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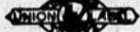
KANSAS FARMER CO., - - TOPEKA, KANSAS

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According to the statement of the National bank examiner for Kansas, the people of this State have now on deposit an average of \$62 per capita. They estimate that by January 1 the deposits will amount to \$70 per capita, or an aggregate of more than \$100,000,000. Kansas money, according to the same authority, is seeking Eastern investments.

The many people who are interested to know just how fast a horse can go will be pleased to learn that last Monday at Readville, Mass., Lou Dillon broke the world's record by going a mile in exactly two minutes. The last quarter was gone in twenty-nine seconds. The previous record was 2:02½ made by Cresceus last season at Columbus, Ohio. It is now claimed that Lou Dillon will be able to lower the record to 1:59.

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.

THE GOOD CITIZEN AND POLITICS.

The time will probably never come when everything in this world, or in any part of it, will be done just as anybody would have it. This observation applies to the weather and to politics and to all between these two extremes. The concensus of opinion is that the weather will not be greatly changed on account of the preferences of man, but that it is worth while to do a good deal of kicking along political and economic lines. Doubtless the general belief has some foundations in fact and is corroborated by some experiences of mankind. There is doubt, however, whether the kicker is not as a rule more harmed by the kicking than benefited by its results; but on the other hand the genuine kicker probably gets some satisfaction out of the performance and is thus partially remunerated for the harm it does him. But, it may be accepted as a rule, universally applicable in a free country, that persistent and well-directed efforts to give affairs the turn they ought to take accomplish far more than can be accomplished by kicking at what ought not to be.

Every political question must be settled in a political way, or, failing in this, by revolution. In South and Central American countries the methods by revolution may be said almost to

prevail. Its inefficiency as a "settler" is apparent. In the United States we substitute the ballot for the sword and the political boss for the general. Our method is better than theirs and is not likely soon to be changed.

Instead of armies enlisted or impressed for the contest, we have political parties manned entirely by volunteers.

That these political parties often go wrong and place in positions of responsibility hoodlums and otherwise venal persons, and that to serve selfish purposes they often espouse a cause that is wrong, or partly wrong, is the deplorable fact for which the honest voters of every party should seek a remedy. The remedy is easily seen but may be difficult to apply. It is simply that every honest voter take an active part in all doings of his party.

The venal party manager counts largely on the fact that the ordinary honest voter dislikes the caucus, neglects the primary, reads about the convention and votes the party ticket. He may even neglect to go to the polls but the party manager will probably find a way to get him to the polls if he wants him to vote.

The honest voter complains that no attention is paid to his preferences, but that the entire machinery of the party is run in the interest of schemers and schemes. The honest voter may be right in his diagnosis. But let us look for a moment at the political manager's side of the question. He wants to be elected, or he wants someone else elected, or he wants some scheme to carry. To accomplish his purpose he must have votes. These votes must be apparent to the caucus; they must materialize at the primary; they must be counted at the polls.

Will the honest voters be at the caucus? No. They will probably not know when the caucus is held. Will they attend the primaries? Not in great numbers. Will they vote at the polls? If they do they will vote the ticket.

Will the venal voters be at the caucus? They will be there or accounted for. Will they attend the primaries? Yes. Will they vote at the polls? More than once if opportunity presents.

Concede that the candidate is an honest man. If he shall have the support of the honest voters it will be inefficient and inactive at the time when he most needs support. If he shall have the support of the other side, that side will "whoop it up all along the line all the time," provided they "can make the right kind of a deal."

The remedy is plain. The honest voters must take such interest in the affairs of their parties, must take such active interest in the cause of their friends, that their support will be more efficient from beginning to end than that of the other side.

It is not at all necessary for the purposes of the good citizen that he become a candidate for office. This is, in most cases, detrimental to the personal interests of the good citizen. Again, if he seek office his influence will not be so great with the average good citizen as if he act unselfishly. Unquestionably, it is the duty

of some good citizens to become candidates for office. In some communities it is difficult to find efficient leaders for the forces whose only interest is that of the public. This difficulty will be less when it shall be known that the efforts of the best citizens can be relied upon to be expressed in promotion of their candidates' interests rather than in complaints at the venality of politics.

It should not be forgotten that, while there is to be no election this fall, the plans for next year's campaign for nominations are now being laid. Objections to this early work are useless. Participation in it, control of it, should be the watchword of the honest voters in every party. Make the politicians know that you are to be reckoned with, that your views are to be considered, that your help is important.

MISSOURI'S GREATEST FAIR.

The State Fair of Missouri is an unqualified success. A magnificent showing of live stock, agricultural products, farm implements, and everything necessary to make a successful fair combined with the splendid weather of the week, and the very efficient management under the presidency of Hon. N. H. Gentry, with Secretary J. R. Rippey at the helm, made Missouri's third State fair an exhibition to be proud of. Since last year many improvements have been made in both buildings and grounds. Two large brick buildings of handsome design and costing \$25,000 each have been erected for the agricultural and horticultural displays. A third brick building costing \$13,000 has been completed and is now the home of the poultry exhibit. Two large additional cattle barns costing \$4,000 each have been completed and are now occupied. These buildings are all modern in design and perfectly adapted to the uses to which they are put. Many needed improvements in the way of walks and drives have been placed about the grounds, and the State fair is assuming a permanency and magnitude which is not only a credit to the State but which will serve as an example for the emulation of other States. About \$70,000 has been expended in the year in the way of permanent improvements and the results accomplished show an economy in management that is very creditable. The fair this year was especially strong in live stock, and the barns quartered more stock of all breeds this year than ever before. Not only is this true, but the quality was of the best, and many prize-winning herds met here for the preliminary contest of the State-fair circuit. As was to be expected, the Shorthorns and Herefords were especially strong, while the Angus and Galloways were lacking in numbers but were of excellent quality. The milk breeds of cattle were well represented, there being two herds of Holsteins whose reputations are already won and a strong showing of Brown Swiss and Jerseys that are less prominent in herds in the West.

To many, the most attractive exhibit in live stock was to be found in the horse barn. It was certainly a strong showing of the draft and saddle classes

(Continued on page 896.)

Agricultural Matters.

REPLIES FROM THE AGRICULTURIST OF THE KANSAS EXPERIMENT STATION.

Grass Questions.

I would like some information about orchard-grass. How does it compare for seed with English blue-grass (comparison in 100 pounds)? Can it be thrashed with separator as English blue-grass? Can it be sowed in fall and cut for seed the next year? Can it be sowed with drill as we sow the blue-grass? How much should be sowed for seed and for pasture?

When, and how should *Bromus inermis* be sown? Is there a danger of its becoming a pest if sown on farming land that may be wanted for other crops? Will it be profitable where good timothy, clover, and blue-grass can be raised? A SUBSCRIBER.

Franklin County.

I have no figures on the yield of seed of meadow fescue or English blue-grass. Orchard-grass varies from 5 to 15 bushels per acre depending upon the age of the meadow and the quality of the soil. It increases in yield from the second to the sixth or seventh season after sowing. The seed of these two grasses is about the same weight, or 14 pounds to the bushel, although this may vary from 12 to 26 pounds.

Orchard-grass may be sown in the fall although the spring is preferable. If the season is favorable you will probably get a crop of seed next season, although you will not get as heavy a yield as you will for a few years following. Sow about 20 pounds per acre for seed and 25 for pasture. It can be sown with a drill, but I would prefer to sow it with a wheelbarrow seeder, as the drill is apt to put the seed in too deep. It may also be sown by hand by one experienced in this method of seeding. It may be thrashed with an ordinary grain-separator. Cut with an ordinary self-binder, making the bundles rather small, and putting in small shocks and allowing to remain in the field three or four weeks. When you thrash, handle it with as much care as possible using a canvas on your hay-rack so as to have as little loss as possible by shattering out the seed. If you do not wish to thrash it until sometime after cutting you may stack or place it in a barn.

Your question as to when and how *Bromus inermis* should be sown has been answered several times in the late issues of the KANSAS FARMER and as you are a subscriber I will not answer it again in this letter.

Although *Bromus inermis* has a very thick sod it is by no means a pest as is the Johnson-grass. Although *Bromus* sod is a little difficult to plow, by a little hard work you will be able to stamp it out without much difficulty in one season. I would advise the sowing of *Bromus inermis* in Franklin County, as I think it would be a profitable crop. It may be sown with other grasses and clovers if so desired. Oftentimes you would be able to get a satisfactory crop of *Bromus inermis* when your timothy, clover, and perhaps blue-grass would fail. It may be sown with these other grasses for pasture or meadow.

V. M. SHOESMITH.

Orchard-grass and *Bromus inermis* for Seed.

Will you send me information in regard to raising orchard-grass and *Bromus inermis* for seed, when to seed ground, when to harvest seed and about how much seed to sow per acre, also how much do they yield per acre?

H. L. EASTMAN.

Miami County.

Bromus inermis and orchard-grass should preferably be sown in the spring, and as early as the frost is out of the ground and a proper seed-bed can be prepared. The ground should be plowed in the fall so as to be firmed again by the rains of the winter, or, if the soil is not too hard and is comparatively free from weed seeds you may prepare for sowing with the disk harrow and other surface-working implements. Special pains should be

taken in the preparation of a finely pulverized seed-bed at the surface. Both of these grasses may be sown in the fall, and if the season is favorable you will be able to get good results. The same precaution in regard to having a firm sub-surface and a finely pulverized seed-bed should be taken as already mentioned for spring sowing. If sown in the fall, they should be seeded from the first to the middle of September.

It is usually recommended to sow from 18 to 20 pounds per acre of *Bromus inermis* and 28 to 30 of orchard-grass. A smaller amount would perhaps be sufficient in growing these grasses for seed, but as we can not tell whether the season will be favorable or not, I think it safer to sow nearly the amounts mentioned. It is probable that you will use these grasses during a portion of the year for pasture or hay as well as for seed, and if such is the case, it would not matter so much if the stand were comparatively thick. The seed should be cut when it is fully ripe but before it begins to shatter. The self-binder has given the best satisfaction as an implement for harvesting these grasses for seed. Orchard-grass yields from 10 to 15 bushels per acre and *Bromus inermis* 20 to 30 bushels per acre.

V. M. SHOESMITH.

When to Sow Mixed Grass for Pasture.

Wishing to sow a mixture of timothy, Kentucky blue-grass and white clover, for perennial pasture, please advise me at what time in the year to sow the same. ALEXANDER GARDNER.

Shawnee County.

The mixture which you mention should preferably be sown in the spring, as early as the frost is out of the ground and a suitable seed-bed can be prepared. You may also seed in the fall if you so desire, and if the season is favorable you will probably get as good results as if sown in the spring. As a general rule the best time for fall seeding is from the first to the middle of September.

V. M. SHOESMITH.

Some Alfalfa Questions.

I have alfalfa sown a year ago last spring, on new ground which is hardpan upon the upland. I have mowed this twice this season and have been pasturing it since. It is not tall enough to rake up if I should mow it. While it as a fair stand in some places there are a good many bare spots. There is a good deal of prairie-grass, some sand-burs and some crab-grass through the field. I want instructions about how to handle this. The ground is now moist and in good condition. My idea was to disk the ground and sow English blue-grass or alfalfa. Will it do to run the disk over this—it is 4½ inches high—or should I run the mowing-machine over it first? Would I better sow alfalfa or English blue-grass with this alfalfa?

CHAS. H. WIER.

Cowley County.

If the alfalfa is not growing as it should, it would be well to cut it, as this seems to have a beneficial effect on its growth. I would not advise sowing either alfalfa or English blue-grass on this field unless you are able to prepare a finely pulverized seed-bed at the surface. You might disk the bare spots or the portions of the field which have the poorest stand. Set the disk as deep as possible to thoroughly stir the soil. If necessary go over it two or three times and follow with the harrow to finely pulverize the soil and sow to alfalfa or English blue-grass as you prefer. You should be able to get good results from either, if you prepare a good seed-bed but the seed of both these plants is too costly to sow on poorly prepared soil. If you are able to select a portion of the field which has a fair stand, run a mower over this, and follow with a disk harrow. This would help to thicken the stand, and it would be the best method of treating this portion of the field. If the crab-grass and other weeds have not excluded the alfalfa almost entirely you will be able to give the alfalfa a considerable advantage over these weeds by mowing frequently. I have seen crab-grass take almost entire pos-

session of a field of alfalfa at the second cutting, but, after being mowed, it was hidden and stopped in its growth by the alfalfa.

V. M. SHOESMITH.

Grasses for Pasture.

Please give me your advice on the following questions: I have a farm on the Neosho river bottom, two miles southeast of Americus. What kind of grass-seed or mixture of grass-seeds would make the best cattle and horse pasture? How prepare the ground and sow the same? I would like to pasture it next summer. What would you advise me to sow for hog-pasture, how prepare the ground and when and how sow the same? I am a stranger in the State and would like all the advice on farming I can get.

ROBERT SPEIRS.

Lyon County.

There are a great variety of grasses which might do well upon your soil but I think an excellent one would be orchard-grass, meadow-fescue, *Bromus inermis* and alsike clover. Sow 10 or 12 pounds per acre of each of the grass-seeds and about 3 or 4 pounds of the alsike clover. If you sow it on very wet land it would perhaps be better to leave out the orchard-grass and insert redtop and meadow foxtail. It has been advised to sow alfalfa and *Bromus inermis* together. Doubtless this pasture would be a safer one to turn cattle upon than alfalfa alone, and I think would give a larger amount of pasture. Still I think that the alfalfa and *Bromus inermis* would not be of equal prominence throughout the entire season so that this would be an objection to this mixture as a cattle pasture.

All these grasses and clovers should preferably be sown in the spring as a general rule, but if the season is favorable you will be able to get good results if sown in the fall, and your chance for a good catch from fall seeding would be especially good upon the bottom land. If sown in the spring, sow as early as the frost is out of the ground and you can prepare a good seed-bed. If sown in the fall, sow from the first to the middle of September. The same rule for the preparation of the seed-bed will hold whether the grasses are sown in the spring or in the fall. One essential is a rather firm sub-surface. The ground should be plowed sometime before sowing so as to be firmed and settled by the rains, or if you must sow soon after plowing, a sub-surface packer or similar implement should be used to firm the soil. It is also quite essential that you have a finely pulverized seed-bed near the surface. It is well to have the soil as free from weeds and weed seeds as possible, as you do not have a very good opportunity to destroy them after seeding. A broadcast wheelbarrow seeder has given us the best satisfaction in seeding grass-seed. We have a special Brome grass hopper for the Thompson wheelbarrow seeder, which we use for *Bromus inermis* and which does a much better job of sowing than anything else we have tried. These seeds may be sown by hand by a man experienced in this method of sowing. The seeder attachments with the ordinary grain drills will sow some of the heavier grass-seeds which are not too chaffy. If seeded broadcast the ground should be harrowed with a smoothing harrow to cover the seeds. It would not be well to pasture this seeding very much next summer. Excellent stands of grass have often been ruined in this way. If you must have pasture for next summer it would be well to sow some of the annuals, such as wheat, rye, oats, millet or corn or to grow some of these or some other plants as sowing crops.

Alfalfa makes the best hog pasture with which I am acquainted. Sow from 20 to 25 pounds per acre on seed-bed prepared as described above. Rape also makes an excellent hog-pasture, and may be sown any time from early spring to the middle of the summer. Sow eight pounds per acre. Cow-peas are sometimes sown and should be sown at the rate of one bushel per acre, if sown broadcast, and one-half bushel if planted in rows.

V. M. SHOESMITH.



Soil Inoculation for Alfalfa.

I would like information in regard to soil inoculation for alfalfa. My alfalfa grew all right until it got to be about 6 or 8 inches and then turned yellow and leaves fell off. Can I get inoculated soil at the college and at what cost? ED. WILLIAMS.

McPherson County.

If your alfalfa has not been doing well it is quite probable that it is not well inoculated with alfalfa bacteria. For the inoculation of the alfalfa germ we have been recommending the sowing broadcast of one hundred pounds of soil to one-fourth acre and harrowing it in with a smoothing harrow. We have been sending out soil to some of the farmers of the State and making a charge of 50 cents for 100 pounds or 25 cents per hundred if several hundred pounds are purchased. This charge is made to cover the cost of preparing, shipment, drayage, etc. It would be well to carefully dig up several plants and gently wash the soil away by holding them under a stream of water. If the plants are inoculated you will discover little tubercles or bunches, varying from the size of a pin-head to that of a pea. If you find that the alfalfa is fairly well inoculated it would not pay to purchase soil and apply to the field as the germs will multiply, and it is probable that the field will be well inoculated by another season. It may be that your alfalfa is fairly well inoculated and is suffering from the attacks of the "leaf-spot" disease. Small brown spots appear upon the leaves and a little later the leaves turn yellow and fall off. The plants also stop growing. The best remedy of which I know for this disease is frequent mowing. Our alfalfa on the college farm has been troubled with this disease this season, but it springs up green and fresh after each cutting. It is well to cut alfalfa when it begins to bloom or when it stops growing.

V. M. SHOESMITH.

Deep or Shallow Plowing.

EDITOR KANSAS FARMER:—"Which is better for western Kansas?" is asked by a farmer of Norton County.

This is not the question with many, but, which is best, "plowing or no plowing?" This may sound odd to many eastern readers, but it is a fact that through this section much of the ground is plowed but once in two or three years. This practice is being less and less favored and doubtless will be abandoned altogether. Land that has been well plowed the year before may produce a good crop when planted in the stubble; but as Henry Wallace says, "Weeds, bugs and worms are but God's condemnation of poor farming." Poorly farmed land is always the first to show signs of hard times. This year at the station, some leased land will not be cut because it was not put in properly, while other fields are giving from thirty to forty bushels per acre. As to whether deep plowing is better than shallow, depends much on subsequent treatment and the amount of rainfall. If the land is rather dry and plows up cloddy and is plowed deep, the soil turned up will dry out and be so loose that if there is any lack of rain during fall and winter, the wheat will not amount to anything. If the soil is in good condition when plowed, and the proper packing is done after plowing, deep plowing certainly has the advantage of turning up new soil and providing for a large storage of water.

New soil does not need deep plowing and it is doubtful if continuous

deep plowing will give as good results year after year as ordinary plowing. However, it is certainly reasonable to expect that an occasional deep plowing will be beneficial. It is my opinion that every three or four years, an inch or so of new soil should be turned up. New soil loses its freshness in about that length of time, so a deep plowing is practically a renewing of the soil. This is perhaps more true of western, drier soils, than of land farther east.

J. G. HANEY.

Supt. Fort Hays Branch Experiment Station.

The Cutting Cure for Weeds in Alfalfa.

