS, handsomest and best rat trap. BEARINGS, highest grade tool steel, tight fitting. SPACERS, finest forgings, heavily nickel-plated, detachable. SADDLE, strictly high-grade padded. Weight, 25 lbs. Fully equipped with tool bag, pump, wrench, oiler and repair kit.

OUR GUARANTEE, we issue a written binding, one year guarantee, during which time if material, we will replace it free of charge. With care the bicycle will last 10 years.

SEND US ONE DOLLAR and we will send you the bicycle by express C. O. D. subject to examination, you can examine it at the express office and if you find it equal to any bicycle you can buy elsewhere for \$40.00 to \$50.00, and such a bargain as you never saw before, pay the express agent the balance, \$18.75 and express charges. OUR FREE BICYCLE CATALOGUE shows a complete line of Bicycles at \$18.95, \$19.75, \$22.50, etc. Also a full line of bicycle sundries, bicycle clothing, etc. **SEND FOR IT.**

AS TO OUR RELIABILITY, we refer to the publishers of this paper, our customers everywhere, Metropolitan Nat'l Bank, New York; any business house or resident of Chicago. We occupy entire one of the largest business blocks in Chicago, employ 700 people, and we guarantee to save you \$50.00 to \$500.00 on high-grade bicycle. Order today. Don't delay. Only \$1.00 to be paid. \$19.75.

SEARS, ROEBUCK & CO. (Inc.) Failes, Desplaines and Wayman Sts., CHICAGO. (Sears, Roebuck & Co. are thoroughly reliable and for \$19.75 this is surely a wonder bicycle.—Editor.)

In writing mention Kansas Farmer.

about poultry when he began. He had never seen an incubator or brooder; and he had to lose a portion of his time in order to learn. The incubators were of the simple kind—the ordinary hot water, and yet he had only one-eighth of an acre devoted to the business. His success was due to his energy. He made it his point to be constantly among his chickens. This was the secret of his success.—American Farmer.

Pure Breeds for Health.

High-bred pure stock of any species, whether quadrupeds or of the feathered race, are not so liable to common diseases as the lower grades or mongrels. In a long experience with China and Eastern fowls, we have rarely met with what is termed the old-fashioned "plop" among this class of poultry. Yet, how very common is this disease, within the recollection or knowledge of every farmer and poultreyer in the land, among the ordinary barn-yard flocks?

Gapes, also, a very frequent trouble among the dunghill fowls, is scarcely ever known with the Eastern varieties. Such, at least, is the result of our own observation, although both of these affections occasionally show themselves with the foreign birds.

But we have found that high-bred pure stock withstands all these diseases much more successfully than do the ordinary varieties when they are attacked. The blood of the former is stronger, the imported stock possesses a larger amount of stamina; and these will live and recover more surely where the others die. For this reason we recommend the use of foreign blood for crossing our native stock, even for marketing purposes. The progeny is stronger, grows larger, and is in every sense thus greatly improved.—Poultry World.

Duck Farming.

There are several farms where duck breeding by artificial incubation is made a specialty and the principal business of the farm. Ducks are very easily hatched in incubators and are more easily managed in the artificial brooders than chicks. They also grow faster and reach a marketable size of five pounds each in only ten weeks from the shell. The time for profitable working of the incubators also lasts later into the summer than with chicks, so that the same machinery can be used early for chicks and later for ducks.

The Pekin is the favorite breed among the duck breeders. They are pure white and attain a weight of about twelve pounds when full grown. The "green ducks," so-called, are sold when about ten weeks old at a weight of about five pounds each and are very tender eating.

Mr. James Rankin, of South Easton, Mass., breeds about four thousand ducks yearly; Mr. A. J. Hallock, of Speonk, Long Island, about ten thousand, and E. O. Wilcox, also of Speonk, about ten thousand, besides a large number of chickens.

The business is said to be quite profitable, but requires considerable skill and experience as well as very close application early and late and for seven days in the week.

The largest mass of pure rock salt in the world lies under the province of Galicia, Hungary. It is known to be 550 miles long, 20 broad and 250 feet in thickness.

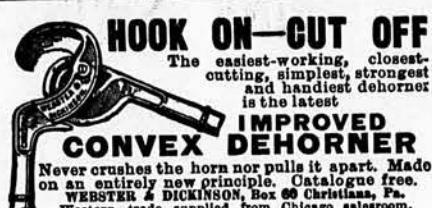
ITALIAN BEES.

