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KANSAS FARMER.

Established in 1863.

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The Southern Kansas Fair, Wichita, has elected new officers as follows: President, C. M. Irwin, Wichita, and H. L. Resing, secretary. The fair will be held at Wichita, Kans., September 28 to October 3.

Contributions for the flood sufferers are not numerous now, but the KANSAS FARMER has pleasure in acknowledging receipt of the following for the relief fund: From J. A. Velen, Weskan, Wallace County, \$2; from Laura M. Johnson, Quenemo, secretary Richview Grange, Osage County, \$12. The noble spirit of brotherhood called into action by the great flood of 1903 should completely silence those who claim that the world is all bad.

The State Temperance Union has recently made an investigation to learn the extent of newspaper liquor advertising in Kansas. S. H. Pitcher, of Topeka, representing the Union, examined, early in July, the latest issues of all periodicals on file in the Kansas State Historical Society at the State House. Liquor advertisements were found in only nineteen papers out of 750 examined. In only three of the nineteen was anything besides beer advertised.

A recent trip through the counties of Osage, Franklin and Johnson, shows that the corn would be benefited now by a rain. The season has been such that farmers have found difficulty in properly working the fields and many of them are very much in need of cultivation. The cool weather and abundance of moisture have made the crop irregular and while much of the corn is as fine as could be desired, there are some fields that have suffered for lack of cultivation and because of the necessity for replanting.

The Shawnee County Horticultural Society will hold its regular monthly meeting at J. S. Jordan's, Wakarusa, on Thursday, August 6. This promises to be one of the most interesting meetings of the year. Everybody interested in horticulture is invited to attend. This is an all-day meeting. Come and bring your dinner. The program is as follows: "Grapes," J. M. Buckman; "The Farmer as a Horticulturist," W. H. Coultis; "Improvement of the Public Roads," S. H. Haynes; "Homemaking," Mrs. Kittle J. McCracken.

Friends of the Kansas State Agricultural College will regret the resignation of D. H. Otis, professor of animal husbandry and member of the experiment station council. He takes the position of manager of the large stock and fruit farm of R. O. Deming, president of the Deming Investment Company, of Oswego and Kansas City. Mr. Otis will receive a much larger salary than the college regents have seen fit to pay. His other financial advantages at the Oswego farm are considerable, so that measured in the

coin of the realm Mr. Otis will greatly improve his situation. The college has lost and Mr. Deming has secured the services of a most valuable man. The profit of the eminently practical yet scientifically accurate work of Professor Otis will now go to Mr. Deming instead of to the whole people of Kansas. Must the college continually be robbed of its ablest men as they prove their industry and efficiency? Mr. Deming is to be congratulated.

BLOCKS OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

NOW FOR A GREAT HORTICULTURAL EXHIBIT AT THE WORLD'S FAIR.

The KANSAS FARMER has a letter from Major Holsinger, the highly esteemed veteran horticulturist, of Rose-dale, Wyandotte County, in which he insists that a member of the State Horticultural Society should have been appointed to secure and arrange the Kansas horticultural exhibit at the World's Fair. Under ordinary circumstances Major Holsinger's contention would be unanswerable. The State Horticultural Society contains men who have given Kansas her record as a fruit State. There are also in Kansas many able horticulturists who, under present conditions, do not care to become members of the society. Perhaps personal dislike of an officer of a society ought not to cause a man to deprive himself of the benefits of association with such men as compose the rank and file of the State Society; but human nature changes slowly in this respect.

There seemed to be an impression with the World's Fair Commissioners that if they should select the horticultural manager from the State Horticultural Society the selection of the secretary was inevitable. Doubtless this impression was erroneous, but it prevailed. In selecting Mr. W. F. Schell, of Sedgwick County, the commissioners chose one of the competent and prominent men who ought to be a member of the State Horticultural Society but is not. This selection should not be understood as reflecting upon the State Horticultural Society but as a protest against an officer of the society.

Kansas can and, doubtless, will make a great fruit and general horticultural exhibit, one which will reflect honor upon every contributor. It is to be hoped that members of the State Society will contribute so conspicuously to this exhibit as to be eclipsed by none of the industrious fellows who

are in active sympathy with Mr. Schell's appointment. Pouting never paid anybody.

THROUGH A GREAT FARMING COUNTRY.

The editor recently made a trip via the Santa Fe to Atchison and St. Joseph, via the Chicago Great Western to Des Moines, via the Rock Island to West Branch and Muscatine, Iowa, and to Topeka. The appearance of the corn crops observed during this trip was more varied than ever before seen by the writer. Almost everywhere there was great unevenness of size. In Kansas the lower portions of the fields showed the effects of too much rain. The unusual appearance of yellowish corn was in evidence in very wet places. The weeds and grass were more abundant than the Kansas farmer likes or usually permits.

The corn in Northwest Missouri differed from that in Kansas chiefly in being rather less advanced.

The writer who used when a boy to plow corn in Iowa instinctively expected a transformation on crossing into that great corn State. He was disappointed. The unevenness and lateness of the corn continued almost to Des Moines. A few good fields were passed and again the effects of the wet, late spring became apparent. The very rolling country about West Branch—half way between the Iowa and Cedar Rivers—presented the best outlook for corn seen on the entire trip. Good corn was again seen in the vicinity of Winston, Mabel, and Cameron, Mo.

The impression made by these observations is that in the corn belt north of the Iowa-Missouri line, much of the corn is likely to be caught by frost before it can mature, so that good, heavy, sound corn promises to be at a premium next winter.

The hay crop everywhere was exceptionally fine, and pastures were nowhere eaten short.

The oats crop was heavy. Excepting the comparatively small damage done by spring floods in the valleys throughout the trip, the farms presented the appearances of prosperity. This was especially true where the pastures were large and the stock showed evidences of good breeding.

RAILROADING IN THE CLOUDS.

Less than three years ago there was completed in Colorado one of the most remarkable feats of railroad engineering in the world. The tremendous output of gold from the Cripple Creek district necessitated some better and more rapid means of transit than was furnished by the burro pack-train, and the Colorado Springs and Cripple Creek District Railroad, commonly called the Short Line, was the result. And what a result it was! Starting westward from Colorado Springs, the train climbs the side of stately Pike's Peak over a roadbed smoother than any other, until it reaches the brink of Cheyenne Canon. Here is Point Sublime and the panorama presented to the eye is unsurpassed. To the eastward, stretching into the uttermost beyond and merg-

(Continued on page 794.)

Agricultural Matters.

REPLIES FROM THE AGRICULTURIST OF THE KANSAS EXPERIMENT STATION.

Grass for Alkali Soil.

I have a field of 51 acres of alfalfa; in this field there are several spots of low ground with alkali bottom, the water lies in these low places until it evaporates. I want to sow some kind of grass-seed in these low places, any kind that will grow there, as these places now produce nothing. I suppose they altogether cover four or five acres.

D. W. HART.

Reno County.

It is rather difficult to advise you as to what plan to follow or what crops to grow on the alkali spots which you describe. If the ground is entirely barren in these places you will hardly be able to get any of the ordinary grasses to grow. It may be that you can reclaim these alkali spots by manuring heavily with barn-yard manure, plowing deep and thoroughly mixing the soil with the manure and then plant with some cultivated crop for the first year or two. Root crops, such as mangles, sugar beets, turnips, etc., are recommended to grow on such land. The Australian salt-bush is especially adapted to alkali soils. Perhaps after the growing of such crops for a few years you will be able to get a catch of alfalfa or other grasses on the alkali spots although if the water stands on these places the alfalfa will be killed out. Perhaps this may be the main reason for the barrenness of these places which you speak of rather than the presence of alkali. The best grass which I can recommend for low, wet soil is redtop. Of all the clovers, alsike will thrive in the wettest soil. It may be advisable for you to try some of these spots at once with a mixture of redtop and alsike clover.

A. M. TENEYCK.

Grasses With Alfalfa for Pasture and for Hay.

I am going to sow some alfalfa this fall and want to know how to do it. The ground has been in millet for the last two years, and I now have it cut. Would you plow the land or disk it a couple of times? Would timothy be a good mixture with alfalfa for hog pasture? What would you mix with the alfalfa for hay? Some claim that mixing something with alfalfa makes a better sod.

C. G. NASH.

Wabaunsee County.

Millet makes a very good crop with which to precede alfalfa. Disking the millet ground will probably make a good seed-bed for alfalfa although if the ground can be plowed at once I would prefer to plow and by sub-surface packing and harrowing put the ground into good condition by the first of September. In case you do not have a subsurface packer the harrowing may be all the preparation necessary providing the rains come to settle and firm the soil. An ideal seed-bed for alfalfa and grasses should be quite mellow at the surface but rather firm and compact below the depth at which the seed is sown. This gives the best condition for the germination of the seed and the growth of the young plants, and the crop is not so apt to freeze and heave out during the winter on a seed-bed with a firm subsurface as it is on a deep, loose seed-bed. Unless the ground is in a hard and compact condition disking and harrowing several times at intervals between now and sowing time will prepare a better seed-bed than you are apt to secure by plowing and running the chances of sufficient rainfall to settle and moisten the ground.

Mr. H. D. Watson, Kearney, Neb., has practiced seeding Kentucky bluegrass with alfalfa for pasture and recommends it very highly. I believe that you can grow bluegrass very successfully in Wabaunsee County. In our locality the bluegrass is coming into pastures and roadsides and seems to thrive and do well. At this station we are making several experiments in seeding grasses with alfalfa. We are trying the meadow fescue, orchard grass and *Bromus inermis* with alfalfa

in this way but are not yet ready to report results. The grasses and alfalfa have made a good start together from spring seeding.

I believe that for hog pasture or for pasture for other stock, the *Bromus inermis* and alfalfa will prove to be one of the happiest combinations for this part of the State. Some trials have already been made by farmers which are favorable to the growing of alfalfa and *Bromus* grass together. An experiment was reported in the KANSAS FARMER a few weeks ago in which a field sown in this way was used for meadow, and five cuttings made during the year which averaged about 1,500 pounds of hay per acre per cutting. The claim is made that cattle take no injury from feeding upon a mixed pasture of *Bromus inermis* and alfalfa. In pasturing, the mixture of some grass with alfalfa will be preferable to sowing alfalfa alone, not only because of the better sod which will be formed but the mixture will make a better pasture for all kinds of stock. I would hardly recommend timothy as being a good grass to sow with alfalfa because it does not stand pasturing well; and as a meadow it will not stand frequent cutting and is slow of growth. *Bromus* grass or any one of the three grasses named will be preferable to timothy.

A. M. TENEYCK.

Leaf Spot on Alfalfa.

I send you to-day a sample of alfalfa roots; will you please examine for bacteria tubercles and report the result to me? Was sown last fall, cut about June 10 and am cutting the second time now. It is just beginning to blossom but has been turning yellow for about a week.

A. M. MITCHEL.

Jefferson County.

I can discover no tubercles on the roots which you sent but it is possible that you may have pulled the tubercles all off in pulling up the roots as very few of the fibrous roots are left and those are the roots upon which most of the tubercles are found. Take up another sample of the roots with the soil using the spade and wash out the earth in a pail or tub of water, being careful not to break off the fibrous roots. If you do this in the manner directed you will doubtless be able to discover little warts on the fibrous roots which grow near the surface of the soil. These are the tubercles containing the bacteria. If you are not able to find the tubercles and are not satisfied with your examination I will be pleased to examine another sample for you prepared in the manner which I have stated.

I have received several complaints of alfalfa turning yellow in the manner which you have described, in fact I have observed the same thing in a field of alfalfa at this station which was seeded last fall. There may be several reasons for this; it may be due to the lack of bacteria or it it perhaps more likely to be due to the excessive rains during the early part of the season, and it is also due to the presence of "leaf-spot," a fungus disease which attacks the leaves of alfalfa causing them to become spotted, and finally giving a yellow color to the whole plant. This disease is very prevalent this season and the only remedy which I have heard recommended is frequent cutting. In fact when the alfalfa begins to turn yellow it is doubtless best to cut it at once as it will cease growing and the disease if there is any will continue to spread. The new growth may not be affected in like manner. In case of young alfalfa do not cut it too low. A. M. TENEYCK.

Alfalfa on Wet Soil—Crab-grass.

We put in about 25 acres of alfalfa last fall about September 10 and got a fine stand. We cut first crop and cured it without a drop of rain on it, making a little over a ton per acre. Since then it has not done well, it looks yellow, is only from eight to ten inches high, and part of it is dying. Crab-grass is very thick and almost forms a sod in places. We are cutting it now and would ask your advice. Shall we put a disk or harrow on it? There are still enough alfalfa plants left for a fair start, if grass could be destroyed. Part of the field where the

water ran off (slope land) is still good, but where land is level or nearly so no doubt water stood for awhile, and here is where the crab-grass is taking it.

ERBACHER BROS.

Pottawatomie County.

It would be a good plan to disk and harrow the alfalfa-field which you describe. If the ground is not too hard it may be that harrowing will give sufficient cultivation. In case you use the disk, care should be taken not to set the disk too sloping. It is better to set the disks rather straight and weight the harrow to make it dig, the object being not to cut off the crowns of the alfalfa. The harrow following the disk will leave the ground in a better condition and destroy more of the crab-grass.

I judge that it has been too wet on the level parts of the field for the best growth of alfalfa. Doubtless also the alfalfa is affected with "leaf-spot," which is a fungus disease affecting alfalfa leaves. We have observed the presence of this disease to a considerable extent in our fields of alfalfa this season, especially in that seeded last fall. It has made a poor growth especially for the second crop and is turning yellow in parts of the field at this time. The only remedy which I have heard recommended for this disease is frequent cutting. In case of alfalfa seeded last fall do not cut it too low as frequent low cutting destroys the vitality of the plants.

A. M. TENEYCK.

Storing Alfalfa in Barns.

Would you think it advisable to build a barn solely for the purpose of storing alfalfa? Would a farmer run no risk of losing the barn and alfalfa too, by the alfalfa setting itself on fire? I would like to build a barn this fall 46 by 30 by 16 feet, costing about \$500, for storing alfalfa, do you think it would pay me?

I have 17 acres seeded to alfalfa. As a general rule most of my hay has spoiled in the stack. How can I take care of it at a small outlay?

Republic County. J. H. ROST.

Alfalfa has more generally, up to this time, been stacked out-of-doors. Of course there is some risk in storing alfalfa hay in a barn but the gain in the quality of the hay and in the quantity of the hay will, in the long run, more than balance the risk which is taken. I know of several parties who stack their hay in the barn, in fact we do here at the college. In case the hay is stored in a barn more care must be taken that it is in a properly cured condition to stack when it is put in. Other things being equal I think the hay is less apt to take fire from heating when stored in a barn than it is when stored out of doors.

Those who have the best success in storing alfalfa hay are very careful to see that the hay is well cured before being put into the stack or mow. The hay is raked before it has become dry enough to shatter the leaves, when it may be stacked from the windrow after it is well cured or it is safer to leave it in cocks for several days before putting it in the stack or mow, taking care that there is no water on the hay either from rain or dew when it is stacked.

A. M. TENEYCK.

The Raising and Curing of Sorghum.

When sorghum is planted for roughness, how much seed do you use to the acre?

When is the proper time to sow, before or after it heads?

If after it heads should the seeds begin to blacken before being cut?

If cut before it heads, what will be the result?

Can you get two crops from one sowing? If so, is the second crop injurious to stock?

Will sorghum kill stock if eaten before it matures? If so, what is the stage?

J. L. TAYLOR.

Alabama.

At this station we recommend sowing from 50 to 100 pounds of sorghum seed per acre, when it is sown broadcast or in close drills for hay. Less seed would make a good stand but the stalks grow coarse and are not so easily handled and do not make such a good quality of hay as when the seed

is sown thicker. Perhaps the best time to cut the sorghum for forage either to feed green or dry is when it is in bloom. At this stage it has the best quality and will yield the larger quantity of hay than when cut earlier. If cut before it heads it will not make so good a quality of hay nor so large a quantity. There is also perhaps more danger in feeding the forage to stock as the young plants have been found to contain more prussic acid (a poisonous principle) in proportion to the weight than the more fully matured sorghum.

Two crops may be cut from one sowing although it is quite common to pasture the second crop. Experience seems to indicate that the second crop is more injurious to stock than the first crop although it is due perhaps to certain conditions, such as stunting the growth of the plants by drought or the effects of frosts late in the fall. Stock have often been killed by the eating of green sorghum and sometimes by the eating of sorghum hay. The young second growth and frosted and stunted plants seem more generally to have caused the trouble than the matured growth or cured hay. I refer you to bulletin No. 77 of the Nebraska Experiment Station, Lincoln, Neb., which gives some valuable suggestions in regard to the poisoning of cattle from eating sorghum and Kafir-corn.

A. M. TENEYCK.

Mammoth Red Clover for Seed.

I want information on Mammoth red clover. I have twenty acres of the finest I ever saw and I want a crop of seed. How shall I manage it? I pastured it until about the tenth of May. Shall I let the present bloom get ripe or shall I cut it and trust to a second crop for seed? JOHN M. HILLMON.

Osage County.

The first crop of mammoth red clover must be saved for seed as the second crop will not mature. If the bumblebees have been plenty in your locality you will doubtless have a good crop of seed. It might be well to examine some of the heads carefully as the heads begin to turn brown and see if they are well filled with seed, otherwise you may still be able to cut the crop for hay.

The usual plan with clover is to leave it in bunches in the field until it is well dried and then haul it directly to the huller. A side delivery mower or a buncher attachment to the mower makes a handy arrangement for harvesting clover. You ought to use a huller in thrashing clover, the ordinary separator will not take out the seed. Clover is usually thrashed late in the fall. Rain is not apt to injure the seed although it is not well to allow clover to remain wet any considerable time without turning. It can only be thrashed cleanly when it is in a very dry condition.

A. M. TENEYCK.

Leaf Spot.

I enclose second growth of alfalfa, or second crop. Please tell me what is the matter with it. The stand is twelve years old and I disk it every spring, and this year I disked after removing the first crop. The plant has shown more or less of this yellow color for several years. It does not grow. I thought it was affected by the wet weather but that is not the cause. The crop is too light to be profitable to cut. Other grass has been coming in these wet years; the alfalfa does not die out but in the spring shows a good green growth. About one-half the field is affected now and the crop is old enough to cut. Can you help me or tell me what the trouble is?

It seems to be affected by some insect, though the web-worm is not present now. Any assistance will be gratefully received.

T. J. TREDWAY.

Allen County.

The alfalfa is attacked by the "leaf-spot," a fungus disease which is quite prevalent in alfalfa fields all over the State. I believe this is the main cause of the poor growth and yellow color which the leaves assume. Of course the season may have a great deal to do with it. The season has been favorable to the growing of the fungus and unfavorable to the growing of alfalfa.

falfa. The fact that you have disked the field since you removed the first crop would indicate that the alfalfa is not suffering for want of air as I believe is the case in many fields in which the ground has become very wet and left it in that hard and compact condition which results from excessive wetting. We have observed the yellow coloration and poor growth in the alfalfa fields at this station during the present season and the trouble is not confined to the old alfalfa fields, in fact the field seeded last fall is in the worst condition.

Disking and harrowing is one of the best treatments which you can give your fields. In the southern States where the "leaf-spot" has been more prevalent than it has been in Kansas, it is recommended to cut the alfalfa frequently. As soon as the leaves begin to turn yellow cut the crop even if it has not attained the proper growth. As to the insects which you mention I have not observed any insects to be injuring alfalfa in the station fields. If you will secure some of these insects and send to Professor Popenoe who has charge of the entomological department of this station, he will doubtless identify them and give you such information as you desire.

A. M. TENEYCK.

Alfalfa—Fall Seeding of Sorghum.

I enclose in this a few spears of alfalfa obtained from one of my fields of the second year's growth. In a fifteen-acre field there is perhaps an acre in all in three or four spots about like this sample. Three of my neighbors have spots in their fields in similar condition. The balance of the fields are just being cut for the second time this season, and the yield is fine. There are nearly 300 acres of alfalfa on four of the farms surrounding mine, and with the exception of these spots they are all in fine condition.

Will you tell us the cause of the spots affected?

I have 30 acres of first bottom land, broken in May, now in sorghum broadcast. There is a fair stand but it needs rain. It was plowed only about three inches deep. As the sorghum will mature late I think I will put it in corn next spring and in alfalfa next fall. We seem to get about as good a crop after fall sowing the second year as we do after spring seeding. As the show for corn is good I have decided on this course. What do you think of it?

E. P. MILLER.

Barber County.

The sample of alfalfa which you sent seems to be slightly affected with the "leaf-spot" disease but not so badly as some other samples I have received. Doubtless other unfavorable conditions which have been due to the season have caused the poor growth which you have observed in places in the fields. You will find further answer to your questions in a letter addressed to Mr. J. T. Tredway published in this issue of the KANSAS FARMER.

If fall seeding has succeeded with you I think it best for you to continue that practice. In the dryer parts of the State, however, doubtless spring seeding will continue to be safer on the whole unless the fall is especially favorable for the germination of the seed and the growth of the young plants. At this station we could not very well put alfalfa on corn ground in the fall unless the corn was taken off as an early fodder crop or for silage. Fall seeding is usually practiced on ground which has grown a grain crop or some crop which is harvested early, such as millet, when by summer plowing and cultivating the land is put in good condition to receive the seed by September 1. In other cases the ground is not plowed but disked at intervals until sowing time.

A. M. TENEYCK.

Bromus Inermis.

I am anxious to learn what I can in regard to Bromus inermis. I sowed some last spring, it started nicely but seems to be disappearing. I have mowed off the weeds, but crab-grass and other grass which the mower doesn't kill I fear will finish my Bromus grass. Can the seed be put in in the fall? Will it "hold and spread" if

started on the native sod, or rather where the sod once was and now are weeds, mostly broom-weeds? I thought of disking such places in September and harrowing in Bromus-grass seed but do not know whether or not it would be the correct thing to do. I would have little faith in anything except Kentucky blue-grass sown in that manner. I have over 1,000 acres of pasture land which the weeds are taking. Most of the land is rich black valley, too sidding and irregular to farm. Some of the pasture is rocky, all limestone, too rocky to plow; but judging from the growth of weeds at present and the grass that used to grow there at an early day, there is virtue or strength in the soil and if a suitable grass were "discovered" and established, these pastures which are fast becoming worthless would become a source of profit adding immensely to the wealth of our State. What I see and hear of Bromus grass leads me to believe that it is what we need.

CHAS. B. FARWELL.

Wilson County.

Bromus inermis is rather a difficult grass to start, but when it once becomes established it is very hardy and tends to become thicker from year to year. I am inclined to think that if the grass started nicely last spring it will hardly be smothered out by the weeds and next spring it will come on in good shape. When seeded in the spring the grass seldom makes much growth during the first season. Perhaps you have injured it by mowing. If a heavy growth of weeds which has been shading the grass is cut and the tender grass is exposed to the hot sun and dry winds it may be destroyed. It would be the best plan to seed Bromus inermis on a piece of land which is well cleared of weeds and when the weeds are clipped the mower should be run high so as not to cut off the grass and to leave some cover.

We have a field of Bromus inermis at the station which was seeded last fall. The grass made an excellent stand, has furnished pasture during the season and got so much in advance of the stock that we cut it for hay. It has made a good second growth at this date and has established a good sod. The usual practice has been to seed Bromus inermis in the spring but as far south as Wilson County, if the fall was favorable to sprout the seed and start the young plants and a good seed-bed could be prepared I would not hesitate to undertake fall seeding. You will not be troubled by weeds from fall seeding and you get the use of the crop practically a year sooner than you would from spring seeding.

If any grass will succeed sown on the native sod on the bare spots where the prairie-grass has been killed out, Bromus inermis is the grass. How would it do to mix in a little Kentucky blue-grass with the Bromus inermis? If you undertake this experiment I shall be pleased to have you report results.

If your pasture is not too stony it would be a good plan to disk it even without sowing any grass-seed. The experiments which have been conducted in renewing the worn-out prairie pastures have shown that cutting up the pasture with the disk harrow in the fall or early in the spring and keeping the stock off of it the first season or first part of the season has resulted in reestablishing the native prairie grasses and has made a valuable pasture out of that which seemed to be practically exhausted. A little barn-yard manure along with the disking will help to renew this pasture and give the new grass a stronger growth. Follow the disk with the harrow in order to leave a better mulch at the surface and keep the ground from drying out.

A. M. TENEYCK.

Potato Ground for Rye Pasture.

I have a piece of potato ground which has been very heavily fertilized that I desire to put in rye for winter pasture. Will this injure the ground for potatoes next year?

C. B. VANDEVEER.

Reno County.

So far as I know planting potato

Collier Missouri Red Seal Southern

IF there is an impression in the minds of any that Mixtures of White Lead and Zinc are better than Pure White Lead, it has been created by the manufacturers of the Mixtures, because a much larger profit can be made from the sale of these than by grinding and selling either White Lead or Zinc pure.

If interested in paint or painting, address

National Lead Co., Clark Ave. and Tenth Street, St. Louis.

ground to rye for fall and winter pasture will not injure the ground for growing potatoes next year. Care should be taken not to pasture the ground when it is wet and it would not seem to me advisable to pasture it much in the spring, but plow the ground rather early and put it in condition for planting by the use of the sub-surface packer, or in case you do not have a packer, the disk pulverizer may be used with the disk set rather straight and the harrow weighted. This treatment is especially desirable if the ground should plow up lumpy as it is sometimes inclined to do when the ground has been pastured.

A. M. TENEYCK.

Alfalfa Turned Brown.

Last August I sowed some alfalfa and it came up thickly and came through the winter all O. K. I cut it June 15, about one-tenth was in bloom. It was hot and we were in a hurry so we left it on the ground. The second crop got started all right but it has turned brown, there is some bloom on it but it is short. Grass is starting in it, I think fox-tail. Will it help it to cut it again or will it be best to let it go? It is on an upland. I sowed some in the yard two or three years ago, and it grows in the weeds and grass all right.

J. W. JAMES.

Jefferson County.

You would better cut the second crop at once. It is no benefit to the alfalfa to leave it growing after the leaves turn yellow or brown. I have no doubt the alfalfa is affected with the "leaf-spot," as this disease seems to be quite prevalent in several parts of the State. Frequent cutting is recommended as being a preventive of this disease. It is best to take the crop off the ground when it is cut, not allowing it to get so dry that the leaves drop off as the leaves contain spores which start the disease on the new growth. It would be a good thing for the alfalfa to harrow it immediately after cutting or perhaps it might do to disk it in case the ground is hard and needs loosening.

A. M. TENEYCK.

Weevil in Oats.

My oats are full of weevil. How can I get rid of them? JAMES BOTTOM, Pottawatomie County.

Answer.—If the weeviled oats are in a bin, make the bin as nearly gas tight as possible by covering cracks with paper pasted over if necessary, then fumigate with carbon-bisulfide, placing the liquid in shallow plates set on the surface of the leveled grain, using at the rate of a pound of the liquid to the thousand cubic feet of bin content. Close all openings tight, and leave for twenty-four hours or more. If on examination any live weevil are found after this treatment, repeat the application. Do not inhale the gas, or approach the bin during treatment with a light of any kind, as the gas is explosive.