EDITOR KANSAS FARMER:—In your issue of July 16, Mr. E. L. Miller, of Sumner County, asks advice about cutting weeds in alfalfa. Professor Ten Eyck advises him to clip the weeds at intervals during the season with a mower but not cut too low. With all due respect to Prof. TenEyck, let me say that this does not correspond with my experience. I would say cut the weeds and alfalfa just as close to mother earth as possible. You can not hurt alfalfa by cutting it too low unless you get under the surface and cut the crown. By getting down right to the earth you are almost sure to kill the weeds while clipping the tops only makes them branch out and take up more room, to the detriment of the young alfalfa.

To illustrate, let me relate an experience. We have in western Kansas a kind of live-for-ever rag-weed. It grows from the seed, and it grows from the roots also. It is the hardest thing to kill out that I ever had to contend with. A few years ago I sowed a plat to alfalfa that had a few patches of this weed in it. The alfalfa came up nicely, but I soon noticed the rag-weeds were about to take it. I watered it well and as soon as the rag-weeds were high enough to mow, I mowed them down. Again they started and I soon noticed the alfalfa began to look sick again, the rag-weeds showing above it and taking up the moisture. I watered it again, and as soon as it was dry enough to get onto the ground with a team I mowed it again. I am not certain but I had to repeat this again, but finally the alfalfa got ahead of the weeds and they were never seen any more.

Hamilton County. V. S. JONES.

Crop Conditions.

The monthly report of the Chief of the Bureau of Statistics of the Department of Agriculture shows the condition of corn on August 1 to have been 78.7, as compared with 79.4 on July 1, 1903, 86.5 on August 1, 1902, 54 at the corresponding date in 1901, and a ten-year average of 84.4.

Preliminary returns indicate a winter wheat crop of about 410,000,000 bushels, or an average of 12.4 bushels per acre, as compared with 13.8 bushels last year.

The average condition of spring wheat on August 1 was 77.1, as compared with 82.5 last month, 89.7 on August 1, 1902, 80.3 on August 1, 1901, and a ten-year average of 80.2.

The average condition of the oat crop on August 1 was 79.5, as compared with 84.3 one month ago, 89.4 on August 1, 1902, 73.6 on August 1, 1901, and a ten-year average of 82.6.

The proportion of the oat crop of last year still in the hands of farmers is estimated at 7.4 per cent, as compared with 4.2 per cent of the crop of 1901 in farmers' hands one year ago, and 5.9 per cent of the crop of 1900 in farmers' hands two years ago, and an eight-year average of 7.4 per cent.

The average condition of barley on August 1 was 83.4, against 86.8 one month ago, 90.2 on August 1, 1902, 86.9 at the corresponding date in 1901, and a ten-year average of 83.4.

The average condition of spring rye on August 1 was 87.2, as compared with 88.3 one month ago, 90.5 on August 1, 1902, 83.6 at the corresponding date in 1901, and a ten-year average of 85.3.

The acreage of buckwheat is less than that of last year by about 500 acres, or 0.1 per cent.

The condition of buckwheat on August 1 was 93.9, as compared with 91.4

on August 1, 1902, 91.1 at the corresponding date in 1901, and a ten-year average of 89.8.

The average condition of flax on August 1 was 80.3, as compared with 86.2 one month ago.

The average condition of tobacco on August 1 was 82.9, as compared with 85.1 one month ago.

The average condition of potatoes on August 1 was 87.2, as compared with 88.1 one month ago, 94.8 on August 1, 1902, 63.2 at the corresponding date in 1901, and a ten-year average of 84.5.

Preliminary returns indicate an increase of 0.3 per cent in the hay acreage.

The condition of timothy hay on August 1 was 92.2, as compared with 90.0 on August 1, 1902, 84.1 at the corresponding date in 1901, and a nine-year average of 84.7.

Reports as to the production of clover indicate that nearly a full crop will be harvested. In point of quality the crop of clover is well up to high medium grade.

The condition of rice on August 1 was 92.0, as compared with 93.5 one month ago.

Salt to Kill Hedge.

EDITOR KANSAS FARMER:—Replying to inquiry in KANSAS FARMER of August 13, I will give my method of killing hedge. Remove soil from each side of hedge-row, say about one spade deep. Then fill up with crushed rock salt, about 300 pounds of salt to 100 feet of hedge.

J. F. SMITH.

Rice County.

Farm Work for Microbes.

The following by Harold Bolce, in the Saturday Evening Post, is a rather highly colored account of a valuable work now going on in the U. S. Department of Agriculture. It is both interesting and important. Farmers will, however, do well to continue to use the old reliable methods of promoting fertility. The new frills here described will go well with the time-tried methods and will very likely add to the profits of their use. The man of to-day who would keep up with the procession does well to study every advance made by science touching his occupation. Among the advances none is more important than the modern discoveries as to fertilization of the soil:

In propagating nitrogen-breathing bacteria by the billion and shipping them, without impairing their vitality, to all parts of the United States to be used in multiplying the yield of crops from 100 to 1,000 per cent and in adding lasting fertility to the soil, the United States Government has brought about a great achievement in science. It is declared to be a wonderful thing even by progressive experts.

It is a triumph which, those who know say, means the regeneration of the earth. It has passed the experimental stage, and the United States Government is now ready to start innumerable armies from the laboratories in Washington, where they are recruited, to levy upon the infinite supply of nitrogen in the air and convert it to the uses of mankind. Significant as the work of these bacteria will be in stimulating plant productivity and in renewing depleted soils, it will be equaled if not eclipsed by their further service of imparting to foodstuffs the albuminoids and proteids which are of primary importance in the diet of human beings and animals.

"That the agricultural future of the world is to depend on minute creatures reared by the American Government may sound incredible," said a Washington scientist, "but experts throughout the world have been eagerly awaiting results of our experiments. Many tests abundantly prove our claims. The world's problem in agriculture has been to secure available nitrogen for plant life. It has been known to students of agriculture that bacteria on the roots of legumes enabled them to absorb nitrogen from the air. The effort to cultivate these bacteria, and to invent a method by which they could be preserved and transported, to be used by farmers for the inoculation of seed crops, has absorbed the scientific

attention of one branch of the United States Government for over a year. Now we have mastered the mystery of growth of these microscopic friends of husbandry, and we are prepared to introduce a factor destined to revolutionize the whole field of American agriculture."

Henceforth, the farmer, if he chooses, can get his fertilizing material in miniature packages by mail, instead of by the ton and wagon-load. Under the microscope a colony of these organisms, which to the naked eye forms a speck the size of a pin head, is found to contain hundreds of thousands of individuals. Ten million can be held in a thimble. In tiny oblongs of absorbent cotton—just the size and appearance of a cake of yeast—fifteen million of these nitrogen-breathing bacteria are shipped to farmers. One of these small packages contains enough to furnish complete fertilization for an acre. In the pockets of an ordinary working suit a farmer can readily carry 160 packages, containing 2,400,000,000 bacteria, enough to enrich the soil and vastly increase the yield on a quarter-section of land.

The Government's process for shipment brings about a condition of suspended animation in the bacteria. The farmer revives them by immersing them in water. The quickening of their activity by this baptism is marvelous. They are then fed on certain nutrient salts, whereupon the phenomenon of their amazing increase in numbers is believed to be unparalleled in nature. Beans, clovers, cow-peas, alfalfa, lupine, peas, lentils, esparcette, vetches, lathyrus, peanuts, and other plants all require different bacteria. The Government gives full directions as to the kind of organisms to be used and in regard to the processes of inoculation. If directions are carefully followed by the farmer, the increase of his crops on poor soil will be, as stated, from 100 to 1,000 per cent. Clover in a depleted soil that was producing only 200 pounds to the acre yielded as high as 2,000 pounds to the same area after the nitrogen-breathing bacteria were introduced to aid the plants.

THE WORK OF THE PLATINUM SPADE.

All the far-reaching benefits of the Government's discovery will be conferred without price upon the farmers of America. It is believed that when the possibilities of these nitrogen-gathering organisms are realized, their introduction throughout the United States will rival the enormous activity of seed distribution itself. To meet the inevitable demand, the Government is greatly elaborating its laboratory facilities.

It is with a platinum space no larger than a flattened pin that the United States Government is cutting the way to the enrichment of American soil. "To see that diminutive platinum implement and realize what it has already accomplished and learn what sanguine expectations are based upon it," remarked a visitor to the Government's laboratories, "is a most impressive revelation of the marvelous accomplishment of modern science."

It is with this miniature space that the plant physiologists have been enabled to dig out colonies of the bacteria and study their life habits. This has led to the successful propagation by artificial methods of the little creatures that give abundant promise, it is asserted, of renewing the life of a great part of both the animal and vegetable kingdoms.

To study these nitrogen-gathering bacteria, the scientists at Washington, who now offer American agriculture the results of their remarkable discoveries, proceeded in a most painstaking manner. They were dealing with organisms mighty in their power for good but so small that thousands could, without crowding each other, find room on the point of a pin, and it was necessary, therefore, that investigations be conducted on the minutest and at the same time the most comprehensive scale known to science.

The new laboratories for the rearing of these nitrogen-breathing organisms will be similar to those in which the discoveries have been made. The work is carried on in great glass cages, the air in which is supplied through fuses lined and covered at the



The Start

In married life is generally made on an equal footing of health in man and wife. But how soon, in many cases, the wife loses the start and fades in face and fails in flesh, while her husband grows even more rugged and robust.

There is one chief cause for this wifely failure and that is, the failure of the womanly health. When there is irregularity or an unhealthy drain, inflammation, ulceration or female weakness, the general health is soon impaired.

Dr. Pierce's Favorite Prescription cures womanly diseases. It establishes regularity, dries unhealthy drains, heals inflammation and ulceration and cures female weakness. It makes weak women strong and sick women well.

"A little over a year ago I wrote to you for advice," says Mrs. Elizabeth J. Fisher, of Diana, W. Va. "You advised me to use Dr. Pierce's Favorite Prescription and 'Golden Medical Discovery,' which I did, and with the most happy result. I was troubled with female weakness and bearing-down pains. Had a very bad pain nearly all the time in my left side, nervousness and headache. Was so weak I could hardly walk across my room. Could not sit up only just a little while at a time. My husband got me some of Dr. Pierce's medicine and I began its use. Before I had taken two bottles I was able to help do my work. I used three bottles in all and it cured me. Now I do all my household work. It is the best medicine I ever used."

The Common Sense Medical Adviser, in paper covers, is sent free on receipt of 21 one-cent stamps to pay expense of mailing only. Address Dr. R. V. Pierce, Buffalo, N. Y.

point of inlet with cotton saturated with sterilizing chemicals. The walls of the compartments are washed down frequently with bichloride of mercury. It is necessary to exclude every atom of fungi and every malignant microbe that might attack the microscopic bacteria under development, and hence the air of the laboratories is purged of all noxious forms of life and rendered perfectly sterile. In this pure atmosphere science is working out the future of American agriculture.

It is there that the platinum spade is so serviceable. At one side of the investigator burns an oxyhydrogen light. Holding the implement by its wooden handle, the platinum is plunged into the fierce flame. This metal, which does not fuse in that intense heat, is instantly freed of any organism that might have clung to it from preceding experiments. The nodules of legumes containing colonies of bacteria are then opened, the individuals dug out and studied under lenses which magnify the bacteria to 3,000 times their natural size. By using the platinum implement first plunged into purifying flame, possibility of mixing the bacteria is avoided, as the organisms are prevented from being carried over from one experiment to another.

Having classified the bacteria under examination as the species adapted to clover, vetches, beans, or other plants, the organisms are fed upon the special nutrient salts which repeated tests have shown to be favorable to their increase. German investigators, operating along similar lines, sought to rear the bacteria on sections and decoctions of the plant which, in their free state, they naturally select. This proved to be a failure, for though the creatures grew, the superabundance of nitrogenous food served them rendered them incapable of longer gathering it from the atmosphere. The mistaken method produced hearty-looking bacteria but led to atrophy of the faculty that makes them valuable to agriculture.

The scientists at Washington, under the direction of Drs. Albert F. Woods and George T. Moore, undertook to give the bacteria a food in which there was very little nitrate. The microscopic creatures grew and seemed hungry for more nitrogen. Instead of increasing the supply, the scientists

diminished it, giving enough to sustain life and permit the development of the bacteria, but avoiding a diet for them that might weaken their capacity for beneficial work later on.

The results have been wonderful. Instead of retarding the growth of the organisms, it made them robust and intensified their nitrogen-gathering power. It had, seemingly, an effect upon them analogous to that produced upon an athlete by careful diet and training.

It is the next step that imparts to this great discovery its practical economic application. After the bacteria had been reared to full maturity on the course of nutrient salts, the secret of which the Government withholds now for the protection of the people at large, the millions of microorganisms were soaked up in absorbent cotton and thoroughly dried. After several months they were immersed in water and found to be not only alive but possessed of extraordinary activity. Fed on another series of nutrient salts, they multiplied amazingly.

Tests were then made with seeds. Legumes reared in poor soils from seeds inoculated with these bacteria yielded prolifically. The same seed not inoculated, and planted in like soil, struggled feebly and yielded a crop insignificant in comparison with that re-enforced by the nitrogen-breathing organisms.

Little difficulty is expected to be encountered by the Department of Agriculture in convincing the farmers of the United States that an abundant increase awaits the introduction of laboratory bacteria into the soil. Through the Government's discovery the farmer will know that he is inoculating his seed and his fields with benign organisms, for the sterilizing processes in the Government's laboratory work, as has been explained, make impossible the invasion of noxious parasites.

Assisting Doctors Moore and Woods in this important work are a number of young men equipped with most progressive ideas. Mr. Karl F. Kellerman, Mr. T. S. Robinson, Mr. Dwight B. Ball and others have helped to develop successfully the incubation of the unnumbered billions of these infinitesimal gatherers of nitrogen. It is not necessary that the farmer should understand chemistry or any technical details of plant physiology to take advantage of the Government's new scientific discovery. He gets his packages of bacteria and salts, and a printed formula as to their use. The packages are numbered and the preparatory steps clearly indicated. When he has prepared the seed he plants it just as he would if it were not inoculated. Or he may introduce the bacteria into the soil independent of the seeds. Either method will render former crops in poor soil paltry in comparison with the prodigious yield made possible through the cooperation of the bacteria. For many years farmers have known that an occasional leguminous crop restored fertility to the soil. The Department of Agriculture now assures them that, without the presence of these bacteria or their introduction by the farmers, leguminous plants will assist in the exhaustion of the soil just as do non-nitrogen assimilating cereals.

BACTERIA AS PHYSICIANS.

Prof. W. O. Atwater and other specialists have deplored the decrease of nitrogenous elements in the diet of Americans. Protein, which contains nitrogen, they have pointed out, forms blood, muscle, bone, tendon, and other tissues of the body, but they have found by analyses a deficient amount of protein in American foodstuffs. This, they have clearly explained, is due to the fact that although unlimited supplies of nitrogen hover over the world, many of the plants reared by the farmer lack the power to absorb it.

As physicians, therefore, preparing a regimen rich in protein for the health and strength of the American people, these billions of bacteria will perform unique labors.

It has been explained above that the Government scientists in rearing these bacteria keep them hungry by feeding

them on salts containing less and less nitrogen, and that the organisms are then dried and shipped in a state of suspended animation. When revived, therefore, by the farmer, they are wonderfully voracious, and their capacity for absorbing nitrogen, which in turn they bestow upon the plant, is very great, as is attested by the quick and luxuriant growth of the crop. It is providential that the food supply of these nitrogen-feeders is inexhaustible. It is estimated by scientists that the atmosphere contains four million billion tons of nitrogen, and what is taken from the air is restored by another genus of bacteria, freeing nitrogen from decaying vegetation which had employed it in attaining growth.

The value of the Government's laboratory triumph will be more fully realized when it is recalled that up to the present time the constant elimination from the soil of its nitrogen and the seeming impossibility of obtaining it in any large amounts from the air have caused specialists to alarm the world from time to time with grave and carefully calculated prophecies of a nitrogen famine.

They believed that no agency could be found and generally diffused that could succeed in overcoming the inertia of nitrogen and obtaining it from the air. Therefore, with 38,000 tons of nitrogen suspended over every acre of land, it was predicted that the spectacle would ultimately be witnessed of the starvation of crops unable to absorb the vitalizing element. The fact that an immense amount of energy is required in physics to make nitrogen unite with anything, lent substance to this saturnine prediction.

When wood burns, the heat radiated shows how powerful was the agency of the sun in supplying the energy and assembling the elements that made the growth of the tree possible. But mighty as the sun is, it is incapable of freeing nitrogen. The microscopic creatures which the Government is propagating in Washington are, therefore, able to accomplish what the sun is unable to perform. In the matter of the sun, however, it is providential that it can not cope with nitrogen. If it could, scientists explain, a deluge of nitric acid would annihilate all life and all the piled-up monuments of man's genius, and the earth would be a vast sepulchre.

The Government's success in propagating these beneficial bacteria comes at an opportune time in the world's history. Guano deposits are nearly depleted, and the nitrate beds of Chile and Peru, which in 1860 were estimated to contain enough of the fertilizing element to supply the world for fifteen centuries, are now found to be giving out, and at the present rate of exportation will be almost exhausted at the end of another generation.

Lights in the Grass.

EDITOR KANSAS FARMER:—I was riding over the prairie one misty night a short time ago, when I discovered some lights in the grass. The lights ranged in size from a dollar up to a common plate. I took up some soil and grass expecting to find the light in it, but the light was still on the ground.

Could there be minerals under those lights? If not, what causes the lights? Hodgeman County. G. T. S.

The above inquiry was referred to Prof. J. T. Willard, chemist at the Kansas State Agricultural College, who replies as follows:

It is of course impossible at this distance to tell what the cause of those lights was. Certain bacterial growths are phosphorescent. I have repeatedly seen beef-steak, for example, which had not undergone sufficient change to lead one to suspect it to be unfit for food, and which in fact was probably perfectly wholesome, exhibit a bright phosphorescence. Bacteria on other substances produce the same effects at times. The ordinary angle-worm shows considerable phosphorescence, so that if one in walking bruises a worm and spreads it along the earth quite a little patch will be luminous. There may be other forms of life that exhibit this phenomenon. The light

seen by your correspondent was probably caused in some such way.

Manhattan, Kans. J. T. WILLARD.

Roadways Considered in Their Relations to Trees.

Col. William F. Fox, State Superintendent of Forests, New York, in his recent pamphlet, "Tree Planting on Streets and Highways," discusses the relationships of trees and roads, especially in reference to the dryness of the latter. He says:

"Trees should be set out along every road for shade. In addition, the farm lanes can be lined advantageously with fruit- or nut-bearing trees that will bring money to their owner and add to the attractive appearance of his surroundings. Objections may be made in some localities to placing trees along a public road, because their shade would tend to make it wet and muddy. If such conditions exist the fault is in the road, and not in the trees; there are some very muddy highways along which nothing has been planted. Although a row of trees may retard somewhat the evaporation of moisture at the surface of the roadbed, at the same time they drain its foundation by the rapid absorption of water through their roots. When a roadbed is properly constructed, drained and ditched, the trees will do no harm; on the contrary, they will furnish a grateful shade to the traveler, and prevent dust without creating mud.