Bred from queens imported from Italy. Full colonies; two, three and four frame nucleus shipped anywhere and safe arrival guaranteed. We ship Bees any time from March to November. Queens, hives and supplies generally.

A. H. DUFF, Larned, Kas.



We make Steel Windmills, Steel Towers and Feed Grinders and are selling them cheaper than the cheapest. Our productions are standards; are first-class in every respect and are sold on trial. Send us a postal and we will tell you all about them. GURRIE WINDMILL CO., Manhattan, Kas. AGENTS WANTED.



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Dr. Sanden Sends His Little Book Free of Charge.



Dr. Sanden writes: "My specialty for the past thirty years has been the treatment of all results of youthful errors or later excesses, such as Drains, Impotency, Nervous Debility, Lame Back, Varicocele, etc., and for the past twenty years I have not used machines for such, because I learned from that great teacher, experience, that drugs only stimulated and did not cure. I found almost from the first that the claims of many physicians were not true, and commenced at once to cast about for other and more satisfactory means of treatment. It was at about this time that Electricity commenced to be used as a curative for nervous disorders, and I soon saw that my field lay in this direction. It is useless for me to tell of the immense development there has been in treatment by electricity in the past twenty years. Suffice it to say I have never once gone back to drugs for these troubles since I commenced the use of this great natural restorer. To-day I present in my wonderful

ELECTRIC BELT

and Suspensory as perfect a home self-treatment for weak men, young or old, as can be constructed. I apply the current with it so that it flows from the nerve center at small of back over kidneys, through the liver, stomach and weakened parts in front. You put the belt on at night when you go to bed and take it off the next morning. Keep this up two or three months and you will be a strong man as sure as night follows day.

Write for

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Made of best doubly annealed galvanized steel wire. Top and bottom wires No. 11. All other wires No. 11. We use the strongest stay wire in any woven wire fence on the market—hence more strength and durability.

Our LOOP KNOT (entirely new feature, patented) provides perfect expansion and contraction and keeps it tight at all temperatures. Our Loop Knot being uniformly distributed throughout each foot of fence is, in effect, the same as placing one coil of a spiral spring in every foot throughout the entire length of fence, BESIDES GREATLY STRENGTHENING IT. Our Loop Knots make the fence plainly visible and impossible for stay wire to slip or give. It is Hog tight and Bull strong. Will turn all kinds of stock without injuring them.

Where we have no agents liberal discount will be given on introductory order. Reliable farmer agents wanted in every township. Pittsburgh Woven Wire Fence Co., Pittsburgh, Pa.

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are our well MERRITTED possession. DEW-EY want them? On the SCHLEY—we don't know. We make the old reliable Page Fence.

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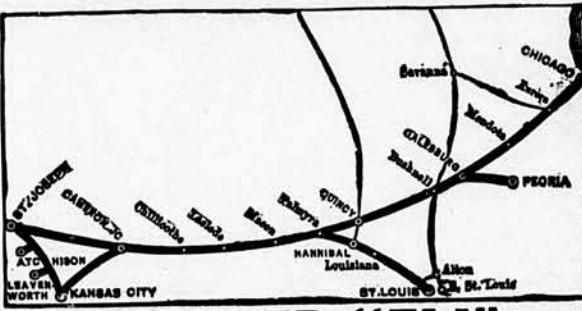
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Stock for sale. Farm 2 miles
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RIVERDALE HERD of
Chester White swine and
Light Brahma poultry. J. T.
LAWTON, BURTON, KAS.,
proprietor. All stock guaranteed.
I can also ship from
Topeka, my former place.

Standard Herd of Poland-Chinas

A choice lot of gilts sired by Ideal U. S. and bred to Tecumseh Chief. Also some good Tecumseh Chief gilts bred to Look Over Me (he by old Look Me Over) and some good fall pigs, both sexes. Write and get my prices or come and see.

WM. MAGUIRE, Haven, Kas.



T. A. HUBBARD,
Rome, Kansas,
Breeder of
POLAND-CHINAS and
LARGE ENGLISH
BERKSHIRES. Two hundred head. All ages.
25 boars and 45 sows ready for buyers.

THE SEDGWICK NURSERY CO.,
Sedgwick, Harvey Co., Kas.,
Breeders of—

Short-horn Cattle and Poland-China Swine
Of the Best Strains.
Stock for sale. Correspondence and inspection invited.