If the grain is still in the straw, thrash as soon as possible, and treat as above.

E. A. POPENOE.

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Our two large booklets telling how to cure
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Established 1840.

The two steers were slaughtered by Armour & Co., Kansas City, to whom we are indebted for the very excellent

manner in which the carcasses were handled preparatory to the demonstration. The canner and baby beef were killed and very credibly handled by the local butchers.

SIMILAR CUTS COMPARED.
The illustrations of the cuts of beef show the appearance of the same cuts from different animals slaughtered. (See Fig. VI.)

The dotted lines in figure VI show the outline of the various cuts of beef and the solid line shows where the exposure was made for the camera. The accompanying explanations are con-

densed from Mr. Gosling's remarks at the demonstration:

The Rounds: The appearance of cross-sections of the rounds varies considerably with the point where the knife is inserted. This is shown in figures VII and VIII.

In figure VII the cross-section is made at the point of the rump joint; this cut shows more lean and less fat than the cut in figure VIII, the latter being made one and one-half inches further up the round. These illustrations also show considerable difference in the amount of fat in the three animals, Donald showing the most, John considerably less, the baby beef comparatively little.

The expansion of lean by means of fat is well shown in figure IX.

It will be noticed that in the center of these rounds there is one large fat vein and a large number of smaller veins. During the process of fattening these veins expand and enlarge between the fibers of meat. Fat also increases the outer portions of the round. As the fattening process is continued the fat covering enlarges, and may be made to form a considerable portion of the round, as is shown in the Donald exposure. It will also be no-

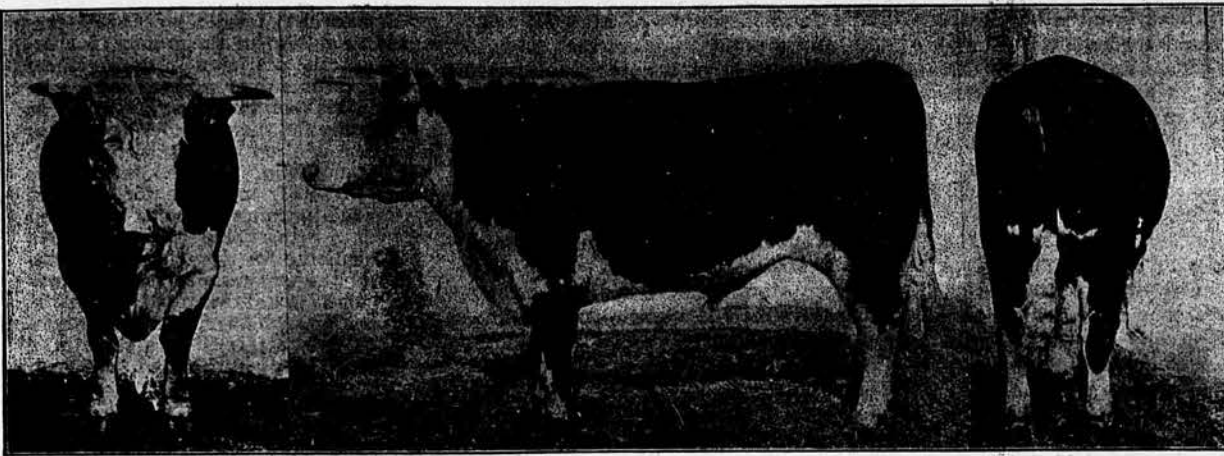


Fig. I.—The Fat Steer, Donald.

The following table gives the weight and value of each animal alive and the weight and percentage of dressed carcass:

	Live wt., lbs.	Value per 100 lbs. on foot.	Dress'd wt., lbs.	Per ct. of dress'd wt.
Steer Donald.....	1,790	\$5.00	1,191	66.5
Steer John.....	1,240	5.25	810	65.3
Canner.....	975	1.50	400	41.0
Baby beef.....	775	3.25	409	52.7

Account was kept of the tallow from the steers, with results as follows:

	Weight of tallow, lbs.	Per cent tallow
Donald.....	121	6.7
John.....	69	5.5

Mr. T. Phillips, expert cutter from Armour & Co., Kansas City, laid bare the various cuts with a skillful hand, and made the cutting one of the important educational features of the demonstration.

The cuts showing the striking peculiarities of each animal were photographed after which they were ex-

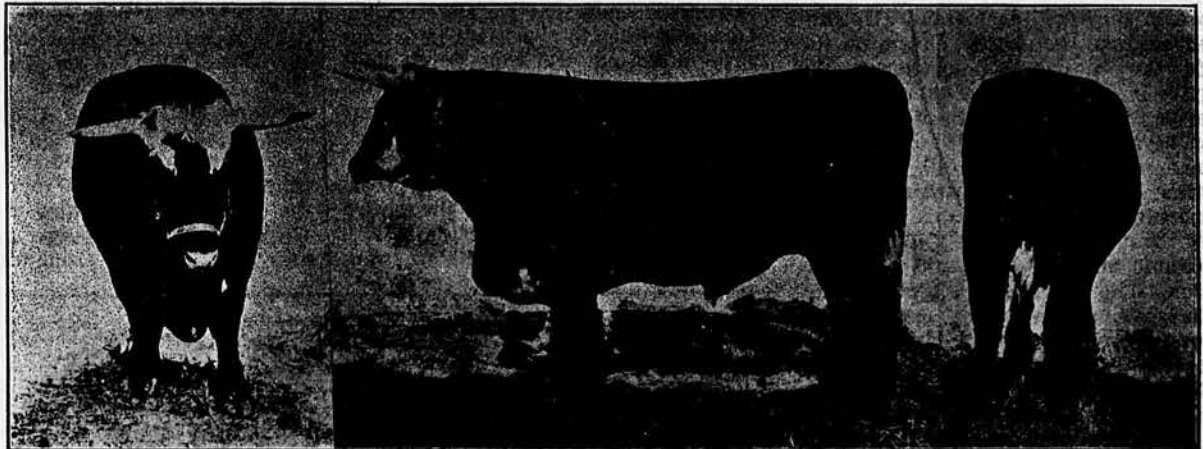


Fig. II.—The Prime Steer, John.

ticed that the fat increases very much more rapidly than the lean, the increased appearance of the latter being due almost entirely to the increase of the small fat veins between the muscular fibers.

The Long Loins: The following illustrations are from the different loin cuts of Donald, John, and the baby beef. (See Figs. X, XI, XII.)

As mentioned above, the steer Donald was a prize-winner, both at the American Royal, in Kansas City, and at the International, at Chicago. At both shows he competed with a steer named Conge. At Kansas City the judge was a breeder, feeder, and butcher—a happy combination of knowledge for a judge of fat stock—who placed Conge ahead of Donald. At Chicago a breeder was judge and placed Donald ahead of Conge. Donald was bought at auction for \$7.50 per hundred pounds; his rival sold at private sale for \$12.50 per hundred pounds, the latter having more flesh and edible portions and a smaller per cent of outside fat. The difference is



Fig. III.—The Canner.

hibited to the class in stock judging. All the photographs from which the illustrations for this bulletin were made were taken by Dr. S. C. Orr, of Manhattan, and any points of excellence from a photographic point of view are due to his tireless energy and patience.

When the carcasses of Donald, John, the baby beef, the canner, and a carcass of veal, which was purchased prior to the demonstration, were placed side by side, Mr. Gosling called attention to the spongy nature of the bone of the vertebræ of the veal calf and the amount of blood it contained, as indicated by the color. Comparing the condition and color of these various specimens, it was noticed that the bone became less spongy, and especially less colored, as one passes from the veal to the baby to solidify, until in the canner it is brittle and solid as beef, the 24-months-old steer, the 38-months-old steer, and the canner. As the color begins to wane the bone begins to solidify, until in the canner it is brittle and solid as a piece of limestone. The appearance of the bone helps one to tell the age of the animal when slaughtered.

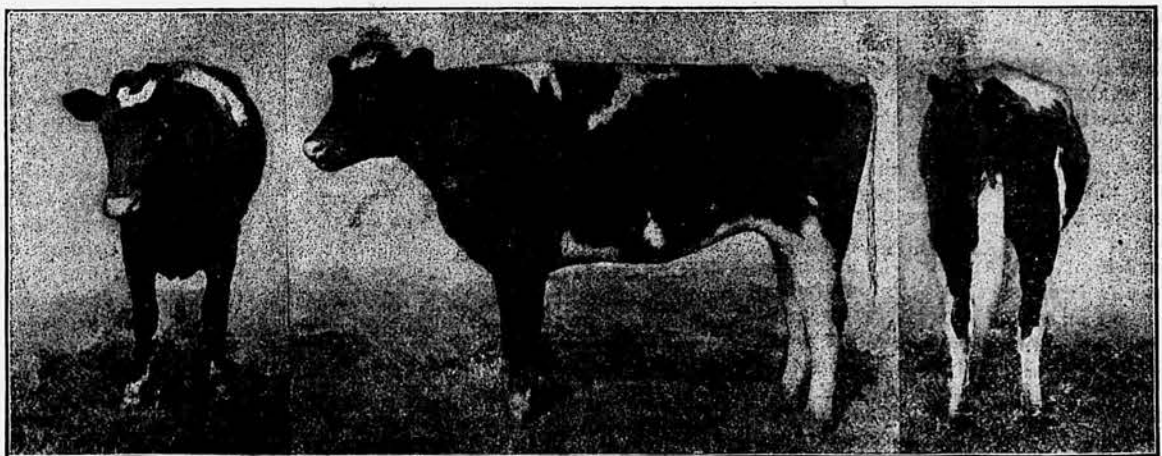


Fig. IV.—The Baby Beef.

due to a shorter feeding period, thus satisfying producer, purveyor, or caterer, and consumer.

By examining the illustrations, we will plainly see the wasteful quantity of fat on the steer Donald, much less on the steer John, and practically none on the baby beef. By examining closely figures X and XI, it will be seen that the amount of flesh represented varies with the same animal in the two figures. This is due to one-half inch difference in the point of cutting the loin, which is parted at the rump joint, and shows how it is possible, in close competition on the block, to turn the tide of events in favor of a less worthy animal.

These illustrations also show that an even distribution of excessive fat in
(Continued on page 802.)



Fig. V.—The Grade Hereford Bull, showing Natural Flesh.

RAILROADING IN THE CLOUDS.

(Continued from page 789.)

ing with the uncertain horizon, lie the Great Plains—the plains over which the countless buffalo roamed in uncouth majesty; across which the pioneers who discovered the great peak with its gold and its glory to tempt men into the wilderness struggled and thus found a new empire; across which wandered the disconsolate pilgrims who sought the ultima thule wherein to build a new religion and a new State; across which now rushes the mighty iron horse, the servant of a colossal commerce. To the west the mountains stand pile upon pile, until to reach one height is but to find a greater still beyond. At our feet yawns the mighty canon, that great gash in Nature whose sides are perpendicular and whose gloomy depths once echoed to the fierce war-cry of the tawny savage, the wild scream of the mountain lion and the shouts of the tolling prospector, and where now dance the nymphs and naiads as of yore in its brawling torrent. Upward and onward, the mighty chasm on the left, the snow-capped peaks on the right—immensity everywhere. Backwards, through the mouth of the canon can be seen in the dimly receding distance, a last glimpse of the great plains, forward, the titanic heights with snow and ice and cloud and mystery. A moment, and the rolling clouds surround and engulf us and all is oblivion. The whirring of the train, brief glimpses of shadowy pines, and we are above the clouds with a vision of the creation before us. On every hand rolls a great chaos of cloud with here and there an island—green with pines, or white with snow—as the mountain peaks rise above it, a billowy expanse of white whose phantom waves dash in noiseless fury upon a shoreless sea. Above, are the island peaks, shimmering gray or dazzling white as they are shrouded in mist or touched by the sun; beyond, that infinity of mystery with the beginnings of the firmament; below—what?

As we ascend, the clouds drift apart and before us lies the awful chasm whose granite sides are partly lit by the sun, but whose greater depths are hid beneath the mist. It is sublimity. The waters which are under the firmament are being divided from the waters which are above the firmament. It is creation. We turn, and before us lie the unscaled peaks with the dim and winding trail of iron to mark our way. Below, on the plains, it is hot, blistering summer. Here is spring with a delicious coolness in the air and the fragrance of opening buds and new-born flowers. St. Peter's Dome, that giant mass of granite which stands alone and guards the secrets of the mighty depths below, is passed and we glide over the dizzy trestle which bridges them. Wonder succeeds wonder, canon to canon and vista to vista, until we reach the summit and peer over into the greater world beyond. To the rear rises the great dome of Pike's Peak, miles away, which dominates the landscape. Up its snow-clad side can be seen the train of the cog-wheel road slowly creeping to the summit. Ahead are the rounded, pine-clad hills, those vast expanses of huge, rolling, rounded billows—each one motionless forever. Another look, and from out the nearby mountains glitters the vast, ice-clad pinnacles of the Continental Divide, while between spreads the panorama of the mine-covered hills with Cripple Creek at our feet a mile below. In and out we move among the hills, here climbing dizzy heights, there crossing cobweb trestles, here a mountain, there a chasm, with ever the pleasant motion of the train as we glide downward amid the wondrous views of the giant Rockies and the nearer valleys and canons as we wind and turn and twist along the marvelous iron trail which leads us into the greatest gold camp on earth.

This railroad above the clouds is the result of a skill which has put to shame the Titian of the pyramids. It has defeated the geni of the lamp who only compassed the marvelous, while it attained the impossible. It is the result of that greatest of all great things—American energy.

GROWTH OF GALVESTON.

The KANSAS FARMER has often called attention to the fact that the Gulf of Mexico is the natural tide-water outlet for the products of western farms. The short haul through the great valley of the continent must eventually prevail over the long haul through valleys and mountains to the Atlantic Ocean. Mr. J. H. Johnston, secretary of the Galveston Chamber of Commerce, calls attention to some of the recent developments in the final settlement of the routes of the country's commerce. He says:

"Some of the people residing in the United States west of the Mississippi River and in Northern Mexico entirely overlook the importance which the Port of Galveston has assumed within recent years. Take a look at the map and post yourself on the present transportation facilities of the Port of the Southwest. It will do you good to see it and do Galveston good if it causes you to use your influence in future to have freight routed via this port.

"You will note that we have several steamship lines to nearly all important ports in Europe and nine trunk lines of railroad to carry the surplus products of the Southwest to, and the manufactured products of Atlantic seaboard and Europe from, this great gateway. The nine lines with their feeders and connections reach the entire territory west of the Mississippi River. We have a minimum depth of twenty-

seven feet where they are grown. The editor has had no experience in keeping early potatoes in cold storage, neither has he been able to find any one who has tried this method. Whittaker Brothers, of Topeka, who produce and handle large amounts of all kinds of fruits and produce suggest that an experiment with a moderate amount of potatoes would be well worth making. For details they suggest that the potatoes be dried with as little exposure to the sun as possible, and that they be cool when sacked. In the cold-storage room the sacks should stand in rows, leaving ventilating spaces of six inches between rows. These rows may be made two tiers high if desired. The temperature of the cold-storage room should be gradually lowered to about 40° F., and held steadily at that.

If our correspondent shall make the experiment the KANSAS FARMER will be pleased to have a full report with such suggestions as the experiment may indicate.

KANSAS' NEW GAME LAWS.

Perhaps there is no class of men in the State who are so directly interested in the game laws as are the farmers, not because they are men who spend any great portion of their time in pursuit of wild game, but because the observance or defiance of the game laws operates to their advantage or disadvantage as the case may be. A very prominent breeder



ty-seven feet of water in our channel which will soon be increased to thirty feet. Our docks are but one hour's run from the deep sea. Our wharfage capacity is unlimited; but we now have improved and equipped with every modern convenience six miles of frontage which will furnish accommodations for ninety-one large ocean-going vessels simultaneously. This is second only to the port of New York in the United States.

"Immigrants from Europe are now moving through Galveston in large numbers owing to the excellence of the ocean service and the shortness and cheapness of the rail ride from this port to destination.

"If you are interested in the transportation of either passengers or freight from and to points in the southwestern portion of the United States you can not afford to leave the Port of Galveston out of your calculations."

COLD STORAGE FOR POTATOES.

EDITOR KANSAS FARMER:—Some parties here have forty acres in Early Triumph potatoes which will be ready to dig next week. As the price is low, they contemplate putting them in cold storage until later in the season, when the local price is always good here. Will you kindly inform us if they will keep in cold storage, stored in two-bushel sacks, and if so, how should the sacks be placed, and at what temperature should the room be kept?

Purcell, I. T. J. W. SIMPSON.

Indian Territory potatoes are very hard to keep, when shipped north. Doubtless equal difficulties are encountered

where they are grown. The editor has had no experience in keeping early potatoes in cold storage, neither has he been able to find any one who has tried this method. Whittaker Brothers, of Topeka, who produce and handle large amounts of all kinds of fruits and produce suggest that an experiment with a moderate amount of potatoes would be well worth making. For details they suggest that the potatoes be dried with as little exposure to the sun as possible, and that they be cool when sacked. In the cold-storage room the sacks should stand in rows, leaving ventilating spaces of six inches between rows. These rows may be made two tiers high if desired. The temperature of the cold-storage room should be gradually lowered to about 40° F., and held steadily at that.

We hope for their own good as well as for the benefit of posterity that the farmers throughout the State will unite in their enforcement of these game laws and, should necessity demand, that they will unite in securing the passage of better laws.

THE CATTLE-DIPPING ORDER MODIFIED.

The Kansas Live Stock Sanitary Commission has amended its regulations for the dipping of cattle in the counties in Kansas west of the one hundredth meridian, which are quarantined on account of the prevalence of mange, by providing that cattle may be moved or shipped without dipping if the owner makes an affidavit, and files it with the sheriff of the county, that the cattle are not affected with the mange and have not been exposed to the disease since May 1.

The regulations of the Bureau of Animal Industry of the United States, authorize the shipment of mangy cat-

It Stands Alone.

Doctor Pierce's Favorite Prescription stands alone, as the one and only remedy for leucorrhoea, female weakness, prolapsus, or falling of the womb, so absolutely specific and sure in curing these common ailments of women, as to warrant its makers in offering to pay, as they hereby do, the sum of \$500 reward for a case of the above maladies which they can not cure. This is a remarkable offer. No other medicine for the cure of woman's peculiar ailments is backed by such a remarkable guarantee. No other medicine for woman's ills is possessed of the unparalleled curative properties that would warrant its makers in publishing such an offer; no other remedy has such a record of a third of a century of cures on which to base such a remarkable offer.

Miss Emma Weller, who is Secretary of the Young People's Christian Association, at 1818 Madison Avenue, New York City, says: "Your 'Favorite Prescription' is a boon to sick and tired women, for it cures them when other medicines fail. I know whereof I speak, for I have had experience with it. For fourteen months I had constant headaches; seemed too weak to perform my daily duties, and when the day was over I was too tired to sleep well. I suffered from nervousness and indigestion, and everything I ate distressed me. Doctored with different physicians but received no relief. After reading one of your books I decided to give your 'Favorite Prescription' a trial. Am very glad I did, for I found it was just what I wanted. I commenced to improve at once and kept getting better until, after seven weeks, I was entirely cured. I have remained in perfect health ever since, and remain a firm friend of your 'Favorite Prescription'."

The dealer who offers a substitute for "Favorite Prescription" is only seeking to make the little more profit afforded by a less meritorious medicine. His profit is your loss. Therefore, turn your back on him as unworthy of your patronage.

If constipated use Dr. Pierce's Pleasant Pellets. They cure constipation, biliousness and sick headache. They do not produce the "pill habit."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Proprietors, Buffalo, N. Y.

tle for immediate slaughter in separate cars from uninfected cattle and require the dipping of all cattle where they are moved from one State to the other for any purpose other than immediate slaughter.

KANSAS FARMER'S NEW WALL ATLAS.

The KANSAS FARMER has arranged with the leading publisher of maps and atlases to prepare especially for us a New Wall Atlas, showing colored reference maps of Kansas, Oklahoma, Indian Territory, the United States, and the world, with the census of 1900. The size of the New Wall Atlas is 22 by 28 inches and it is decorated on the outer cover with a handsome design composed of the flags of all Nations.

Tables showing products of the United States and the world, with their values, the growth of our country for the last three decades and a complete map of the greater United States are given. This is an excellent educational work and should be in every home. The retail price of this New Wall Atlas is \$1.

Every one of our old subscribers who will send us \$1 for two new trial subscriptions for one year will receive as a present a copy of this splendid New Wall Atlas postpaid, free.

Any one not now a subscriber who will send us 50 cents at once will receive the KANSAS FARMER for five months and will be given a copy of our New Wall Atlas free and postpaid.

The Missouri State Fair.

Draft and Coach-horse Exhibit. The outlook for a great exhibit of horses at the State Fair, August 17-22, is so promising that the directors are compelled to largely extend their horse stables. One firm has already contracted for fifty-five stalls, another for thirty, and many other breeders and importers have signified their intention to make a display from their stables. In addition to these, the best animals in the hands of individual owners will be exhibited. Every class with be hotly contested. The best animals in America will be displayed. Many importations will be made from Europe this summer, that were purchased with a view of adding to the reputation of their owners, and will be shown for the first time in this country at the State Fair. The display will embrace the best animals from both continents and for high-class animals will probably surpass any exhibition ever made in this country.

Kansas Live-Stock Committees for the World's Fair.

At the last annual meeting of the Kansas Improved Stock-Breeders' Association members were named as chairmen of committees to represent each of the pure-breeds and to have charge of the securing of a creditable exhibit of the several breeds for the Louisiana Purchase Exposition in 1904. These committees have been filled and are as follows:

Herefords—C. A. Stannard, chairman, Emporia; Robert H. Hazlett, El Dorado; Marion Jones, Comiskey.
 Shorthorns—S. C. Hanna, chairman, Howard; J. F. Stodder, Burden; T. P. Babst, Auburn.
 Aberdeen-Angus—Chas. E. Sutton, chairman, Russell; Parker Parish, Hudson; Thos. Anderson, Iola.
 Galloways—Geo. M. Kellam, chairman, Richland; E. W. Thrall, Eureka; S. M. Croft, Bluff City.
 Red Polls—Wilkie Blair, chairman, Girard; Chas. Morrison, Phillipsburg; Mahlon Groenmiller, Centropolis.
 Polled Durhams—Case Broderick, chairman, Holton; John D. Snyder, Winfield; J. J. Achenbaugh, Washington.
 Dairy breeds—M. S. Babcock, chairman, Nortonville; E. W. Melville, Eudora; Wilkie Blair, Girard.
 Berkshires—G. W. Berry, chairman, Emporia; W. H. Rhodes, Tampa; E. W. Melville, Eudora.
 Poland-Chinas—H. W. Cheney, chairman, North Topeka; C. F. Deltrich, Richmond; T. A. Hubbard, Rome.
 Duroc-Jerseys—H. A. J. Coppins, chairman, El Dorado; J. B. Davis, Fairview; W. R. Dulaney, Wichita.
 Chester-Whites—D. L. Button, chairman, North Topeka.
 Tamworths—C. W. Frelove, chairman, Clyde.
 Draft Horses—H. W. Avery, chairman, Wakefield.
 Standard-bred and Harness Class—O. P. Updegraff, chairman, Topeka; Dr. J. T. Axtell, Newton; J. W. Creech, Herington.
 Sheep—E. D. King, chairman, Burlington.
 Angora Goats—N. A. Gwin, chairman, Lawrence.
 H. A. Heath, Secretary of the Committee.
 Topeka, Kans.

Report of the National Live-Stock Association.

The sixth annual report of the National Live Stock Association has been received. It is a handsome volume of nearly 500 pages and a fit addition in more ways than one to any stockman's library. The pages tell the story of the year's work by the officers of the association and also contain the proceedings of the sixth annual convention, which was held in Kansas City, January 13 to 16, 1903. The accomplishments of this association, especially in the way of National legislation, show the power it wields for the good of its membership as well as for the public. Not alone is its power felt because it represents \$4,500,000,000 of invested capital, but because every demand it makes of State or National legislators has the welfare of the public coupled with it, for it is ever on the alert to protect the herds from disease, and is also a strong opponent to a merging of the packing interests of the country, thus protecting the public from the baneful effects of a meat combine. The Kansas City convention was a very important one, and the proceedings of every session are fully reported. In addition the volume contains the portraits of several score of stockmen who have been prominent in the work of the association the past year. Several very important bulletins are issued by the association. The brief filed in the United States Supreme Court in the noted interstate live-stock inspection case, which resulted in National legislation in the interest of the stockmen, closes with very valuable statistics relative to the live-stock industry. The report is distributed free to the members, and a limited number can be obtained by stockmen who are interested in the work of the association by remitting 25 cents to C. F. Martin, secretary, Denver, Colo.

Stockmen Organize.

The members of the Northern Cattle Growers' association and the Larimer County Stock Growers' association held a joint convention at Fort Collins, Colo., and consolidated their interests. The new organization will be known as the Northern Colorado Stock Growers' association and its object will be to foster and protect the interests of the cattle- and horse-growers of this section of the State. The following officers were elected: H. E. Tedman, president; L. B. Harris, vice-president; S. H. Clammer, treasurer; W. J. Rowe, I. W. Bennett, Charles Emerson and Harris Aken, members of the executive board to act with the president, vice-president and treasurer. This board will elect the secretary.

Kansas Leads in Galloways.

The Kansas Farmer is in receipt of a letter from R. W. Park, secretary of the American Galloway Breeders' Association, in which he says he is now closing Volume 13 of the Galloway Herd Book. Incidentally he mentions that Kansas has registered more Galloway cattle from individual breeders than any other State. The records show that W. Guy McCandless, Cottonwood Falls, Kans., registered 80 head, and E. W. Thrall, Eureka, Kans., 78 head. Both of these excellent breeders of Galloways advertise in the Kansas Farmer, and both have herds of which the Kansas Farmer as well as their owners feel proud.

Gossip About Stock.

D. H. Robinson, breeder of Shorthorn cattle, Jamesport, Mo., in a letter to the Kansas Farmer, announces that he will hold a public sale at Wellington, Kans., of about forty-five head of very useful and desirable cattle on October 13, 1903.

J. R. Johnson, of the Western Breeders Journal, announces that on October 30 there will be a swine-breeders' combination sale held at Clay Center, Kans., also that Charles Currie, of Olsburg, Kans., is now arranging to hold a breeders' combination sale at Westmoreland, Kans., November 5.

Mr. Porter Moore, manager of the Parsons Live Stock Commission Company, is doing a big business in pure-bred stock

at his sale pavilion in Parsons. This company has been doing a general commission business and in addition has been holding auction sales twice a month. Parsons is in a good section of the State and should be the center of a very good breeding and feeding industry. Mr. Moore's advertising card on page 795.