MUD BETTER THAN DUST.

"There are roads along which no trees are allowed, because some resident argues that the sun is needed to dry up the mud and sloughs which in spring make traveling slow and difficult. But in summer the sun-baked mud is pulverized under the wagon wheels, creating clouds of dust that are worse than mud. With a well built highway, shaded by trees, both of these nuisances would be avoided. Even a poor road will permit of one row of trees, which should be placed on the south or west side, as its direction may require, to temper the heat of the afternoon sun. One of the finest, smoothest roads in the State may be found in the Adirondack forest—from St. Hubert's Inn to the Ausable Lakes—and yet it is well shaded by trees that meet overhead, shutting out the sun except where the road is flecked with light that streams through the small openings in the leafy cover. But the road was constructed in proper shape and of suitable material.

"Trees purify and cool the air, increase the value of surrounding property, and are pleasing to the eye. They should be placed along the highways on our village and city streets, on lawns and in parks, and wherever shade or shelter may be needed. Planted in commemoration of persons or events, they become living monuments that endure when the inscriptions on the yellow, moss-covered marbles of the churchyard are no longer legible.

"We are entering on an era of good roads. But the good work of the road-builders will not be complete until trees are planted at proper distances on each side of the highway. In his annual report for 1901, the State engineer of New York states that the actual cost of 134 miles of stone macadam roads was \$7,955 per mile. It takes 196 trees to plant each side of a highway for one mile. Having put \$7,000 or \$8,000 on the roadbed, there surely should be no objection to paying \$150 or \$200 more in order to have a cool, shady driveway. Why not amend the law so as to include tree-planting?"

Why Fines for Improvements?

EDITOR KANSAS FARMER:—In your issue of August 13 you complain of "a custom of recent date," in several counties of the State, "of making a discrimination against registered animals." You are both right and wrong. Under the law, as we have it, tax follows value. If the scrub is as valuable as the grade or thoroughbred he should be assessed as high as they. If the thoroughbred is worth no more than the scrub he should be taxed no more. But is he worth no more, his

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The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Blisters or Hemorrhoids from Horses and Cattle. SUPERSEDES ALL CAUSTIC OR FIRING. Impossible to produce soot or blisters. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.



owner and the editor themselves being the judges? The "custom" is right, according to our way of taxing, if the "discrimination" is based on value. No doubt it is; and if so, the editor is wrong.

But he is right in protesting against the public policy which fines a man for introducing improved stock—the increased tax is, in a sense, a fine, isn't it? But in like manner, we are all fined for all our efforts at improvement. The editor himself can not put a betterment on his lot without being "fined," if the assessor does his duty. He can not plant an orchard on his farm without increasing his taxes as his values grow. He can not drain a swamp on his estate without a fine imposed by the tax-gathered. For all this, he should be rewarded instead of taxed. How would it do to remit all taxes on "betterments" of every nature—improvements in animals, improvements in buildings, improvement in equipments, improvement in homes?
EDWIN TAYLOR.

Wyandotte County.

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 25 inches high, fitted with 24 and 30-inch wheels with 4-inch tire, and sold for only \$21.95.



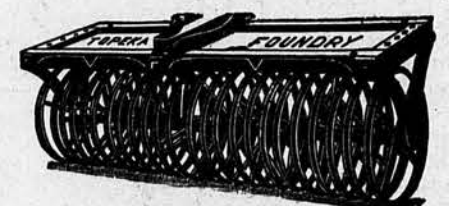
This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low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

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A good stand means a full crop. You cannot fail if you use our Packer. Write for circulars.

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The Young Folks.

CONDUCTED BY RUTH COWGILL.

AN IDLE MAID.

They say I am an idle lass,
They frown upon me as they pass;
My gown becomes me and 'tis knew.—
The butterflies are idle too!
The world has need of butterflies
Else why flit they in sparkling guise?
They bask in sunshine by the hour,
And I rock in my lilac bower.
With work and study far away,
What care I for the words they say!
I will not teach, I will not sew,
Or tend the lettuce down the row,
But dance, and sing and pretty be,
And wait the Prince that comes for me.
Some day I'll hear the Prince's tread,
He'll stop beside my sweet rose bed,
He'll praise my cheeks, and praise my hair,
And tell to me that I am fair.
And then in state with him I'll go
To where the crystal fountains flow;
I'll dress in silks and linens fine,
With maids to bring for us the wine.
But be he poor, with love for me
That shining in his eyes I see,
Then will I keep his cottage trim,
And sew the seams, and bake for him.
—Cora A. Matson-Dolson, in July National Magazine.

Our Pilgrimage.

To-day we started out to see Faneuil Hall. I must tell you about the whole trip from the beginning, because in that way you will see a good deal that is typical of Boston.

We took a car in quiet easy-going Cambridge, ran along until we came to the Charles River. Whenever I plan to go into Boston, this crossing of the Charles enters largely into my anticipations, for it is so lovely. It is so near the sea that it has the ebb and flow of the tide. Sometimes it will be quiet and sluggish as a Kansas river. That is when the tide is out. Again, at high tide, it will be alive—flowing in with great silver-crowned ripples. Always there is a fresh, cool breeze blowing up from off the water, and on a hot day it is most refreshing. It is a beautiful river. From the bridge you can look away to the northeast at old Boston crowned by her gold-domed State House, or back along the river where numerous great factories blacken the air with their smoke. You are sorry when the car has crossed the bridge and you are in the crowded streets of Boston. But soon your mind is quite absorbed with the things you see—crowds of people, passing cars and automobiles, queer-looking vehicles of all kinds, ancient buildings, statues, and tablets marking some historic spot. I could write volumes just about the pleasures of a 5-cent trolley ride about Boston. It is such fun to watch the faces gleaming at you for an instant from the street or car or carriage, with their strange resemblances to people you know; to glance into windows where Ching Ling or Foo Chi Lung is eternally ironing, or into the wide-open doors of saloons, where long lines of men hang over the bar, or drain their up-tilted glasses. It is curious, too, and half-sad, to see the dirty little children running about certain of the streets in great glee, following a hurdy-gurdy or a monkey man.

But we must not forget our destination. We are at present on our way to Faneuil Hall, which is down in the midst of the busy hurly-hurly of traffic. We whirl through a corner of the Public Gardens and enter the Subway. One of my chief delights is a ride in the Subway. It is a trolley line underground. Two long sets of tracks gleam ahead of you in a semi-darkness. On either side are white walls like the sides of a tomb; above you gleam three long rows of electric lights; cars appear mysteriously in the distance, guided by the little blue trolley flame, and whizz past you. You go swiftly around the stations crowded with people. Then before you know it, you have arrived, and pour out with the crowd, stream up the steps and into the glare of the street, where you are caught in the whirlpool of the crowd and tossed about. You dodge the continually-passing cars, the great teams of draft horses with their heavy wagons, the constant oncoming rush of people. You turn a corner—and behold, you are as secluded and unjustled as in a country road. That is one of the queer things about Boston—one moment you are in the midst of a terrible crowd and fear for your

life, the next instant you have passed to quiet and safety without having realized in the least that you were coming there. The other queer thing that I have observed is really very peculiar. In most places the people look out for the cars and if one gets hurt, it is his own fault. Here, the reverse is true. People ignore the cars altogether. Heavy wagons jog comfortably along in most sublime indifference to the car at their heels, regardless of the bell which is ringing frantically, almost in articulate profanity it seems sometimes. If any one should have the patience of Job, I certainly think it should be the car-driver in Boston. Once I saw a wagon heavily loaded with stone standing on the track ahead of us. "That wagon will have to hurry," I said to myself. Imagine my surprise when the driver looked around, then coolly dumped his load of stone on the track! The car patiently waited until two men had removed the stone to one side where some repairing was going on. Then business was resumed. The cause of this peculiar state of affairs, I suppose, is the narrowness of the streets. They are little more than sufficient in width for the passing of two large wagons. When, therefore, a car comes down the middle of the street it has to take what chances it can. It seems to be considered that wagons and people are old and established institutions which have always belonged here. Cars, on the other hand, are a distinctly modern invention, and are merely tolerated.

Having fought and dodged your way through the crowd you finally reach Faneuil Hall. It is somewhat of a shock to your sensibilities, having come with your mind well loaded with historic recollections of great speeches and excited gatherings of patriots, to step into a great market place. I was surprised to learn that the lower floors of Faneuil Hall have always been used for a market, and that this was the purpose for which it was originally built. A market place has an interest of its own. To see the immense amounts of meat and fish and vegetables to be consumed daily by a great city, reminds one that this life of ours, for all its beauty and its power, is very dependent upon material things.

We wandered through the market for a while, then found our way upstairs, and sat down where so often in the stirring times of two centuries ago, crowds of indignant, noble-hearted people have sat and listened to the fiery words of some gifted fellow-patriot who voiced their feeling that England's tyranny could no longer be endured.

The Hall is an unpretentious room at one end of which is a stage. Paintings of famous New Englanders of long ago hang upon the walls and at the rear of the stage is a painting of James Otis making his famous stamp act speech. It was a great pleasure to visit this historic place. Such contact with spots where great events have happened gives one a feeling of the reality of history, and of thankfulness to our early fathers who so nobly dared and won.

Heroines of Old Songs.

In a majority of cases the heroine whose graces and virtues form the theme of the song writers have been real women and not creations of the imagination. Which of those girls who have had their love affairs immortalized in verse are the most popular to-day it is hard to tell. The revival of the old songs by the minstrels in these latter days shows plainly that they have as strong a hold on the public as when they were first sung. Men and women who have traveled in many lands and listened to everything worth hearing in the way of good music, will settle back in their chairs and listen to one of the old songs with an air of contentment never seen on any other occasion.

For the time the white-haired man smells the apple blossoms of the old homestead and is a boy again, and the grave-eyed woman by his side hears the young lover telling his tale as she listens to "Annie Laurie."

It is with a sigh that they both come back to the present as the singer ends.

And they are happier for those few moments in which the dear, dead past was a living reality.

There was Annie Laurie, for instance, Scotland's favorite woman, in song. She was the daughter of a Scottish knight, Sir Robert Laurie, and was born about the year 1682.

William Douglas, of Fingland, one of the noted Scottish family of that name, loved the girl. When he left Scotland to fight in Flanders for fame and fortune, she gave him a lock of her hair. In the lonely night watches, when thinking of home and the maiden left behind, the soldier scribbled the song that became famous. It was the only remembrance the girl had of her lover. He was slain in battle. Tradition says he met death with the lock of Annie Laurie's hair in his hand.

Jane was a typical country lass who lived in her father's cottage in Cambridgeshire. Her roguish eyes rested with approval upon a neighboring farmer's son, one Edward Fitzhall. Passing up the street on one occasion, he saw "Pretty Jane" watching him shyly from behind the window curtain, believing herself to be safe from observation. Fitzhall continued his walk until he reached the stile marking the boundary of his father's fields. He sat on the stile and mused on Jane's charms. Then suddenly inspiration came, for he was a poet as well as a farmer, and the result was the verses which have delighted the world for years. Before the ardent lover the rye was in full bloom and he headed the poem with the title, "When the Bloom is on the Rye." Later he went to London and made his mark as a singer. He met the celebrated composer, Sir Henry Bishop, and asked him to set the words of the song to music. Bishop did so, but thought so little of the composition that he threw it into the waste-paper basket, from which Fitzhall rescued it. He sang it that same evening and it was enthusiastically received. It was afterwards re-named and has since been one of the most famous songs in the world. Jane herself was not so kindly treated by fate. White still young she died of consumption.—The Canadian Thresherman.

A Father's Devotion.

In August, 1893, while canoeing on Lake Sebago with Prof. W. A. Robinson of this city, we witnessed a wonderful exhibition of devotion, courage, and sagacity by a male loon which we chanced to find with his mate and young in a deep bay indenting the principal island. When about fifty rods from the mouth of the bay, we were startled by his frequent and loud alarm cry, and drawing nearer we saw at the head of the bay the family, the male being on the side toward the canoe. The mother, with her young one on her back, holding hard by his bill to her short tail feathers, uttered low, plaintive cries, and occasionally would dive, remaining under a considerable time.

Returning to the surface, we noticed the little fellow, generally four or five feet behind his mother, but he would quickly joint her, and grasping her tail would give a little spring, while the mother would aid his efforts by a flirt of her tail, and in less than a second he was on her back again.

For about five minutes we watched the birds beating back and forth and showing great anxiety, doubtless fearing that we would block their passage into the lake, the outlet being very narrow, when father loon suddenly dove, and passing under the canoe, emerged some fifteen rods behind us in the lake, calling our attention from his family by a loud scream. Approaching until he was not more than forty feet from us, he employed several artifices to induce us to pursue him, and thus release his loved ones.

Failing in this, he resorted to intimidation, and rising until he seemed to stand on the water, he ruffled his feathers until he seemed fully twice his natural size, furiously flapping his wings and screaming violently. He approached so near the canoe at one time that it seemed as if he were about to attack us. This effort proving futile, he swam away some ten

rods, while we remained quiet and awaited with interest his next move, which was very singular, and perhaps intended to convey the impression of a mortally-wounded bird.

First diving into the water, he arose some five feet distant, then leaping into the air about four feet, and again diving when he reached the water, he described a series of cycloidal curves, having a base of about five feet, and uttering a loud scream each time he left the water.

Turning, he repeated the same manœuvres in an opposite direction, coming very near the boat. At last he turned on his side and uttered cries which grew fainter and fainter until all motion ceased, and he lay still as if dead. My companion said (I held the paddles) "I am afraid the brave old fellow has really killed himself by his tremendous exertions; paddle over and see." We approached noiselessly until quite near, when, thinking he had really deceived us, he began to slowly move again from us, fluttering with one wing as though the other was broken, and simulating the faint and mournful cry of a dying bird, all the while keeping just out of reach, evidently hoping to induce us to follow him out into the lake.

When we ceased to follow, he returned in the same manner until our compassion got the better of our curiosity, and we withdrew so as to leave the mouth of the bay unguarded, but stopping near enough to see the outcome of the matter.

As soon as he saw the coast clear, our gallant bird, so recently in mortal extremity, holding his great green head high in the air, quickly rejoined his mate carrying her precious charge. It was most affecting to see the mutual caresses by rubbing their necks and heads together, and the little one did not fail to receive a goodly share. As for the "loon talk" in which they indulged, the boatmen would have been gratified to know that the birds spoke as well of them as they thought of the birds.—L. M. C., in Dumb Animals.

The Care of Clothes.

Too much can not be said upon the airing of silk and woollen waists after being worn. When removed they should be carefully brushed and mended, if there are any little repairs to be made, and then hung over a waist hanger or the back of a chair near an open window, with the wrong side out. For thin, fluffy waists, or those of handsome silk or satin, it is an excellent plan to stuff the sleeves with white tissue paper and put the garment away on a hanger.

A charming receptacle for summer shirtwaists, which should always be laid their full length and very lightly, one over the other, may be obtained by taking an ordinary wooden box about two feet long by three feet deep, and covering it with some pretty cretonne, with the inside covered either to match or in contrasting goods, and the covered lid attached by two or three fancy brass hinges.—The Delin-eator.

Can You Write a Note Well?

A young girl can have no more exquisite accomplishment than the ability to write a thoroughly graceful note. Much of our social intercourse is carried on in this way, and one should know how to express herself clearly and to the point in sending an invitation, or when she accepts or declines one herself. Not long ago I heard a lady of middle age excuse herself for not having written a note of acknowledgment in return for some courtesy. "It is so difficult to write a note," she said. My girls never do this. Always write a note of thanks very promptly when you have received a present. Always write at once on receipt of an invitation; whether you say yes or no, let the answer be prompt. Write notes of sympathy when people are in trouble, of congratulation when some good fortune has befallen them.—Margaret Sangster, in Harper's Young People.

For the Little Ones

MARJORIE.

Marjorie hides in the deep sweet grass;
Purple its tops bend over;
Softly and warmly the breezes pass,
And bring her the scent of the clover.
Butterflies flit, and the banded bee
Booms in the air above her;
Green and Golden lady-bugs three
Marjorie's nest discover.
Up to the top of the grass so tall
Creep they while Marjorie gazes;
Blows the wind suddenly—down they fall
Into the disks of the daisies!
Happy sweet Marjorie hidden away,
Birds, butterflies, bees, above her;
With flowers and perfumes and lady-bugs
gay;
Everything seems to love her!
—Celia Thaxter.

Three Little Girls and Their Dolls.

Mary had a doll named Elizabeth Ann; Gertie had two, named Jennie and Jane; and Hazel had one named Geraldine. These three little girls all loved their dolls very dearly. Mary never forgot to take good care of Elizabeth Ann, and Hazel always was thoughtful of Geraldine; but Gertie often forgot all about her two babies. If she found a new story to read, she would drop poor Jennie or Jane wherever she happened to be, and leave them. Or if she wanted to help mother make a cake, she might put the dolls into the wash-basin or on the stove, just as it happened. You see, she was a funny little girl. Mary and Hazel did the best they could for Gertie's babies, but it was rather hard, because they never knew where to find them. Sometimes when Elizabeth Ann and Geraldine were tucked cozily into their tiny beds, Mary and Hazel would start out to find the other two dolls, and put them to bed. Whenever they happened to be found, whether in a rainstorm or on the piano, the good dolls always had a smile upon their faces. They were the sweetest-tempered babies I ever knew.

Sometimes the girls had tea-parties, and then Gertie dressed her babies up as nicely as anybody. It was at one of these tea-parties that Gertie lost one of her dolls.

They were all sitting there, eating the crackers and apples (which they called cake and ice-cream), when Uncle Jack came driving up in his fine new buggy. Uncle Jack was always very kind.

"Want a ride, little girlies?" Uncle Jack asked.

"Oh, yes, yes!" they cried, and ran into the house after their hats.

Mary and Hazel decided to take their babies, but Gertie said she would not be bothered with Jennie and Jane, and left them sitting smiling at the table.

The girls had a delightful drive, and it was supper-time and almost dark when they came back. After supper they were sleepy and went straight to bed, and no one thought of poor Jennie and Jane.

But in the night it rained, and Gertie waked up and remembered her dolls out there at their little tea-table. "And Jennie is dreadfully afraid of thunder!" she said to herself.

So she got up softly, and went out into the rain to bring them in. But when she reached the table, all wet and cold by that time, she saw that Jennie was gone. She looked under the table, and around, but no Jennie was to be seen. So she picked up Jane and ran into the house.

Her mama heard her come in and called to her. Gertie told about Jennie's being gone and mother felt sorry, but told her not to worry, but put on a dry night-dress and go to bed.

The next morning all three of the little girls went out into the wet grass and looked everywhere for poor Jennie, but saw no trace of her. When Uncle Jack came again that morning, they told him about it.

"Too bad!" he said. "I suppose old Bill ate it."

Old Bill was his pet goat, a horribly ugly beast, who ate everything he could find.