HEADQUARTERS FOR POLAND-CHINAS
IN KANSAS IS AT SHADY BROOK
STOCK FARM,

H. W. CHENEY, Prop., NORTH TOPEKA, KAS.
Cheney's Chief I Know 19518 (S) at head. All popular strains represented in matrons. Write for prices, which are always reasonable. Buyers met at train and shown stock free.

Wamego Herd Imp. Chester Whites and Poland-Chinas.

Mated for best results.
Also Barred Plymouth Rock chickens and eggs for sale. Correspondence or inspection invited. Mention FARMER. C. J. HUGGINS, Proprietor, Wamego, Kas.

HIGHLAND FARM HERD
PEDIGREE POLAND-CHINAS.

One hundred head. Bred sows in pig to herd boars, Corwin I Know 18448 S., he by the great Chief I Know 1992 S., and others to Hadley U. S., son of the great Hadley, Jr. 13314 S. Also ten extra choice fall boars and twelve gilts for sale at reasonable prices, breeding and quality considered. Fifty spring pigs by seven different noted sires. Write or visit the farm. John Bollin, Kickapoo, Leavenworth Co., Kas.

PLEASANT VALLEY HERD
REGISTERED POLAND-CHINA SWINE

King Perfection 4th 18744 S., at head of herd, assisted by Tecumseh Wilkes 12694 S. and Lambing Ideal 14050 S. The sire of last named is Gov. C. by Black U. S. We have added several very finely bred sows to our herd. Write for particulars. Address either W. E. JOHNSON, E. A. BRICKER, Colony, Kas., Westphalia, Kas.

Mains' Herd Poland-Chinas

Headed by the two grand sires, One Price Chief 20114, he by Chief Tecumseh 2d 915, out of Alpha Price, she by One Price 427; Model Combination 19853, grandson of Klever's Model, on sire's side, and of Chief Tecumseh 2d on dam's side. I have pigs from other noted boars mated to a selected lot of sows as good as are known to the breed. A very fine lot of fall and spring pigs and quite an extra lot of bred sows of different ages. I will give very reasonable prices on all stock. Satisfaction guaranteed. James Mains, Okaloosa, Jefferson Co., Kas.

Superior Herd. Combination Sale of Poland-Chinas

AT HUTCHINSON, KAS., TUESDAY, SEPT. 27, 1898.

Eighty-five Head of Up-to-date Poland-Chinas of Excellent Breeding and Individuality, Comprising a Draft of Sixty Head From Superior Herd and Twenty-five Head From Crescent Herd.

Superior herd was established in 1891, and this is a closing-out sale, and the offering was selected from more than a hundred head. It consists of three herd males, Princeton Chief 14543, Gen. Hidestretcher 37247, and Hadley Faultless Corwin by Hadley Jr.; twenty-seven sows and gilts, one year and over, bred to above boars for fall farrow. Sows by Greenwood, Guy's Unfortunate, Cash Price, Longfellow Jr., Low Down Tecumseh, Lawrence C., C. J. Free Trade, Darkness Quality 2d, and Tecumseh Wilkes; thirty boars and gilts of spring farrow.

The Crescent herd draft consists of twenty-five sows and gilts, bred and open, and boars and gilts of March and April farrow. One choice yearling boar by Guy Darkness. Guy Darkness 18293 at head of herd, assisted by Best Nims 19612.

Breeders from a distance entertained free. Sale in tent at Wilson's barn. Sale to begin at 12 noon. Terms: All sums of \$15.00 or less cash, without discount; over that amount 5 per cent. off for cash, or a credit of four months on approved note with 8 per cent. interest from date.

Write to either of us for catalogue.

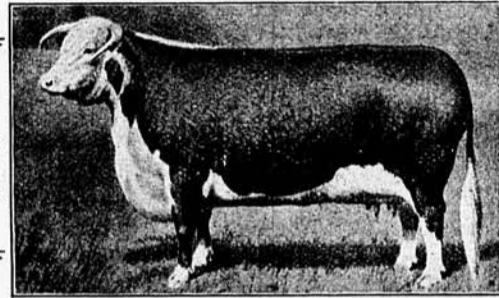
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Other bulls in service are:
CLIMAX,
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Registered Hereford Cattle.