Improvements at the State fair grounds at Des Moines are being rapidly completed and when the time for the opening of the fair, August 21, comes, everything will be in complete readiness. The dairy building from which the roof was blown in the recent severe storm, has been repaired. The new greenhouse is completed. The walks are all down, thus completing over a mile of substantial brick sidewalk. Work is being pressed on the street-car waiting-room on the grounds and other improvements are being completed as rapidly as possible.

During a recent visit to Mr. J. R. Killough's Poland-China breeding farm near Ottawa, Kans., our representative was very much interested in knowing that he had a large field of English blue-grass which is used for hog pasture. This grass has the merit of being green early in the season and of retaining its greenness well into the cold weather, and Mr. Killough is much pleased with the results of his experiments in sowing it for hog pasture. Mixed with other grasses it may be even better than alone, but in this case it seemed to bring ample returns for its cost when used for no other purpose than for pasture.

Mr. J. F. Chandler, owner of the Rockdale Stock Farm of pure-bred Duroc-Jersey swine at Frankfort, Kans., has a good offering for his patrons this fall. In fact he is better fixed for supplying his rapidly growing trade than he has ever been. He will have at least a hundred head of choice spring pigs that are good individuals to offer this fall. Rockdale Farm is up to date in every particular and has the rural delivery and a telephone on the farm. Mr. Chandler will meet buyers at Frankfort when he is notified of their intended visit. A good herd of Duroc-Jerseys is worth traveling far to see and the Rockdale herd is one of the good ones.

On another page we give a picture of the first-prize winning stallion, Nero. This horse is one of the three that won first prize in their respective classes at the Grand Annual Show of France and afterwards bought by McLaughlin Bros. This show is held under the auspices of the French Government and to win first prize here is considered the greatest honor among French horse-breeders. These three horses with others were shipped from France on July 16. They sailed from London on July 18 in the Minneapolis and will be safely housed in their nice home stables at Columbus, Ohio, with other choice selections which have been imported by McLaughlin Bros., the great importers of Percheron and French Coach stallions, Columbus, Ohio, and Kansas City, Mo.

The White Water Falls Stock Farm of J. W. and J. C. Robison, Towanda, Kans., in addition to having a large herd of Percheron horses, have gathered together one of the big herds of Shorthorn cattle in the State, having just returned from Mound City, Kans., where they have purchased the remainder of the Kellerman herd of Shorthorns, the part that Mr. George Kellerman kept for the foundation herd for himself. The purchase included some exceptionally fine individuals of grand breeding and everything except the herd-bull which was not needed as they had already purchased a herd-head from C. E. Leonard, Bellair, Mo., a son of the Champion, Lavender Viscount. With this purchase, the White Water Falls Stock Farm takes first rank as the largest establishment of thoroughbred stock in Kansas.

Mr. J. L. Stratton, of Ottawa, has for a herd-head of his Poland-Chinas, an Ideal Sunshine boar that is not only a first-prize winner himself, but has ten first prizes and five sweepstakes in his immediate ancestry. This boar was sired by Silver Chief 3d out of Jewel Wilkes and Mr. Stratton will have a large offering of pigs of his get for sale after the haying season. He also has a nice bunch of twenty-five cows and heifers that he would like to close out now at a bargain in order to have more time to give to his hogs. These cattle are high-grade Shorthorn and Angus and the way Mr. Stratton prices them convinces us that somebody will make some money out of them. Mr. Stratton is only a mile from the city of Ottawa and it is an easy matter to run out and see these cattle which we think will well pay for the visit.

Mr. J. Clarence Norton, of Moran, Kans., says these is no paper printed in the West so well adapted to reach honest farmers as the "old reliable" Kansas Farmer. He has on his books a list of over 500 names of breeders of Poland-Chinas that answered his last year's advertisement. He says a sale is made to about one in every ten inquiries. He thinks when a paper brings him five hundred inquiries in two months it has done its duty and should be well supported by hog men. In his advertisement he gives this paper as reference. We will say that Mr. Norton has a host of friends all over Kansas and we never heard of any complaint and we are satisfied the stock sent out by him will be exactly as recommended by him, or he will cheerfully take it back. Mr. Norton will exhibit at his local fair, having just bought a young show herd of a prominent breeder to fill out his own string.

Mr. J. R. Killough, of North Ottawa, is going to be better fixed for Poland-China pigs this year than usual and this is saying much. With his new herd boar, American Royal, and his strong infusion of Corrected, Tecumseh, Perfection and such blood he has no reason to fear competition. The practice of Mr. Killough has been in the past to levy on all the good herds within reach for new blood and then to see that all the good herds were in reach. The result is a herd of Poland-Chinas that must bring him great satisfaction as a breeder because they represent concentration of energy, breeding skill, feeding ability and good judgment which has been accumulating for years in his occupation as a breeder. Mr. Killough's herd is not yet on the market,

Cremoline

Cremoline

AS A LINIMENT

FROM A GREAT FIRM OF MULE AND HORSE DEALERS.

"We have used **Cremoline** as a Liniment very effectively. A fine horse was injured by a nail in the car in transit, causing a bad wound in the forehead. We applied a solution of **Cremoline**; in 10 days it healed and we sold the horse for \$200, he being without blemish. During the cure we drove the horse every day. We have never used anything as good as **Cremoline**." TAYLOR & HEIMAN, National Stock Yds., East St. Louis, Ill.

Send for Special Circulars of our full line of **Cremoline** Preparations.

For Sale by General Dealers, in 250 bottles and 1, 5, and 10 gallon cans; but if not kept in stock by your storekeeper, we will ship promptly on direct orders.

Sample Gallon Can, \$1.50, Express Prepaid. Five Gallons, \$6.25, Freight Prepaid.

Made only by: **The Cremoline Mfg. Co., 1729-31 Olive st., St. Louis.**

Cremoline

Government Dip Order Issued.

Covers all territory west of the Mississippi river. Recognizes only LIME AND SULPHUR DIP. It reads "Lime and Sulphur Dip properly prepared shall be used for dipping cattle." We guarantee **Rex Official Lime and Sulphur Dip** to be Perfectly Prepared, exactly as per Gov't instructions and FREE FROM SEDIMENT. One gal. makes 20 gal. ready for use. 48 gal. bbl. \$18; 10 gal. \$4.50; 5 gal. \$2.50; 1 gal. 65 cts. Write today for FREE copy of "VITAL POINTS ON DIPPING." **REX STOCK FOOD CO., Dept. 9, Omaha, Nebr.**

but when he is ready to sell he will offer a hundred or more of a quality to please the most fastidious. The announcements will appear in these columns later.

Mr. Carey M. Porter, the efficient secretary of the Forest Park Fair Association, which has held a fair at Ottawa annually for thirty-one years, is active in a movement to tear down the old cattle-sheds that have outlived their usefulness in Forest Park, and replace them with a handsome sale-pavilion and barn that will be in keeping with the surroundings. The first stone of the foundation is to be laid as soon as \$2,000 have been subscribed towards the buildings of the pavilion, and Mr. Porter is able to report to the subscribers to this fund that the whole of the amount is practically raised and that operations will soon begin on the erection of the pavilion so as to complete it in time for the fair which will be held September 14 to 19 as usual. It is proposed to use these buildings, not only for show purposes during the fair, but for the holding of pure-bred stock sales throughout the year. Ottawa is a center of a very excellent breeding district and such a pavilion will undoubtedly prove advantageous to the city, to the pure-bred stock and to the interested men who are building the pavilion.

In the country where Missouri, Kansas, Arkansas and the Indian Territory join their border lines is a considerable region where hogs have been raised for money and simply as hogs without much attempt at improving the breed or indeed without their having any well defined choice as to breeds. Lately a movement has been inaugurated to raise bacon hogs in the region where the forest mast is so plentiful, for the purpose of shipping into the corn belt. The Kansas Farmer will be very glad to chronicle the success of this undertaking for the reason that it is well known that the best quality of bacon hogs has never been raised in the corn regions. Indeed the finest quality of pork that is on the world's market to-day is grown in countries where corn is not the principal feed. The Danish bacon hog stands highest for quality of pork and he gets very little corn to eat. In this region under consideration the forest-trees furnish an abundance of food, the climate is such that the hogs need little protection against them to feeding size is almost nothing. A large number of hogs are now raised in this country which are either marketed direct from the ranges or shipped to the feed-lots and finished on corn. With the Tamworth introduced here to improve the stock we think that both quality and size will be an immediate result and we shall expect to hear from this country in this new form of pork produce.

Whenever an opportunity presents itself, a visit to Glendale Shorthorn Herd is one of the pleasures to which we look forward. The cattle here are in fine condition and the youngsters are exceptionally good, even for this herd. Tillycain finds himself at home in his new place and has added some to his appearance in the way of maturity, although his quality is the same as before he left Elder Lawn Herd at Dover, Kans. Imported Pavonia is one of the show cows of this herd and her calf is a "plumb." Scotland's Charm 127264 maintains the dignity of his position at the head of what we consider one of the best herds of Shorthorns in the West. There is a young Scotch bull on this farm that is of extra quality and is for sale. He was sired by imported Royal Favorite 140612 and his dam is imported Pavonia. His breeding is as good as can be found in the herd book and he is a snap for somebody who needs a bull that is all good. Dr. O. O. Wolf, who is the junior proprietor of Glendale Herd, has lately taken unto himself an automobile, with the aid of which he can carry on his professional business at a good saving of time and with which he meets the prospective buyer at Ottawa when he is notified in time. The pleasure of seeing one of the best herds of Shorthorn cattle in the West, coupled with an automobile

Used Ten Years

For Spavins, Ringbones, Splints, Curbs, and all forms of Lameness,

bunches or bony enlargements. Washington, D. C., Nov. 30th, 1902.
 Dr. B. J. Kendall Co.,
 Gentlemen:—Please send me a copy of your "Treatise on the Horse and his Diseases." We have used your Kendall's Spavin Cure for ten years and gladly testify to its merits.

Yours truly,
 JUSTUS C. NELSON.
 As a liniment for family use it has no equal. Price \$1.00 for 25. Ask your druggist for KENDALL'S SPAVIN CURE; also "A Treatise on the Horse," the book free, or address
 DR. B. J. KENDALL CO., ENOSBURG FALLS, VT.

"SUNFLOWER CURE."

For Chigger and Mosquito Bites.

Relieves the Itching and Burning by killing the poison of these or other insects. Will not burn or stain the flesh.

DIRECTIONS:

Shake and apply to affected parts with cork or cloth.

At Druggists, or by mail on receipt of 25 cents.

THE SUNFLOWER CO.,
 Atchison, Kansas.

WARM YOUR HOUSE

at low cost by using the LEADER Steel Furnace. Saves coal, time, trouble. Send for free booklet No. 22. **Home Warming and Ventilating Co., Chicago, Ill.**

ride to the farm, accompanied with such a companion as Dr. Wolf, will make a trip to Glendale one to be remembered.

We call especial attention to the new advertisement of the Rose Hill Herd of Duroc-Jersey swine owned by the well-known breeder, S. Y. Thornton, Blackwater, Mo., who says: "I have some splendid February and March pigs out of large old sows, sired by Ohio King 12179, Missouri Prince 2d 14521, Red Chief 15293, and Silvey 16003. I have also some April and May pigs. I have fed to develop bone and muscle, and I have the best and most uniform lot of pigs I ever had on the farm. They are well-colored, have good, strong bone, good length and depth of body, good back, full hams and neat head and ear. My February and March pigs now weigh from 100 to 150 pounds. They have had but very little corn but have had the run of a good clover and bluegrass pasture and lately have been on rape and oats. I am prepared to stock up any one with foundation stock, herd-headers, or I can supply new customers with new blood. I have sold a great many hogs in Kansas and Oklahoma in the past ten years, and am better prepared than ever before to supply them with good hogs. I raised over 200 pigs this spring and the sows are bred again to farrow in August and September. We have to hurry to supply the demand for Durocs and that is the way we do it, raise two big litters a year from the same sows. One of the gilts that was in my young prize herd at the Missouri State Fair last year farrowed 12 good, strong pigs when she was a year old and suckled and raised 10 of them, all good, uniform pigs. This is nothing unusual for a (Continued on page 801.)

Consign Your Shorthorns to Our Sale.

There will be a Breeders' Sale of SHORTHORN CATTLE at Parsons the last of September. Parties wishing to enter stock for sale should do so by August 15, so as to get them in the catalog. We advertise and sell the stock. Charge 10 per cent commission.

COL. EDMONDSON, OF KANSAS CITY, AUCTIONEER.

PORTER MOORE, Manager.

PARSONS, KANSAS.

The Young Folks.

Conducted by Ruth Cowgill.

THE ACTOR'S STORY.

[Printed by request.]

Mine is a wild, strange story,—
The strangest you ever heard;
There are many who won't believe it,
But it's gospel every word;
It's the biggest drama of any,
In a long, adventurous life;
The scene was a ship, and the actors—
Myself and my new-wed wife.

You mustn't mind if I ramble,
And lose the thread now and then;
I'm old, you know, and I wander
It's a way with old women and men,
For their lives lie all behind them,
And their thoughts go far away,
And are tempted afield, like children,
Lost on a summer day.

The years must be five-and-twenty
That have passed since that awful
night,
But I see it again this evening,
I can never cut out the sight.
We were only a few weeks married,
I and my wife, you know,
When we had an offer for Melbourne,
And made up our minds to go.

We'd acted together in England,
Traveling up and down
With a strolling band of players,
Going from town to town;
We played the lovers together—
We were leading lady and gent—
And at last we played in earnest,
And straight to the church we went.

The parson gave us his blessing,
And I gave Nellie the ring,
And swore that I'd love and cherish,
And endow her with everything.
How we smiled at that part of the service
When I said, "I thee endow!"
But as to the "love and cherish" friends,
I meant to keep that vow.

We were only a couple of strollers;
We had coin when the show was good,
When it wasn't we went without it,
And we did the best we could.
We were happy and loved each other,
And laughed at the shifts we made,—
Where love makes plenty of sunshine,
There poverty casts no shade.

Well, at last we got to London,
And did pretty well for a bit;
Then the business dropped to nothing,
And the manager took a flit,—
Stepped off one Sunday morning,
Forgetting the treasury call;
But our luck was in, and we managed
Right on our feet to fall.

We got an offer for Melbourne,—
Got it that very week.
Those were the days when thousands
Went over their fortunes to seek,
The days of the great gold fever,
And a manager thought the spot
Good for a "spec" and took us
As actors among his lot.

We hadn't a friend in England—
We'd only ourselves to please—
And we jumped at the chance of trying
Our fortune across the seas.
We went on a sailing vessel,
And the journey was long and rough;
We hadn't been out a fortnight
Before we had had enough.

But use is a second nature,
We had learned not to mind a storm,
When misery came upon us,—
Came in a hideous form.
My poor little wife fell ailing,
Grew worse, and at last so bad
That the doctor said she was dying,—
I thought 'twould have sent me mad,—

Dying where leagues of billows
Seemed to shriek for their prey,
And the nearest land was hundreds—
Ay, thousands—of miles away.
She raved one night in a fever,
And the next lay still as death,
So still I'd to bend and listen
For the faintest sign of breath.

She seemed in a sleep, and sleeping,
With a smile on her thin, wan face
She passed away one morning,
While I prayed to the throne of grace.
I knelt in the little cabin,
And prayer after prayer I said,
Till the surgeon came and told me
'Twas useless—my wife was dead!

Dead! I wouldn't believe it,
They forced me away that night,
For I raved in my wild despairing
The shock sent me mad outright.
I was shut in the fatherest cabin,
And I beat my head on the side,
And all day long in my madness,
"They've murdered her!" I cried.

They locked me away from my fellows,
And put me in cruel chains,
It seemed I had seized a weapon,
To beat out the surgeon's brains.
I cried in my wild, mad fury,
That he was a devil sent,
To gloat o'er the frenzied anguish
With which my heart was rent.

I spent that night with the Irons
Heavy upon my wrists,
And my wife lay dead quite near me.
I beat with my fettered fists,
Beat at my prison panels, and
Then—O God!—and then
I heard the shrieks of women
And the tramp of hurrying men.

I heard the cry, "Ship a-fire!"
Caught up by a hundred throats,
And over the roar the captain
Shouting to lower the boats;
Then cry upon cry, and curses,
And the crackle of burning wood,
And the place grew hot as a furnace,
I could feel it where I stood.

I beat at the door and shouted,
But never a sound came back,
And the timbers above me started,
Till right through a yawning crack
I could see the flames shoot upward
Seizing on mast and sail.
Fanned in their burning fury
By the breath of the howling gale.

I dashed at the door in fury,
Shrieking, "I will not die!
Die in this burning prison!"
But I caught no answering cry.
Then, suddenly, right upon me,
The flames crept up with a roar,
And their fiery tongues shot forward,
Cracking my prison door.

I was free—with the heavy iron
Dragging me down to death;
I fought my way to the cabin,
Choked with the burning breath
Of the flames that danced around me,
Like man-mocking fiends at play,
And then—O God! I can see it,
And shall to my dying day.

There lay my Nell as they'd left her,
Dead in her berth that night;
The flames flung a smile on her features,
A horrible, lurid light;
God knows how I reached and touched
her,
But I found myself by her side;
I thought she was living a moment,
I forgot that my Nell had died.

In the shock of those awful seconds,
Reason came back to my brain;
I hear a sound as of breathing,
And then a low cry of pain;
Oh! was there mercy in heaven?
Was there God in the skies?
The dead woman's lips were moving,
The dead woman opened her eyes.

I cursed like a mad man raving,
I cried to her, "Nell! my Nell!"
They had left us alone and helpless,
Alone in that burning hell,
They had left us alone to perish—
Forgotten me living, and she
Had been left for the fire to bear her
To heaven, instead of the sea.

I clutched at her, roused her, shrieking,
The stupor was on her still;
I seized her in spite of my fetters,—
Fear gave me a giant's will,
God knows how I did it, but blindly
I fought through the flames and the
wreck,
Up—to the air, and brought her
Safe to the untouched deck.

We'd a moment of life together,
A moment of life, the time
For one last word to each other,—
'Twas a moment supreme, sublime,
From the trance we'd for death mistaken
The heat had brought her to life,
And I was fettered and helpless,
So we lay there, husband and wife!

It was but a moment, but ages
Seemed to have passed away,
When a shout came over the water,
And I looked, and lo, there lay
Right away from the vessel,
A boat that was standing by;
They had seen our forms on shipboard
As the flames lit up the sky.

I shouted a prayer to heaven,
Then called to my wife, and she
Tore with new strength at my fetters—
God helped her, and I was free;
Then over the burning bulwarks
We leaped for one chance of life.
Did they save us? Well, here I am, sir,
And yonder's my dear old wife.

We were out in the boat till daylight,
When a great ship passing by
Took us on board and at Melbourne
Landed us by and by.
We've played many parts in dramas
Since we went on that famous trip,
But ne'er such a scene together
As we had on the burning ship!

Our Pilgrimage.

As we pulled into Boston, some one
said, "See, there is Bunker Hill Monu-
ment," and looking out, I saw it, a tall,
gray, plain shaft. Beyond glittered the
golden-domed State House. That is
all I remember—for I was stunned into
a kind of maze by the bustle and con-
fusion of a great city—until we were
settled for the day in an old, inter-
esting house in Chestnut Street.
When I had got my breath and looked
about me and read my guide-book, I
fairly giggled with delight. For we
were in Old Boston, around which cluster
associations and traditions dear to
the book-lover and the student. Next
door to us was the house in which
lived Hawthorne's daughter, Rose
Hawthorne Lathrop. From one win-
dow we could look into the back yard
and up to the garret where John Lath-
rop Motley, Thomas Appleton, and
Wendell Phillips used to play. Across
the street was the home of the Rad-
ical Club, where men and women since
world-famous, used to meet and talk
together. Emerson belonged to this
club, as did Julia Ward Howe, Henry
James, and many others whose names
are familiar. Across the street also
lived Edwin Booth, and we looked with
reverence upon the old house where
Francis Parkman worked, in pain and
blindness, yet how magnificently! On
Beacon Street, back of us, lived also
many of the truly great.

Boston is the most curiously planned
town I have ever seen—or rather, I
think it is entirely unplanned. I have
heard that the streets follow the old
cow-paths which were made by the
early Pilgrims, and I find it not at all
hard to believe, especially of this old-
er part of the city. The streets wan-
der around aimlessly, like a lost child,
and end abruptly anywhere that they
chance to run into another one. They
are extremely narrow and climb long

hills or run precipitately into small
valleys. They lead you on with the
elusive hope of getting somewhere,
and finally bring you to your starting
place. I could discover no alleys
there, though there were many small
cross-streets which may as well have
been called alleys. The houses are
most curious also. I think I shall un-
derstand better some of the books I
have read, now that I have seen the
kind of houses in which they were
written. The houses are all together.
There are no lawns at all. The south
wall of one house becomes the north
wall for its neighbor, and each one
stands with the tips of its toes to the
pavement. They are tall—five, six,
and seven stories—and dignified, and
hopelessly alike. In the rear is a little
paved court yard, with one or two old
trees growing through the shadows to-
ward the sky. I looked at those old
trees reverently. How many little
feet, which have since climbed to high-
er places, have clambered upon their
branches, and how many thoughts to
cheer the world have sprung to life be-
neath their shadows! I gazed with
curiosity at the knockers. I had so
often read of how the hero used the
knocker, when he went to call upon
his lady love, or how the angry land-
lord awoke the echoes in some house
with the same classical article, so that
I was very glad to at last see one. I
am now ashamed to confess what was
my conception of it. I supposed it
was a cane with a hard metal head
with which one pounded upon the door.



HOME OF OLIVER WENDELL HOLMES, BEA-
CON STREET.

(Dr. Holmes in the foreground.)

It is not at all, but is rather like a
door-bell—a brass figure—a dragon's
head, or some such device—from which
you pull a knob.

Every one has heard of Boston Com-
mon. It is a large park, filled with
trees and interspersed with many
paths, running this way and that. In
the Common I saw this unique sign:
"For Children Only." It was at each
end of a long strip of ground, guarded
by policemen, in which were piles of
sand. We, who have all the clean
dirt we want, can hardly realize what
the privilege of clean sand to play in
and fresh air to breathe means to the
poor, dirty little tenement children.
Whenever I have passed it, even early
in the morning, I have seen little chil-
dren playing there happily.

Before I leave Boston, to tell you of
Cambridge, I must tell you one little
joke we played on ourselves. We
liked to seem very knowing, just as if
we were natives, for we thought we
could use our eyes and our brains, and
find out about getting around, without
asking a policeman every five minutes.
We wanted to go to Cambridge, and
we knew Harvard was in Cambridge,
so, we reasoned, it was a simple
enough matter. We would simply get
on one of those numerous cars marked
Harvard Square, and there we would
be! Well, there we were! The car
stopped and every one got off. A
young woman, clambering over us, re-
marked, "This car does not go any
further!" So we got off, remarking
on the wonderful swiftness of the Bos-

ton cars. "Why it is two miles to
Cambridge, and I don't believe we
have ridden more than five minutes!
It's—it's remarkable!" exclaimed my
friend, the teacher of mathematics. "It
certainly is," said I. "Our Topeka cars
don't begin to go so fast!" We wan-
dered up a path, surrounded by flow-
ers and trees, looking eagerly for the
great Harvard College. We wandered
on and on. Finally we came to a
street, and looking curiously at the
name, we read "Walnut Street," and
slowly it dawned upon us that we had
come back to our starting-place! We
then walked up meekly to a conven-
ient policeman, and asked him which
direction cars should be going to take
us to Cambridge, and found that we
had taken the right car, but one that
was coming from our destination, in-
stead of going toward it! Since then,
we have made it a point to ask some
question, however trivial, of every po-
liceman we pass.

RUTH.

The Bluejay.

The bluejay being my favorite bird
I have made a special study of him
and will describe him as he has come
under my special observation. The
wings and tail of the jay are bright
azure, barred with black and white.
His breast is grayish blue. He has a
crest on his head which can be low-
ered or raised at pleasure. The ordi-
nary note of the jay is a harsh, shrill
cry. When it thinks it is unobserved
it can sing in soft, musical tones. The
nest is made of sticks and grass lined
with a softer substance. The eggs are
four to six in number. The jay gen-
erally raises two broods of young a year.
Fruits, berries, and insects form a
considerable portion of this bird's
food. I once had a pet bluejay. It had
been blown out of its nest. I kept it
in a little box and fed it a few days.
Later I turned it out of doors. It flew
around in the trees but never went
away. He would fly down on my
shoulder. He was very mischievous
and would come in the house by enter-
ing at the upstairs window. His mis-
chievous nature was constantly getting
him into trouble. He was rescued
from the cat twice. He was always
fighting with the chickens and one fall
day some of his gay plumage lay scat-
tered on the ground. He lived but
three days after this encounter. I bur-
ied him in a little box covered with
tissue paper, and since have been an
admirer and close observer of the
bluejay.

NELLIE HAMILL.

A Mortal Duel.

One sultry afternoon I was lying in
my hammock in the veranda, eating
fruits and biscuits (for it was too hot
to do anything else), when, all at once,
I saw a little sharp-nosed, bright-eyed
creature covered with smooth hair—
like a sort of cross between a handi-
coot rat and a squirrel—come creeping
along the floor.

I threw it a bit of banana, and at
first it seemed startled, and made as if
it would run away; but presently it
turned back again and snapped up the
fruit, which it seemed to approve of
highly. I gave it another bit, and then
a piece of biscuit; and by degrees it
began to get more familiar, and ap-
peared quite inclined to make friends.
But just then one of my men came run-
ning across the courtyard, and the
sound of his footsteps scared it away.

The next day, however, it came back
again; and by this time it seemed to
have quite got over its first shyness,
and took readily enough whatever I
gave it. After we had been on visit-
ing terms for two or three days,
"Tommy" (as I had named my four-
footed chum) got to be so friendly that
he would climb upon my hammock or
chair, and let me stroke him and hold
him in my hand, just as if he'd been a
kitten. I got to be quite fond of him
at last.

Just about that time I managed
somehow or other to catch a low fe-
ver, which, though it wasn't what you'd
call dangerous, left me as weak as wa-
ter. In fact, for three or four days I
couldn't even raise myself in bed with-
out help.

Well, one day—it'll be long enough
before I forget it—I had sent away the
native boy who used to sit beside me,

telling him I was going to have a nap. It was the very hottest time of the day, and every one was either smoking, lounging, or fast asleep; and it wasn't long before I fell asleep too.

How long I slept I have no idea, but when I awoke it was still so hot and I was so drowsy, that I was going to dose off again, when I caught sight of something that woke me up in good earnest.

Creeping into the room from the veranda, coil after coil, was a huge "hooded cobra," the deadliest snake in all India, more than seven feet long, and as thick as a man's arm. It was evidently meaning to attack me; and there I lay, too weak to lift my arm, all alone, and with no one anywhere within hearing.