"Oh, I wonder if he did!" said Gertie. Then they ran out to where he was tied, trying to eat a tin can. They looked carefully all around, and finally Hazel spied a piece of the hat that Jennie wore. Then Mary found one of her little shoes.

"Yes," said Gertie, "Old Billy has eaten her. Very sad!—Well, I'm glad she's out of her misery!"
I wish I could tell you that Gertie took better care of Jane after that, but she didn't. I think Jennie had been her favorite, and when she was no more, Gertie did not care for dolls at all. So Mary and Hazel adopted Jane, together, and she has had a happy life ever since.

Suggestions About Swimming.

The following suggestions to boys and girls are from an instructor in the art of swimming: Never bathe alone if you can avoid it. If you get the cramp, do not fight the water aimlessly. Try to throw yourself on your back to float, kicking out vigorously, as cramp may often be checked in this fashion, and call for assistance. If you go to the aid of any one attacked by cramp, keep clear of them and do not let them clutch you. Assist them either by towing them by the hair or by pushing them in front of you, if possible.

Be careful not to swim out to sea without remembering that you will have as far to swim back. Girls should never bathe in a dress of material which, when wet, will cling round the limbs! Dry yourself thoroughly after bathing, dress quickly and take a short, brisk walk to restore perfect circulation. When you get home, bathe the face and hands in soft water to prevent chapping.

Those who can not swim should remember that in floating it is essential to throw the head well back, to fill the chest full of air and to have the legs and feet close together and under complete control. Extending the arms straight out on a level with the shoulders, palms up, is a good plan also. To teach swimming or floating, a spot where the water shelves gradually should be chosen, and the friend assisting should stand about waist deep beside the learner with a hand placed firmly beneath the pupil's spine to afford rather moral than actually physical support. When the art of floating has been acquired, you can easily learn to swim with a little instruction from a friend who can swim, remembering to keep the head and chin well up, and to take long, even—not irregular or hurried—strokes.



O. H. LONGWELL, A. M., PH. D., PRESIDENT HIGHLAND PARK COLLEGE, DES MOINES, IOWA.

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THAT FUEL QUESTION.

(From a Short-grass Standpoint.)
Feed the chickens, daughter Mary,
So the hens may go and lay;
They've been shut up, loudly calling
For their feed, since break of day.
This is sure a lovely morning,
Almost like the month of May;
And I think we'll go a chipping
O'er the pastures far away.

Ruth, you help me hitch the horses;
You're a good girl for such things.
I do like a child that's helpful.
Who while working often sings.
Is there fuel in the wood-box?
Mama wants to bake to-day.
While the rest of us are chipping
On the prairie far away.

Lead the horses first to water,
While I let the cattle through.
Bird goes always on the gee side,
Watch! that colt don't kick at you.
Ah! that naughty little sorrel
Thinks he'll go along and stay
With the team while we are busy
Chipping on the plains to-day.

Shep, you stay at home with mama,
Keep the range cows from the door,
Drive away the hawks and coyotes,
That is what we've got you for.
If he'd go with us he'd only
Chase jackrabbits, and in vain,
Catching none, while we are busy
Chipping on the level plain.

Here we go, now see us travel
As we swiftly ride along,
Meadow-larks are singing loudly
Everywhere their sweetest song.
In the distance herds of cattle,
And of horses may be seen,
As we go this lovely morning
Chipping where the grass is green.

See that mirage over yonder,
Where the level pastures break;
Stretching out three miles or over,
Looking like a crystal lake.
Cattle standing in the water,
With their shadows up-side-down;
Weeds and tall grass showing double,
Look like little islands brown.

Tell you as to what is mirage?
That's a thing I can not do;
But there is an Indian legend
Which I will relate to you:
This vast plain was once an ocean,
Where sea monsters lived and died.
Level scopes and rolling sandhills,
Thus were formed by waves and tide.

Water relics are yet picked up
Where the red men's camp-fires burned,
And the mirage in the legend
Is the ocean's ghost returned;
Fleeing as we go toward it,
Baseless as the evening shade,
Fleecy clouds, and like the rainbow,
Fair to see but quickly fades.

I admire this short-grass country,
'Tis the best place I have found.
There are vacant quarter-sections,
Smooth and fertile, lying 'round,
Looking like a blue-grass meadow;
And to own them one but gives
What would buy a lot in graveyards
Back East where your grandpa lives.

I admire these Kansas coal-fields,
As compared with splitting wood,
Like I used to do while renting
Back where heavy timber stood.
Children mine, I'll tell you something
Of the way I used to do.
Years before we came to Kansas,
To this land so strange and new.

In the stormy days of winter,
In the cold and in the rain,
In the snow-drifts by the rail-fence,
In the deep mud of the lane,
Carried I the ax and cross-cut,
Maul and wedge; and trudged along
To the woods among the tree-tops
Where the cutters, skilled and strong,
Had cut down tall trees for saw-logs,
There I did the best I could,
With my old one-handed cross-cut
Saw and ax, a-making wood.

Then I've gone out with the wagon,
Through the woods and over logs;
Driving through small ponds of water
Noisy with the croak of frogs,
With one hub fast on a sapling,
And all four wheels in the mire,
Thus it was in Indiana,
Hauling wood to keep a fire.

Now 'tis time to stop the wagon,
Here is what we're looking for,
Cow-chips, dry, and oh! so plenty;
Won't they make the cook-stove roar?
Now, let's fill the wagon quickly,
Then we all will homeward go,
Counting this day's work a picnic,
Chipping where the wild-flowers grow.
Stevens County. Ira A. Stoner.

A KANSAS FARMER IN THE OLD COUNTRY.

XI. Venice.

It would require a poetic hand to write of all the grand palaces and churches of the long-famed city of Venice. Only a few points will be mentioned in this letter, and no attempt will be made to even try to describe the place. From Florence our American party journeyed northwestward, about one hundred and eighty miles to reach the city. Our route lay through the Apennine Mountains, and many miles of tunnels were traversed in the journey.

Venice is not a young city, as its beginning was long before the year 800, but its greatness and power do

not reach back of the year 1200, and probably no building in the present city was erected prior to the last-named year, though many had their foundations laid more than eight hundred years ago.

Arriving at the depot, the traveler's first movement is to find a boat to convey him to his hotel. There are no horses or road carriages in the whole city, but boats on the canal are numerous and soon the wanderer is silently and slowly floating on the water highway, the motive power being the gondoller who stands on the stern of the boat and with one oar moves the vehicle in any direction.

One of the first objects the visitor desires to see, and probably the most famous in Venice, is St. Mark's Cathedral. The cathedral, the Doge's Palace and the present Royal Palace are near each other, and border the great square of St. Mark's. Arriving at St. Mark's, the visitor's attention is called from the magnificent building to the thousands of pigeons, or doves, which fly about him, and he will find himself surrounded by them, waiting for him to feed them. A vendor of corn is on hand and a penny or two buys a package of the food, and soon one can have a dozen of the birds eating from his hand.

St. Mark was, no doubt, a very good man, but his body which had slept some eight hundred years in the Holy Land, and in Egypt, was not allowed to "rest in peace," but was by the Venicians brought from Alexandria in the year 829; and later on the big church was begun, and the miraculous remains were entombed under the big altar of this sanctuary, which was named for the Saint. And now for about five cents any visitor may be shown the outside of the vault where the good man is supposed to have been sepulchered. There are other holy remains in this church, all of which would be interesting to write about, but terribly wearisome to the reader.

Hundreds of years ago the chief officer of the city of Venice was the Doge, or Duke, and the old palace, known as the Doge's Palace, is visited by hundreds of thousands of people every year. The paintings and sculptures representing the many doges are on exhibition in the building, besides many fine paintings by renowned artists, and busts by famous sculptors, but the average visitor is usually especially interested to see the representation of Enrico Dandolo, the first great doge of Venice.

After walking over the Bridge of Sighs, and down into the old prisons under the palace, one is satisfied to leave the renowned place. The little dungeons, way down below the surface of the water in the canal, outside are not handsome places, nor is the execution cell where the block is shown, upon which heads were chopped off, a handsome sight.

A ride on the Grand Canal by moonlight, to hear the concert bands, which float on the water, is something every visitor loves to remember.

One of the very interesting places which many visitors remember is the Palace Rezzonico, on the Grand Canal, where Robert Browning and Elizabeth Browning lived, and where Robert Browning died in 1889. It is now occupied by their son, when he is in Venice, but open to visitors when he is away. It is a fine large palace, and the paintings and statuary in it are well worth an hour's time in seeing them.

As our American party were floating down the canal, we were attracted by a large crowd in front of the Academy of Fine Arts, an institution patronized by Queen Marguerita, the dowager queen of Italy. Many boats were clustered near the banks, and the bridge was covered with people, all looking eagerly toward the Academy. We learned that Queen Marguerita was then in the building, and that the crowd were waiting to see her when she should come out. Our gondoller was fortunate in being able to steer his boat into the crowd and locate it alongside of the royal gondola, and soon the queen came and was handed into her boat. The crowd cheered and the queen smiled and seemed well pleased. The people seemed more anx-

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ious to see her than the Roman folks were, a few days before to see her royal son in Rome, when he took the train for a northern visit; but we now had seen both and were completely satisfied, so far as Italian royalty is concerned.

A steamer ride of a few miles toward the Adriatic Sea, to the Lido, is the usual enjoyment of every visitor to Venice; here a pleasant hour or so can be happily enjoyed, and a bath in the Adriatic is a diversion dear to the heart of the American traveler.

XII.—Milan.

From Venice to Milan, in northern Italy, the distance is about 150 miles, and our American party had the advantage of beautiful weather in which to make the trip from one city to the other. The KANSAS FARMER man was interested in watching the Italian farms, and whatever was peculiar to them. He observed that there were very few fences of any kind, but that the fields were marked by lines of trees, and ripened wheat appeared all along the route. Few fields exceeded five acres in size, and each field had its line of trees to mark its limits. The trees had all been recently trimmed, leaving only the body or stump about ten feet high, with a new growth of twigs growing. These trees are trimmed every two or three years for the fire-wood obtained. This fire-wood is bound in small bundles by wythes and taken to the city market and sold.

Also along each row of trees a rope or wire was stretched, and a grapevine was growing at the root of each tree, and the vines were spread along the rope from tree to tree, thus making a continuous fence of tree and vine around each small piece of land in crop. On every side were noticed groups of harvesters, at work with sickle, cutting the grain, and gleaners in each field to pick up the loose stems of grain missed by the sickle wielders.

The cities of Padua and Verona were passed, though our party would have been pleased to stop and inspect the historical curiosities and sights there on exhibition.

Arriving in Milan, we found it the handsomest city of all Italy. It has the advantage of being a new city as to its present buildings. All other Italian cities have old churches and castles dating back a thousand years and more, for the tourist to inspect. Milan, though its history is recorded for over two thousand years, had the advantage of being completely destroyed in 1162 by the Emperor Frederick Barbarosso, and afterward it was slowly rebuilt, and did not again become a large city till more than one hundred years thereafter, so that now there is no building older than four hundred years to be seen by the tourist, though its splendid cathedral was begun by Galeazo Visconti in the year 1386 but not completed until 1577; in fact, the dome was not finished till 1775. The streets are wide and the business buildings appear new, and in general appearance the place is like an enterprising American city. The street-car lines are equal to any to be found in America, and sight-seers can inspect the city by street-car with as much comfort as though they were riding in New York or Topeka, Kansas.

The one most important object to be seen is the wonderful cathedral in the center of the city, which dates from the year 1386. As to its size it will be sufficient to say that it will hold 40,

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000 people. Our party made it a point to thoroughly inspect it, and also to travel up to its roof and have the wonderful view to be there obtained.

A cemetery is not always a cheerful object to investigate, but for a real pleasure trip one can be entertained by riding out to the Milan burying ground. It is known there as the Cimitare Monumentale, and is the most beautiful one in the whole world, I am sure. Our party, now increased to ten, made a thorough tour of the cemetery, viewing the beautiful tombs and trying to read the Italian and Latin inscriptions. We found such families represented as Turanti, Brambila, Verazzi, Nasoni, Pagnoni, and Ciagna, which probably are not as familiar to Americans as Smith, Jones, and Brown, but they evidently are all right in Milan.

In the northern part of the grounds we visited the building in which the dead are incinerated, if they or their friends so desire. This is known as the Tempio di Cremazione. Here we had a very courteous official as guide, and he explained, in good, solid German, all the particulars of the building, and his explanations were interpreted to us by one of our party.

He showed us the ovens in which the bodies are cremated, and told us that since the beginning of the institution over 2,000 had been reduced to ashes. For an ordinary case, the charge was 40 francs, or \$8, for incineration, and 60 francs for a pocket or vault in the gallery in which the ashes could be deposited and a marble slab in front to tell about the late lamented, total cost, \$20. N.

Seasonable Recipes.

Canned Green Grapes No. 1.—Stem the grapes, wash, drain, and cover

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with boiling water. Let stand ten minutes, then drain off the water. Put the pulp in a preserving-kettle; boil the pulp until the seeds separate, then press through a colander. Add the skins, measure, and add one cupful of sugar to each two cupfuls of grapes. Cook ten minutes, and seal boiling-hot.

Green-grape Jam.—Stem the grapes, and simmer in a preserving-kettle with one-half cupful of cold water until soft. Cub through a colander, then through a sieve. Measure, and to every pint of juice allow three-fourths of a pound of granulated sugar. Boil the pulp and sugar steadily for fifteen minutes, stirring constantly to prevent scorching. Seal boiling-hot in pint jars; or it may be put into jelly-glasses, and when cold sealed like jelly.

Green-grape Jelly.—Stem and wash the grapes, and pick over carefully, removing all imperfect fruit. Add one cupful of sugar to each two pounds of grapes, and simmer in a preserving-kettle until perfectly soft. Strain, measure, and allow three-fourths of a pound of sugar to each pint of juice. Boil the juice rapidly for ten minutes, add the sugar, stir until dissolved, and boil rapidly ten minutes longer. Pour into jelly-glasses, and after twenty-four hours seal.

Green-grape Pie.—Line an inch plate with good paste, sprinkle over the bottom two heaping tablespoonfuls each of sugar and flour (or one of corn-starch), then fill with pulped green grapes, spread over two tablespoonfuls of grape jelly, sprinkle with four tablespoonfuls of sugar mixed with one tablespoonful of corn starch, and add two tablespoonfuls of cold water. Cover with a nice upper crust, and bake in a good oven. Serve with plain or whipped cream.

Crab-apple Sweet Pickles.—Prepare the recipe for preserves, and when cooked tender enough, drain. Dissolve four pounds of sugar in one pint of vinegar over the fire. Mix one ounce of ginger-root, two teaspoonfuls each of allspice and cinnamon and one-half teaspoonful of ground cloves. Put them into four small muslin bags, and add to the vinegar and sugar. Let it boil up, then add the apples. Bring again to the boiling-point, then put the fruit in stone jars, and pour the vinegar over it. Let stand until morning, then pour off the juice, place it over the fire, and bring again to the boiling-point. Pour it back over the apples in the stone jar, and let stand another twenty-four hours. The next day boil the juice again, and pour it boiling-hot over the fruit. Repeat for eight days, then boil the syrup down until there is barely enough to cover the apples, put in the fruit, let slowly come to a boil again, and put carefully into jars. Tie up the same as for jelly.

Crab-apple Pudding.—Wash and core the fruit, but do not pare it. Cook in a little water until tender, sweeten to taste, and put in a pudding-dish. Pour over a batter made with two eggs, one pint of flour, two teaspoonfuls of baking-powder, a little salt, and milk to mix soft, and steam one and one-half hours. Serve with sweet liquid sauce or with cream and sugar.

Crab-apple Preserves.—Cook the apples whole or cut in halves as preferred, but in either case remove the cores. Boil in clear water until tender, but not broken. Skim out, and weigh. Allow one pound of granulated sugar for each pound of fruit. Add the sugar to the water in which the apples were cooked, and boil until clear—about five minutes. Skim thoroughly, put in the fruit, and simmer gently a few minutes. If cooked too long the apples will fall to pieces. Two whole cloves stuck in each apple improves the flavor. Seal at once.

Crab-apple Jelly.—Wash, and cut out all imperfect parts. Cover with water, and cook until soft. Pour into a jelly-bag, and drain without squeezing. Measure, and allow one pint of sugar to one pint of juice. Boil the juice rapidly for ten minutes, then add the sugar, and boil ten minutes longer. Pour into hot jelly-glasses, and let stand undisturbed for twenty-four hours, then seal, and keep in a cool, dry place.

A delicious marmalade may be made

of the fruit left in the jelly-bag after the juice has been drained off. Press it through a coarse strainer, measure, and add brown sugar, pound for pound. Cook until thick and rich, stirring constantly to prevent burning. This is especially appreciated in the winter with whipped cream, and as a filling for sandwiches for school-lunches is an agreeable change.

A subscriber has asked for a recipe for canned corn, and also how to get rid of cabbage-worms. We give two recipes for canned corn below. The answer to the other question will be found in the horticultural department this week.

Canned Corn.—Select young, tender ears, cut the corn carefully from the cob with a sharp knife and scrape the cob with the back of the knife to secure the milk. Dissolve 1 ounce of druggist's pure tartaric acid in a large teacup of warm water and use one-half of this for every 4 quarts of corn; to be exact measure by tablespoons. Stir the required amount into the corn; add 2 teacups of hot water and cook fifteen minutes. Stir often and thoroughly while cooking; then can in the usual way. On opening for use add to each quart a level teaspoon of soda, to neutralize the acid, cook five minutes, and season to taste, being careful to add a little sugar.

Canned Corn No. 2.—Another method is to crowd the corn cut from the cob into glass jars, seal moderately tight, set into cold water, bring it to the boil and then boil three hours; then loosen the covers an instant, seal again and cook one hour; then remove from the fire. Tighten the covers occasionally as the cans cool. In serving this corn all that is needed is to add milk or cream and seasoning and heat thoroughly, as further cooking toughens it.

Club Department.

Our Club Roll.

Mutual Improvement Club, Carbondale, Shawnee County (1896).
Give and Get Good Club, Berrinton (1902).
Osborne Woman's Literary Club (1902).
The Ladies Reading Club of Darlington Township (1902).
Woman's Club, Logan (1902).
Domestic Science Club, Osage, Osage County (1888).
Ladies' Crescent Club, Tully (1902).
Ladies' Social Society No. 1, Minneapolis (1888).
Ladies' Social Society No. 2, Minneapolis (1889).
Ladies' Social Society No. 3, Minneapolis (1891).
Ladies' Social Society No. 4, Minneapolis (1897).
Chillico Club, Highland Park (1902).
Cultus Club, Phillipsburg (1902).
Literatae Club, Ford (1903).
Sabean Club (1888).
Star Valley Woman's Club, Iola (1902).
[If mistakes are made in the above roll, please inform us at once. Let each club look for its name, and see that all information concerning it be correctly given.]