At the spring sales of 1898 we sold the highest-priced male and highest-priced female, and also had the highest averages for 5, 10, 20, 40, 60, 80 and 100 head. These averages were higher than that of any Hereford sale of recent years. Salisbury, sold to Mr. Murray Boacock, brought the highest price any Hereford bull ever sold for at public sale in America. Last year the herd won more premiums than any other Hereford herd. We point to the above facts as the best evidence of the superior character of the animals comprising the herd. The attention of discriminating buyers is called to the fact that we have for sale a splendid lot of males and females, bred in the purple, which will be sold as low as equal merit and equal breeding can be purchased elsewhere. Sixty head of the females are bred to imported bulls. Visitors always welcome.

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VERNON COUNTY HERD OF REGISTERED POLAND-CHINAS

125 head in herd. Herd boars, King Hadley 16766 S. and Turley's Chief Tecumseh 2d 17978 S. Forty-six head of fall pigs that would be considered "the best" in a herd in United States. Write for particulars. Prices right and stock guaranteed.

J. M. TURLEY, Statesbury, Vernon Co., Mo.

R. S. COOK, WICHITA, KAS., Poland-China Swine

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The Prize-winning Herd of the Great West. Seven prizes at the World's Fair; eleven firsts at the Kansas District fair, 1893; twelve firsts at Kansas State fair, 1894; ten first and seven second at Kansas State fair, 1895. The home of the greatest breeding and prize-winning boars in the West, such as Banner Boy 2841, Black Joe 28603, World Beater and King Hadley. For Sale, an extra choice lot of richly-bred, well-marked pigs by these noted sires and out of thirty-five extra large, richly-bred sows. Inspection or correspondence invited.

200 — PURE-BRED POLAND-CHINA SWINE FOR SALE — 200

By GEO. CHANNON, Hope, Dickinson Co., Kas., Breeder of Poland-China Swine and Short-horn Cattle.

I must reduce my herds to the minimum on account of short feed and insufficient accommodations for winter, therefore will sell at prices that should be a big object to purchasers. My offering consists of tried brood sows, gilts and boars, all ages. Will sell singly or in lots to suit. The young stock is by my herd boars Prince Bismarck 1867, Seldom U. S. 18218, Duke of Weston and Corwin. Come now and get a bargain. Also, for sale thirty extra fine young Short-horn bulls, sired by Glendower 10338. None better in Kansas.

COMBINATION SWINE SALE

At Girard, Kas., Wednesday, September 28, 1898.

Sixty-five Poland-Chinas, fifteen Chester Whites, five matured boars, fourteen sows, bred or with litters; the remainder young boars and gilts, close descendants of Claude, Hadley, J. H. Sanders and Longfellow, Columbian prize winners; Look-Me-Over and Klever's Model, of boom price fame; King Perfection, Lall's Victor, Black U. S. and other noted hogs.

Sale will be held in comfortable building containing six thousand square feet under one roof in the city.

To get full particulars, etc., write Wm. M. McDonald, Girard, Kas., for sale catalogue, now ready.

Easy terms to responsible buyers.

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Beulah, Kas., Girard, Kas., Brazilton, Kas.

COL. W. O. COLBORN, Auctioneer, Girard, Kas.

Superior Herd. Combination Sale of Poland-Chinas

Crescent Herd.

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Breeders from a distance entertained free. Sale in tent at Wilson's barn. Sale to begin at 12 noon. Terms: All sums of \$15.00 or less cash, without discount; over that amount 5 per cent. off for cash, or a credit of four months on approved note with 8 per cent. interest from date.

Write to either of us for catalogue.

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REGULAR SEMI-ANNUAL SALE OF REGISTERED POLAND-CHINA SWINE.

AT MARION, MARION COUNTY, KANSAS, WEDNESDAY, SEPTEMBER 14, 1898.

FORTY-THREE HEAD SPECIALLY SELECTED POLAND-CHINAS—Thirty-five sows and gilts, with eight serviceable boars. One-third of the sows will go with litters at side. Other females bred to farrow after sale and some open for early spring litters. Full particulars as to breeding, etc., in the sale catalogue, now ready to mail to all desiring it. I consider this lot to be the best I ever drove into the sale ring.

Free entertainment for parties from a distance at Elgin Hotel.

TERMS:—Will be cash or note bankable at State Bank of Commerce, Marion, Kas.

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W. H. WREN, Marion, Kas.