For a moment I was fairly dumb with horror; and then, although I knew it was no use, I instinctively called for help; but my voice was so weak that it couldn't even have been heard in the next room.

On came the snake, rearing up its horrid spotted head angrily, and blowing out its hood, as it does when it means mischief. It had already got to the foot of the bed, and was just preparing to crawl up, when I heard a skirr of tiny feet across the floor, and I saw my squirrel-rat friend, little Tommy.

The brave little fellow never hesitated for a moment, but went right at the cobra like a tiger, and gave it a bite that drew blood like the cut of a knife.

For a moment the snake drew back, and a quiver went all through it, which showed that it was hard hit; but it pulled itself together at once, threw back its head viciously, and struck at poor Tommy with all its force. But Tommy dodged the stroke cleverly, and fastening on the cobra tooth and nail, gave him a second bite worse than the first, wounding him so severely that he was evidently weakened, and began to show signs of giving way.

From the bed where I lay I could see the whole battle quite plainly; and you may think how trying it was to me to have to lie there helplessly while a duel was being fought out upon which my life depended.

But it didn't take me long to find out how the fight was going to end, for the cobra had the worst of it from the very beginning. Do what he might, let him try as hard as he pleased to strike his enemy or to coil around him, the snake might as well have tried to hurt a shadow. Brave little Tommy escaped him every time, and repaid each new attack with a fresh bite, making old scaly-back twist and wiggle like a speared eel.

At last the cobra, in its writhing and flopping about, knocked over a small table with a lot of glasses on it, which came down with a crash that might have waked up a country policeman on duty. The next moment there was a shout and a scurry outside, and my chum, Harry Templeton, came bursting headlong into the room, just as the valiant Tommy got hold of the snake by the head and fairly bit its head off.

"Hallo!" cried Harry; "what on earth has been going on here? Why, my poor old fellow! to think of your being left to face that horrid brute all alone, and you not able to stir, too! If I'd only known I would have been in to help you like a shot. Well, thank God! it's all right now. But where on earth did you pick up that mongoose?"

"What sort of goose do you call him?" asked I, in surprise. "I never knew before that a goose had four feet!"

"Pooh!" said Harry; "you're not going to pretend that you don't know yet what a mongoose is! Why, man, they're the greatest serpent-killers alive; and if it hadn't been for that one you'd have been as dead as a door nail by this time. I only wish we had a dozen more of 'em here in the cantonment to clear off these confounded snakes!"

Thus it was that I found out that my little friend Tommy was a specimen of the snake-killing mongoose of India, and that my friendship with him had actually saved my life. You may be sure that I made a greater pet of him than ever after that.—Harper's Young People.

Old Birds Help Young in Nest-making.

As the years go by I am more and more impressed by the close relation between bird ways and human ways. Courtship and marriage are as variable and interesting as in the human family, but there is no divorce in the bird family. Once mated is mated for life. The male birds return from the South about a week before the females and young. The old females assist the young females in selecting nesting sites, which usually are in the immediate locality of the mother's nest. The mother looks after the welfare of her year-old daughters; in this way family ties are maintained. I see this trait in many birds that visit my cabin, such as catbirds, woodthrushes, veeries, ovenbirds, robins, towhees, buntings, chestnut-sided warblers, black-throated warblers, redstarts, chickadees, and song sparrows. It proves that blood is thicker than water in the bird family as well as the human family. I have seen mother birds assist in nest-building in several instances. Years ago I saw this trait in the eaves swallow. The young birds would begin a nest on the plain clapboards, which would fall before it was half built. The old birds took a hand and induced the young birds to select a secure spot. I have known the old bird to use force to keep a foolish youngster from a dangerous nesting site.—Forest and Stream.

Value of Pennies Saved.

The Chicago Penny Savings Society is a flourishing institution in the Western metropolis. It is conducted under the auspices of the Civic Federation, and is helping about 30,000 persons to accumulate each the nucleus of a bank account. Essays on the value of saving pennies were recently invited from some of the society's little clients in school, and among the answers were these, as reported in the Chicago Journal:

It is a nice thing to have money in the bank when you break a window with a stone, as I did. You never appreciate the value of money until you get into trouble.

It keeps our mothers from worry. Mama saved in it enough to buy coal, rent and gas bills.

Bank books can not get robbed and never bust.

All the men who own the big stores downtown got them by learning to save their pennies when they were boys.

Some children buy skates, but if they fell and broke their legs or some other important organs, then they would wish they had saved their money in a bank-book.

What I save in the bank papa doesn't spend for beer.

I am not going to draw it out until I have money enough to buy a farm, where I can raise strawberries and cabbage.

I always save my money in a bank-book because if I keep it at home my mother takes it.

I run errands and save the money I get to buy stamps. I want to buy a summer dress, so I will look like other girls.

It teaches me not to be extravagant with the money I earn Saturdays.

I saved enough to buy my own Easter suit and a pair of shoes for my sister.

It kept us from being hungry last winter when father was out of work.

When I save \$4 my mother buys clothes for me with it.

The excellent paper about "Black-birds" which appeared in the Young Folk's department on June 11 should have been signed Clarence Baker, Blue Mound. The name was omitted through an oversight.

What is the difference between a woman and an umbrella? An umbrella you can shut up, a woman you can't.

Speak Well of All.

"Twill be a medicine unto thine own frail heart;
Think well of all;
Nor let thy friendship at the foibles start
That appertain to our humanity—
True love hath in itself the principle
Of patience unto death."
—Elgourney.

For the Little Ones

A LITTLE HELPER.

"My father says I'm a great helper,"
Said little Miss Dorothy Gay.
"There's just only us and our Bridget,
So I have to work ev'ry day.
On Monday I help do the washing
By wiping the plates dry and bright,
On Tuesday I help Bridget iron
By folding the towels just right;
On Wednesday I help do the mending
By threading the needles up fast,
And Thursday I help clean the silver
By counting it over at last.
And Friday I help with the sweeping
By dusting as hard as I can,
And Saturday I most do the baking
By buttering every pan;
And Sunday—well, Sunday, my father
Says he doesn't actu'ly know
But he'd break right down in his sermon
At meeting if I didn't go!"
—The Youth's Companion.

Tommy Tifford's Tale.

Tommy Tifford likes to talk about when he was a boy. Tommy Tifford is a big man now, with hair all over his face, who comes around every year to help harvest the wheat. He is not a very good worker; he would rather sit around and chew a straw and talk while he watches the other men work. But though he is a great lazybones, yet we children like to hear him talk, for he is kind and jolly.

One evening he called us children all around him and said, "Now I am going to tell you about when I was a boy."

"Goody! Goody!" we all cried, and then he began and told us. When he was a boy he lived far away from here, where the farms are all stony and poor, and his father worked hard—oh, very hard!—to make things grow. And Tommy Tifford liked to watch his father work, just as he likes to watch people work now.

One day his father said, "Tommy, you are big enough and strong enough to help now. To-day you may plow this field for the wheat."

Tommy Tifford knew it was no use saying he did not want to, for he would have to, anyway, so he set to work. Well, Tommy says the field was hard, and he grew tired and the sun came out hot, and so he just stopped working and went off to the brook for a swim. When night came, Tommy's father went to look at the field, and Tommy had come back but he had not worked any more, and his father saw that his boy had not worked much. So he said, "Son, that field furnishes you bread. If you do not work it you get no bread. You may do just as you please about it, but you will have no bread unless you get a crop of wheat."

Tommy Tifford says he thought, then, that he would certainly plow that field the next day, but some boys came and wanted him to go fishing instead, and then the next day it stormed, and then he wanted to go to town, and then he broke the plow, and so on, until, before he knew it, the season was past, and winter had set in, and he had no wheat, nor had even plowed the field.

His father said, "Tommy, have you taken your wheat to the mill to have it made into flour for bread this winter?"

"No, sir," answered Tommy Tifford, "I haven't any wheat to take."

"Tommy Tifford!" said his father very sternly, "didn't you raise any wheat?"

"No, sir," said Tommy, feeling terribly ashamed.

"Well," said his father, "if you won't work you can't eat. We will have no bread this winter."

So Tommy Tifford says they had no bread that winter, but lived on mush and milk. The next year Tommy went away to another part of the country, he says, and tried to work for people; but he grew tired of it soon, and went off to something else, so that he had a hard time to make any money.

At last he came out west, and sometimes he works for people, as he is doing at harvest time, and then he gets enough to eat. But sometimes he says there is nothing for him to do, so that often he goes hungry. "I guess my father was right, children," he said, when he finished telling his tale. "If a man won't work, he can't eat."

I think Tommy Tifford is like an old dried leaf blowing around, that does no good to any one else, nor to itself either.

Journal of Agriculture

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THE CALL OF THE WILD.

Mr. Hamilton W. Mable Reviews Jack London's New Novel.

In his new story, "The Call of the Wild," Jack London has written the romance of a dog's life with a vigor, insight, and dramatic power which no other similar tale except "Bob, Son of Battle," approaches in interest and literary quality. The Scotch story depends largely on the human elements which are mixed with it; "The Call of the Wild" centers entirely in Buck, the great dog who is stolen from a ranch in Southern California, where he is the soul of fidelity, rewarded by the greatest freedom and affection; taken to the far north, and made a member of a team of dogs who carry the mail into the Yukon regions. Gradually his character changes under the pressure of new and hard conditions. He becomes a leader and master among his fellows, the older and more savage instincts reviving in him. In the end, after the most adventurous life described with graphic power, "The Call of the Wild" becomes more and more distinct and finally masters him, and he reverts to the savage state in the northern wilderness becomes the mate of wolves, and lives as his ancestors lived centuries before him. This change from civilization to savagery is effected gradually, and is traced, stage by stage, with dramatic and deepening interest. The story has a deep psychology interest, and may be read as a striking parable; but it is, above all, an absorbing tale of wild life, full of pictorial power and abounding in striking incidents of frontier town, camp, and adventure.—Hamilton W. Mable.

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THE OLD FARM-HORSE.

"Why don't you sell him? He must eat His value in a month, twice told. He's spavined, hide-bound, nearly blind; He's twenty if he's one day old. You never work him. What on earth You keep the brute for I can't see; Your other horses, young and sound, Seem to fare scarce as well as he."

"I'll tell you, neighbor, why I keep This old horse, though he's lame, half blind."

Once—he don't look like it now, I own— He was a good horse, sound and kind, He hadn't one bad trick, and worked Right faithfully, day in, day out, And he could trot; though he toiled hard, He was as lively as a trout.

"When I first took this farm on shares— I own it now all free and clear— 'Twas twenty year or more ago. Then land was cheap enough round here."

It was hard scratching with me then, For I had little cash or stock, And though the soil was fairly good, 'Twas sprinkled pretty thick with rock.

"Old Dan, there, was a little foal; I raised him, fed him, broke him, too; Put his first harness on, and soon Obeyed to my word he grew. I never saw a steadier horse Before the harrow or the plow; He'd work, yet scarcely turn a hair, Although he is so feeble now."

"I bought, one year, the land I'd leased; This sorely crippled me in purse; The next my crops failed out and out, And matters went from bad to worse. My milch cows died; at length I had To give a mortgage on the place; I sold my team, but still kept Dan, Though ruin stared me in the face."

"But I'd touched bottom, though 'twas deep, And things at last began to mend. I worked hard, pinched, crops turned out well."

Where once I owed I now could lend, And Dan had proved a friend in need— Friends when you're down are precious few."

No, Dan, old boy, I won't forget How hard you toiled to pull me through."

"And so you see, that Dan and I Have known the ups and downs of life Together. I'll not part with him, Neither will May—that's my wife. The children, too, love poor old Dan, Though failing fast in wind and limb, When he was young he helped me out, And now he's old, I'll stick to him."

—W. R. Barber.

A KANSAS FARMER IN THE OLD COUNTRY.

V. Naples.

The city of Naples, in Italy, lies in the same parallel of latitude as Topeka, so one would expect to find about the same kind of climate in each place. The Kansas party on June 26 to July 1, realized the degree of heat about the same as they had experienced in Kansas the first week in June. The appearance of tropical trees and shrubs growing luxuriantly in Naples would indicate, however, that the whole year is devoid of very cold weather.

For agreeable location, no place in the world is favored so much as Naples. A range of the Apennines, ending with an elevation of 5,000 feet, forms the north and east boundaries, while a lofty range of hills encloses the city on its west. The beautiful bay of Naples makes a semicircular front for the south side. Off to the left front in the bay is the charming island of Capri, and to the southwest the island of Ischia, both about twenty miles distant from the city front.

The mountain slope and the plains beyond are exceedingly fertile, and constitute one of the most densely populated districts in the world; so we are informed by the guidebook, and our own observation confirmed the fact.

The city itself is charmingly peculiar, in its appearance, to a western traveler, and while one might not care to remain in it as a place for residence, yet a visit of a few days would be apt to please any American. The streets are not wide and some are too narrow to admit of a wagon. Very few are straight for any great distance, but curve and turn in a puzzling way for a stranger, and in many places stairways with many steps are necessary for the pedestrian to permit him to go from one street to another.

It is the largest city in Italy and contains over 500,000 inhabitants, but apparently the greater number of them are destitute of worldly wealth, and are contented, if not happy, when they have a piece of bread to eat. A large number of street laborers were seen at lunch, and the only thing they had

was a part of a loaf of bread. Street vendors, with their baskets of fruit which they offered for sale, were often noticed busy with their lunch which was only a piece of bread. The fruit they must not eat, for that they could sell, for a few soldi, which would be necessary to buy more bread. Many of the working men were without shoes, and with bare feet were handling stones and dirt in repairing the streets. The working women who were not barefoot had a rough kind of slipper, as though made of an old shoe by having all the leather cut off the top except enough to cover the toes.

The places visited by tourists in the city are numerous, a few of which are the Cathedral, Museum, Palace of Capodimonte, the Church of Santa Maria del Carmine and the Church of Santo Pablo Maggiore; the latter was built in 1590, on the site of an ancient temple of Castor and Pollux. The Cathedral was begun in 1272, so it is more than 650 years old. The National Museum contains many beautiful objects for inspection; among the most interesting are statues and frescoes found in Pompeii which are placed in this museum for safety and also for the convenience of the visiting world.

That which amuses the western traveler is the sight of the many goats seen in the city. Our Kansas party are sure they saw at least one thousand of them. They are driven along the street in small droves at evening and in the morning, to be milked wherever the herder finds a customer for a pint or quart of the milk. The animals are as much "at home" as any of the people, they lie down in the street and quietly chew the cud, while passers-by walk around or over them; when required to do so they walk up stairs to be milked where the customer may see that he gets absolutely pure milk.

In an American city, the city drayage is hauled by fine, large horses, usually the best specimens of the breed that can be found, but in Naples the smallest and poorest jacks are used that can be procured in the whole world. The wagons used are also the very poorest, with only two wheels, but there are thousands of them in the city. To tell of all that would seem curious to an American visitor would require many columns of space; but Naples is a city well worth visiting; and if it were like New York or Boston, it would not be worth while to cross the Atlantic to see it. The one great nuisance for all travelers is the host of beggars which infest the whole city; not a turn can be taken but a miserable hand is appealingly held out for a couple of soldi. This however is one of the peculiarities to be found in Naples, and while all Italian cities have armies of beggars, Naples has a greater number than any other.

VI. Pompeii.

Possibly, no other point in Italy has the same importance to the visitor as the ruined city of Pompeii. From Naples a fifteen-mile car-ride brings one to the gates of the dead city, but the local trains move so slowly that it requires one whole hour of time to go by cars from the one point to the other. To be able to walk in the empty streets of a city that was covered by ashes and forgotten for seventeen hundred years, is a matter of such great interest as to deeply impress the mind of any one.

No doubt all have read of the eruption of Vesuvius, which on August 24, in the year 79, engulfed the slopes of the mountain and completely covered the cities of Herculaneum and Pompeii, which were about ten miles apart and situated on different sides of the volcano. In the excavations of Pompeii, over one hundred and fifty shapes of human bodies have been found, and those of four dogs and eight horses. It is supposed that 2,000 of the inhabitants were suffocated, but that the great majority of the citizens were enabled to escape before the danger was too great.

Our steamer party was guided by one who could speak French, and his descriptions were translated for us by one of the Topeka ladies. The first point shown was the museum where are exhibited the bodies found. It

seems that the soft ashes and lava which fell, surrounded the victims, and after suffocating them, the mould in which they were enclosed cooled, and as the body wasted away, the perfect form of the dead was preserved. When the forms were discovered, it was found that by filling the moulds with liquid plaster-of-Paris, the exact reproduction of the form was obtained. It is these plaster forms which now lie in Pompeii to be viewed by the visitor.

We were shown the forum, theatres, temple of Mercury, temple of Jupiter, the building of Ennacia, the baths, the house of Pansa, house of Sallust, the street of tombs, the villa of Diomedes, and many other houses, all of which were marked with the names of the former owners, so as to be readily identified when uncovered. The first excavations were made one hundred and fifty years ago, and have been slowly continued since. It is estimated that sixty more years will be required to completely uncover the whole of the silent city.

N.

To Make Washing Easy.

A housekeeper in Farmers' Review says on this subject: In these days, when help is scarce, the busy housewife should save herself all she can, by using her mind to study up methods of making her work easy. In washing, for instance, much hand labor can be saved by using a liberal amount of water and plenty of soap, and then (if a machine is used) putting only enough into the tub or boiler to work easily. Experience tells us that too many or too few clothes can not be washed easily. If a little dissolved lye is used and a little kerosene is added to the water, it will loosen the dirt. Use about one tablespoonful of each to a pail of water. Judgment should be exercised in the use of lye, as too strong a solution will injure the hands. The soiled clothes may be put into a boiler filled with cold water into which has been put enough kerosene, lye and soap to make a good suds. Let them heat slowly and pound while heating until as hot as they can be wrung out. Then put into another boiler of water to which only soap of a tablespoonful of borax has been added, and let come to a boil. They will generally come out clean enough to be put into a tubful of rinsing water to which a little bluing has been added. They should be pounded a little in the rinsing water, then lifted out of the rinsing water

with a paddle into a large basket, placed over a pan or tub into which the water can drain. This saves the time and strength required to wring them. They may also be lifted in the same way with a paddle from the boiler and be allowed to drain instead of putting them through a wringer. A frame made of six smooth slats crossing each other at right angles nailed firmly together and laid over the tubs may be used to drain the clothes instead of a basket. Clean light clothes should never be put into a dirty suds.

The Negro Problem.

Booker T. Washington, in a recent address, declares, "The time has come when a group of representative Southern white men, Northern white men and negroes, should meet and consider with the greatest calmness and business sagacity, the condition of the Afro-American. In all other questions where division occurs this is the method of settlement we use. Why not in this? The age for settling great questions, either social or National, with the shot-gun, the torch, or by lynchings, has passed. An appeal to such methods is unworthy of either race. I may be in doubt about some things connected with our future, but of one thing I feel perfectly sure, and that is that ignorance and race hatred are no solution of any problem on earth."

Protect the Orioles.

On a tree close by the chamber window of a friend of ours in Brighton appeared the other day a large nest of caterpillars, which as soon as the weather cleared must be destroyed.

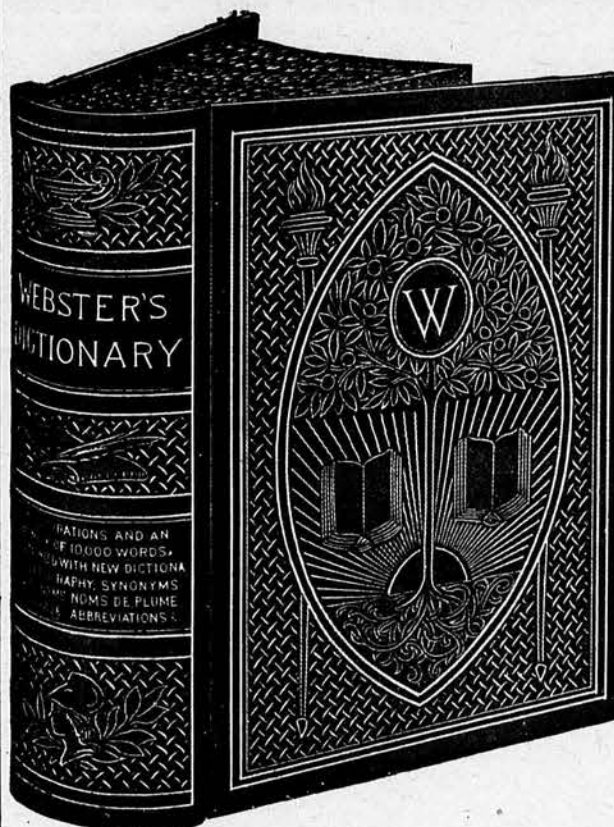
Early the next morning a jubilant song was heard by our friend near her chamber window, and looking out she found an oriole (golden robin) eating caterpillars and singing its song of thanksgiving.

That oriole rendered a better service in destroying that nest of caterpillars than it could have rendered on a lady's hat.

It is said that if all the birds were destroyed the increase of insects would become so great that every form of human and animal life would perish from the earth.

If birds were better protected, the State of Massachusetts alone might have saved the hundreds of thousands of dollars which has been and are now being spent to exterminate the gypsy moth.—"Dumb Animals."

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Miscellany.

Eleventh National Irrigation Congress —Official Call.

The eleventh National Irrigation Congress will be held at Ogden, Utah, September 15 to 18, inclusive, 1903:

A convention of vital concern to the American Nation; to those who would make two blades of grass grow where one grew before; to all who realize that water is the Midas touch which turns the desert sands to gold; a convention of specific significance to the States and Territories whose arid lands are to be reclaimed by the Federal Government under the provisions of the National Irrigation Act, namely, Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, North Dakota, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Utah, Washington, and Wyoming.

Government and leading irrigation experts, practical farmers, irrigationists, fruit-growers, representatives from State agricultural institutions, State engineers, Government and noted foresters, as well as press representatives, business men, officials, and law-makers, will be in attendance and participate in the discussion.

The program will include: Practical irrigation and forestry lessons, reports of experts, application of provisions of the reclamation act, State progress under the National act, views on settlement of legal complications, and the pertinent and important theme of colonization.

Utah being the pioneer State in irrigation science proffers special opportunities for the study of its history and progress. Railroad and other excursions covering this field will be arranged for delegates by local committees.

For the first time in the history of the irrigation congresses, the eleventh convention has been liberally fostered by State appropriation—which sum has been doubled by private subscription from officers of the Congress and the citizens of Ogden and Utah—so that a large fund guarantees the successful conduct of the program and hospitable entertainment of all visiting delegates.

Business men will be interested to meet here with electrical and irrigation engineers to discuss the dual values in storage of torrential streams.

In the far Eastern and Southern States of the humid region irrigation methods are being studied and put into practice to save crops in seasons of drouth and to increase the value of natural resources. Flood sufferers in Southern States should confer at this Congress with those requiring reservoirs at the head waters of the great rivers. It may be said, therefore, that the East and South can here learn from the West, and delegates should attend this Congress, not alone from the sixteen specially interested far Western States, but from every State in the Union.

President Roosevelt, throughout his recent Western tour, frequently gave utterance to his belief that National aid for the reclamation of the arid West is of paramount importance in our National policy; and to foster this policy is the work of this Congress—"To save the forests and store the floods."

The program for the Congress will be carefully arranged with the view of achieving practical benefits and progress. Specially favorable railroad rates have been secured, details of which will soon be published. Arrangements for the entertainment of delegates in the attractive city of Ogden will be complete and satisfactory, and reception committees will meet all trains. The citizens of Ogden have appointed a board of control to entertain all delegates in cooperation with officers of the Congress. There will be no advance in hotel rates.

Newspapers everywhere are earnestly requested to give publicity to this official call and to inform their readers of the importance of this Congress.

Governors of the States and mayors of cities and officers of organizations entitled to appoint delegates are respectfully requested to select men sin-

cerely interested in the work of—and likely to attend—the Congress.

The basis of representation in the Congress will be: The governor of each State and Territory to appoint 20 delegates; the mayor of each city of less than 25,000 population 2; the mayor of each city of more than 25,000 population, 4; each board of county commissioners, 2; each chamber of commerce, board of trade, commercial club, or real estate exchange, 2; each organized irrigation, agricultural or live-stock association, 2; each society of engineers, 2; each irrigation company, emigration society or agricultural college, and each college or university having chairs of hydraulic engineering or forestry, 2.

The following are delegates by virtue of their respective offices: The President and members of his cabinet; the duly accredited representatives of any foreign Nation or colony; the governor of any State or Territory; any member of the United States Senate or House of Representatives; members of any State or Territorial Commission.

The Uninvited Guest—Mistaken for a Photographer.

EDITOR KANSAS FARMER:—On our arrival at the busy little city of Tarkio, Mo., we were greatly surprised at the reception we received, as we were mistaken for the World's Fair photographer, who, by arrangements of the World's Fair Commission, was to arrive on the same train we did, to secure some photographs of the extensive farming operations in that part of the State of Missouri, for display at the World's Fair in 1904. After considerable explanation, we convinced them that we were none other than your humble correspondent.

After getting acquainted with several of these gentlemen, we prevailed upon them to take their local photographer, and secure the photographs then and there.

After some discussion, the carriages were ordered, which, by the way, were not the ordinary livery rigs, but they were fine, rubber-tired carriages. We noticed in Tarkio, more rubber-tired carriages, phonos, driving wagons, "good turn-outs," than in any other town in the county, of three times its size, indicating enterprise, thrift, and prosperity.

Started on our way, the word was given to go by the "bottoms." This was the first of Mr. David Rankin's large farms, to be seen on our way. It is located just at the outskirts of town. Level as a floor, with soil as fertile as the valley of the Nile, measured by miles rather than acres, is the way they describe his lands.

As we passed this enormous cornfield, the green corn in rows was a beautiful sight. Undoubtedly, the blackness of the soil made the corn look greener. In this great field, were a few large trees that had been spared and left for shade. This field, aided by the gradual sloping hills for a background, formed the prettiest picture we ever saw.

We sped along through a living panorama of lovely homes, great cornfields, orchards, meadows, and feed-lots, our associates debating about the condition of the corn crop, etc. The feed-lot to us and most of our readers is pictured as a strong, closely made fence, enclosing a small piece of ground in a convenient place on the farm. That is not the kind these were, however. These enclosures were of 80, 160, 320, and some 640 acres, which they call feed-lots in Atchison County, Missouri. We learned from our friends that all the corn grown in the vicinity of Tarkio is fed to cattle and hogs, and often, a great amount of corn is shipped in. Think of a town of over 3,000 people without a grain-elevator. Tarkio has none, as the grain produced is all fed, and more, too.

Listening attentively to the conversation as we proceeded on our journey, we decided that our knowledge of real farming was very limited, and such as we were familiar with, was mere gardening.