The Delightful Art of Cooking.

MRS. J. H. MALONE, LADIES' CRESCENT CLUB, TULLY, KANS.

One of the inevitable—and at the same time one of the most charming accomplishments, that a woman can possess, is the art of cooking.

We are all familiar with the poetic saying, that the "Home is woman's kingdom," but only actual experience can teach what an amount and variety of knowledge is necessary to the successful management of that kingdom.

There is delight and art in cooking, and I wonder at the woman who says, "I despise to cook."

It is almost impossible to take up a newspaper or magazine nowadays without finding in its columns some more or less feasible recipe for making the wheels of life run smoothly.

How noticeable it is that when about one-half of the people join in condemnation of a thing, the other half will follow suit, utterly regardless of any private opinion about the matter.

Just now it is fashionable to pull down the frying pan from the pedestal of esteem which it has occupied from time immemorial, and warn an inoffensive public of sure destruction of digestive apparatus, unless they quickly discard all fried victuals. Every ailment known and unknown is traced to the frying-pan. Of course the way in which much food is fried is respon-

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NEW YORK MEDICAL ASSOCIATION, Dept. 8C111 Broadway, New York.

sible for considerable of the dissatisfaction. Meat is laid in a scorching hot pan and the outside is immediately cooked, or scorched, to the consistency of a thin piece of wood, then the other side is treated likewise. No wonder it is unpalatable, it could not be otherwise. Then eggs are fried quickly, and taken up, resembling a clam in a thick brown envelope; then eaten, envelope and all, with the aforesaid veneered meat. Such diet would disorder the inside of a sausage-mill.

In the first place the woman who desires to become a good cook, will have all the utensils required in the kitchen. Few housekeepers realize the full virtue of an egg-beater, the whirling and the flat-wire egg-beater, both are very necessary. You can not beat eggs nicely with a fork or knife, as a great many women do, and unless the eggs are beaten lightly you can not be successful, and therefore the woman gets discouraged and finds no pleasure in cooking.

Again, the woman that is considered a good cook, must have the skill and knowledge of what a meal should consist. For example, if she had roast beef for dinner, she would then arrange the rest of her dinner accordingly. Many women spoil a meal by either having too much or not enough. A meat dinner is not complete without a pickle of some kind, and some kind of fruit; and it is not good taste to have two kinds of pickles, two kinds of jelly, or two kinds of anything at the same meal. One will always spoil the other though they both are very good by themselves.

The woman who is successful in cooking always selects the best of everything. Cheap things are dear in the end. Cheap flour, and baking-powder can not make nice cake, biscuit, or bread, no matter how hard you may try; neither will a poor chicken make a good stew. Often a meal that would otherwise be very dainty is spoiled by a heavy dessert.

There is a great deal of art in warming over food in a way to make it attractive. Any one can heat up a piece of cold meat or of cold fish, but to take remnants of the roast or the boil and convert them into a savory dish takes skill and a knowledge of seasoning. Two impressions must be put aside by the woman who wishes to be a really good cook. One is that seasoning is troublesome, and the other that it is expensive. The articles used in seasoning cost very little in the first place and they last a long time.

Every housekeeper has, or should have, an herb garden. In this there should be summer savory, sweet majoram, thyme, and parsley. If she can not grow these she can procure them

dried almost anywhere. Then she will, of course, have onions and she can use the juice of these in seasoning, as well as the minced onion, and have a more delicate flavor with the former than with the latter. A bottle of celery salt will be found very helpful, and for five cents you can buy bay leaves enough to last a year! Worcestershire sauce is also very valuable in seasoning and can be purchased almost anywhere.

There are other useful seasonings. Tomato or cucumber catsup are made at home, and are always valuable in giving a little zest to a warmed-over dish. One point to be borne in mind in warming over is that twice-cooked meat is never quite so nourishing as that which has only been cooked once. For this reason it is wise always to put something more with it to increase the nutritious qualities of the dish. For example, suppose that you are warming over chicken. It is made up into croquettes or balls or into creamed chicken, milk and butter are always added to the chicken and sometimes eggs. If you warm over chicken or turkey in a mince, use the gravy in which the meat was cooked and which holds much of its nourishing property, or else, as I have said, make a sauce with milk. The same thing is done with warming over other meats. When some different way of cooking is followed there should be a dish served with the meat that will be nourishing enough to make up for the twice-cooked meat.

Nearly every one knows how to warm over cold chicken in a way to render it attractive. In fact, the difficulty is what to choose. It is good made into croquettes, but perhaps it is more wholesome if warmed in a well-seasoned gravy or in a sauce made by cooking a tablespoonful each of butter and flour until they bubble, pouring

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THE SUNFLOWER CO., Atchison, Kansas.

upon this a cupful of milk and stirring until the sauce is thick and smooth like double cream. This, seasoned with a dozen drops of onion juice, procured by bearing the onion on a grater until the juice trickles from it, as it will do almost at once. A little celery salt may be added, as well as salt and pepper. Then the chicken is laid in the sauce and made hot and served either alone or on toast.

Sometimes it is good to turn the chicken thus prepared into a baking-dish, sprinkle crumbs over the top, put a few bits of butter here and there and brown in the oven. If it is roast chicken or turkey and there is stuffing left, this may be put into the dish in alternate layers with the meat. If there is a cupful of gravy left from the turkey it may be taken in the place of the white sauce or a chicken sauce made from the bones of the fowl instead of the milk.

While chicken is probably the best thing to warm over, it is by no means the only meat that can be heated over and made good. Veal may be cooked in the same way as chicken and is very good if a cup of tomato sauce is made by cooking together a tablespoonful each of butter and of flour and then pouring upon them a cupful of tomato liquor in which has been stewed a slice of onion for ten minutes. The veal should be heated in this, as the chicken is in the white sauce. Cold lamb may be warmed over in the same sauce, and cold fish, flaked, may be heated over in either way.

One of the best ways of doing over cold beef, whether roast or boiled, is to cut it into slices and have ready in the frying-pan a cupful of stewed tomatoes for every two cupfuls of the meat. The tomato may be either fresh or canned, and should stew for fifteen minutes with half a good-sized onion diced fine, with it. When cooked, the meat may be laid in and left to simmer there, for ten minutes if it is tender, for half an hour if it is tough. In any case it should really simmer, which means that it should have just a little bubbling at the side of the pan and that it should not be permitted at any time to come to a hard boil. Just before it is taken from the fire it should be seasoned with salt and pepper. It will be found extremely good and be of no trouble to prepare.

There is a superstition that any one can make a good hash, but this fancy will not be subscribed to by those who have eaten boarding-house hash or even that given on many private tables. There go judgment and kitchen wisdom to make a good hash as well as a pastry, or more elaborate dishes. One of the reasons why hash has won a bad name and contempt among many persons is because it is usually so poorly made. The meat to be used in hash must be chopped evenly and all bits of gristle and hard surface must be removed. The potatoes that are put with it must be freed from lumps. When it goes into the pan it must be well seasoned—not with big chunks of onion, but with onion juice, or the onion mined so fine that it blends with the potatoes. If it is to be a wet hash, boiling water must be added to it if there is no stock with which to moisten it. The stock, if there is any, should be well seasoned, and if water is used there should be a little meat juice with it, or at least a tablespoonful of butter melted in the water added to the mixture. A suspicion of a sharp pickle may sometimes be chopped and added to the mince or hash.

Corn Stover.

Shredded fodder, or corn stover, has great value as feed stuff because the juices of the growing corn are retained in the stover in soluble form. If corn is harvested at the right time before it gets too ripe the change from the soluble to the insoluble form is arrested, and the fodder cures into nutritious feed, which, when shredded, is equal to or superior to timothy hay; while the same fodder if allowed to stand a week longer would lose much of its value for feeding purposes. If allowed to stand until it has become too ripe, the rich sap turns into woody, indigestible fiber, and the fodder becomes hard, tough, and unpalatable to the stock. The McCormick corn-binder and the McCormick husker and shredded enable the farmer to cut his corn at the proper time and shred the fodder into stover, which is better than hay.

MISSOURI'S GREATEST FAIR.

(Continued from page 885.)

which was a marked improvement over anything exhibited in Missouri before.

Missouri has long been famous for her mules; and the exhibit of mules, jacks and jennets was one of the best we have ever seen. It was a good place to learn how and why the Missouri mule has won its reputation. The amount of size and style that has been achieved by these breeders proved a revelation to many visitors.

The swine division was simply a doubling up in the number of exhibitors who have appeared before. No breeder showed a very heavy string of swine but the large number of exhibitors served to bring together a fine showing of hogs from many different localities. The Chester Whites had a showing that was several times greater than that of one year ago, and they served to attract a great deal of attention. Some of the best-known breeders of Poland-Chinas in the United States were present with choice specimens from their herds, and visitors witnessed a battle royal for the prizes.

Here, as elsewhere, we found a sentiment against appointing judges who are breeders of one breed to judge animals of another breed. However conscientious a judge may be, his familiarity with the breed he handles implies a less degree of familiarity and consequently a less accurate knowledge of the types of other breeds. If, therefore, there should appear any dissatisfaction with the awards it is to be attributed to this cause. Be it stated, however, that the judging in all the classes of live stock at the Missouri State Fair for 1903 was made by well-known experts whose decisions brought general satisfaction.

The sheep exhibit attracted a good deal of attention, not only because of the animals shown but because the exhibit included some recently imported stock that were prize-winners at the English Royal. There were some 400 sheep on exhibition from a number of different States and from herds that are already well known.

In the poultry building there were housed some 2,000 or more pure-bred birds, most of which were from points outside of Missouri. Many other States were represented, but to Oklahoma belongs the credit of the largest individual exhibit.

The Angora goats were present in quality but not in large numbers. These beautiful animals are demonstrating their usefulness in many sections of the country and it was rather a matter of surprise that the showing was not a larger one.

The agricultural building has space allotted in it for a very fine exhibit of cream separators. The space was occupied by three different manufacturers whose exhibit was surrounded by a constant throng of interested visitors. Near the south door was the Empire exhibit of hand separators. Next came the United States Separator exhibit and then the large display of the DeLaval Separator Co.

The horticultural exhibit in the Horticultural Building was in charge of G. A. Atwood, formerly of Kansas and now of Springfield, Mo.

The south side of the grounds was devoted to displays of agricultural machinery and implements. Here could be found the latest and most up-to-date implements, although the exhibit was not as large as is usually found at other Western fairs, where the steam thrashers, shredders, ensilage-cutters, etc., may also make an attractive exhibit.

Centrally located in the Horticultural Building was a miniature special train exhibited by the Missouri, Kansas & Texas system, and named "The Katy Flyer." It was a perfect reproduction of the train done in miniature, and the cars were loaded with Missouri big red apples.

It was noticeable on the grounds that the windmill manufacturers were conspicuous by their absence, while the gasoline engine people were very much in evidence.

The crowd in attendance during the week was the largest in the records of the fair, and was very satisfactorily

handled by the Missouri Pacific and Missouri, Kansas & Texas railroads, each of which ran a train to the fair grounds every fifteen minutes, alternately. These railroads have erected large stations at the fair grounds for the accommodation of their patrons and as they both land the visitor at the main gate their service is highly appreciated.

Too much can not be said about one feature of the Missouri State Fair which makes it conspicuous among State fairs. This is the entire absence of fakirs, grafters, and entertainments of questionable morality. Nothing of the sort was allowed on the grounds, and the police service was of such quality that the visitor could enjoy the exhibits of the resources of this great State to the full without any disagreeable interruptions. It has long been claimed that it is impossible to make a financial success of a fair, without the admission of these questionable entertainments, and yet Missouri set an example to the world last year by doing that very thing and has repeated it with emphasis this year.

The races were especially interesting to the large crowd of visitors because of the size of the purses offered and of the horses entered for them. We understand that a number of records both for trotters and pacers were lowered, and visitors seemed pleased with the exhibitions on the race track.

KANSAS LIVE STOCK AT THE WORLD'S FAIR.

On August 22, 1904, the greatest world's fair live-stock show ever projected will begin at the Louisiana Purchase Exposition at St. Louis. It is a matter of history that just one year previous to that notable event an important conference of live-stock breeders, World's Fair officials, and the Kansas World's Fair Commissioners was held in the live-stock assembly rooms in the Administration Building on the World's Fair ground, which event took place last Saturday, August 22, at St. Louis.

The parties participating in this conference were Hon. F. D. Coburn, Chief of Live Stock, Col. Chas. F. Mills, Assistant Chief of Live Stock, Walter B. Stevens, Secretary of World's Fair, and Mr. Ed. Hoch, Assistant Director General of Exhibits, all representing the Louisiana Purchase Exposition Company, the Kansas World's Fair Commission, consisting of Hon. J. C. Carpenter, Chanute, Kans., Hon. J. C. Morrow, Washington, Hon. R. T. Simons, Caldwell, and Hon. W. P. Waggener, of Atchison, and members of the Kansas Live-stock World's Fair Committee, appointed by the Kansas Improved Live-stock Breeders' Association at their last annual meeting. The members of this committee present were: Marion Jones, Comiskey, representing Herefords; T. P. Babst, Auburn, representing Shorthorns; Parker Parrish, Hudson, and T. J. Anderson, Iola, representing Aberdeen-Angus; George M. Kellam, Richland, representing Galloways; Charles Morrison, Phillipsburg, and Mahlon Groenmiller, Centropolis, representing Red Polls; E. W. Melville, Eudora, representing dairy breeds of cattle, Berkshire swine, and sheep; H. A. J. Coppins, El Dorado, J. B. Davis, Fairview, and W. R. Dulaney, Wichita, representing Duroc-Jersey swine; H. W. McAfee, Topeka, representing draft horses; O. P. Updegraff, Topeka, and J. W. Creech, Herington, representing Standard-bred and light horses; E. D. King, Burlington, and E. S. Kirkpatrick, Wellsville, representing sheep; and N. A. Gwin, Lawrence, and Drake Spencer, Leavenworth, representing Angora goats; and H. A. Heath, secretary of the committee, Topeka, Kans.

Most of the Kansas live-stock committee had visited the Missouri State Fair at Sedalia, en route to St. Louis, and several preliminary conferences had been held. It was the unanimous opinion of the committee that the Kansas live-stock commission should appropriate \$35,000, to be used for duplicating World's Fair prizes and providing for special Kansas State prizes, and to help defray the expenses of making an exhibit that would in every way be worthy of the State of Kansas

and of the Chief of Live Stock of the World's Fair.

The conference at the World's Fair grounds lasted from 10 o'clock in the morning to 6 o'clock in the evening and consisted of addresses by World's Fair officials, members of the Kansas commission and of the live-stock committee, and a general discussion of ways and means for securing a notable and representative display of fine stock from Kansas.

The Kansas commission first submitted a proposition to pay \$2 for every dollar won by Kansas breeders at the World's Fair, and also pay a portion of the expenses of making the general display, such as freights, etc.

The two propositions were discussed in detail and finally resulted in a proposition from the Kansas commission to duplicate all World's Fair prizes won by Kansas exhibitors and to set aside a definite sum to be used for State prizes and expenses of making the State exhibit. The details of this to be arranged by a sub-committee from the Kansas World's Fair live-stock committee and the Kansas commission at a meeting to be held in Topeka during the State Fair, September 14 to 19.

Some very interesting matters were presented in the addresses made at this notable conference, particulars of which will be given in a later issue of the KANSAS FARMER.

WHAT SHARE FOR THE LANDLORD?

EDITOR KANSAS FARMER:—Can you, or any reader of the Old Reliable, tell me what share the tenant and landlord each get when the landlord furnishes land and all stock except teams; also when the landlord furnishes land, teams, machinery, cattle—including cows—and hogs? Do you know of a farm of this kind for rent?
F. R. MOSSINGER.

Franklin County.

It is impossible to give answers to these questions that will be generally applicable. Much depends on the fertility of the land, the improvements, the location, and the kind and quantity of stock. Much also depends on the tenant—whether he is a good farmer and stockman. The duration of the lease is also to be taken into consideration.

In some communities it is customary when the landlord furnishes everything to allow the tenant about what will enable him to make wages if the season be an average one. This is unfair, because the tenant should have more than even chances to secure compensation for the responsibilities he assumes.

On the other hand, it is in some places customary to allow the landlord a moderate interest on the value of his investment, placing the rent at such share that under average conditions he will receive such interest.

The price of rents, like prices in general, are regulated in each community by supply and demand. In times past the opportunity to rent a place has enabled many an ambitious young man to get a start and at the same time to work under his own management. As lands grow scarcer and prices of lands go higher the landlord is apt to exact a continually increasing rental.

It may be said that, in general, the plan of renting for a term of years at a cash rental is better both for the land and for the tenant than yearly tenancy at a share of the product. Business that is done on a cash basis is more satisfactory than barter. So, too, when the tenant pays a given sum for the use of a given tract of land he makes that land more productive than when he pays a share of the produce. If, in addition, he has the land for a term of years he finds it profitable to conserve or even improve the fertility; he has an interest in keeping up the fences and buildings and in preventing the encroachments of weeds and briars.

It is not to be forgotten that many owners of farms are weary of the trials of hired help and would like to rent their lands or a part of them to competent, conscientious tenants on such terms as would be profitable to both. It would be well for both land-

lords and tenants if they should adopt some means of communication whereby each might become aware of the other.

Statement of the Fair Managers.

The State Fair management authorized the following statement: "The State Fair at Topeka, September 14 to 19, will be a fair for the farmers and stock-raisers of Kansas."

"With the prosperity that is universal in Kansas and the West comes a time when the farmer wants a little trip and a sight-seeing expedition. At the same time the exhibitors of fine stock wish to show the superiority of their animals."

"The exhibitors of live stock are making special preparations to make tours through the West and visit the big State Fairs and they will come to Topeka. More stall space, more pens and more quarters of every description are to be provided to meet the increasing demand."

Secretary Charles H. Samson says: "The State Exposition company has planned to have a Kansas State Fair this fall that will be a fair. It will be like a regular old-fashioned fat-stock and agricultural fair."

"The list of prizes for individual exhibits of farm products to be made by the farmers who raised them are quite as tempting as could be wished for. The list is long and from the amount of interest being shown the agricultural exhibit at the Topeka fair will be the largest that has come together in years."

"We will have exhibits of farm machinery of all kinds from windmills to thrashing engines. A large space has been reserved for outdoor displays. There will be several exhibitors' rings where the live stock will be judged and exhibited and covered seats will be arranged for the spectators."

"We have arranged to sell a family ticket, good for six admissions, for \$2. These tickets will be on sale until September 10. They are for the accommodation of the farmers."

Get a Valuable Souvenir.

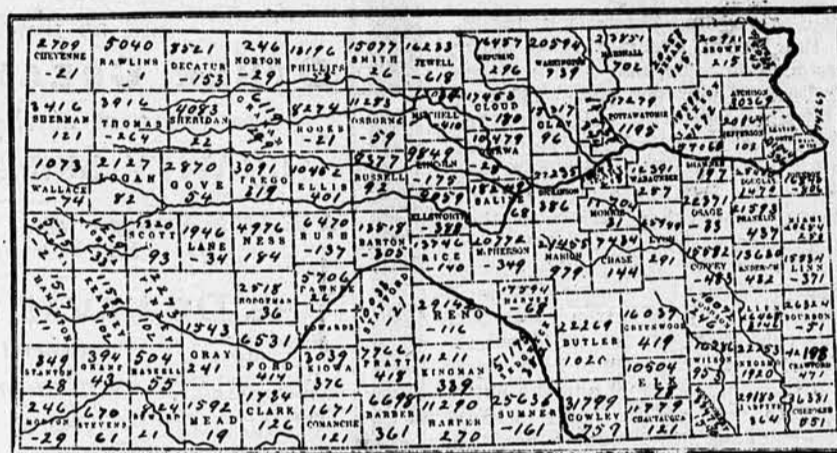
Every one of our old subscribers should be the possessor of a copy of the greatest selling book in Kansas this year, "Views of Topeka Flood," price 25 cents.

This book contains 32 views of the great flood, and will be a valuable souvenir for every home library, and as

an inducement for every old subscriber to send us at least one new one at the introductory price of 50 cents per year, we will make said subscriber a present of the "Views of Topeka Flood."

Population of Kansas March 1, 1903.

The population of Kansas in March, 1903, as returned by assessors through their county clerks to the State Board of Agriculture, was 1,487,847 as against 1,464,628 last year, a gain of 23,219, or about 1.6 per cent.



POPULATION OF KANSAS COUNTIES—1903.

Larger numbers denote population, smaller numbers denote increase or decrease since last year. The minus sign — denotes decrease.

of last year. Wyandotte has the largest number of inhabitants of any county in the State, Shawnee second, Sedgwick third and Crawford fourth, maintaining the same relative rank as in 1902.

The table below shows the population of Kansas in 1903, by counties, along with the gain or loss in each:

Table with columns: County, Pop., Gain, Loss. Lists 105 counties of Kansas with their respective 1903 population and change from 1902.

Table listing population figures for various counties including Rice, Riley, Rooks, Rush, Russell, Saline, Scott, Sedgwick, Seward, Shawnee, Sheridan, Sherman, Smith, Stafford, Stanton, Stevens, Sumner, Thomas, Trego, Wabaunsee, Wallace, Washington, Wichita, Wilson, Woodson, and Wyandotte.

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.

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.

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.

When Others Fail, Try Watkins'.

Tamura, Neb., February 22, 1902. About the first of last April, one of my best young cows became fresh, and had the worst case of caked bag I ever saw;

SMITH RODMAN.

Opening sale of lots in three new town-sites on the Omaha extension of the Chicago Great Western Railway, will take place as follows: Tennant, Shelby County, Iowa, Tuesday, September 8; Bentley, Pottawatomie County, Iowa, Tuesday, September 15; and McClelland, Pottawatomie County, Iowa, Tuesday, September 22.

World's Fair Station.

In view of the fact that many thousands of people will travel to St. Louis over the Wabash Railroad, it is interesting to remark the facilities provided by this road.

Advertisement for 'Complete Reports OF THE Great State Fairs AND Live-Stock Shows' in 'The Breeder's Gazette' from Chicago. Includes contact information for J. H. Sanders Pub. Co.

Advertisement for 'Wonderful Stove Offer' from Sears, Roebuck & Co., Chicago. Promotes a free stove catalogue and features images of various stoves.

build a station with 300 feet of frontage on a grand entrance plaza, 400 by 700 feet, which the exposition will maintain at the main gateway at Lindell and De Baliviere Avenues.

At Set of Sun.

If we sit down at set of sun And count the things that we have done, And counting find One self-denying act, one word That eased the heart of him who heard,

Read our "Blocks of Two" Offer.

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TUBULAR FARM
SEPARATORS
 Built on the Square,
 as everybody knows. Entirely different from other separators, new in principle. Guaranteed more convenient, efficient and durable than any other kind.
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P. M. SHARPLES,
 West Chester, Pa.
THE SHARPLES CO.,
 Chicago, Ill.



In the Dairy.

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

Report of H. N. Holdeman's Herd for July.

Number of cows in milk..... 16
 Milk, pounds.....12,812.80
 Average per cow, pounds..... 800.80
 Average daily per cow, pounds.... 25.83
 Average test, per cent..... 3.7
 Average period of lactation, 5 months, 2 days.
 Eleven of these cows are under 5 years of age.
 Six of these cows are under 4 years of age.
 Three of these cows are under 3 years of age.
 The milk from this herd is separated and the skim-milk is fed to calves and pigs while still warm. The cream is placed in a tub of well-water and stirred until cold and then hung in the well to await the arrival of the hauler.

The Patron and the Creamery.

HON. W. D. HOARD, IN CREAMERY PATRONS' HANDBOOK.

The real foundation of the creamery business is the patron. The first and chief care should be to equip the patron with knowledge and understanding concerning his share of the work that he may make the largest profit possible. A very large proportion of the creamery patrons make the serious mistake of supposing that their profits must somehow come from the creamery end rather than the farm end. They are all the time looking at the price paid for making the butter, thinking the great expense lies there. This is not true. In producing the milk, and getting it to the creamery, the real and most serious expense lies at the farm end. There seems to be a most serious lack of knowledge and study concerning the best economy and methods of producing milk; concerning the right kind of cows that shall produce milk in sufficient abundance to make the cost low per cow; concerning the right methods of field and stable management so that the cow can do her best; concerning farm management in producing the right crops and so handling them that they shall stimulate milk secretion to the largest advantage; concerning the science of feeding, how to compound a

ration that is adapted to milk-production. All these points require reading and study, and every creamery should be a dairy school where the patrons may take advantage of their cooperation together to increase their knowledge.

How many creameries are there of that sort in the country? But very few. A prominent creamery company, comprising over one hundred creameries, keeps an expert dairy farmer to travel from one creamery to another instructing the farmers on all these points to the best of his ability. Some of the patrons are quick and anxious to learn. They realize the necessity of such training and education. They purchase books and papers that treat on these questions, and it is a fact that their profits per cow are many times greater than those of their neighbors who place no value on such knowledge and study. But few, comparatively, realize the tremendous difference and increase in profits which such intelligence brings.

I will give one illustration taken from the Hoard Creameries at Fort Atkinson, Wis. To one patron who has a herd of nineteen cows, \$65 per cow for the year was paid for the cream, the skim-milk being returned to him. The cost of keeping was \$35 per cow. To another patron in the same creamery was paid \$65 per cow. The cost of keeping his cows was \$30 per cow. He received \$5 per cow profit. The first patron received 600 per cent more of net profit than the second man. The milk of both was taken at the Babcock test and the butter of both sold at the same price. This tremendous difference in profits lay in the farm-end of the business, and not at the creamery. The first patron was a reading, thinking man, who kept his mind at constant study on all the points we have mentioned. The second patron did not believe in such things, and he lost \$25 per cow for his way of thinking. When he came to compare his ideas and methods with the first patron, he made up his mind that it did not pay to despise dairy knowledge and a better education in the things that so closely belonged to his business.

This leads us to suggest that every creamery should prepare a yearly report setting forth the name of each patron; the number of cows in his herd, the cost of their yearly keeping; whether a silo is used or not; the pounds of milk and the butter yield per cow; the average price at which the butter was sold for the year, and the amount received in cash per cow for each dollar spent for feed. Such a report would show each patron at once just what his neighbor's cows were earning, by which he could compare his own work and see whether his ideas were as profitable as they should be, or not. Such a system of reporting would act as a great stimulus to thousands of dairy farmers, and result, we believe, in great benefit to the creamery. What every man needs is a comparative knowledge of the dairy facts about him, and such a report would yield that knowledge. Shut up within our own line fences, we "measure ourselves by ourselves;" and so continue to confirm ourselves in mistaken ideas and methods.

As useful as is the creamery, it is productive of some bad effects on the minds of certain farmers who patronize it. To illustrate: In 1885 there were over one thousand dairy farmers in Jefferson County, Wis., who were making butter and selling it on a commission in Chicago and other cities. They were thus brought sharply in contact with the demands of the market, and the market was forcing them every day up to a higher and more profitable plane of dairy management. These men were constantly anxious to learn all that was necessary to know about cows and their proper handling. Their minds were constantly being broadened and brightened by their immediate relation to a very exacting market.

Now, the creamery has come, and, to a certain extent, has stepped in between them and the market, so that they do not as clearly see their own responsibility as to the quality and

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 Empire Cream Separator Co.,
 Bloomfield, N. J.



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by the old method of skimming milk is rank folly. With a National Cream Separator you can save 80 per cent. of the butter-fat you are now throwing away. It separates warm milk, and milk of a temperature as low down as 65 degrees, light or heavy cream and skims practically clean. We send it **Free for 10 Days** trial. Let you test it—see for yourself the saving it makes. If not satisfactory send it back—we pay all costs. Catalogue free. National Dairy Machine Co., Newark, N. J.

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ANOTHER PROP KNOCKED FROM UNDER HIM

Our "would-be competitor" the DeLaval Separator, in his efforts to counteract the fact that the U. S. Separator is the better skimmer, has tried various schemes to prop up his trembling frame and waning popularity.

He used to try the "Churnability" bluff, but this prop was knocked out long ago; then he howled about flushing the bowl with hot water, but the U. S. corrugated cups quieted him on that; and lately it has been the "cold skimming" dodge, whenever he has run up against the U. S., but alas this also has been knocked from under him, so that now about all the prop he has to lean on is that of "bluff."

That readers may fully realize how little ground there is for advocating cold skimming, we give below a portion of an article that appeared in the June 18th issue of *The Kansas Farmer*, headed "Abuse of a Hand Separator," by Prof. Edw. H. Webster, formerly of the Kansas Agricultural College and now one of the Government Dairy Inspectors:

"Other abuses were in time met with in the tendency of agents to follow methods that would be condemned anywhere else. One of the principles of separation understood by all creamerymen, is that the warmer the milk the more complete the separation. Yet agents will run cold milk through just to beat the other fellow. This is wrong for various reasons:

"In the first place the milk should be skimmed when warm in order to get the best separation of the cream.

"It should be skimmed when warm in order to give the calves and pigs the warm skimmilk, and

"It should be skimmed fresh from the cow in order that the cream may be quickly cooled to prevent the development of bacteria.

"Everything is against cold skimming and in favor of warm skimming, and the tendency of these contests is to give farmers erroneous ideas in regard to the hand separator."

What further evidence is necessary to convince you that the DeLaval has to depend on other things than its merits to sell its goods?

Remember, the U. S. Holds World's Record

For further particulars as to its merits, write for catalogues.

Vermont Farm Machine Co., Bellows Falls, Vt.

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price of the butter as they did before. The consequence is that many of these men have grown careless and indifferent to their own improvement. Their standard of dairy farming has been lowered and they are not as successful handlers of cows as they were in 1885.

This is a most serious mistake, for every man is in reality just as responsible for the final result as he was twenty years ago. This shows that the creamery proprietors and managers should make especial effort to promote dairy education and knowledge of the best methods in order to counteract this tendency to lax effort. Every patron should look upon his creamery as his partner. What is needed at every creamery is a strong central tone of public sentiment that shall tend to the promotion of intelligence and improvement along dairy lines.

We believe most thoroughly in the creamery, but we want it to act as a stimulant to dairy improvement and progress. There are dangers, as well as blessings, in its path. We have seen old dairy districts in the State of New York decline in the fertility of the soil and in a spirit of progress among its farmers to the extent that farms that sold for \$100 per acre thirty years ago can be bought to-day for \$25 to \$30. This fearful loss came because the farmers gave themselves up to indifference to dairy knowledge and improvement. A bright, intelligent set of patrons in any creamery always insures honesty and good management. Such men will be satisfied with nothing less. Dairy education has benefited the creamery operator more than it has the patrons. Consequently the creamery end is kept up square with the best modern judgment, to a larger degree than is the farm end. As a rule, the butter-maker does his share of the work better than the producer. This is because he has put himself in contact with the best modern thought on dairy matters to a much larger degree than has the patron. It is the patron who really makes the butter; the creamery only separates it and puts it on the market. Certainly there is a great need for sound knowledge, intelligent, up-to-date methods and the spirit of true American progress among the patrons, as with the butter-makers.

A broader, more just view of the true relations of the patron to the creamery has always resulted in greatly increasing the profits, as well as the harmony and success of both patron and creamery operator.

Clippings from Dairy and Creamery.

About a year ago eighty or ninety farmers in the vicinity of Bland, Kans., organized a cooperative company and erected a skimming-station. The machinery and everything included in the plant cost them an even \$1,200. They have made no effort to make butter and it is not a creamery. During most, if not all, of the time so far, their butter-fat has been sold to a creamery in Haven. During the past year the concern has paid a trifle more than the usual price for cream, but the policy has been decided upon of paying the same as other buyers for the next year, and then if any surplus remains after paying the 10 per cent dividend, it will be distributed among the patrons according to the amount of cream sold to it. This is substantially the Rochdale system. A 10 per cent dividend will be declared in a few weeks, on the first year's business, and the company is flourishing. It has about eighty members.

A noted cattle-breeder in Illinois provides his steers with a shed in the pasture, which has a straw roof and tight sides except at one end. This end has heavy burlap curtains hung in the opening. The cattle walk in between the curtains and thus rub the flies off and stand in the shade during the hot part of the day, coming out to eat when it is cool. He says this shed pays for itself every year.

J. N. Graft, who has been instrumental in establishing a number of creameries and skimming-stations in Kansas, has compiled some interesting figures on the subject of the creamery in-

dustry in the State. According to these statistics, the Kansas farmers last year received for their milk and cream the sum of \$8,545,267.15.

"Within the last few years," says Mr. Graft, "the creamery industry has become one of the largest in the State. It has been a wonderful help to the people in the western part of the State. The industry has flourished there as has no other and the money which the farmers have received for their cream has done a great deal toward making it possible for them to remain in the country until prosperous times came.

"Considering the number of its inhabitants, Thomas County holds the record for the amount of milk and cream sold last year. The money paid to Thomas County farmers amounts to \$10 for every man, woman, and child in the county.

"That speaks well for an industry that is but a few years old in that territory, and it is but an index to what is being done all over the western part of Kansas. In many parts of the country our skimming-stations are giving way to the pasteurizing treatment. The farmers are putting in cream separators to a large extent, and the cream business may be said to be thoroughly on the boom—not a boom composed of wind, but butter-fat on one side and the almighty dollar on the other. The supply has never equalled the demand. As long as this is so, and I can see no conditions conducive to a glut in the market, the price of the butter-fat is bound to be high."

It is reported for the first time in the history of the creamery industry there has been no appreciable falling off of the milk supply in central Kansas during the harvest season. The creameries are getting as much milk as last month, and the pastures are so green that there is little likelihood of the usual diminished supply at any period of the summer. The diversified crops are giving the farmers abundant material for their stock as well as grain returns.

The most valuable part of corn to the dairyman is gluten feed, a by-product of manufacturing glucose, which contains all of the protein and part of the sugar and fat of corn. It is the best thing that is now on the market to use in balancing a ration, price considered.

H. K. Loomis, of Sheboygan Falls, who is in charge of the Wisconsin dairy exhibit at the St. Louis Fair, has plans for an artistic display of creamery products. In white and nickel cases he intends to place pyramid shelves bearing the different dairy products, and in the butter exhibit, a model of the battleship Wisconsin in butter is to be the feature, while a miniature country store will be the feature in the cheese exhibit. He estimates the cost of the dairy exhibit at \$6,713, with a probable salvage by the sale of the products, or \$2,000 making a net cost of \$4,713.

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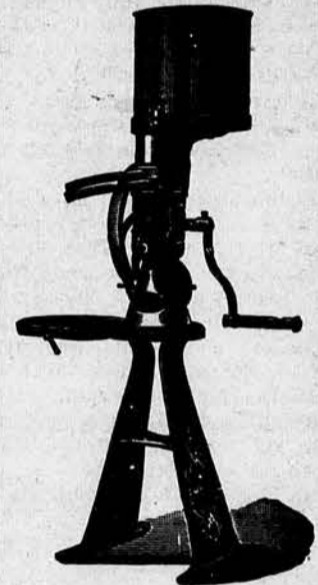
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Chicago.

ALWAYS ON TIME.

The Poultry Yard.

August Notes.

Shade and protection from the sun and heat are an absolute necessity for all fowls, both old and young.

Insects of all kinds increase, grow and thrive at this time; where they are, the fowls can not live in peace or comfort.

We visited a plant in July where they have turkeys, ducks, geese and chickens, over 3,000 of them, but no vermin; one could sleep in their hen-houses.

Cleanliness is the only preventive or cure for the insect pest; cleanliness is the one sure rule for success with turkeys, chickens or pheasants—not an occasional clean up, but continued cleanliness. Keeping continually at it—in season, out of season, week in and week out—is the only rule that can be laid down for assured success in any business.

Keep an eye on the growing pullets; have the best of them for your winter layers. Don't kill or sell the best early ones, for in them is invested your produce for the coming winter. If sold or killed, your chance for winter eggs from the leavings is poor indeed. Always select and keep the very best of the pullets for yourself; sell the cockerels you don't need and the cull pullets; keep a few of the very best cockerels and all the best pullets.

People in town will be glad to have a nice, fat, well-flavored old hen or cock at this time. They are fine for salads, cold cuts or sandwiches for hot-weather outings. Those who know how, get rid of all the old stock they wish to sell in this way at paying prices. Nothing is finer for a salad oil than the fat of the fowl itself; heat the fat gradually in a pan, so as to turn off the oil, and use this while fresh for all meat salads.

No one can afford not to be thrifty; it is the thrifty in all things who succeed. Their ground yields the best, their cows do the best, they always have neat, clean outbuildings, plenty of everything, and their fowls of all kinds do the best, simply because they are looked after by thrifty people who make everything count, and who do not spend their time finding fault and complaining because it is too wet or too dry, or because their work is so behind. Thrifty people are always ahead in everything, and that is why they succeed.

The summer is half spent. With the ending of this month begins the season of death and decay for all vegetation; on the heels of this comes the season of moult for fowl, tree, and bush. We should think of all these conditions, and care for our fowls with reference to their best welfare. Do not feed corn or heating foods to the old fowls during the summer months; wheat and oats are best for them at this time. Any food that will keep the young stock growing fast is best for them; size, strength and vigor are needed in their case. Keep them growing fast; feed for strength, bone and muscle, so as to have the constitution for heavy winter laying.

Untold injury is done our fowls during the heated term through overcrowding into small, close coops, or into hot, close, dirty hen-houses, where no living thing should be kept. Plenty of room, good ventilation and clean, healthy surroundings are all they demand. A cheap store box, covered with tar paper, if large enough, will do for the growing chicks till fall. An open shed of any kind, free from drafts, will do for the old fowls till winter comes on; in fact, the more open their shelters or houses are during the summer and fall, the more comfort will they gain when housed in the winter.