On our way, several field views were taken of "three-horse cultivators." The work done by these cultivators was

perfect, and we noticed all along the way, nearly every one used these large cultivators drawn by three horses, which we learned cultivated two rows at a time. The horses were hitched to the cultivator, as the coal men have their horses hitched to their big wagons in our cities—all three abreast. At last, one of the gentlemen said, "There they are at work in earnest." Directing his conversation to us, he said, "There is where the large photograph is to be taken." The field referred to was a mile or so in advance, and to us it looked like all the others we had passed, until we drew near, then the sight which met our eyes was incomparable. Mr. Rankin was already there, and in short order, the men with their teams were drawn up in line, to suit the photographer.

While this arrangement was being made, we inquired of Mr. Rankin about his farming operations. We learned that he has fourteen big farms, aggregating about 30,000 acres of land. He explained his method of handling these enormous farms, which is so systematized that it requires but a few moments attention each day, as he re-

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INVESTORS who want their money to earn larger dividends than paid by Savings Banks will do well to write us. American Finance Company, Department of Investments, Baltimore, Md.

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Handsome Booklet Free showing how to invest to secure large yearly income. W. E. Beveridge, Baltimore, Md.

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ceives a daily report from each foreman in charge.

At last the photograph of forty-two of these three-horse cultivators was taken, in the midst of six thousand acres of corn. In addition to the corn, there was also 2,000 acres of tame

grass in this tract. The picture will never be forgotten by your correspondent. One hundred and twenty-six head of horses and mules in line, with forty-two drivers, looked like the mobilization of cavalry, and it is no wonder that such a photograph would interest the agricultural department of the World's Fair. As soon as the photograph was taken the men went on cultivating.

We then drove on further and met five four-horse teams drawing wagons loaded with ear corn, as it was feeding-time on Ranch 6. To give the figures—number of fat cattle, number of hogs, or bushels of corn fed to them daily, by Mr. Rankin would only confuse our readers. We are informed that he is the largest individual farmer and feeder in the world. He has twenty-odd thousand acres of this rich land which is worth from \$75 to \$100 per acre, together with the thousands of cattle and hogs which consume the product of same, the labor of operating which requires about a thousand head of horses and mules, and the requisite number of machines, implements, etc., to carry on this farming, with about three hundred hired hands; our readers can get some idea of the possessions and the enormous capital invested in his business.

Mr. David Rankin is a plain, unassuming, though very busy gentleman, in his 79th year. He began his busy life without money. In its stead, he possessed a good moral training, unlimited ambition, honest intentions, and progressive ideas, which account for the success he has met with. He is always on the alert for any labor-saving method or machine, so long as he gets satisfactory results. The two-row shovel-cultivator which is drawn by three horses is the latest implement he has adopted, and he is without doubt the most extensive user of this in this country, having about 150 of these machines. The most approved style of these cultivators is now manufactured in his home town and he stated that he would soon replace all his old-style cultivators with these, which are made by the Midland Mfg. Co. This factory operates a wholesale house in Kansas City, located at 10th and Hickory Sts., from which place the major part of their product is distributed. We understand this company is preparing and will have for distribution in the near future a pamphlet setting forth the advantages of raising corn, and the latest and best methods for doing so, together with some interesting statistics, as well as valuable information relative to the World's Fair in 1904. This little book will be mailed to any of our readers upon application, to the Midland Mfg. Co., Tarkio, Mo. G.

Continued Growth of Foreign Trade.

The foreign commerce of the United States in the fiscal year just ended is larger than in any preceding year in its history. The total of imports and exports as shown by the Department of Commerce through its Bureau of Statistics is, for the year 1903, \$2,445,610,417 against \$2,310,937,156 in the year 1900, which was considered the banner year prior to 1903. Exports are larger than in any preceding year save in the exceptional year 1901. The imports for the first time crossed the billion dollar line, the total being \$1,025,619,127 and the exports for the second time crossed the 1,400 million dollar line, being \$1,419,991,290, or practically 1,420 millions. The single year in which the value of exports exceeded those of 1903 is the fiscal year 1901 when the total was \$1,487,764,991. The imports exceeded those of 1893 by about 572 million dollars. The imports, therefore, have increased 18.4 per cent during the decade and exports have increased 67.5 per cent during the same period.

Comparing the figures of 1903 with those at decennial periods at earlier dates, it may be said that the imports of 1853 were 263 millions, those of 1863, 243 millions; for 1873, 642 millions; for 1883, 723 millions. For 1893, 866 millions, and for 1903, 1,025 millions. The exports of 1853 were 203 millions, those of 1863, 204 millions;

for 1873, 522 millions; for 1883, 823 millions; for 1893, 847 millions, and those for 1903 were within a fraction of 1,420 millions.

The imports of 1903, therefore, are less than four times those of 1853, while the exports for 1903 are, practically seven times those of 1853. The table which follows shows the total imports and total exports and the grand total of imports and exports at decennial periods from 1853 to 1903, viz:

Year.	Imports.	Exports.	Total imports and exports.
1853....	263,777,265	203,489,282	467,266,547
1863....	243,335,815	203,964,447	447,300,262
1873....	642,136,210	522,479,922	1,164,616,132
1883....	723,180,914	823,839,402	1,547,020,316
1893....	866,400,922	847,665,194	1,714,066,116
1903....	1,025,619,127	1,419,991,290	2,445,610,417

The growth in importation, which is the most striking characteristic of the year's commerce, is very largely in materials for use in manufacturing. Only eleven months' figures are yet available in such detailed form as to show the increase by great groups, but the figures of the eleven months ending with May show that articles in a crude condition for use in manufacturing, increased 62 million dollars or about 20 per cent as compared with the corresponding months of last year; articles partially manufactured for use in manufacturing increased 4 million dollars or about 5 per cent; articles manufactured ready for consumption increased 18 million dollars, or about 13 per cent, and articles of voluntary use, luxuries, etc., increased 14 million dollars, or about 12 per cent, while articles of food and live animals increased 15 million dollars or about 8 per cent.

Corn Ensilage for Steers.

During the past winter (October 10, 1902, to June 8, 1903,) the Kansas Experiment Station fed a lot of ten steers on corn ensilage, chopped alfalfa hay, and a grain mixture of equal parts ground corn and Kafir-corn in comparison with another lot of twenty steers of the same average weight and quality fed exactly the same feed except ensilage. The results are shown by the following figures:

No. of steers.	Total gain of lot lbs.	Grain consumed per 100 lbs. gain.	Roughness consumed per 100 lbs. gain.	En. Chopped alfalfa lbs.
With ensilage....	4468	715	471	327
Without ensilage..	8959	733	...	483

From the above figures it will be seen that for every 100 pounds of gain the 471 pounds of ensilage saved 18 pounds of grain and 156 pounds of alfalfa. At the market prices of these feeds (54 cents per cwt. for grain and 27½ cents per cwt. for alfalfa), the 471 pounds of ensilage made a saving of 52.62 cents.

The steers were shipped to Kansas City and sold at the stockyards June 23, at the following prices: Lot with ensilage, \$4.95 per cwt.; lot without ensilage, \$4.70 per cwt.

Here is a gain of 25 cents per cwt. in the selling price in favor of the ensilage steers. Adding this to the 52.62 cents already saved it makes the 471 pounds of ensilage worth 77.62 cents, or at the rate of \$3.29 per ton.

Making the above comparison on the basis of roughness alone, the 471 pounds of ensilage plus the 329 pounds of alfalfa in the ensilage lot is equivalent to the 485 pounds of alfalfa in the lot without ensilage. This shows that the 471 pounds of ensilage was equivalent to 156 pounds of alfalfa. At this rate, 3.02 tons of corn ensilage is equivalent to one ton of alfalfa hay.

When sold the ensilage lot were pronounced excellent cattle and fat enough for the ordinary trade. After the cattle were slaughtered and placed in the cooler, Armour & Co. went over the carcasses. The ensilage lot contained the largest per cent of fat—just the right amount for the packer's trade. The carcasses showed good quality, and very little waste, and would be salable in any market. The loins and crops were pronounced excellent.

The lot without ensilage was considered a nice assortment of cattle but they were not nearly as well covered with fat and did not meet the requirements of the dressed beef trade as well as the ensilage lot.

Average farm land in an average season will produce from 12 to 15 tons of green corn per acre. Good bottom land under favorable conditions will produce from 20 to 25 tons per acre. Assuming that land will yield only 10 tons per acre, there is an income according to the above experiment of \$32.90 per acre.

Corn ensilage has been proven a most desirable feed for dairy cows. This experiment, as well as the experience of others who have fed ensilage to steers, indicates that it is a very important factor in economical beef production. D. H. ORIS, Kansas Experiment Station.

Lumpy Jaw.

This disease more often affects cattle than other animals. It is due to a fungus sometimes called the ray fungus or actinomycosis. The fungus occurs upon grass and other vegetation and it is only when it becomes introduced into the tissues that it causes trouble. The disease comes from eating and outside sources and is not contagious in the usual sense of the word. Several animals may become affected while on the same pasture but this is due to all being exposed alike. Some years the number of cases is greater than others, owing to the greater development of this fungus. The disease affects the jaw more often than other parts due to the fact that the tissues are sometimes broken in the act of chewing and thus permitting infection. Any part of the body may be attacked.

The disease is comparatively easy to treat. A dram of iodide of potash is given twice a day, for two weeks to twenty days. For cattle weighing twelve hundred pounds or more the dose is somewhat increased and lessened for calves. If pus be present in the lump it should be let out by incision. In a few refractory cases a second period of treatment may be required after resting for ten days. About eighty per cent of recoveries may be expected. Affected animals should be kept away from the healthy and off the pasture field. In the case of milch cows the milk should not be used. A. W. BITTING, Veterinarian.

Purdue University Agricultural Experiment Station.

Fall-Sown Macaroni Wheat.

EDITOR KANSAS FARMER:—We see in your last issue an inquiry about macaroni wheat for fall sowing. We sowed our macaroni wheat both in the fall and also in the spring and enclose you a letter from our grower here reporting on the same. All our macaroni wheat here was lost in the flood, but we have a large quantity growing near the Kansas and Nebraska line which was sown in the spring and which will yield between twenty-five and thirty bushels to the acre.

F. BARTEDES & Co. Lawrence, Kans.

THE GROWER'S REPORT.

You ask me in regard to the macaroni wheat that I sowed last fall. We did not get it sown until October 15, 1902, on fresh plowed ground. It did finely; had long heads and very stiff straw, no rust and stood up well. My neighbors thought it was good for twenty-five to thirty bushels per acre, but the flood came and ruined it. I think it would have been earlier than the Red Russian or even Tennessee Fultz. I know that if I had sown the wheat on early plowing it would have been much earlier and done much better. I think it should be sown earlier, say September 15 up to October 1. I also sowed some in the spring, did not do as well as the fall sowing; there is too much danger of rust in any spring wheat. OSCAR L. COX, Lawrence, Kans.

Laws Concerning Inspection of Grain.

An Act to amend section 7 of chapter 138 of the Session Laws of 1897, concerning the inspection of grain. Be it enacted by the Legislature of the State of Kansas:

Section 1. That section 7 of chapter 138 of the Session Laws of 1897 be amended so as to read as follows: Sec. 7. It shall be the duty of the Governor to appoint three suitable persons

A WASTE OF MONEY

IN FRUITLESS EFFORTS TO CURE STOMACH TROUBLE.

Not Artificial Digestion But Natural Digestion is What is Needed—How This May be Obtained.

More money is spent experimenting with worthless medicines for stomach trouble than for any other disease. These preparations may temporarily aid digestion but they can not cure indigestion. They go at it the wrong way.

To permanently cure indigestion, dyspepsia or other stomach trouble, the medicine should act upon the digestive organs themselves—not upon their contents. It should not do the stomach's work but should make the stomach able to do its own work.

This is what Dr. Williams' Pink Pills for Pale People will do as no other medicine can. They are not composed of digestive ferments, which promote an artificial digestion, but they tone up the stomach, restore the weakened functions of the digestive organs and thereby promote natural digestion. A case in point is that of Arthur McLaughlin, of No. 2728 North Lincoln street, Chicago, Ill. He says:

"For a long time I was troubled with severe pains in the stomach—a case of chronic indigestion. I would feel a craving for food, but when I ate I experienced those wretched pains which nearly drove me distracted. My kidneys also became affected. I tried several different stomach medicines and, for a while, they seemed to help me. Then the same old pains would come back. This went on for nearly two years and at times I was pretty much discouraged.

"One day a friend advised me to try Dr. Williams' Pink Pills for Pale People. I did so. Before I finished a box the pains were less frequent and less severe, and by the time I had finished three boxes the pains were a thing of the past. Now I can eat anything and enjoy it and I feel like a new man."

Dr. Williams' Pink Pills for Pale People will not only cure stomach trouble but are a positive cure for all diseases arising from impoverished blood or shattered nerves. They are sold by all dealers or will be sent postpaid on receipt of price, fifty cents a box or six boxes for two dollars and fifty cents, by addressing Dr. Williams Medicine Company, Schenectady, N. Y. A diet book sent free upon request.

to be known as the "Grain Inspection Commission," of which not more than two shall be members of the dominant party, who shall, on or before August 1 of each year, establish a grade for all kinds of grain bought or handled in the State, which shall be known as "Kansas grades." The Grain Inspection Commission shall elect one of its members clerk, whose duty it shall be to record its work, keep its books and other items of record. The grain inspection commissioners so appointed shall publish a notice in at least two agricultural and one grain-trade or milling journal of the State, for three consecutive insertions, of their intention to meet for the purpose indicated in this act, so that interested persons or associations may send representatives to consult and counsel with the commissioners appointed to establish the grades; and the grades so established shall be published in two agricultural and one grain-trade paper of the State for three consecutive insertions. The compensation of each grain inspection commissioner shall be one hundred dollars per annum, and mileage to and from commissioners' place of meeting, while occupied with official duties. The term of office of above-mentioned commission shall be two years.

Sec. 2. That section 7 of chapter 138 of the Session Laws of 1897 is hereby repealed.

Sec. 3. This act shall be in force and take effect from and after its publication in the official State paper. Approved March 18, 1903.

White Markings of Blackbirds' Wings.

In your July 2 issue Chas. M. Jennison reports having seen small blackbirds with white in their wings but those seen by me were of the same size as the common blackbird. I shall

expectingly await the appearance of the variety he saw, as well as the return of those I mentioned, as the performance he describes must be a very interesting sight.

I think it possible, though not probable, the birds mentioned by "Marjorie Lester," in the next number, and which she thinks are the "dark bunting," are the same as those of which Mr. Jennison writes. As I can find no description of the "dark bunting," I have tried to compare it with the cowbird, which is also known as cow-bunting, but although unable to reach a positive conclusion, I presume it is a distinct species.

WILSON G. SHELLEY.
McPherson County.

Farm Notes.

N. J. SHEPHERD, ELDON, MO.

Push the plowing for fall wheat. Knowledge is greater than physical force in farming.

When an animal has the scours it indicates indigestion.

For the average farmer it is not safe to depend on a single crop for profit. The prosperous farmer always has good tools and takes care of them.

The farmer who is always experimenting rarely makes a success.

At this time with breeding animals too much grain is more detrimental than not enough.

The period of greatest growth in an animal is before the animal matures.

Soaking rains on the manure heap take out much of soluble proteids.

In nearly all cases early matured stock are raised at a greater profit than those maturing slowly.

The farmer must compound and use the feed that he has at hand or such as is most easily produced.

Of all fertilizers ground bone is the best and most durable where general crops are grown.

To be in the best possible condition physically it is necessary that a horse's skin be clean.

To some extent green manures and the use of commercial fertilizers must be resorted to, to maintain fertility.

Properly managed, sheep and the turning under of green crops will restore any piece of land to fertility.

The pastures and meadows will be better next year if they are not pastured down too closely during the summer.

As the length of the field is increased at the expense of its breadth more fence is required.

The farther you are from market the greater the necessity of condensing products by feeding grain and stover to animals.

When applied to the soil wood ashes aid greatly in reducing the organic matter in the soil to its mineral elements.

As a rule it is not good economy to grow hay to be sold off the farm, a higher price can be obtained for hay by converting it into beef.

Land in a square can be enclosed

with less expense than an equal area in any other form bounded by straight lines. [Hexagons require less fence than squares, but on some accounts are less desirable.—EDITOR.]

One of the best systems of economy on the farm is that which not only maintains fertility but keeps it constantly increasing.

Thin spots in the pasture may be seeded by either raking or harrowing and then sowing, using plenty of seed.

Instead of laying plans to purchase commercial fertilizers, buy bran, oil-meal and shipstuf to feed out to stock on the farm.

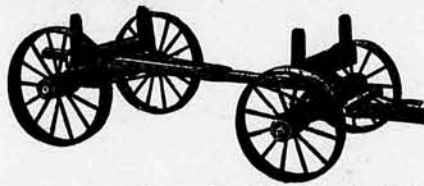
On sandy soils clover is the best renovator when it is plowed under, because this furnishes the vegetable matter those sandy soils are usually deficient in.

Bran and cottonseed-meal can often be purchased and used to a good advantage; they will increase the flow of milk, induce a rapid growth in young stock, and add to the value of manure.

Good farming is not merely doing one thing well but so far as is possible adopting all improved methods of increasing the productiveness of the land.

Farm Wagon Only \$21.95.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 28 inches high, fitted with 24- and 30-inch wheels with 4-inch tire, and sold for only \$21.95.



This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

Gossip About Stock.

(Continued from page 795.)

Duroc-Jersey gilt as any one acquainted with the breed well knows, but to those who are not acquainted with the breed it may sound like a fish story.

A good herd of Berkshire swine is always an object lesson and our regret is that they are so few in number. When such a herd is composed of individuals that are worthy, both of the breed, the family represented and the breeder, its map of Kansas. A short distance from Carbondale, Kans., is such a herd. This herd is the property of W. H. S. Phillips, and is composed of individuals that he has every reason to feel proud of. The herd is headed by Rome Park Chief 64775, by T. A. Hubbard's Longfellow 29618 and out of Lena 9th 43858. One of the good things in this herd is Queen Headlight 56391, by Headlight 48933, out of Orange Girl 44703. Her sire was bred by George Berry and her dam by Mr. Phillips himself. She traces back to McCulley's Patent stock, an ancestry that has been good all the way down. She is a splendid individual and really ought to appear in the show-ring this fall. Another good one is a sow lately bought from G. D. Williams, owner of the East Reno Berkshire Herd, Inman, Kans. This sow was sired by Rome Park Chief and she had eleven pigs in her first litter, ten of which she

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Price \$1.00 per bushel. Send for samples.

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raised. This is very nearly equal to Queen Headlight's record, whose first litter was ten pigs and whose last was sixteen. She has never raised less than ten nor more than sixteen. Mr. Williams' herd embraces some of the best blood to be found in the United States. It will be remembered that his her boar is out of the first litter brought to Will H. Rhodes of Tampa from imported Elma Lady for which he paid \$150 in Kansas City, thus making her the highest priced sow ever sold in that great market. When we say that Mr. Phillips' sow is a good one, we have only to point to her ancestry to prove that she ought to be. Mr. Phillips has a very fine lot of youngsters of spring farrow which he has taken pains to give good care. We have no hesitancy in placing them among the best lot of Berkshire pigs we have seen this season. His advertising card is on page 807.

The L. A. Allen Cattle Commission Co., which has been in business in Kansas City for twenty-five years and ought to know, has this to say about the railroads and the cattle business: "In the past two years railroads have advanced freights on live stock from 30 to 50 per cent. Under the Elkins bill they can do about as they please and be protected by the Federal law. It was a railroad measure, railroaded through Congress by railroad influences. Not content with advancing rates they have given the worst service known in the history of the trade. The average railroad superintendent does not know the difference between coal and cattle. He wants tonnage over his road regardless of slow time, delays, and damage to live stock. Cattlemen have enough to contend with in the way of blizzards, winters, drouthy summers, and low markets without having to pay exorbitant freight with heavy shrinkage on their cattle. We suggest that cattlemen call meetings and pass strong resolutions against being subjected to bad railroad service which seems to be in store for them again in this season. Put strong questions to railroad managers. Ask them if they intend to comply with their charters in which they contracted to give adequate service? If they will not then their franchisees should be forfeited. They must be made to know that live stock is perishable, and when put on trains should run twenty to twenty-five miles per hour and not five or ten, as was the case last year. The railroads are capitalized up into the hundreds of millions and there should be no excuse about shortage of cars and motive power. Call the attention of your railroad commissioners to this matter. Shippers should demand their rights. If they don't they will be losers. We will do all we can at this end."

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Geo. O. Foster, Registrar, Lawrence, Kans.



The above is a picture of one of the largest business colleges in this country. D. L. Musselman, the president, opened the school thirty-three years ago, and has steadily built it up until now the Gem City Business College has a National rep-

utation and its graduates can be found in every State. If you or any of your friends are contemplating entering a business college, we would advise you to write Professor Musselman before deciding where to go.

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Flesh and Fat in Beef.

(Continued from page 793.)

the live animal is misleading. Some breeders, and especially fitters of show cattle, ignorantly lead us to suppose that a plump and full loin edge represents flesh, or extra quality of edible

creasing as the cut approaches the flank end.

The short loin of the steer John also has too much fat on the hips. The short loin of the baby beef is a mass of tender flesh at this point.

A century ago our forefathers who

en more smoothness of outside fat, we have progressed until we have smoothly covered beeves like Donald (and many more evenly covered than he. Too frequently our fat-stock show-animals are simply attractive models of bovinity, regardless of utility. This lack of utility applies to overfed breeding stock to an alarming extent. Putting breeding animals in show condition may seriously injure their usefulness as breeders.

The Ribs: These represent the only high-priced cuts from the fore quarters. (See Figs. XV and XVI.)

The steer Donald shows almost two inches of spine fat. When alive this was indicated by the touch. The steer John shows less fat, but displays nearly as much edible lean. The baby-beef rib, like its long loin, is nearly all fine-texture lean.

By comparing cuts (Figs. XII and XVI), it will be noticed that there is a considerable difference in the amount of lean meat presented. This is due to a slight variation in the place of cutting. In figure XII the knife was directed half way between the ribs, while figure XVI shows a cut made close to the rib. Outside of this slight variation these two figures show corresponding cuts.

The Plates: Loading the high-priced cuts with excessive fat causes an extra deposit of fat on the less valuable cuts. This waste is shown in figure XVII.

The plates of the two steers show about 25 per cent of lean in proportion

cuts are placed in freezers by the packer, mostly in the autumn, and resurected in the early summer months and shipped to Eastern markets. Being quite lean and boneless, they meet with a ready sale. The flesh from the plate and brisket, chuck, shoulder, etc., are either made up into bologna sausage or canned; hence the name canner.

Color of the Flesh and Fat: The ideal color of lean beef is a faint red. The color of the lean in the steer Donald was perfect. The color of his fat was whiter than most steers of his age, but hardly so white as that of John. A mild or pale red color of flesh and a delicate ivory-white fat are two essentials for good-flavored and especially tender beef.

The color of the lean meat in the steer John was also perfect. It had a fine texture, was nicely marbled, showing what aristocratic breeding does in the bovine race. When blended with common blood, which has coarser grain, coarser muscle, and coarser bone, the happy medium is struck, and not infrequently grades have justly won carcass premiums at fat-stock shows.

The color of the meat of the baby beef was somewhat lighter than that of the steers, and that of the veal calf was still lighter. The color of the canner meat was very dark red.

THE COOKING TEST.

A sample of the loin steak, the rib roast, and a boiling-piece from the shoulder clod were taken from each of the steers and from the baby beef and submitted to the domestic science department for a cooking test. Each class of meat was treated to its required temperature. Small samples of each were given to twenty invited guests, who were each provided with a card on which they were to write their judgment as to the character of the meat. Each piece of meat was designated with a numbered paper flag, the guests having no knowledge as to what animal the number represented. Nothing was served with the meat. The following is a copy of the card on which the guests expressed their judgment.

It was explained to the guests that they would be served with three samples each of steak, roast, and a boiling piece from a very fat ani-

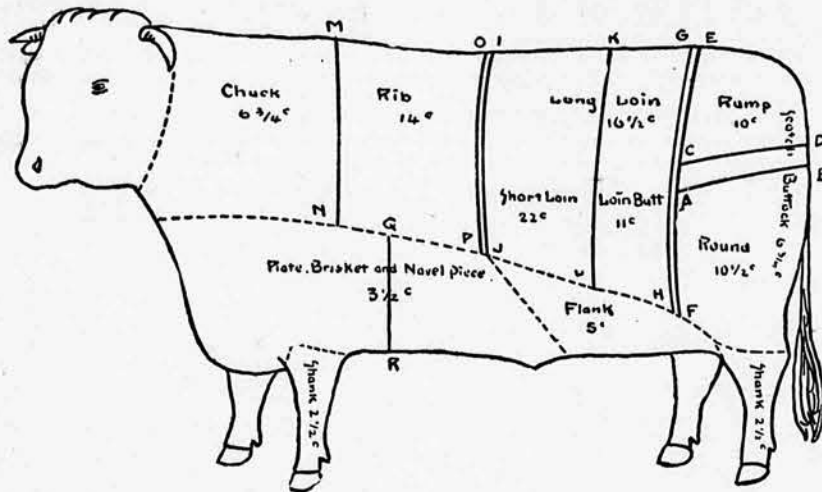
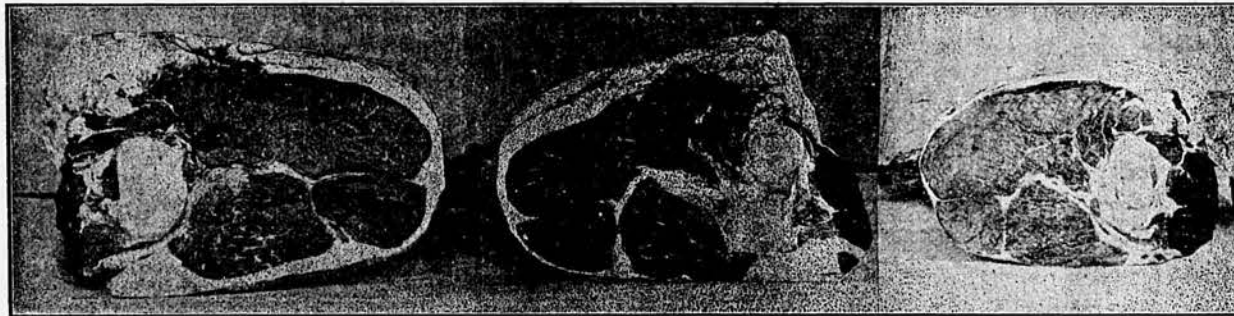


Fig. VI.—Diagram showing where Carcasses were Cut for Photographing.

meat. These illustrations say not, but on the contrary show how this extreme fat is made at the expense of the natural amount of lean, for as you augment the per cent of fat you as surely lower the per cent of lean.

These comments should not be interpreted as meaning a condemnation of fat, for the latter is essential to prime beef; it is the standard for beef, pork,

engaged in the beef breeding and feeding business produced specimens of the various beef breeds that had a large amount of fat, and they would take pride in exhibiting specimens that to-day would be considered hideous animals. They had hips as big as peck measures, briskets like fifty-pound sacks of flour protruding between their forelegs, the shoulderside, the back,



Donald.