Fowls that are housed or sheltered too much during the summer and fall are much more delicate and tender than are those that live for the most part simply sheltered from the storms and wet. All they need is a shelter to keep off the rain, and the blowing of chilly winds or drafts of air over them; the perching or roosting within a coop or pen where the drafts of air

pass over them is by far more injurious than to roost on a fence or tree.

The prospects are for high prices this fall and winter for poultry of all kinds, including turkeys; we might say especially for turkeys, for several years prior to this summer over-sized turkeys have been made use of in our large city hotels for cold cuts, chicken salads, and sandwiches, rather than to use large fowls—turkeys being the cheaper. This season, the price of turkeys prevents their use for this purpose; all sizes of turkeys and large fowls are higher than usual. Table eggs during June and July were 24 to 27 cents per dozen. All this points to a continuation of good prices for all kinds of poultry and eggs the coming winter.

Much has been said of late as to profit in capons. If you wish to have some capons, buy a set of instruments and practice on dead fowls and cockerels. First, operate on every male fowl you kill for home use or market. You will soon be able to operate on live ones successfully. Use only the larger breeds, such as Cochins, Brahmas, Plymouth Rocks and Wyandottes, or those of equal size. The late-hatched cockerels at 3 or 4 months old are best, as they usually sell better after February. Capons may be kept in flocks like hens. They grow faster and heavier than do cockerels, and bring a better price than will cockerels grown in the usual way.

When dressing capons for market, leave the feathers of the head and neck, also the first joint of the wings and the tail. These do not grow so long on a capon as on a cockerel, and they are the sign that informs most people what they are. The flesh of well-fed capons is superior to that of other fowls. If poorly fed and badly finished and dressed, they do not sell for any more than second-grade poultry. With the capon, as with all kinds of poultry, quality is everything. We have seen the very finest sell in the meat markets as high as 34 cents per pound, while the lower grades only bring 16 and 17 cents. The higher-priced ones are always in demand, and there is never enough of them to supply it.

Another branch of profitable poultry-growing is to select out the late-hatched and the poorer quality or cull Brahmas, divide the males from the females, have them in flocks of 25 or 30 each, and feed them the same as capons. Have them as fat as possible; dress them the same as a capon is dressed for the market. When so handled, if properly prepared, these will sell for an equal price with the capons; but to succeed with these, as with capons, demands care, experience and the best of feeding.

When housing either of these products for best results, nothing is so good as dry earth for the floors of the pens. It is the best deodorizer we have, cost considered. Keep plenty of it under shelter for this use all winter. It is also the best to go on the dropping-boards under the roosts in the henhouses, also for the floors of your laying houses under the litter. Now is the time to begin to provide for all these winter necessities. Don't neglect it till too late. Make hay while the sun shines.

If no supply of green food for your hens this winter is in sight, plant some mangels at once. They will grow by winter, and nothing is better for the poultry, unless it be alfalfa hay or nicely cured clover hay. Even though you have plenty of this, some mangels will be excellent for the hens along with the alfalfa hay and clover. They are better than turnips or cabbages for the hens. A mixture of these hays with the mangels makes a fine green food for the hens in winter, and they can not get too much of it either for their own good or for the flavor of the eggs. Cabbages and turnips will make

the eggs taste if too much is fed to the hens.

Camphor in the water will correct bowel trouble in young chicks. It is also good for colds or troubles of like nature in fowls or chicks. When needed, take some gum camphor and small stones and tie them in a cloth; drop them in the water vessel from which the fowls or chicks drink. The stones will make it sink, the cloth will keep it clean, and the water will dissolve enough of the camphor for the needed benefit. Never use it except when needed. It is said to be of benefit when hen cholera is threatened. This we doubt. Sun cholera mixture is better than camphor for cholera in fowls.—Country Gentleman.

Winter Quarters.

During the moulting season the hens will not lay. As soon as this season is over they come into laying—essentials being favorable. The main essential is to have them in a healthy condition. To clean their winter quarters effectively is well as far as it goes, but the hen herself must be disinfected. The most convenient method we have found for this is after the house has been cleaned of all droppings; it is best to have it thoroughly swept, both floor and walls, then to call the chickens in, close the doors, and after scattering some small grain plentifully over the floor, sprinkle the flock liberally with a good dip or kerosene emulsion—kerosene, one pint; water, one and one-half gallons, thoroughly incorporated. The ensuing night we paint their perches well with pork drippings, or a preparation of meat drippings and carbolic acid. To a quart of meat drippings add a few drops of carbolic acid, according to the strength of the acid. An old paint brush is the best to apply the grease to the perches. The entire perch should be covered with the preparation. This will reach the parts of the birds where the emulsion failed to penetrate. We formerly used crude oil for this purpose, but while it disinfects the perches satisfactorily, it evaporates more rapidly with the heat of the fowls' bodies and does not prove as effective as the old-time meat drippings. On the following morning keep the chickens indoors until nearly noon. As soon as they are off the roost fill their drinking fountains with fresh water, adding a few drops of carbolic acid. Give their usual feed as soon as they have drunk, or nearly noon, turn them out to range. If the house has been badly infested, resprinkle it, every place where an insect is likely to inhabit it, then sprinkle the walls and floors thoroughly with well-slacked lime, and furnish a good supply of litter. For this purpose autumn leaves make a good material for the scratching pens.

The nests need especial attention and wherever hens have been allowed to sit for any length of time insects can be found in abundance. We have frequently found a bunch of mites directly under the sitting hen as large as a hickory nut. If boxes are used for nests, red mites may be found hidden away in every accessible crevice. These should be carried to the kindling pile and new nests provided. If nothing better than boxes can be procured, new ones can be obtained at any store or grocery for hauling them out of their way. These castoff boxes can be turned to many convenient uses about the farm. We do not consider it good management to keep the fowls constantly housed during the winter, but give them free range in all favorable weather. When cleaning the house, or any portion of it, all droppings of litter are put into barrels, and stored away at a safe distance from the hen-house. Furnish a variety and plenty of feed, good water, a good dust-bath, a liberal supply of clean grit, warm mash each morning, and biddy will prove a pleasant and profitable acqui-



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.

During the summer months we will sell all our fine breeders, consisting of over 600 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, trios and breeding pens. Circulars free. Write your wants. A. H. DUFF, Larned, Kans.

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sition to the farm.—Mrs. Geo. M. Warren, Jefferson County, Ohio, in Prairie Farmer.

Again it becomes necessary to remind correspondents that unsigned letters and those signed by a nom de plume only are consigned to the waste basket.

Horticulture.

Plant Trees to Improve the Condition of the Overflow Land.

EDITOR KANSAS FARMER:—Many thousands of acres of the best bottom land in Kansas has been made useless by the great flood in the Kansas River Valley during the summer of 1903. Much of this land was left by being badly washed in the form of big holes or gullies, and is absolutely unfit for agricultural purposes. Other portions have a deposit of pure sand from a few inches to several feet in thickness. The improvement of this land is a serious problem.

SPECIES OF TREES.

For all the holes and gullies the following trees will be found to give the best satisfaction for the lowest land: green ash and catalpa on the better drained soil will give good results, together with walnuts, black and honey locusts, and oaks. Much of this land is at present covered with many thousands of cottonwood seedlings which have grown since the flood; they should all be plowed under and the more valuable species planted. The sand deposits may have to stand for several years before there will be strength enough to sustain any sort of tree growth.

CHANGING COURSE OF RIVER.

Where the river changes its course the old river-bed will naturally fill up and become wooded. It seems to me any one acquiring such land should look to the future value of the land and its forest growth, with enough thoughtfulness to grow forest-trees that will be of some value when grown

NOW IS THE TIME.

Do not let the land stand idle for several years, but begin at once to make the needed repairs. The seed of all the above-named trees ripen in the fall. It is important that a fair proportion be gathered and safely stored for the winter.

GOVERNMENT WILL GIVE INSTRUCTION.

From a personal correspondence I am sure the Bureau of Forestry at Washington, if appealed to, in the way of petitions, will make an investigation of the entire valley from Manhattan to Kansas City, giving a full report of the damage to the land, together with several proposed planting plans that will cover almost every case in the valley. The petitions can be addressed to Mr. George L. Clothier, acting chief of Division of Forestry, Washington, D. C. Mr. Clothier is a Kansas man, and I feel confident he will do all in his power to give the needed assistance. Mr. Cowgill, editor of the KANSAS FARMER, and the writer are both willing to lend their assistance in this important matter.

THE LOSS HAS BEEN GREAT.

During the flood I was trying to sympathize with a man that lost many thousands of dollars, when he replied that he was not worrying about his loss, but would try and take care of what he had left. That is the spirit that always wins in any fight. I hope to live to see the day that land in the Kansas River Valley will be worth more than it was before the great disaster of 1903.

KEEP TREES GROWING NEAR THE RIVER.

Do not remove the natural timber near the river, and if you have done so, see to it that you plant trees at once to protect all the adjacent land. I could cite many cases where the greed for land has caused a total loss, not only of the land demanded of the forest growth, but many acres of adjoining land. This is especially true where the soil has been somewhat sandy.

GEO. W. TINCHER.

Topeka, Kans., August 14.

Alfalfa in Orchards.

EDITOR KANSAS FARMER:—I was interested in your remarks on the growing of alfalfa in the orchard. I have had some experience in the use of alfalfa as a cover crop among apple-trees and I have found it fairly satisfactory. Professor Craig who has used it in an experimental way quite extensively in New York State speaks of it

highly. Professor Sears has found it an excellent cover crop in Nova Scotia. Conditions in Nova Scotia, New England and New York State are so much different from those in Kansas that it might be dangerous to draw any conclusions from this Eastern experience for application in the West. Nevertheless I feel confident that if alfalfa is properly used as a cover crop it will prove satisfactory in the orchards of the trans-Mississippi States.

The remarks in KANSAS FARMER of August 6 apply of course, not to the use of alfalfa as a cover crop but to the plan of seeding down the orchard permanently. You have very properly pointed out the danger in this from the voracity with which the alfalfa-plant consumes water and plant food. Nevertheless I can not see that it is any different in this respect from blue-grass, orchard-grass, clover, or similar crops with which orchards are often seeded down. There is at present a great discussion raging in the East as to whether it is not better after all to seed down an orchard and keep it mulched with the hay which is cut on the ground. Undoubtedly a majority of the orchards of the Eastern States are seeded down with grass or clover, although I would say with equal positiveness that a majority of the best orchards are maintained under clean cultivation. Still there are some arguments in favor of seeding down the orchards and there are circumstances under which it is undoubtedly better than cultivation. If the orchard is to be seeded down at all I see no reason why alfalfa should be worse than the crops more commonly used.

No discussion of this sort, however, should be allowed to divert fruit-growers from the ideal method of orchard management which is to keep the soil under good cultivation, furnish it with reasonable fertilizers, and grow a nitrogenous cover crop every autumn.

F. A. WAUGH.

Massachusetts Agricultural College, Amherst.

Against the English Sparrow.

EDITOR KANSAS FARMER:—In your issue of July 16, 1903, R. W. Scott, of Geary County, defends the English sparrow. He says it used to be impossible to harvest his cabbage-crop in anything like a decent shape on account of the "whitewings," and suddenly there had come a change—no millers—and his cabbage all right. And while looking at his garden one day he saw a flock of English sparrows light down upon his cabbage and then he knew (or thought he did) why his cabbage had become so clean. He did not say whether he saw any of them catching the "whitewings" or not, he just saw them light there. He says he tried various measures for checking the ravages of the grub worm, but to no purpose. Now it is just possible that some of his "various measures" had at last taken effect and he gave the credit to those sparrows. We have cabbage growing in our garden quite close to the house, and I have watched in vain to see an English sparrow catching any of the millers, though the sparrows sit on the garden fence and nearby trees, and a neighbor has a straw-covered shed close to the other side of the garden, and there Mr. Sparrow nests and rears his young to his heart's content.

I have often seen the king-birds catching the millers while both were on the wing. Now, I am a friend of the birds, but I think it is well to know what kinds of birds to protect, and what not to. My verdict of Mr. English Sparrow is that he is a grain-eating bird exclusively, and that the damage he does by roosting in cattle-sheds, barns, and chicken-coops in winter, and nesting in them in summer, thereby making everything that has to stay under him lousy (especially young stock) is very great. Any one that has investigated knows that he is the lousiest thing on earth; and he will not keep his lice to himself but scatters them to all poultry and farm stock where he is allowed to come, thereby making the stock unthrifty. In winter any farmer knows the large amount of small grain spar-

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Peters & Skinner, North Topeka, Kansas.

rows can eat when they come by the thousands and light on a pile of Kafir-corn and cane-seed heads waiting to be thrashed. I would not begrudge him the grain (though he has to have a great deal of it) if we can get enough evidence that he is an insect-eating bird. Since the subject of birds has become quite "fashionable" of late in all the papers, let us hear from every one on the subject of the English sparrow, and whether he is deserving of protection or not. Crop-destroying insects have been on the increase of late years, so have the sparrows; and when we see them in the fall in flocks so large that the whole sky overhead is darkened with them (as I have seen them) one would think there would not be an insect left to increase his kind if the English sparrows eat any of them (even just during the summer months when they have their young to feed).

MRS. ED. F. ELTON.

Osborne County.

Cabbage Worms.

A correspondent asks a remedy for cabbage worms.

The excellent work of Clarence M. Weed, entitled "Spraying Crops," gives the following for this pest:

"Pyrethrum (insect-powder or bu-hach), hot water and kerosene either in mechanical mixture or emulsion, are the best remedies. The insect-powder may be applied as a dry powder or be mixed with water, and sprayed upon the plants. Dr. Riley states that 'Every worm visible upon the cabbages may be killed by the use of hot water at the temperature of 130° F. The water may be boiling hot when put in the watering-can, but it will not be too hot when it reaches the cabbage leaves.' Kerosene in mechanical mixture or emulsion can be used advantageously when the plants are young, though there would appear to be danger of tainting the heads if applied to the fully developed plants. Whichever method of treatment is adopted, it should be carried into practice at frequent intervals, thus keeping the worms well in check. If the plants are treated with insect-powder once a week during the time the worms are present they will cause little or no trouble."

The Tomato an Insect-Repeller.

"I planted a peach orchard," writes M. Story, of the Society of Horticulture, "and the trees grew strongly. They had just commenced to bud when invaded by the curculio (pulyon), which insects were followed, as frequently happens, by ants. Having cut some tomatoes, the idea occurred to me that by placing some of the leaves around the trunks and branches of the peach-trees I might preserve them from the rays of the sun, which are very powerful. My surprise was great upon the following day to find the trees entirely free from their enemies, not one remaining, except here and there where a curled leaf prevented the tomato from exercising its influence. These leaves I carefully unrolled, placing upon them fresh ones from the tomato vine, with the result of banishing the last insect and enabling the trees to grow luxuriantly. Wishing to carry my experiment still further, I steeped some leaves of the tomato in water and sprinkled this infusion on other plants, roses, and oranges. In two days these were also free from the innumerable insects which covered them, and I felt sure that had I used the same means with my melon patch I should have met with the same result. I therefore deem it a duty I owe to the Society of

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Write for our Free Seed Wheat Catalog with full descriptions of our New "MALAKOFF," the grandest new variety of wheat ever introduced; requires less seed per acre; stools better; stands up better; gives larger yield and better quality of grain; stiff straw; rust proof and never attacked by fly; as hardy as Rye. Price, \$1.60 per bushel. Turkish Red, \$1.10 per bu. Bags Free. Mammoth Winter Rye, 90c per bu. Ask for prices on Timothy, Clover and other seeds. RATEKINS' SEED HOUSE, Shenandoah, Ia.



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Horticulture to make known this singular and useful property of the tomato leaves."

Sugar-Beet Crop Light.

The sugar-beet crop along the Arkansas Valley is pretty much a failure. "Scarcely half a crop will be harvested," says the Rocky Ford Gazette. "This," it adds, "comes in the nature of a disaster, and is attributed to the unfavorable season. And what makes the situation much more desperate for the growers is the fact that the American Beet-Sugar Company changed its policy this season in regard to advancing money to growers, taking their crop as security. It was found that this was not a good business system, as the company became liable for the failure of the crop. Supposing the company had advanced money this season, the loss would be tremendous. As it is, many of the growers who did not have a diversity of crops are going to suffer losses that may bring about their bankruptcy."

The Stock Interest

Missouri State Fair Berkshire Sale.

Table listing various stock items and their prices, including Stumpy Lady 3d, Artful bell 32d, Longfellow's Beauty 52d, etc.

Gossip About Stock.

At Hamilton, Ontario, on August 11, a dispersion sale of Shorthorns from Hillhurst Farm, owned by H. M. Cochrane...

The special attention of our readers is called to the Rex Cattle Dip advertisement in this paper. This preparation is one that has the acceptance of the U. S. Government...

At Wabash, Ind., on August 11 and 12, was held a combination sale of Hereford cattle contributed to by twenty-seven different breeders...

The Kansas Farmer is in receipt of Volume 56, American Shorthorn Herd Book, which contains the pedigrees of bulls numbered from 194184 to 198415 inclusive...

R. W. Park, secretary of the American Galloway Breeders' Association, sent us a copy of a handsome little pamphlet which has recently been gotten out by the association...

This week we insert the advertising card of J. A. Larson, owner of Plainview Herefords, Everest, Kans. It is really a pleasure to have Mr. Larson represented in the Kansas Farmer...

C. F. Wolf & Son, proprietors of the Glendals Shorthorns at Ottawa, Kans., are starting out with a great string of show cattle. This herd will be headed by Tillyclair 150064...

Royal Wonder, a young Scotch bull who will show in the yearling class. He was sired by Imp. Royal Favorite, who is now at the head of Gerlaugh herd, of Ohio...

Regarding the 50 head of pure-bred Herefords offered at public sale by the Central Missouri Breeders' Association at Moberly, Mo., September 3, out of which we mentioned in detail 25 head recently...

Brown.—Crop conditions good and fine progress has been made; some of the corn was planted very late and it is hardly possible that it will escape the frost...

Chase.—Early corn too hard for roasting ears; later planting is progressing rapidly and promises good yield; most of the corn will be safe from frost by September 10 or 15...

Chautauqua.—Corn still growing rapidly; prairie hay is being put up; fall plowing about finished; two-thirds of the corn will be safe from frost by September 1, but some of the rest will require till nearly September 30...

Cherokee.—Fall plowing progressing with ground in fine condition; corn doing well; late corn not safe from frost till latter part of September; peach crop light; grapes good; apples falling badly...

Coffey.—Threshing, haying and plowing all progressing rapidly; early corn will be safe from frost by September 1; late corn is tasseling and silking and is generally doing well though some on upland is firing; late corn will not be safe from frost till nearly the middle of October...