John.

Baby Beef.

Fig. VII.—Rounds, enriching Rump (see A-B, fig. VI).

and lamb; and yet it is possible to render these largely inedible by excessive fat. There is less danger of this with young animals, since here the natural flesh is not so readily swamped with excessive fat.

When the steer John was alive we predicted he would show one-half inch of fat on the top of the back-bone, as contrasted with an inch and one-half in the case of Donald. The fulfillment of this prediction is readily seen the loin cuts. The steer John was really too fat to be a profitable cutter even at the age of 24 months. If he had been slaughtered sixty days sooner he would have been just right, and at so much less for cost of production.

The steers, Donald and John, demonstrate the fact that the pure-bred animals have more aptness to fatten than grades. It is this fattening element, this quick-train movement, that makes our pure-bred cattle so much more valuable as feeders and impregnators, factors so necessary for the improvement of our low grades of cattle.

The fat on both of these steers is of fine quality, as was indicated by the touch, pliable skin, and fine quality of the hair. Poor handlers invariably furnish tallow cakes instead of choice quality of fat, and the lean is coarser in the grain.

It will be notice that in the baby-beef loin there is not an ounce of waste fat. It is all edible. It is not as juicy and may lack the flavor of the other two, but it is undoubtedly tender, and tender beef always has more friends than adverse critics. This class of beef is used in the suburban districts of our large cities. The cuts are relatively small and suited for small families. Children eat it without complaining of too much fat. Every portion of the baby-beef carcass can be used.

The Short Loins: In order to show what is meant by a fat hip, the short loins are shown. (See Fig. XIII.)

In securing figure XIII, it was necessary to cut the long loin at the point of the hip-bone. The steer Donald shows a depth of over two inches of fat on the point of the hip, the amount in-

ribs and the rump bulging and rolling with fat. The celebrated "White Heifer that Traveled" is a good illustration. (See Fig. XIV.)

In speaking of this heifer, Mr. Alvin H. Sanders, in his book on Shorthorn cattle, says: "About the year 1806 Robert Colling reared a purely bred heifer, afterward called 'The White Heifer that Traveled,' which he sent out through the principal agricultural counties for exhibition. The date of her birth is not given in the first volume of the English Herd-Book, where her pedigree is recorded. She was got by Favorite 252 from a dam called 'Favorite Cow,' bred by R. Colling. The name of 'Favorite Cow's' sire is not given. Her grandam, 'Yellow Cow,' was by Punch 531, and her great-grandam was by Anthony Reed's Bull 538, and bred by Mr. Best, of Manfield. The 'White Heifer' being twinned with a bull, and herself not breeding, she was fed up to her greatest flesh-taking (we would now say fat-taking) capacity and extensively exhibited. Her age when slaughtered is not given, but the account states that her live weight could not have been less than 2,300 pounds, and her dead weight was estimated at 1,820 pounds." (If these figures are correct she dressed 79.13 per cent.)

By more judicious mating and line-breeding of those that nature had giv-

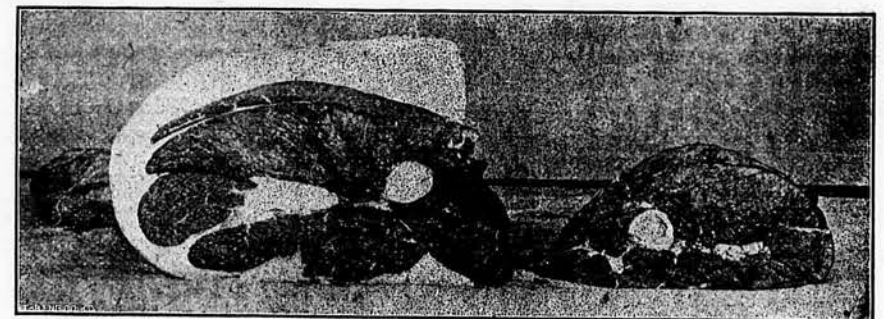


Donald.

John.

Baby Beef.

Fig. VIII.—Rounds, impoverishing Rump (see C-D, fig. VI).



Donald.

Canner.

Fig. IX.—Rounds, showing Expansive Power of Fat.

to the fat. In the baby beef there is not any waste except the bone.

With the exception of the round, illustrated herewith, no photographs of the canner were taken. The uses to which the canner are put are so different from the steers or baby beef, very little comparison can be drawn.

The meat from the canner round furnishes a commodity known as dried beef. The boneless butt is cut between the point of the hip and the rump-bone. The loin strip is cut from the upper side of the short ribs, the tenderloin from the lower side, and the regular or Spencer roll is taken from the back rib and counting to the eighth, when the feather of the shoulder-blade is reached. The last four

BEEF TEST.

Descriptive Terms:

Animal: Fat, butcher's, and baby beef.
Quality of fiber: Tender, medium, tough.
Flavor: Rich, medium, poor.
Rank: First, second, third.

Article, beef.	Animal.	Judgment.		
		Qual. of fiber	Flavor	Rnk.
1. Steak.....				
2. Steak.....				
3. Steak.....				
4. Roast.....				
5. Roast.....				
6. Roast.....				
7. {Boil, f.....				
8. {Boil, s.....				
9. {Boil, r.....				
10. {Boil, s.....				

mal, a butcher's animal, and a baby beef. They were asked to pass judgment as to which animal each sample of meat came from and to write their judgment in the column headed "animal." The superfluous fat was removed from the

larger number of votes on John and the baby beef classes them as medium in flavor. In the boiling-pieces, the baby beef ranked first, John second, and Donald last, the latter receiving ten votes for being medium in flavor

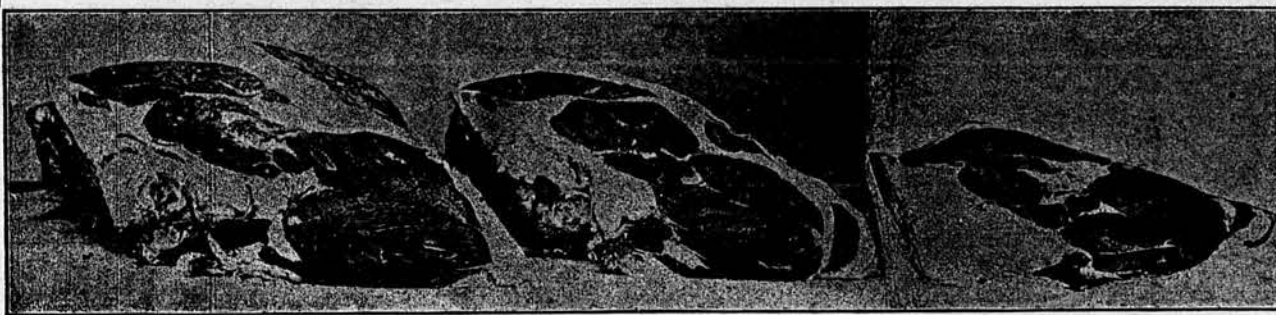
than in either the broil or roast. However, each sample, if served upon the home table, would be classed as excellent.

Loss of Weight in Roasting: The roasts of the three animals were

cattle for the feed-lots to improve his stock by purchasing pure-bred cattle.

One of our best judges of beef cattle, both alive and on the block, is quoted as saying: "Our improved breeds of beef cattle were getting to contain so large a per cent of fat that they were not as profitable from the butcher's standpoint as a plainer-bred steer, and so far as quality is concerned, a plainer-bred steer's carcass would have sufficient quality, if the steer has been properly fed and ripened."

It would undoubtedly be a better advertisement to a pure breed to have its slaughtered animals show as nearly the ideal condition as possible on the block. Unfortunately fat in excess is frequently upheld as the standard of excellence. In the public sales of today it is the fat animal that brings



Donald.

John.

Baby Beef.

Fig. X.—Butt End of Loin (see E-F, fig. VI).

samples before serving. The quality of fiber and the flavor were to be described in the terms indicated at the head of the card. They were asked to rank the steaks, roasts, and boiling-pieces separately. Two treatments were given to the boiling-pieces, one (r), rapid or vigorous boil, and the other (s) simmer.

Judgment as to Animal and Quality of Fiber: The following table gives a summary of the votes as to the animal and quality of fiber. A few of the guests failed to vote on some of the points.

No. of sample	Animal from which sample was taken.	Votes of guests as to what animal they thought the sample belonged.			Votes of guests as to quality of fiber.			
		Fat steer (Donald)	Butcher's steer (John)	Baby beef.	Vigorous boil or simmer.	Tender.	Medium.	Tough
1	Baby beef.....	2	12	8	.....	1	8	15
2	Fat steer (Donald).....	15	2	1	.....	14	3	1
3	Butcher's steer (John).....	1	8	18	.....	8	10	1
4	Baby beef.....	4	18	0	.....	0	4	15
5	Fat steer (Donald).....	18	4	1	.....	14	5	0
6	Butcher's Steer (John).....	0	2	15	.....	14	5	0
7	Baby beef.....	8	9	5	r.....	8	4	8
8	Fat steer (Donald).....	8	6	8	s.....	7, 10	4, 8	4, 12
9	Butcher's steer (John).....	6	2	10	r.....	4	9	2
					s.....	5, 9	10, 19	0, 2
					r.....	7	6	1
					s.....	7, 14	9, 15	1, 8

From the above table, it will be plainly seen that the guests were fairly successful in deciding what meat came from the fat steer, but many confused the butcher's animal with the baby beef.

Strange as it may seem, the baby beef was pronounced tough in the boil and roast. This may be partially accounted for by the fact that the baby-beef animal was comparatively poor, and the fat had not been deposited between the muscular fibers to make it tender.

In the boiling-piece, the baby beef was considered tender. In boiling this meat it is possible that the connective tissue gave way quicker than the boiling-piece of the fat steer, Donald, or the butcher's animal, John. The fat steer (Donald) received the largest number of votes for being tender in the boil and roast, but stood lowest in the boil. The butcher's steer (John) was considered as tender as Donald in the roast. Donald and John received very few votes for being tough.

The "simmering" boil received more votes for being tender, especially in the baby beef, than the vigorous boil, although in several instances there was very little difference.

and ten votes as being poor. Very little difference is noted in flavor between the vigorous boil and simmer, except in the fat steer (Donald), where the vigorous boil gets the largest number of votes.

The rank varies with the flavor, and very closely with the quality of fiber. The fat steer (Donald) unquestionably ranks first in the broil and the roast, but falls behind in the boil. Butchers claim that the best-flavored meat comes from the lean of fat animals.

In passing judgment upon the various qualities of meat, it will be noticed by the votes that there was more or less difference of opinion; this was especially

weighed before and after cooking. The following figures give the results of the test:

	Weight before roasting.	Weight after roasting.	Loss in weight.	Perct. of loss.
Donald..	8	4 8	3 8	43.7
John.....	6 10	3 2	3 8	52.8
Baby beef.	4 4	2 4	2	47.0

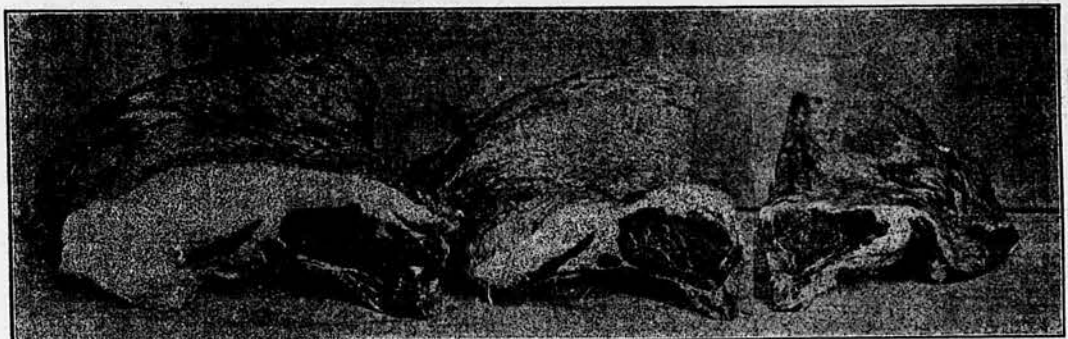
Weights were also taken of the boiling-pieces:

	Weight before boiling.	Weight after boiling.	Gain in weight.	Perct. of gain.
Donald..	3 2	3 4	2	4.0
John.....	2 12	2	-12	-27.27
Baby beef	1 10	1 10	0	0

While the losses and gains sustained are interesting, no particular conclusions can be drawn from this one test.

the highest price, even though there is by its side a better-framed animal that is in far better breeding condition. Fat and fecundity are more or less antagonistic, as is shown by the fact that barrenness is more common with fat animals than with those of lean or moderate flesh. For breeding purposes fat is a hindrance rather than a help. Breeding stock fitted for the show-ring must have its fat reduced after the show season is over. It taxes the skill of the feeder to the utmost to reduce this fat, as a mistake at this time may ruin an animal for future usefulness as a breeder.

The farmer or amateur breeder visits the fairs and stock shows and sees



Donald.

John.

Baby Beef.

Fig. XII.—Rib End of Loin (see I-J, fig. VI).



Donald.

John.

Baby Beef.

Fig. XIII.—Short Loins parted at Point of Hip (see K-L, fig. VI).

No. of sample	Animal from which sample was taken.	Votes of guests as to flavor and rank.						
		Vigorous boil or simmer.	Flavor			Rank.		
			Rich	Medium	Poor.	1st.	2d.	3d.
1	Baby beef.....	.....	1	12	6	1	8	15
2	Fat steer (Donald).....	.....	16	8	0	14	4	0
3	Butcher's steer (John).....	.....	0	11	1	8	10	5
4	Baby beef.....	.....	0	5	13	0	1	17
5	Fat steer (Donald).....	.....	18	6	0	11	8	0
6	Butcher's steer (John).....	.....	4	10	4	6	11	1
7	Baby beef.....	r.....	8	2	4	7	4	4
		s.....	8, 16	3, 5	1, 5	4, 11	4, 8	2, 6
8	Fat steer (Donald).....	r.....	4	6	4	2	9	4
		s.....	1, 5	4, 10	6, 10	2, 4	5, 14	5, 9
9	Butcher's steer (John).....	r.....	8	9	1	6	4	5
		s.....	3, 6	8, 17	2, 3	5, 11	2, 6	5, 10

In flavor, the fat steer (Donald) stands first in the broil and roast, John second, and the baby beef third. The

true in regard to the boiling-pieces, as there the individuality in flavor seemed to be much less marked

The cooking and serving of these various samples of meats was under the direction of Prof. Edith A. McIntyre, who was ably assisted by Misses Elizabeth J. Agnew and Olivia Staatz. Much credit is due the domestic science department for the excellent manner in which the meats were cooked and served.

RELATION OF BREEDER, FEEDER, BUTCHER, AND CONSUMER.

The Breeder: As improved cattle take the place of our common stock, the problem of feeding for lean meat will become more and more important. To have high-grade or pure-bred cattle show excessive fat on the block does not always inspire the man who raises

stock in plump, fat condition, and as this condition is pleasing to the eye he holds up these animals as his standard and demands animals in fat condition when he buys. As long as the demand is for fat animals the breeder will supply this demand, even though it is a detriment and useless expense both to the seller and buyer. When we are able to recognize merit without its being padded with fat, it will mean a saving of thousands of dollars to breeders of live stock. Utility, not excessive fat, should be our standard of excellence.

Fat, or the fat tendency, that would be condemned by the butchers may have its place in bulls that are to be crossed upon scrub or common cows

that are deficient in the fat element, but all such crosses should be made intelligently by the breeder.

The Feeder: The average feeder may not be guilty of getting his cattle too fat. For this reason, it is sometimes suggested that he be encouraged to get his cattle as fat as possible, in

enacted for the destruction of infected herds? What is the law on the subject?

Answer.—There is no satisfactory cure for genuine hog-cholera known at the present time. In regard to the destruction of diseased herds and disinfection, that is a difficult question to

feet of the same, or on uninclosed land, there is a maximum penalty of \$500 fine, six months' imprisonment and liability for damages resulting.

N. S. MAYO.

Veterinary Dept., K. S. A. C.

Cavalry Horses.

In purchasing horses for the cavalry service of the United States, the following regulations are in force:

The cavalry horse must be sound and well bred; gentle under the saddle; free from vicious habits; with free and prompt action at the walk, trot, and gallop; without blemish or defect; of a kind disposition; with easy mouth and gait; and otherwise to conform to the following description: A gelding of uniform and hardy color; in good condition; from 15¼ to 16 hands high; weight not less than 950 nor more than 1,150 pounds; from four to eight years old; head and ears small; forehead broad; eyes large and prominent; vision perfect in every respect; shoulders long and sloping well back; chest full, broad and deep, fore legs straight and standing well under; barrel large and increasing from girth toward flank; withers elevated; back short and straight; loins and haunches broad and muscular; hocks well bent and under the horse; pasterns slanting and feet small and sound. Each horse will be subjected to a rigid

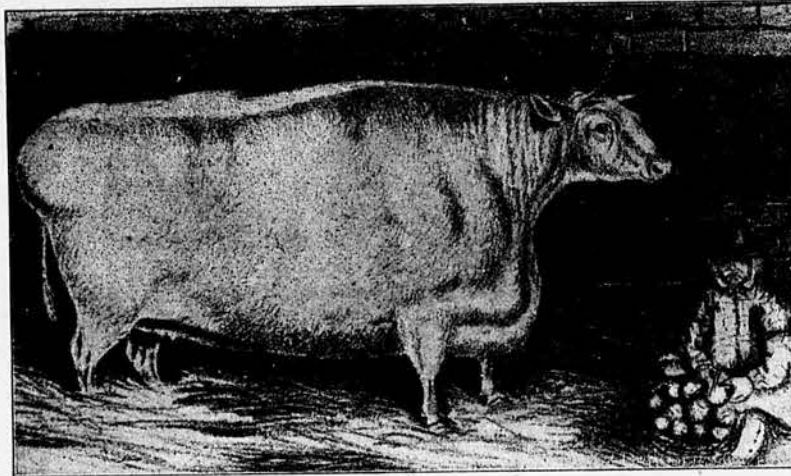


Fig. XIV.—Robert Colling's Celebrated White Heifer that Traveled.

order not to fall below the market requirements. While it is doubtless true that many feeders fail to get the proper finish to their cattle, this is no reason why they should remain in ignorance of what constitutes a proper finish. The feeder should be taught as to what is meant by an ideal beef, and encouraged to reach that ideal whenever it is possible, and to be able to recognize it when it is reached. Such knowledge will inspire a feeder to do better feeding and will undoubtedly result in the marketing of better cattle.

Another class of feeders may market their cattle in a finished condition, but not being able to recognize this condition, may be led by unscrupulous buyers to imagine their cattle are not fat enough, and sell them accordingly. Feeders need to know what they have and what their cattle will show upon the block. The more knowledge feeders have along these lines the more certain they are to be respected and to get their just dues.

The Butcher: The butcher buys a beef animal for the amount of lean meat he is able to get from it, and especially for the amount of lean in the high-priced cuts. He wants just as little waste as possible. It is his busi-

ness to cater to the desires of the consumer, and whatever the consumer demands he tries to secure in the purchase of a beef animal.

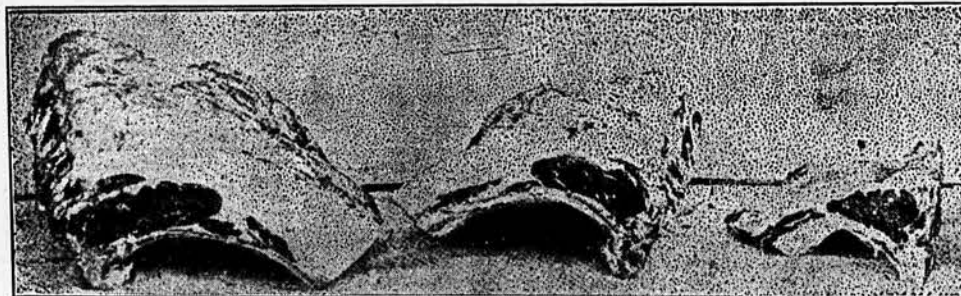


Fig. XVI.—Rear End of Rib (see O-P, fig. VI).

ness to cater to the desires of the consumer, and whatever the consumer demands he tries to secure in the purchase of a beef animal.

The Consumer: The consumer dictates to the butcher, the butcher to the feeder, and the feeder to the breeder; in other words, the consumer is the supreme judge as to what constitutes good beef, and all the others must bow to his judgment. There is no question but that the consumer is demanding more lean and less fat. As indicated in the cooking tests, there must be enough fat distributed among the fibers of the lean to make the meat tender and well flavored, but the heavy layers of fat are now relegated to the tallow box, and not served on the meat platter. If this be true, it behooves both the breeder and feeder to produce animals that will furnish the largest amount of well-marbled meat in the highest priced cuts with the least amount of extraneous fat.

Hog Cholera.

Mr. H. V. Dwyer, Mitchell County, Kans., asks the following questions: Is there any cure for hog-cholera? Would it not be better if laws were

to warrant its application to a large territory.

A brief summary of the statutes relating to hog-cholera is as follows: "Owners are required to bury or burn hogs that have died from disease,

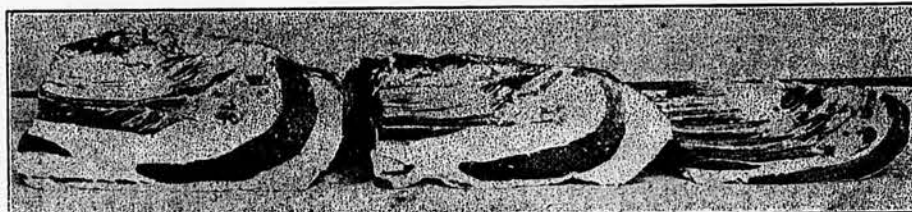


Fig. XVII.—The Plates (see Q-R, fig. VI).

within twenty-four hours. The maximum penalty being a \$100 fine. For selling diseased swine without giving full information regarding the disease, or for selling dead swine that have died of disease, or for throwing or depositing dead swine in rivers or running streams, there is a maximum penalty in each case of a \$100 fine. For knowingly allowing diseased swine on public highways or within one hundred

inspection and any animal that does not meet the above requirements in every respect must be rejected. A horse under five years old should not be accepted unless a specially fine, well-developed animal.


Ration for Steers.

Mr. J. W. Doran, Hamilton, Ohio, writes: "I would like you to suggest a balanced ration for 2-year-old steers from the following: Cottonseed-meal, alfalfa hay, and corn ensilage from corn making 50 bushels per acre."

The Kansas Experiment Station has just marketed a lot of steers fed on corn silage and alfalfa hay and a grain ration of equal parts ground corn and Kafir-corn. In starting out we fed each steer 20 pounds of ensilage and 5 pounds of alfalfa per head per day. Later on the amount of ensilage was decreased to 18 pounds per day and the alfalfa was increased to 10 pounds. We began the grain ration with about

3 pounds daily per steer and gradually increased until they received all they would eat.

Near the close of the feeding period we introduced cottonseed-meal. This method gave very satisfactory results, the steers made better gains than the others of the same class without ensilage and seemed to be less subject to scours. We believe that our corre-



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spondent could practically follow this plan with satisfactory results.

If he desired a short feeding period he could introduce the cottonseed-meal a little earlier than we did.


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In the Dairy.

Conducted by George C. Wheeler, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

Advantages of Silage for Dairymen.

The great advantages of silage as the means of economical milk-production are such that we believe that every dairyman in eastern Kansas at least, should have a silo. For winter feeding of cows there is nothing which will produce the flow of milk and at so low a cost as good silage.

It is virtually grass in winter and we all know that there is no combination of dry feeds which will produce milk at so low a cost as good June pasture. By having the silo we can approximate the June pasture with the hot sun and hordes of biting flies left out, and so make the winter the time of the largest and cheapest production of milk. In the strictly dairy States the dairymen have ceased to ask the question as to whether they can afford to have a silo. The only question is, the best kind of a silo to build, what combination of feeds to utilize, and how to get them into the silo still more economically.

The silo erected at the Kansas Experiment Station in August, 1902, has fulfilled our highest expectation so far. It was filled with corn in September and a good quality of ensilage resulted. The ensilage was fed to the dairy herd throughout the winter and while no comparative test can be reported upon in exact figures as yet, it gave highly satisfactory results. It was also used as part of the ration for ten head of 2-year-old steers which have just been marketed.

This spring the first cutting of alfalfa (which is so difficult to cure as hay under the usual weather conditions prevailing in the month of May) was run through the ensilage cutter and into the silo. The pastures failed to supply sufficient feed for our dairy cows early in July and the silo full of alfalfa en-

silage standing by the barn ready for such an emergency was opened.

It was found that much more of the silage was spoiled on top than was the case with corn ensilage, owing no doubt to the fact that the cut alfalfa did not pack as closely on top as the corn.

The alfalfa ensilage has a rather pleasant odor and is greatly relished by the cows. The milk flow which would have suffered seriously under the pasture conditions is being maintained very well; and it is certainly a much pleasanter sight to walk down the main feeding-alley of our airy, well-lighted cow-barn and see the cows contentedly munching the alfalfa ensilage than it is to see them out in the hot sun rambling all over the pasture trying to abstract what nourishment they can from the dried-up grass.

Following is an abstract from "Building Silos, Growing the Corn, and Making Silage," by A. W. Trow, dairyman, Glennville, Minn., in "The Creamery Patrons' Handbook," in which some of the features of the silo are discussed by a man who knows from experience what he is talking about.

SILOS AND SILAGE.

To attain the best results the dairyman should have a silo, as by it the cows can be furnished with a succulent food the year round. All kinds of stock thrive on green grass and as silage has the same laxative and corrective qualities, it is equivalent to green grass. By the use of silage, stock can be kept in that healthy, sleek condition that can not be otherwise obtained except when running on good summer pasture. In short, silage is grass in winter.

The silo solves the problem of storing corn-fodder. As corn-fodder has come to be one of the surest and most productive of the forage crops that grow in the dairy belt, it has become necessary for us to seek the best and most convenient means of handling it. Its reliability and enormous yield renders it almost indispensable to those who would make a profitable production of milk on high-priced lands.

The advent of the corn-binder, which has taken the place of the old hand corn-knife, has solved the question of harvesting corn-fodder. However, there is yet an absence of any economical system of handling dry corn-fodder in the barn in any form that brings it to the manger in a condition that is relished by the cow and consumed without waste. It is beyond the question of a doubt that for the feeding that must be done inside the barn the adoption of the silo is the only alternative.

While young stock, sheep and horses may be fed corn-fodder in sheltered yards and in well-sodded pastures where the refuse will be away from the buildings, the dairy cow must receive her feed in a comfortable barn.

SILAGE AS A SUBSTITUTE FOR SOILING.

Many of our farmers who farm on high-priced lands have practiced a system of soiling by planting corn of different periods of maturing, sorghum, peas, oats, rye, and other forage plants, to furnish a green feed to partially or entirely supplement pasture. These farmers are beginning to realize that most of these soiling crops can be dispensed with and all the feed raised at one time and in one field in the shape

of corn-fodder, gathered at one harvest and put into the silo for the following summer feeding, and thus eliminate the extra expense of caring for so many fields and avoid the danger of a failure of some of the many crops that must enter into a complete system of soiling.

THE EXPENSE OF STORING SILAGE.

The expense of filling is often urged as an objection to the silo, but if a

DE LAVAL CREAM SEPARATORS

For twenty years the World's Standard

Send for free catalogue.
The De Laval Separator Co., 74 Cortlandt St., N.Y.

careful account of all labor is kept, of handling corn-fodder by any other

THE U. S. EXCELS ON ANY TEMPERATURE

Our "would-be competitors" the DeLaval Separator Co., finding themselves badly beaten in the six weeks' tests of six different makes of Separators at the Kansas Agricultural College, as shown by the official Bulletin No. 123 issued May 26, 1903, in their efforts to break the force of so disastrous a defeat, have compiled a Bulletin of their own "getting up" purporting to be signed by several students, in which they try to make it appear that the DeLaval was not terribly beaten, as the Official Bulletin shows it was, as follows:

Average test of skim milk of DeLaval Separator	.048
" " " U. S. "	.033
U. S. excels DeLaval	.018

Showing that the DeLaval Separator left 45 per cent. more butter fat in the skimmed milk than the United States.

Again in this "gotten up" Bulletin, our "would-be competitors" state that the U. S. Separator "choked up" on 39 lbs. of milk at 70 degrees of temperature and that the DeLaval ran 80 lbs. Every dairyman using a U. S. Separator knows that the U. S. will not "choke up" on 80 lbs. of good milk at 70 degrees, and that such statements are made in an attempt to break the rapidly gaining popularity of the

U. S. SEPARATOR

We make the following proposition to any dairyman wishing to buy a separator, viz.: We will put a U. S. Separator into his dairy and agree that it will not "choke up" on 80 lbs. or twice 80 lbs. of milk in good condition at 70 degrees, provided he will pay for the separator if it does not "choke up."

The best authorities do not advocate separating at 70 degrees, but if Dairymen prefer to, the U. S. will do it when properly adjusted.

The U. S. Separator skims cleaner than any other separator on the market at any temperature from 70 degrees to 156 degrees at proper adjustment. The Official Bulletin No. 123 of Kansas Agricultural College, dated May 26, 1903, states that

The U. S. Excelled All Others in Tests of Skimmed Milk and in Minimum Total Loss.

THE U. S. SEPARATOR HOLDS WORLD'S RECORD

Vermont Farm Machine Co., Bellows Falls, Vt.

320

The EMPIRE CREAM Separator.

The Easy Running Kind. Will give better satisfaction, make you more money and last longer than any other. Our book shows why. Send for it. Empire Cream Separator Co., BLOOMFIELD, N. J.




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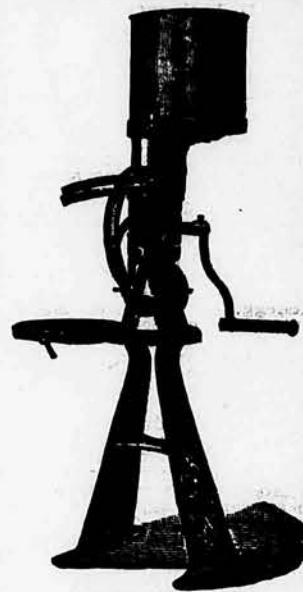
DAVIS CREAM SEPARATOR CO.,
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CHICAGO, ILL.

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All happy, contented and satisfied Cream Shippers, testify every day to the merit of our system of shipping a can of cream. Do you want to join this happy family? Are you going to continue to keep the cows, or do you want the cows to keep you? For 360 days we have enrolled on an average five new members every day. Who is next?

Don't Wait. Commence Now.



Empire Separator.

Blue Valley Creamery Co.
ST. JOSEPH, MO.

method by which it is so prepared that the stock will consume it as they do silage, and in a form that it may be conveniently handled inside the barn, it will be found that the expense will be as much or more than when placed in the silo.

While there is more labor required for hauling in the green corn for the silo than when dry, there is also a large amount of labor saved in other ways, as when the corn goes into the silo the shocking is eliminated and there is no husking, shelling, or grinding.

There is not a better place for the corn grain than with the fodder in the silo.

EXPENSE OF BUILDING.

The cost of a building or a container for silage is no more than when shelter is provided for hay, especially when a good hay-barn is compared with a tub-silo. Many farmers have become so accustomed to building high-priced barns that they do not question the expense of a thousand-dollar hay-barn, while they consider a \$150 silo an extravagance.

Milk Report for Month of May, 1903.

Number of cows in milk..... 14
Average period of lactation, 4 mos. 14 days
Pounds of milk..... 12,377.10
Average per cow..... 844.08
Average daily yield per cow..... 29.47
Average test..... 3.7 per cent

Nine of these cows are under 5 years old; six are under 6 years old. One cow has been milked over twelve months and six over 6 months. You see I bar none from the record. I consider it only fair to include the record of every cow milked. By selecting the best cows only and the fresh cows we could give a great deal better record. I would like to see records of every dairy herd in Kansas published.

Girard, Kans. H. N. HOLDEMAN.

The McAdam & Von Heyne Sale of Holstein-Friesian Cattle at Utica, N. Y., July 15.

The closing-out sale of this herd of pure-bred Holstein-Friesians held at Deansboro, N. Y., on July 15, was a notable event in the history of dairy cattle breeding. The sale was made to settle a partnership and the herd itself had been collected together but two or three years, the animals which give it fame having been purchased within two years. To Holstein-Friesian breeders the sale was chiefly interesting because it included the world's record butter cow, Sadie Vale Concordia, thirty pounds 10.5 ounces, and Mercedes Julp's Pletertje, twenty-nine pounds 5.7 ounces, and several representatives of these families. Both of these cows bore official records, which were made under the auspices of the State Experiment Station representatives, who determined the weight of the milk and the butter-fat. These tests are the largest ever scientifically determined and gave great fame to all representatives of the families from which they sprang. Sadie Vale Concordia was bred by the late firm of Yoemans & Sons of Walworth, N. Y., and it would appear from her blood lines that this great richness and amount of product was due to a skillful blending of the blood of America, Concordia and Netherland Prince, each famous animals of their day.

The Mercedes Julp's Pletertje lines take their richness perhaps most largely from the famous Mercedes, winner of the Breeders' Gazette challenge cup early in the breed's history in competition with the great Jersey cow, Mary Anne of St. Lambert, in a thirty-day test. Sadie Vale Concordia was purchased by Hon. L. J. Fitzgerald of Cortland, N. Y., at \$2,200, and added to an already very superior collection of cattle of this breed. Her son, Sadie Vale Concordia's Paul De Koi, 4 years old, brought \$2,300, being actively bid for by Mr. Fitzgerald, C. F. Hunt, of Manlius, N. Y., and F. E. Gaus, of Utica, N. Y., finally dropping to Mr. Fitzgerald. Three other animals of this family, one 3-year-old and two yearlings, brought \$1,310, making a total for the five head of \$5,810.

Mercedes Julp's Pletertje, last year's world's champion, developed by South Slide Farm, White Bear Lake, Minn., with a test of 29 pounds 5.7 ounces, was the subject of a spirited competition in bidding between Mr. Fitzgerald, Mr. O. U. Kellogg, of Cortland, N. Y., and Mr. Gaus, who carried her up to \$1,700, when Dr. W. T. Housinger, of West Chazy, N. Y., took a hand and the bidding advanced at \$25 jumps between Messrs. Housinger and Gaus, finally going to Dr. Housinger at \$2,200.

A 3-year-old daughter of this cow was sold to Mr. Gaus at \$665, and a 10-months' calf to Mr. Fitzgerald at \$400, making \$3,065 for the three members of the family. Sixty-three head were sold for \$17,500, an average of \$280 per head, a figure the highest since the flush times of the "eighties." The three mature bulls sold at an average of \$1,148, and the calves at \$110 average.

The thirty-one mature females (dropping out four defective cows that averaged \$87.50), brought \$10,360, an average of \$334. These results are very gratifying to breeders and indicate the widely spread demand for and popularity of this great dairy breed, and this point is still further emphasized by the fact that of this entire number of cows less than one-third were possessed of official records and were sold simply on their merits as breeding animals.



WEEKLY WEATHER-CROP BULLETIN.

Weekly weather-crop bulletin for the Kansas Weather Service for the week ending July 28, 1903, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

A warm week, the average temperature in the eastern counties being 2° above normal, and in the western division 4° above. The temperature reached its highest points Tuesday and Wednesday and then moderated. The week has been dry; light scattered showers have fallen in many counties but most of them proved to be but traces. Fogs occurred in Sheridan, Trego, and Stafford on the 24th.

RESULTS.

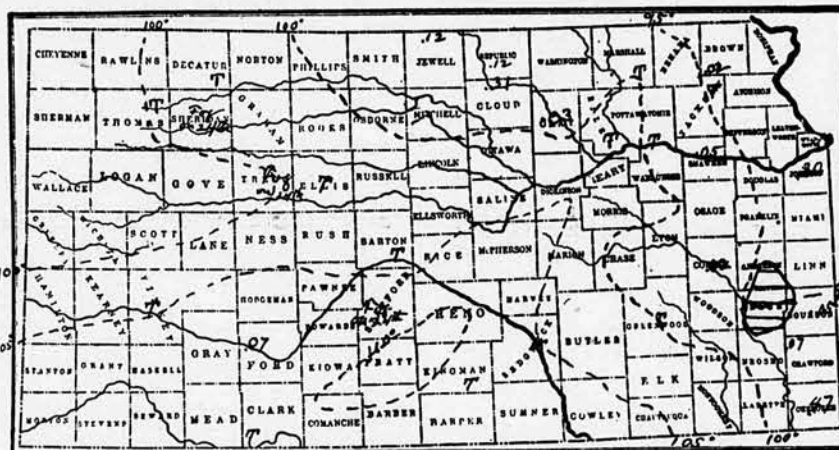
EASTERN DIVISION.

The wheat harvest is over, and thrashing is progressing and though yield is not as great as expected the quality is good. Oat thrashing develops a lighter yield than was anticipated. Corn has continued in good condition and in most counties has made a good growth and has a good color; it is tasseling now, which is a critical condition, and needs rain as the surface ground is baked hard; the only injury to corn in the division was done by web-worms. Grass continues fine and haying is being pushed in many counties, a good crop being secured. The second crop of alfalfa is mostly in the stack except in the northern counties—where it is being cut. The potatoes are fine in Shawnee but small. Blackberries are ripe in the division and are being marketed in Riley but the yield and northern counties are a fine crop. Plowing for fall wheat is progressing in Chautauqua and has begun in Wyandotte, while in Shawnee the oat-stubble is being plowed up and put in Kafir-corn. The web-worm is injuring the sweet potato plants in Pottawatomie. Alien.—Grain is mostly harvested and about half the thrashing done; potatoes ripe but a poor crop; much haying done.

MIDDLE DIVISION.

Winter wheat harvest is over and thrashing is progressing showing a fair yield of a good berry. Oat harvest is about over, and thrashing has begun, developing a lighter yield than expected. Corn is tasseling and silking over a large part of the division and is therefore in a critical condition, and needs rain and cooler weather; there was some damage to corn by hot winds in Stafford and Barton counties and by the hot, dry weather in Reno; corn is generally in good condition over the division but is now needing rain. Prairie haying has begun and the crop is good, but pastures are needing rain. The second crop of alfalfa is stacked in the southern and central counties and being cut in the northern—a good crop. Apples promise a good crop in the south, a poor to fair crop in the central counties but are scarce in the north. Plowing for wheat has begun in Sumner. Potatoes are plentiful but small in Ottawa. Kafir and cane are suffering from the dry, hot weather in Barton while the forage crops are standing the dry weather in Ottawara better than the corn. Grasshoppers have done some damage in Smith and have attacked the alfalfa in Republic. Cattle are doing well generally; some however were killed by lightning in Smith. Barber.—Wheat thrashing in progress; corn and other growing crops needing rain. Barton.—Thrashing making good progress;

Rainfall for Week Ending July 25, 1903.



Maximum temperature shown by broken lines.

SCALE IN INCHES.

Less than 1/8. 1/8 to 1. 1 to 2. 2 to 5. Over 5. T, trace.

Atchison.—Corn needs rain; over half the timothy is in stack, and about one-fourth of the oats; the ground is becoming hard and dry; a large crop of blackberries has nearly all ripened.

Bourbon.—Corn is not suffering for rain and is growing well; prairie hay is being cut and stored in fine condition.

Brown.—Corn will soon need rain; it is in fair condition, but much of the early planted is tasseling low; thrashing in progress; wheat only a fair crop; oats are not yielding as well as expected, and are light; a fine crop of tame hay has been secured.

Chase.—Corn is showing the effects of continued dry, hot weather; second crop of alfalfa mostly cut except the seed crop; farmers ready to begin cutting prairie hay; gardens are dried up.

Chautauqua.—Corn needs rain, some of it very badly; good second crop of alfalfa in stack; wheat ground is baked; Kafir-corn is doing well considering the drought; many are still tending their corn.

Cherokee.—Corn being rapidly cleaned and making good growth; wheat is a light crop; oats crop ranges from poor to very good; hay is a good crop; apples are a fair crop.

Coffey.—Corn needs rain; cultivating is mostly done; worms have taken some of the late planting; thrashing and haying making good progress; hay crop very fine; flax cutting is being pushed; apples badly affected by scab.

Crawford.—Corn beginning to need rain; thrashing progressing rapidly; wheat is a fair crop; oats poor; hay and pastures good.

Douglas.—Fine weather for stacking and thrashing; corn doing well but rain would help it.

Franklin.—Crops are needing rain. Greenwood.—Pastures and meadows getting dry; corn not doing well; early planted is shooting; rain needed.

Jackson.—Good weather for haying; corn needs rain badly; much early corn is tasseling very short, and the late planting grows slowly and is spindling.

Johnson.—Corn growing rapidly; wheat that has been thrashed shows an average yield, both as to quality and quantity.

Leavenworth.—Wheat thrashing begun; oats harvest ready; corn growing rapidly; pastures good and stock in good condition; blackberries ripe.

Linn.—Corn is beginning to need rain; a fine week for putting up hay, which is a good crop; oats being thrashed and yielding very light; some flax thrashed; it is turning out well.

Marshall.—Wheat thrashing begun; yield good, quality only fair; corn is growing rapidly but needs rain; second cutting of alfalfa and blue-grass in progress, and the crops are good; pastures are good and stock water plentiful; potatoes and gardens are drying up.

Montgomery.—Wheat and oats not thrashed

have been stacked; corn and other cultivated crops are doing well but need rain; tame hay has been harvested, and some prairie hay put up, but it is too green yet.

Pottawatomie.—Corn is suffering for rain; a web-worm is doing much damage to late planted corn and sweet potatoes.

Riley.—The ground is in good condition and both early and late corn are doing well; wheat that has been thrashed is not as good as expected; wheat, oats and alfalfa harvested in good condition; large crop of blackberries being picked; a few early apples being marketed; small yield of sweet potatoes looked for.

Shawnee.—Corn has a good color and is growing rapidly; some of the late planting needs rain; thrashing wheat and oats; some are planting oats ground to Kafir-corn; meadows and pastures fine, and cattle doing well; potatoes very good; apples growing well.

Woodson.—Good weather for haying and thrashing; wheat is a fair crop; corn is doing well but begins to need rain.

Wyandotte.—Corn needing rain badly; pastures drying up; fall plowing begun; ground dry and hard.

End Your Butter Troubles

with a National Hand Separator and make more and better butter from same quantity of milk. The National will do it easier, quicker and pay its cost in a very short time. We don't ask you to take our word—we send the machine for

10 Days' Free Trial and let it prove its worth right in your own dairy. You take no risk—we assume it all. If it does not meet your expectations, send it back—we pay the costs. Our catalogue tells more—write for it, it's free.

National Dairy Machine Co., Newark, N. J.

ing is tasseling and silking; corn is growing well generally but some begins to show need of rain; a good second crop of alfalfa is being harvested; some damage by grasshoppers; thrashing is making good progress; wheat yield from fair to good; grass is good and stock doing well; some stock killed by lightning on the 16th.

Stafford.—Corn damaged by hot wind on the 23d; thrashing progressing rapidly; wheat crop good.

Sumner.—Ground hard and dusty; thrashing well advanced; some are plowing for wheat; too dry for corn; grass and pastures are drying up.

Washington.—Good weather for all field crops, but rather dry and warm for garden truck; corn looks well but is tasseling short; wheat is a fair yield and good quality; oats and barley very good; second crop of alfalfa being cut; grass good and stock doing well; fruit of all kinds very scarce.

WESTERN DIVISION.

Winter wheat harvest is nearly finished and stacking and thrashing have begun; the yield and quality are good. Oat harvest is well along and the barley harvest is just closing. Rye is about all stacked and is a good crop. Corn is doing well, and in Thomas is silking; it is now needing rain; the dry, hot weather caught the corn in tassel in Ford and probably ruined it. Forage crops are beginning to show the effects of the dry hot weather in the south but are in fine condition in the north. Cutting of the second crop of alfalfa has begun. Range-grass is curing on the ground in the south and central, but is in fine condition in the north and cattle are doing well.

Clark.—Everything very dry; Kafir-corn is beginning to be affected.

Decatur.—Small grain is about all cut, and thrashing begun; corn is still doing well, but will soon need rain; second crop of alfalfa being cut; it is heavy on the older seeded land, but last year's sowing is very short and light. Finney.—The grain harvest is completed; yield and quality of all grains good; range-grass curing; a large acreage of wheat and rye will be sown this fall.

Ford.—Wheat thrashing has begun; yield and quality of wheat will be fine; harvest is finished; corn killed in tassel and will make poor fodder unless it rains soon; other forage crops in a similar condition; grass is cured; drought has lasted a month.

Grant.—It is getting dry but the crops have not fired any yet; grass dying; cattle doing well.

Lane.—Wheat, barley, oats, and rye are nearly all in the stack or shock; late wheat did not fill well; second crop of alfalfa in bloom; considerable will be saved for seed; grass is turning brown.

Ness.—Harvest is practically over; corn and forage crops are holding their own, although rain would be beneficial to vegetation in general; grass is drying out rapidly; cattle fattening well.

Norton.—Harvest is ended and thrashing begun; yield and quality good; corn growing well; the weeds have taken some corn that had to be neglected on account of the rush of work.

Sheridan.—Many have finished cutting wheat; the harvest has been a large one; corn is looking fine, but some fields need rain; some alfalfa ready for the second cutting.

Thomas.—Harvest is nearly over; barley will all be harvested next week; corn is silking; Kafir-corn and cane are fine; range-grass is unusually good for July.

Trego.—Wheat cutting is nearly done; no rain.

Wallace.—Corn and forage crops need rain; a good second crop of alfalfa is about harvested; barley is about all cut; it is weedy and not as good as expected; range-grass good, and cattle doing well.

Publisher's Paragraphs.

The Sun Flower Company, Atchison, Kans., have now announced the Sun Flower Cure for chigger and mosquito bites. It relieves the itch and pain by killing the poison of these and other insects. Councilman Nellis, of Topeka, assures us that it is the best thing on the market he ever tried. It is a scientific remedy that touches the spot. For other particulars, call on your druggist or address the Sun Flower Company, Atchison, Kans.

Seed winter wheat is the matter that now demands the attention of every progressive wheat-raiser. To get new seed that will bring better results and more money to the grower is a matter of importance, and should receive careful consideration, and in this connection, we call attention to the new advertisements appearing each week of men who have succeeded in producing a variety of seed which they believe adapted to the winter wheat-raising, being superior to that ordinarily grown. This week on page 801 we have the announcement of J. M. Maher, Fremont, Neb., who is well known to our readers and is now offering ten varieties which have been thoroughly tested. Write him for catalogue and free samples.

Waller Chemical Co., Dept. 47 Chicago.
"The Only Mail Order Drug House in the World."

The Poultry Yard.

Moulting.

It is time for the hearty eating, warm-blooded hens to begin to shed their sun-burned, weather-beaten feathers. A little later the bright, new feathers will give even the old fowls a youthful appearance. The moulting process is similar to the shedding of hair among animals. We pick the feathers of ducks and geese when they are ready to fall out, which causes them all to shed at the same time. These feather-producers shed their coats oftener and they are not so long about it as the hens.

Right now is the time to feed the fowls liberally and put them in good condition to go through this natural process safely. A poor hen is usually slow in beginning to moult, which teaches us the importance of getting them in good condition by feed and care. At this critical time when nature needs assistance, more than at any other season, many flocks get less attention than at any other time. This is the case on the farm especially where the fowls have free range, and are supposed to gather all the food they need. They do gather a good deal of food, in the way of grass, bugs, worms, etc., that is well adapted to the moulting season. But often they do not get enough variety in the way of grains. Wheat is considered too expensive a feed by many farmers. We find that a bushel of wheat makes quite a number of feeds for the biddies and they relish it and thrive on it while moulting. Ground oats is a valuable food at this time. If it is not convenient to have them ground try boiling them for half an hour. This softens the sharp hulls. Give the hens a variety of good, wholesome food and no stimulants or tonics will be needed to get them in condition for fall and winter laying.

It is surprising how much water the fowls will drink at this season if given a liberal supply. Watering the chickens is one of the tasks we are so apt to forget or neglect. The vessels used for drinking water become filthy and foul-smelling in hot weather unless thoroughly cleaned and treated to the boiling water process every few days.

POULTRY BREEDERS' DIRECTORY.

BLACK LANGSHAN EGGS for sale, 5 cents a piece. Minnie M. Steel, Gridley, Kans.

BARRED ROCKS ONLY—Heavy boned, vigorous stock, unlimited range. Eggs carefully and securely packed. 100, \$4.15, \$1. Adam A. Wier, Clay Center, Neb.

SUNNY NOOK POULTRY YARDS—S. C. B. Leghorn eggs, from vigorous, good layers, \$1 per 15. John Black, Barnard, Kans.

FOR SALE CHEAP—Pedigreed Scotch Collie pups. W. H. Richards, V. S., Emporia, Kans.

EGGS FROM GEM POULTRY FARM are sure to hatch high-scoring Buff Plymouth Rocks. No other kind kept on the farm. 15 for \$2.30 for \$3.50. Satisfaction guaranteed. M. B. Turkey eggs, 11 for \$2. C. W. Peckham, Haven, Kans.

COLLIE PUPS AND B. P. ROCK EGGS—I have combined some of the best Collie blood in America; pups sired by Scotland Bay and such dams as Handsome Nellie and Francis W. and others just as good. B. P. Rock eggs from exhibition stock; none better; 15 years' experience with this breed. Eggs \$1.50 per 15. Write your wants. W. B. Williams, Stella, Neb.

SCOTCH TERRIERS—Finest bred in this country. Heather Prince, the champion of Scotland, and sire of Noregay Foxglove, out of the champion imported Romany Ringlet, best service at our kennel. G. W. Bailey, Seattle, Kans.

Rose Comb Brown Leghorns Exclusively. Farm raised. Eggs per setting of 15, \$1. Incubator users write for special prices in 100 lots. F. H. MAHON, R. D. No. 3, Clyde, Cloud Co., Kans.



DUFF'S POULTRY

During the summer months we will sell all our fine breeders, consisting of over 400 one-year-old birds, from our breeding pens of this season. Birds costing us from \$5 to \$25 will all go at from \$1.50 to \$5 each. We will also sell spring chicks all summer. Our stock can not be excelled by any in standard requirements and hardiness. Barred Plymouth Rocks, White Plymouth Rocks, Buff Cochins, Partridge Cochins, Black Langshans, Light Brahmas, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs and S. C. Brown Leghorns. Single birds, pairs, trills and breeding pens. Circulars Free. Write your wants. A. H. DUFF, Larned, Kans.

The fowls should have fresh water morning, noon and night. The water soon gets warm even in the shade at this season. Impure drinking water or being compelled to go without water means much discomfort for the fowls, fewer eggs, lack of thrift and likely disease. Milk, sweet or sour, so that it is fresh, is a good summer drink for them, but the milk must not be expected to take the place of water. It is fun to watch the young chickens, and old ones too, tumble over one another to get to the fresh buttermilk we supply them with on churning day. —Mrs. Fannie M. Wood, in Ohio Farmer.

Three Years' Accounts With Hens.

We have always kept a few chickens for our own use, never giving them much attention, except feeding twice a day and getting the eggs. Sometimes they would lay no eggs from October till March. We always had anywhere from eighteen to sixty hens. We never kept geese, had no luck with turkeys, and made nothing on ducks. In 1900, we bought an incubator, used it two years and concluded it did not pay. In 1901, we bought a bone crusher. It has paid for itself by the increase in the number of eggs laid.

We never kept an account of the profit in chickens until 1900. That year we had 60 hens. They laid 377 dozen eggs and at the end of the year we had a balance of \$74 for chickens and eggs. In 1901 we had 80 hens. They laid 324 dozen eggs, and we had a balance of \$65. In 1902 we had 94 hens, and they laid 422 dozens eggs, leaving a balance of \$73.

We have two coops. One is a rail coop, 20 by 8 feet, with a 10-foot front and 6-foot back. The other is a lumber coop 12 by 8 feet, with a 10-foot front and 6-foot back. Our chickens have a range of 50 acres. We have no full-blood chicks. We now have 60 hens, and from January 1 to April 1 they laid 98 dozen eggs, which gave a profit of \$32. We feed four quarts corn, two quarts wheat and two quarts oats per day in two feeds, morning and evening. They get green bone every other day at noon. The little chicks get dry feed, bread, corn bread and rolled oats. —Bettie Risdon, in American Agriculturist.

General Rules for Building.

Every hen should have at least 6 square feet of space in the scratching shed and about 4 square feet in the roosting room, is a rule laid down by Prof. W. R. Graham, of the Ontario agricultural college. Each bird of American breeds requires about 9 inches of perch room, Leghorns 8 inches and Brahmas 10 inches. Roosts should be made low or near the ground. There are several reasons for this. Fowls of the heavier breeds can not fly high, and those of the lighter breeds frequently injure the soles of their feet in jumping from high perches.

When dropping boards are used, they should be moderately low to admit of easy cleaning. They should be made of matched lumber, 20 inches wide for one roost and 3 feet for two perches; the first being placed 8 to 10 inches from the wall. Most poultrymen prefer roosts 2 by 2 inches with edges slightly rounded.

Many use old boxes for nests, but such nests, if near the ground, are apt to induce egg-eating. Dark nests prevent this. Nests are usually made from 12 to 15 inches square. Ground floors are more in favor than board floors, and cost much less. The best results are obtained from keeping 20 to 25 birds in a flock. Some succeed with 60 to 75 in a flock, but these are in a minority.

Low Summer Tourist Rates Via Chicago Great Western Railway.

\$15.00 Kansas City to St. Paul and Minneapolis and return; \$19.00 to Duluth, Superior and Ashland; \$13.00 to Madison Lake, Waterville, Faribault, and other Minnesota resorts. Tickets on sale daily to September 30. Good to return October 31. For further information apply to Geo. W. Lincoln, T. P. A., 7 West 9th St., Kansas City, Mo.

Low Rates West.

The Chicago Great Western Railway will on August 1st to 14th, inclusive, sell tickets to Seattle, Wash at greatly reduced rates. For full information apply to Geo. W. Lincoln, T. P. A., 7 West 9th St., Kansas City, Mo.



Two severe cases of Ovarian Trouble and two terrible operations avoided. Mrs. Emmons and Mrs. Coleman each tell how they were saved by the use of Lydia E. Pinkham's Vegetable Compound.

"DEAR MRS. PINKHAM:—I am so pleased with the results obtained from Lydia E. Pinkham's Vegetable Compound that I feel it a duty and a privilege to write you about it.

"I suffered for more than five years with ovarian troubles, causing an unpleasant discharge, a great weakness, and at times a faintness would come over me which no amount of medicine, diet, or exercise seemed to correct. Your Vegetable Compound found the weak spot, however, within a few weeks—and saved me from an operation—all my troubles had disappeared, and I found myself once more healthy and well. Words fail to describe the real, true, grateful feeling that is in my heart, and I want to tell every sick and suffering sister. Don't dally with medicines you know nothing about, but take Lydia E. Pinkham's Vegetable Compound, and take my word for it, you will be a different woman in a short time."—MRS. LAURA EMMONS, Walker-ville, Ont.

Another Case of Ovarian Trouble Cured Without an Operation.



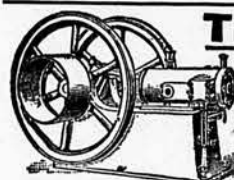
"DEAR MRS. PINKHAM:—For several years I was troubled with ovarian trouble and a painful and inflamed condition, which kept me in bed part of the time. I did so dread a surgical operation.

"I tried different remedies hoping to get better, but nothing seemed to bring relief until a friend who had been cured of ovarian trouble, through the use of your compound, induced me to try it. I took it faithfully for three months, and at the end of that time was glad to find that I was a well woman. Health is nature's best gift to woman, and if you lose it and can have it restored through Lydia E. Pinkham's Vegetable Compound I feel that all suffering women should know of this."—MRS. LAURA BELLE COLEMAN, Commercial Hotel, Nashville, Tenn.

It is well to remember such letters as above when some druggist tries to get you to buy something which he says is "just as good." That is impossible, as no other medicine has such a record of cures as Lydia E. Pinkham's Vegetable Compound; accept no other and you will be glad.

Don't hesitate to write to Mrs. Pinkham if there is anything about your sickness you do not understand. She will treat you with kindness and her advice is free. No woman ever regretted writing her and she has helped thousands. Address Lynn, Mass.

\$5000 FORFEIT if we cannot forthwith produce the original letters and signatures of above testimonials, which will prove their absolute genuineness. Lydia E. Pinkham Medicine Co., Lynn, Mass.



THOMPSON-LEWIS Gasoline Engines

furnish the greatest possible power at the lowest possible cost in time, labor, fuel and money. They are so simple that anybody can run them without expert training or experience. Our Volume Governor gives uniform speed. Our Acme Mixer is the most positive and economical on the market. Our Hand Starting Lever starts engine with least effort. All bearings of Iridium Bronze. Best material and workmanship throughout. Many sizes from 4 (actual) h.p. up. Best for all farm work—cutting and grinding feed, sawing wood, pumping water, separating cream, churning, etc. Send for free catalog before you buy. It may save you time, money and annoyance. J. THOMPSON & SONS MFG. CO., 117 BRIDGE STREET, BELLOIT, WIS.



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needed on the farm. Catalog is a 480-Page Bargain Book. Mailed free, prepaid. Retailers of everything at wholesale prices. THE UNITED MAIL ORDER CO., 530 Delaware Street, Kansas City, Mo.

The Apiary.

Conducted by A. H. Duff, Larned, Kans., to whom all inquiries concerning this department should be addressed.

Why the Bees Do Not Swarm.

EDITOR KANSAS FARMER:—I have an old hive of bees that have not swarmed this season. They come out every day until they cover the hive, but make no start to leave the old hive. The hive is packed full of bees but they do not seem to be working. What is the trouble with them, and is there anything I can do? I have another hive that have swarmed twice this season, and the bees left in the old hive are mostly very large ones, or drones. Will the small bees kill them or how am I to get rid of them? Mrs. E. J. STEWART, Bourbon County.

There are several reasons why your bees do not swarm. Most likely it is because they are gathering no honey, and the swarming fever has left them. The fact that your other colonies have swarmed, or are swarming, would be evidence that perhaps this may not be the reason, but your others may have swarmed some time ago, and at present writing all have ceased to swarm any more this season. It may be that the colony has lost its queen, and is waiting to rear another one; it also may be the case that they have failed to raise another in case of the loss of the old queen, and are hopelessly queenless, even if they are very strong as you say. You should be able to open the hive and find the trouble. You can easily locate the trouble if the old queen is missing, for they will either have a young queen, or queen cells. In time the young queen will begin to lay eggs, so that you can not tell her from an old one, but this is not probable. If this particular hive is a large one, or has a large surplus room in which to store honey, they may not swarm at all while others with a limited capacity will swarm. You can divide them if you wish and make two colonies, and this is the proper method to pursue if you want more colonies. They must of course be in movable frame hives if you expect thus to handle them. Taking for granted they are in the standard frame hives, divide them by taking out a number of frames with adhering bees, brood, etc., also honey, and set them in a new hive. Take the frames containing the oldest brood, that which is sealed over, and not only that, but if you find a frame of brood just hatching out so much the better. Take out most of the frames, or at least one or two more than half. You should have foundation comb to fill in the vacancies in both hives. After you have thus divided them take out one or two more frames and shake the bees off them into the new hive, for all the old field-workers will return back to the old hive, and thus it will be much stronger than the new one.

Set the new hive in a new location, and leave the old queen in the old hive, for she can do better service there. If you had a queen to introduce to the new colony it would be much better, but if they have some very young brood they will raise one. It is best to be sure you have taken out combs that contain some eggs, and thus have broods in all stages. The new colony will not do much work for some time, for it will only contain the younger bees, the old ones having returned back to the old stand. If your bees have no good pasturage, and are not gathering honey, it is not good policy to divide them unless you expect to feed them well in autumn in preparation for winter.

Your hive that has swarmed twice this season seems to be over-stocked with drones. It may be they have a drone-laying queen. If so, they will do no good whatever. Again it may be that they have only a large number of drones; if the latter, they will be all right for the bees will dispose of them later on in the season. Frequently we have drone-laying queens; such queens do not become fertilized, principally because of having bad wings which prevent them from flying. Such queens will finally begin laying eggs which will all hatch to

drones, and thus the colony will become extinct in time. These queens should be removed at once, and other queens introduced in their place, or if queens can not be had, you can first remove the drone-laying queen, and then give them a frame of newly laid eggs or newly hatched brood, and they will rear a queen of their own.

We could give you better instructions if, when writing about your bees, you would tell what kind of hives you use, and would like to impress this on the minds of all those asking questions about their bees. Be sure to say what kind of hives you have, whether frame hives, or common boxes. We are always pleased to answer any and all questions through the KANSAS FARMER, and will give you the very best information we can about bees. Bees have become a very important branch of farming, and the farmer of course can not take the time to study scientific beekeeping in all its branches, and many have not the opportunities even if they were so inclined.

Western State Fairs for 1903.

Missouri State Fair, Sedalia, Aug. 17-22.
Iowa State Fair, Des Moines, Aug. 21-29.
Minnesota State Fair, Hamline, Aug. 31-Sept. 6.
Nebraska State Fair, Lincoln, Sept. 4-11.
Kansas State Fair, Topeka, Sept. 14-19.
Illinois State Fair, Sept. 28-Oct. 3.
Texas State Fair, San Antonio, Sept. 26-Oct. 11.
St. Louis Fair, Oct. 5-11.

Kansas Fairs for 1903.

Following is a list of fairs to be held in Kansas in 1903, their dates, locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary F. D. Coburn:

Allen County Agricultural Society: J. T. Tredway, Secretary, LaHarpe, September 22-25.
Barton County Fair Association: Jas. W. Clarke, Secretary, Great Bend; August 26-28.
Brown County—Hiawatha Fair Association: Elliott Irvin, Secretary, Hiawatha; September 8-11.
Butler County Fair Association: H. M. Balch, Secretary, Eldorado; October 5-9.
Chautauqua County—Hewins Park and Fair Association: F. N. Whitney, Secretary, Cedar Vale.
Coffey County Agricultural Fair Association: J. E. Woodford, Secretary, Burlington; September 8-11.
Cowley County—Eastern Cowley Fair Association: Ed. E. Reed, Secretary, Burden; September 8-11.
Cowley County Agricultural and Stock Show Association: W. J. Wilson, Secretary, Winfield; September 8-11.
Finney County Agricultural Society: A. H. Warner, Secretary, Garden City; August 5-7.
Franklin County Agricultural Society: Carey M. Porter, Secretary, Ottawa; September 15-18.
Harvey County Agricultural Society: J. C. Nicholson, Secretary, Newton; September 22-25.
Jackson County Agricultural and Fair Association: S. B. McGrew, Secretary, Holton; September 1-4.
Jefferson County Agricultural and Mechanical Association: Geo. A. Patterson, Secretary, Oskaloosa; September 1-4.
Jewell County Agricultural Association: H. R. Honey, Secretary, Mankato; September 14-17.
Marshall County—Frankfort Fair Association: J. D. Gregg, Secretary, Frankfort; September 8-11.
Marshall County Fair Association: E. L. Miller, Secretary, Marysville; September 15-18.
Miami County Agricultural and Mechanical Fair Association: W. H. Bradbury, Secretary, Paola; September 8-11.
Mitchell County Agricultural Association: H. A. Phelps, Secretary, Beloit; September 30-October 3.
Morris County Exposition Co.: M. F. Ambrine, Secretary, Council Grove; September 22-25.
Nemaha County Fair Association: W. R. Graham, Secretary, Seneca; September 1-4.
Neosho County Fair Association: H. Lodge, Secretary, Erie; September 29 to October 2.
Neosho County—Chanute Agricultural Fair, Park and Driving Association: A. E. Timpane, Secretary, Chanute; September 1-4.
Ness County Agricultural Association: I. B. Pember, Secretary, Ness City; September 2-4.
Norton County Agricultural Association: C. J. Shimeall, Secretary, Norton; September 1-4.
Osage County Fair Association: E. T. Price, Secretary, Burlingame; September 1-4.
Reno County—Central Kansas Fair Association: Ed. M. Moore, Secretary, Hutchinson; September 14-19.
Rice Agricultural Fair and Live Stock Association: W. T. Brown, Secretary, Sterling; September 1-4.
Riley County Agricultural Society: E. C. Newby, Secretary, Riley; September 1-4.
Rooks County Fair Association: Olmer Adams, Secretary, Stockton; September 8-11.
Saline County Agricultural, Horticultural and Mechanical Association: H. B. Wallace, Secretary, Salina; September 8-11.
Sedgwick County—Southern Kansas Fair: H. L. Resing, Secretary, Wichita.
Smith County Fair Association: E. S. Rice, Secretary, Smith Center; August 18-21.
Stafford County Fair Association: Geo. E. Moore, Secretary, St. John; August 19-21.
Sumner County—Mylvant Agricultural Association: Newton Shoup, Secretary, Mylvane.
Wilson County—Fredonia Agricultural Association: J. T. Cooper, Secretary, Fredonia; August 25-28.

HORSES.

Percheron Horses

HENRY AVERY & SON, WAKEFIELD, KANSAS.

Registered Stallions For Sale

15 HEAD AT SPECIAL PRICES CONSISTING OF

Five Percherons, 2 to 5 years old—all black but one, and that a black-grey; two black yearling Percherons; four Shires, 3 to 7 years old; three trotting-bred horses, 3- and 4-year-olds; one registered saddle stallion. All but two at prices from \$200 to \$1,000 each. Come at once for bargains.

SNYDER BROS., WINFIELD, KANSAS.

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Percheron Herd headed by Casino (45462) 27880. Prize-winner National Show of France 1891. Winner of first prize at Missouri and Kansas State Fairs 1902. Shorthorn herd headed by Airdrie Viscount, a son of the great Lavender Viscount, champion of America in 1900 and 1901. Stock for sale. Address

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At the Great Annual Show of France, held at Evreux, June 10th, 1903, our stallions won EVERY FIRST, SECOND, THIRD AND FOURTH PRIZE in every Percheron Stallion class; also won FIRST as best collection.

At the Show of the SOCIETE HIPPIQUE PERCHERONNE DE FRANCE, held at Nogent-le-Rotrou, from the 18th to the 21st of June, our Stallions won every First, Second, Third, and Fourth, except one second prize, over Forty Prizes in all. Two groups were made up of our exhibit on which we won First and Second.

These Prize-winners will sail from France July 16, and should arrive in Columbus July 28.

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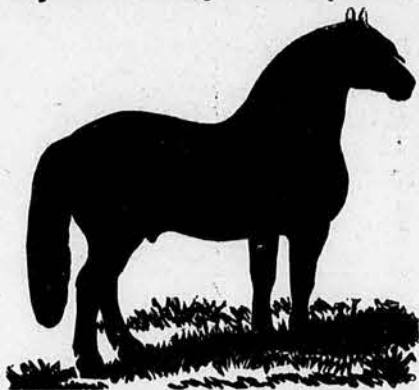
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No proxies can be used in this Association and no person or firm allowed more than ten votes. Our legal rights are fully and finally established by the courts. ONLY PERCHERON ASSOCIATION IN AMERICA RECOGNIZED BY THE UNITED STATES GOVERNMENT. It is the object of this Association to have its stock as widely scattered as possible, that the Percheron interests of the whole country may be represented in its membership. We are now ready to sell stock and receive applications for registry. For application blanks, stock and full information, address,

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Bloomington, Ills.,

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F. H. Schrepel, Ellinwood, Kans.

Breeder of

PERCHERON HORSES and
POLAND-CHINA HOGS

For Sale—Fifteen young stallions and a few mares.
Inspection and correspondence invited.

Prospect Farm



H. W. McAFEE, Topeka, Kans.

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CLYDESDALE HORSES,
SHORTHORN CATTLE

FOR SALE—Two Clydesdale Stallions, one 5 years old, weight 1,750 pounds, the other 2 years old, weight 1,400 pounds; registered and sound.
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are finding excellent opportunities for improving their present conditions.

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Special Excursion Rates first and third Tuesdays of each month. Responsible representatives on the ground to show you the country.

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D. M. TROTT ABILENE, KAS., famous Duroc-Jerseys, Poland-Chinas.

Registered Stock, DUROC-JERSEYS, contains breeders of the leading strains. N. B. SAWYER, CHERRYVALE, KANSAS.

MAPLE AVENUE HERD **J. U. HOWE,** **DUROC-JERSEYS.** Farm 3 miles west of city on Maple Ave.

FAIRVIEW HERD DUROC-JERSEYS Combination Sale July 9. At Sabetha, Oct. 23, sale of males at the farm. February 5, 1904, bred sow sale at farm. J. B. DAVIS, FAIRVIEW, KANS.

DUROC-JERSEYS. Duroc-Jerseys for sale. Choice 1903 pigs, both sexes. Prices \$20 and \$25, 125 head in herd to select from. NEWTON BROS., Whiting, Kans., and Sells, Kans.

DUCK CREEK HERD OF Duroc - Jersey Swine. 200 head to choose from. Write us your wants. Mitchell Bros., Buxton, Wilson Co., Kans.

ROCKDALE HERD OF Duroc - Jersey Swine. Has for sale 100 head of spring pigs of fashionable breeding, and good individuals. Correspondence and inspection invited. Free rural delivery and telephone from Frankfort. J. F. Chandler, Frankfort, Kans.

Maplewood Herd of... DUROC - JERSEYS **HEADED BY OUR FINE HERD BOAR** **MISSOURI CHAMPION 16349.** Have on hand some extra fine pigs of this spring's farrow, for which we are booking orders. Write for what you want. **J. M. IMHAUSER & CO.,** R. F. D. No. 4, Sedalia, Mo.

Standard Herd of Registered Duroc-Jersey Swine, Red Polled Cattle, and Angora Goats.

Swine herd headed by Big Joe 7863 and Ohio Chief. Cattle herd headed by Kansas 9803. All stock reserved for October sale. **PETER BLOCHER, Richland, Shawnee Co., Kas.**

POLAND-CHINA SWINE.

East Side Herd Poland-Chinas Combines the best strains of blood in the breed. 24 spring litters. Royal Blue 27642 by Big Chief Tecumseh 2d, first born in service. Write for list of sires and dams in herd. W. H. BARR, ELLIOTT, IOWA.

Shady Lane Stock Farm **HARRY E. LUNT, Proprietor,** **Burden, Cowley Co., Kans.** A few choice bred Poland-China Boars for sale; also fine B. P. Rock poultry.

Kansas Herd of Poland-Chinas Has some extra fine sires bred; also some fall boars. Will sell Sen. I know, he by Perfect I know. Address—**F. P. MAGUIRE, - - HUTCHINSON, KANS.**

Elmdale Herd of High-Class POLAND - CHINAS Shawnee Chief 28502 at head of herd. A few choice fall boars for sale. **W. L. REID, Prop., R. R. 1, North Topeka, Kas.**

SHADY BROOK STOCK FARM POLAND-CHINAS. I keep constantly on hand all sizes and ages of high-class Poland-China pigs. Quality high, prices low. Write for description and price to **H. W. CHENEY, - - North Topeka, Kans.**

PECAN HERD OF Poland-Chinas Will you want a few Bred Sows or Glits for fall farrow, bred to Model Tecumseh or American Royal? Also fall Boars, sired by Model Tecumseh 64183.

J. N. WOODS & SON, **R. F. D. No. 3, - - Ottawa, Kans**

...THOROUGHbred... Poland-China Hogs. I am cleaned up on boars and bred glits. I have some nice open June glits and can spare a few yearling bred sows. Orders booked for spring pigs by Keep On 61015, Imperial Chief 28978, Black Perfection 27183, and Corwin Improver 25768. On Missouri Pacific R. R., one mile west of Kickapoo, Kans. **JOHN BOLLIN,** **R. F. D. No. 5, Leavenworth, Kans.**

Providence Farm Poland - Chinas. Correct by Corrector, Perfection Chief 2d by Chief Perfection 2d, Jewell's Silver Chief, and Kron Pring Wilhelm, herd boars. Up-to-date breeding, feeding qualities, and large, even litters in this herd. Young stock for sale. **J. L. STRATTON,** **One - Mile - Southwest - of - Ottawa, Kans.**

..Oak Grove Herd.. OF PURE-BRED Poland-Chinas For Sale—A few choice Boars and 50 Glits, some bred for early spring farrow. Write, or come and see. **R. F. D. 5, Gus Aaron, Leavenworth, Kas.**

POLAND-CHINA SWINE.

FOR SALE Poland-China Hogs, Helstein, stein-Friesian Cattle; either sex. Best strains represented. H. N. HOLDEMAN, Rural Route No. 2, Girard, Kansas.

Dietrich & Spaulding, Richmond, Kas. For Sale—Imperial Chief 3d, litter brother to our great show sows. Some choice fall boars and glits. Place your order for glits—bred for fall farrow.

WAMEGO HERD ...OF...

Poland-Chinas With Black Tecumseh 25116 at head, he by Big Tecumseh 24428, a grand individual and sire of large, strong, growthy fellows, nearly perfect in color, coat, and markings. Large M. B. turkeys and B. F. chickens for sale. Correspond with me at Wamego, Pottawatomie County, Kansas. **C. J. HUGGINS.**

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Strictly choice show animals of Glit Edged breeding. Established 20 years. For Sale—100 sows and glits bred and not bred, 20 short yearlings and aged boars. Summer and fall pigs of all ages. Reduced prices before sale. **T. A. HUBBARD, ROME, SUMNER CO., KANSAS.**

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Elegantly built, fashionable bred, and well marked May and June pigs that have been raised right to develop into great money makers. They are sired by the 700 pound 2-year-old Proud Perfection 2d, the richest bred boar in the world, every drop of his blood comes direct from Proud Perfection. Perfect I know, Chief Perfection 2d and Darkness, the four greatest hogs the world has ever seen, and out of dams by the 900-pound Black Missouri Chief, the largest Poland-China boar living to-day, and other noted boars. Great beauty, grand development and enormous productiveness await all of them. Also pigs by the massive 900-pound 3-year-old Black Missouri Chief that are out of dams not akin to my other sows. Single pigs, pairs, and breeding herds at reasonable prices. Young boars and bred glits also. Pacific and American Express. Ranch 2 miles from station. Rural mail and telephone. If desired, express paid by me. I am not selling out, I am here to stay. Satisfaction guaranteed.

J. CLARENCE NORTON, **Moran, Allen Co., Kans.** **Reference Kansas Farmer.**

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PLEASANT VALLEY HERD OF CHESTER WHITE SWINE The kind that raises large litters of strong healthy pigs. Sows have no trouble at farrowing time. Young stock of both sexes for sale. Pedigrees with every sale. **A. F. Reynolds, R. R. 4, Winfield, Kans.**

D. L. Button, N. Topeka, Kas. **BREEDER OF Improved Chester Whites** Stock For Sale. Farm is 2 miles northwest of Reform School.

The Crescent Herd O.I.C. The World's Best Swine. Bred Glits all sold. A few choice boars large enough for service left. The best crop of springs we ever raised for sale. **B. F. Rock and Pekin Duck eggs for sale, and prices right. Write today for catalogue prices. JOHN W. ROAT & CO., CENTRAL CITY, NEBRASKA.**

BERKSHIRE SWINE.

Large English Berkshires Sold out of bred glits; only a few fall pigs. Orders booked for spring farrow.

Manwaring Bros., R. R. 1, Lawrence, Kans., Telephone 222-2.

Knollwood Farm Herd BLUE BLOODED IG BONED ROAD BACKED BERKSHIRES...

A Fancy Lot of Spring Pigs. E. W. MELVILLE, EUDORA, KANS.

...EAST LYNN... Champion Berkshires. Our herd won the Kansas State prize at the American Royal Show at Kansas City in 1902. **ONLY THE BEST.** Imported and American-bred stock for sale. A few choice sows bred, at prices that will move them. Inspection invited six days in the week. **WILL H. RHODES, Tampa, Marion Co., Kans.**

East Reno Berkshire Herd. Best Imported and American Blood. My herd is headed by Elma King 68056, a son of the high prices sow Imp. Elma Lady 4th 44683. Choice spring pigs by three grand boars for sale. Also bred sows and glits. Send for free circular. **G. D. Willems, R. F. D. 3, Inman, Kans.**

BERKSHIRE SWINE.

...THE... WILLOWDALE

Berkshires

ROYAL BARON 58846, the Greatest Show Boar in the World, at head of herd. Home of the Winners.

SPECIAL OFFER FOR 30 DAYS—Fall pigs, both sex sired by Royal Baron, Baron Lee 8th, and Baron Duke by Lord Premier, the boar that headed the sweepstakes herd at Kansas City last October. Special prices to make room for big spring crop.

G. G. Council, **Williamsville, Ill.**

TAMWORTH SWINE.

REGISTERED Tamworth Hogs

I own one of the largest and most representative herds of Tamworths in the West. The most prolific and hardy breed of swine. An ideal cross with other breeds. Litters farrowed in April, one of 16 pigs, five of 6, and ten of 12. Stock for sale. Send me an order. For full information about the breed and prices, address **C. W. Freelove, Clyde, Kans.**

HEREFORD CATTLE.

MODEL BLUE GRASS FARM HEREFORDS **STOCK FOR SALE.** **OVERTON HARRIS, - - Harris, Mo.**

J. A. CARPENTER, Carbondale, Kans. **Breeder of Pure-Bred HEREFORD CATTLE** Special—For sale, four long yearling bulls, good condition.

VERMILLION HEREFORD CO., VERMILLION, KANSAS. Boatman 56011 and Lord Albert 131557 head of herd. Choice young stock of both sexes for sale. **E. E. WOODMAN, Vermillion, Kans.**

Registered Herefords **THOS. EVANS, BREEDER,** **Hartford, Lyon Co., Kans.** Five bulls from 12 to 20 months old, nine 2-year-old heifers bred, and 16 yearling heifers old enough to breed.

SUNFLOWER Registered Herefords. 200 Head in Herd. Herd Bulls now in use are sons of Don Carlos 83734. Twenty-four Young Bulls ready for service for sale. **D. L. Taylor, Sawyer, Pratt County, Kansas.**

...Hazford Herefords...

Herd headed by the young show bull, Protocol 2d 91715, assisted by Major Beau Real 71621, a nephew of Wild Tom. Females largely the get of Bernadotte 2d 71634. A few choice young bulls for sale.

Robt. H. Hazlett, Eldorado, Kas.

STEELE BROS., BELVOIR, DOUGLAS CO., KANS., BREEDERS OF SELECT Hereford Cattle.

Young Stock For Sale. Inspection or Correspondence invited. **RUBY RED HEREFORDS.** 100 REGISTERED CATTLE FOR SALE WE BREED, BUY, AND SELL. Our individuals are low, blocky, dark red, with drooping horns mostly. Their ancestry is the richest: Lord Wilton, The Grove 8d Anxiety, Earl of Shadeland 2d, and Hesiod 2d. Three extra yearling Bulls and 7 good. Twenty yearling Heifers. Seventy Cows and Calves. **POLAND-CHINA SWINE.** Choice Registered Stock of both sexes for sale. **A. J. SIMONSON, M'gr, Cunningham, Kingman Co., Kans.**

HEREFORD CATTLE.

Western Stamp Herd HEREFORD CATTLE. REGISTERED.....

Anxiety 4th females with Western Stamp 9th at head. **WM. ACKER, VERMILLION, KANSAS.**

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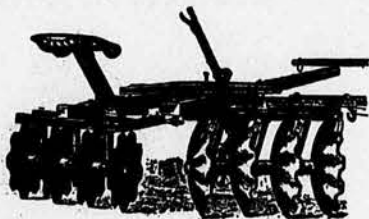
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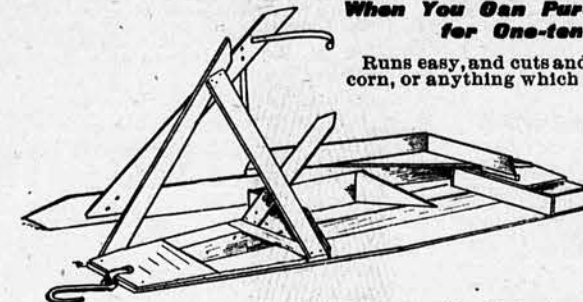
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