Crawford.—Favorable weather for all growing crops; early corn will be ready to cut in a few days, but late corn will not be safe from frost before October 10; haying is being rushed...

Doniphan.—On account of excessive rains corn was planted very late and scarcely half of it will be safe from frost by October 1, and more or less of the rest will probably be frosted; the outlook for corn is not at all good...

Douglas.—Corn is doing finely; early corn will be out of the way of frost this month, but late corn will require the most of September to mature...

Elk.—Everything growing nicely; most of the corn will be out of the way of frost by September 15...

Franklin.—Early corn will be safe from frost by the middle of September, late corn not till the fore part of October...

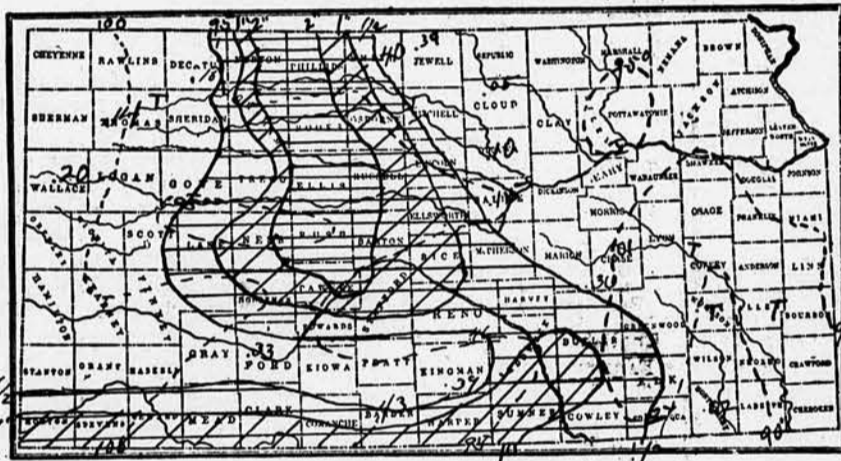
Greenwood.—From indications corn will be out of the way of frost by September 15 or 20...

Jackson.—Haying and threshing progressing rapidly; corn is doing finely; early corn will be safe from frost by September 10, and all the late corn by October 1...

Jefferson.—Farmers are busy putting up prairie hay which is a good crop, but much of it has been damaged by getting wet; the ground is full of water; about two-thirds of the corn will be safe from frost by September 20, and the rest will probably not amount to much under any conditions...

Johnson.—Plowing for wheat is well along with the ground in good condition; probably

Rainfall for Week Ending August 22, 1903.



SCALE IN INCHES.

Less than 1/8, 1/8 to 1, 1 to 2, 2 to 3, Over 3, T, trace.

breeding to that of Mr. Van Natta's Christopher. Gladiator's sire, Gladstone, was bought in dam, Miss Beau Real, by Mr. Funkhouser at the same time he bought Free Lance in his dam, Lady Wilton...

two-thirds of the corn will be safe from frost by September 20; late corn is not yet in tassel and will hardly escape frost.

Labette.—Plowing for wheat progressing rapidly; prairie hay is being put up; it is good in yield and quality; corn is very promising; early planted being fed; late corn not safe from frost till October 1...

Leavenworth.—Corn is earing and is in fine condition; haying is progressing; all growing crops and stock are doing well...

Linn.—Corn is growing rapidly; early corn will be safe from frost by September 10, and late by October 1; plowing for wheat is in progress, and the prospects are for an increased acreage...

Marshall.—All growing crops doing finely; prairie haying has begun and the yield is heavy; early corn will be safe from frost by the middle of September, but considerable of the late corn will require till the middle of October to mature...

Miami.—A fine growing week; all crops have done very well...

Montgomery.—A good week for haying; hay is a fair yield and of good quality; pastures good and stock fat; plowing for fall wheat nearly finished; corn doing finely; most of the corn will be safe from frost by October 1...

Riley.—Haying is in progress; corn is growing rapidly and filling out well; most of it will be out of the way of frost by September 15, the late planting on up till October 1...

Shawnee.—Early corn in roasting ear and very promising; late corn is growing finely; early corn will be safe from frost by the 10th

WEEKLY WEATHER-CROP BULLETIN.

Weekly weather-crop bulletin for the Kansas Weather Service for the week ending August 25, 1903, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

The week has been one of much sunshine and little or no rain in the eastern portion of the State while fair to heavy rains fell in the western. The temperature averages 2° above normal in the eastern part of the State and 1° above in the western.

RESULTS.

EASTERN DIVISION.

Corn is in very favorable condition; the early has matured sufficiently in the south to be used as feed; and the late has grown rapidly, is in silk and tassel, and in the south is earing. Early corn will be safe from injury from frost in the southern part of the State by September 1, and in the northern counties by September 20, while late corn in the south will range from September 5 to October 1 and in the north from September 25 to October 15...

Allen.—All farmwork resumed the latter part of the week; corn promises an unusually large crop; fodder and grasses abundant.

Anderson.—Conditions are favorable for fall plowing and general farmwork; late corn will be safe from frost by October 5.

Bourbon.—Fine weather for haying and the farmers are availing themselves of it; corn making fine progress; preparations are being made for an increased acreage of wheat.



Farm Scales.

In this age almost every farmer needs his own wagon scales and they will pay for themselves within a short time in saving on stock and grain weighed before going to market. The Standard Scale & Foundry Company of Kansas City is making it a possibility for the farmer to own his own scales by making a good

HONEY

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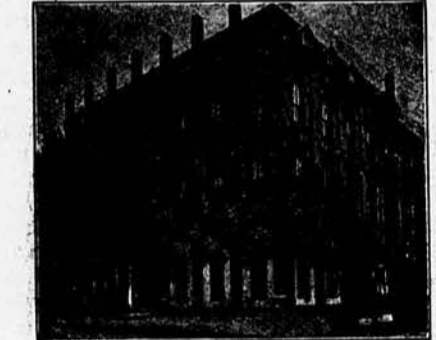
Arkansas Valley Apiaries, Cheek & Wallinger, Las Animas, Colo

Advertisement for WIRE, featuring Galvanized Barbed Wire and Smooth Galvanized Wire Shorts, with prices and contact information for CHICAGO HOUSE WRECKING CO.

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HANKLA BROS. TOPEKA, KANSAS. RATES: \$1.00, \$1.25 and \$1.50 per day. \$5.00 to \$8.75 per week. Rooms 50c, 75c and \$1 per day. Meals 25c.

of 15th of September and the late corn on uplands by October 1, but must in the bottoms will probably be cut for fodder; threshing and haying have been greatly delayed by wet weather; plowing for rye and wheat in progress with the ground in fine condition; apples fine; second growth of grapes promising; potatoes fine, but some rotting in the ground; pastures and meadows good.

Wabaunsee.—Corn does not promise much more than a half crop; early corn will be safe from frost by September 20, and most of the late planting by October 1; third cutting of alfalfa good.

Woodson.—A good week for haying; plowing for wheat continues; some early corn ripe enough to begin feeding, late corn in roasting ear; Kafir and cane doing well; early corn will be safe from frost by September 10 and late corn by October 15.

Wyandotte.—Threshing mostly done; ground in fine condition for plowing; Concord grapes getting ripe; corn growing rapidly; about 60 per cent of the corn will be safe from frost by September 20, but the rest was planted very late and will not be safe till the fore part of October.

MIDDLE DIVISION.

Corn is in very good condition. The early corn is now made in Kingman and McPherson and is considered safe from frost in many of the southern counties, while in the central counties it will require from September 5 to 15 to be out of danger, and in the northern counties about September 15. Late corn will require from September 5 to 20 south, and September 20 to October 10 north. Wheat and oats need dried weather and more sunshine, being too damp to thrash. Oats were a good crop in Barber, but of poor quality in Clay. The ground is generally in very good condition for plowing which is progressing now. Watermelons planted since the flood are now ripening. Grass is fine and prairie haying is being pushed where dry enough. The third crop of alfalfa is being cut in several counties. Potatoes are good in Sumner.

Barber.—Ground too dry to plow; threshing in progress; oats and rye good crops; prospects for late corn good in some localities.

Barton.—Plowing progressing rapidly with ground in good condition; stacks of grain are too wet to thrash; corn growing and filling nicely and promises a large yield; early corn will be safe from frost by September 5, and late corn by September 20.

scale at a moderate price. They manufacture scales of every description and can supply farm scales in any of their three grades on short notice. If our readers are planning to buy scales it will pay them to get their prices and catalogue. See their advertisement in this issue of the Kansas Farmer.

Grange Department.

"For the good of our order, our country, and mankind."

Conducted by E. W. Westgate, Manhattan, to whom all correspondence for this department should be addressed. Papers from Kansas Granges are especially solicited.

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Master..... Aaron Jones, South Bend, Ind.
 Lecturer..... N. J. Bachelder, Concord, N. H.
 Secretary, John Trimble, 514 F St., Washington, D. C.

KANSAS STATE GRANGE.

Master..... E. W. Westgate, Manhattan
 Overseer..... J. C. Lovett, Bucyrus
 Lecturer..... Ole Hibner, Olathe
 Steward..... R. C. Post, Spring Hill
 Assistant Steward..... W. H. Coult, Richland
 Chaplain..... Mrs. M. J. Ramage, Arkansas City
 Treasurer..... Wm. Henry, Olathe
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Three Successful Picnics.

The first of the three was at Arkansas City, a beautiful town of about 8,000 population, in the southern part of Cowley County where, as in Johnson County, the farmers are making their efforts to advance in an organized form, and that very successfully.

Their picnic was on July 16 and five or six thrashing machines were at work in each of the immediate Grange districts, and yet the picnic was by no means a failure; quite a number from the town were present as well as a large crowd from the country. A very interesting program was rendered, consisting of music and addresses, prominent among which was an address upon the sugar-beet by Prof. Spencer, of Colorado, and an address by Rev. Lowther along the lines of organization. After this program the people indulged in the usual social relations common to such occasions and returned to their homes to resume their respective duties with renewed vigor and many pleasant memories.

From Arkansas City we went to Overbrook, in Osage County, a town of about six or seven hundred population, the date, July 17, compelling us to travel all night after the picnic at Arkansas City, which was little conducive to picnic energy at Overbrook. But when we reached the grounds about three miles north of the town in a crowd of at least three thousand people, all lively and enthusiastic, and were seated at the dinner table, which was simply an equal of the one of the day before (and that is no mean compliment), that little remaining bit of picnic energy was decidedly manifest, and more came as we needed it.

After dinner we listened to a continuation of the program, consisting of band music, singing, addresses, etc., which was well rendered; the principal address of the day being delivered by Hon. A. P. Reardon, of McLouth.

The part of the picnic to be most admired was the spirit of good humor, so conspicuously prevalent among all the people and the prominently manifest interest and appreciation of the Grange and its work by those who were not members of the order.

The cooperative work at that place was reported in a state of progress worthy of the cause, and corroborating testimony was everywhere evident.

Time alone prevented our longer remaining with that kindly people and we left with many appreciated additions to our list of pleasant memories and fond acquaintances.

Our next meeting was at Cadmus, in Linn County. Cadmus has the honor of having the largest grange in the State and one of the best working. They have their picnics on the 21st day of July in each year, and all the way from five to seven thousand people gather there to celebrate. On the 21st of July last there were at least five thousand present and all were enjoying the day in the highest degree. The picnic there is an event that is looked forward to from all points of the county and even the ex-residents, if they intend to come back and visit relatives or friends in any adjoining district, always come for the Grange picnic.

The cooperative store there has done

a wonderful work, being built up from less than a hundred dollars until the assets now have reached nearly \$40,000, and there seems to be no hesitancy in the advance. They have recently erected a new stone building two stories high, that stands alone like a palace among hovels, in the way of country stores, and the old building which they still use for a store room, looks like a joint snake that had taken on new joints as he needed them, and the whole institution stands in evidence of the principle it represents, a glowing success.

After listening to an interesting program and meeting many very pleasant friends, we returned, anxious for the continued success of the work so prosperously instituted there.—Ole Hibner, Lecturer Kansas State Grange.

Rock Valley Grange No. 1438, Lyon County, Kansas.

August 12 was the first anniversary of the organization of our grange. We organized one year ago with seventeen charter members, now we have fifty-seven, with a number more wanting to come in. The night of the 12th we had a feast in the shape of a general supper and ice cream. The grangers and their families were invited. There were one hundred and fifteen present. We had a short program, consisting of reading, singing, and music by our string band, then we had a talking machine which played while we were eating. The master made a short address, then called on each of the charter members to tell what they thought of the Grange after a year's experience. They all responded, and of course in favor of the Grange.

ONE OF THEM.

Conducting a Grange.

As to conducting a grange, the principles which, applied to a farm home, will make a success of it, will be equally successful in conducting a grange. To succeed upon a farm the husbandman should have a well-defined idea of what he wishes to accomplish and must have a general plan by which he expects to accomplish it. So with the master and lecturer of the Grange. They should have well-defined ideas of what they wish to accomplish in their grange and then plan to so conduct their meetings that the results will show a full crop of social, educational and financial advantages to the members.

The details of conducting a successful grange too, I fancy, are much like a farm. For instance, the successful farmer, if one or two of his laborers were late, would hardly have the others all wait until the delinquent ones were ready. Neither would he, if he set his laborers at one sort of work, expect them to wander off into something else. Nor yet, would he, if his attention were called elsewhere, expect them to sit down and wait.

On the contrary he commences on time and quits on time; he plans his work so that each of his laborers shall do that which he is best fitted to do, and do just as much as possible in the time allotted.

That a grange is not what it should be is not always owing to careless or inefficient officers. Quite often the members are slow and careless about doing their part. Especially is this true in the older granges. They agree to help about the programs and intend to do it, and when it comes grange night they think "now what am I going to say?" and they usually think of something to say. Possibly they have said the same thing, or nearly the same thing, a dozen times before. The question ought to be asked long before grange night, and ought to be not "what can I say?" but "what ought I to say?" and each one should say something new, something that has cost him some time to read or think out, something that will be worth his time to say and his hearers' time to listen to.

Mix with these new thoughts social intercourse and something jolly, and the members will leave the meeting feeling that their time has been well spent. And that means a successful grange.—Michigan Farmer.

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160 acres, Thomas County, mostly smooth, 7 miles from Rexford, 10 acres cultivated, balance grass. Price \$1,400.

320 acres, 60 acres cultivated. Price \$3,000.

240 acres, house and barn, good well and windmill; 3 miles from town, all cultivated. Price \$3,000.

480 acres, mile and half from town; 4-room house, stable, sheds. 200 acres cultivated. Price \$5,500.

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240 acres located on Badger Creek, Lyon County, Kansas, divided as follows:
 150 acres in cultivation (100 acres bottom land), 10 acres orchard, 20 acres good timber, 60 acres pasture and meadow land. Good improvements. Eight-room house in nice grove, new creamery building (cost \$750), two good barns, cattle sheds, chicken house, hog house, coal house, two ice houses, two silos (100 tons each), never-failing water, pond and three wells, elevated tank and windmill, underground water pipes with hydrants, two stock tanks with floating valves and tank heater, 40 acres in alfalfa. Three miles from railroad station, 3 miles from Emporia (county seat), 10,000 population. Long-distance telephone connecting with Emporia exchange and all parts of the State goes with the farm. Fifty cows kept on this farm at present. Would like to lease creamery building of purchaser and will contract to take all milk produced on farm by the year. Price \$50 per acre. Easy terms. Address owner,
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Miscellany.

Relative Prices of Meats and Live Stock.

A Chicago correspondent sends the following:

"The big packers have taken an appeal to the U. S. Supreme Court in the suit brought against them at Chicago last year under the Sherman anti-trust law. The injunction issued by Judge Grosscup was made permanent last spring, and is still in force, but it does not seem to prevent the packers from making money. Hams and bacon and other cured meats are higher than ever, in spite of a decline of about one-third in the price of hogs, and packers are undoubtedly making more money than before the suit was brought.

"It seems that the injunction covers less than half of the products of the packers, and they are making their money on the things that were omitted. In dealing with the purchase of live stock, and with rebates and other features of the business, the legal papers are very broad and comprehensive, but the bill filed by the Attorney-General and the order issued by Judge Grosscup cover only "fresh meats," in dealing with the products. The aggregate sales of hams, bacon and salt pork are considerably larger than the output of fresh beef, without including lard, sausage and other products. Since the injunction only specifies fresh meats, the packers can have all the agreements they want on these other products, and the market reports would indicate that they have been making the most of their opportunities.

"Common bacon is selling at retail in Chicago for nearly double the average retail price of beef. Curiously enough, we find that hams and bacon sell at retail for nearly double the price of fresh pork, which is covered by the injunction. The court forbids any agreement to fix the prices that are paid for live hogs, but the packers do not need any such agreements if they can fix the prices of the products. Pork is the poor man's meat because it goes farther than beef, and when the price is pushed up millions of the poorest people must do without. This cuts off consumption and makes less demand for hogs, and it seems as though some influence like this has been at work to force down the prices paid to the farmer. One cent a pound on the live weight of hogs means over \$60,000,000 a year. There is no doubt that present market prices of hog products would justify a price of eight cents for hogs, or even more, if this end of the business were handled on as close a margin as beef and other fresh meats that are covered by the injunction.

"Evidence that was published soon after the suit was brought last year seemed to show conclusively that the packers then had agreements on the prices of 'provisions,' and owing to the unfortunate oversight of the lawyers for the government in omitting a few words from their legal papers, there has been nothing to prevent a continuance of such agreements."

The Fight Over Oleo Still Rages.

The Farmers' Review, Chicago, of August 5, presents the following article signed "Investigator" on the subject of oleo reduction and the price of beef cattle. It reads:

The annual report of the commissioner of internal revenue for the fiscal year 1903 shows that the total revenue receipts from oleomargarine were only about one-fourth of the receipts in 1902 previous to the passage of the oleo law, viz., \$736,783, against 2,944,592 collected in 1902, or a loss to the Government in taxes of \$2,207,709. A considerable reduction was to be expected, as the present tax on uncolored oleomargarine is only one-eighth of the tax imposed upon it in 1902. The report shows that the receipts on oleomargarine colored in imitation of butter were \$272,044. This represents a tax of 10c per pound of a production of 2,720,440 pounds. Receipts from uncolored oleomargarine were \$171,227, which, representing as it does a tax of

one-fourth of 1c per pound, shows a production of 68,490,800 pounds, the total production aggregating 71,211,244 pounds. The figures indicate that production has been reduced from 30 to 35 per cent. This is not alarming and should not materially affect the values of beef cattle, nevertheless it has drawn out the following statement from a Chicago manufacturer:

"Federal legislation and restrictions by many States regarding the manufacture of oleomargarine have so lessened the productive value of beef suet that the packers are compelled to make tallow from this product, which is worth perhaps 5½ to 6c per pound, instead of oleo oil, formerly worth nearly double that. Oleo oil, as is well known, is an absolutely pure animal product made from prime beef suet and is used in the manufacture of oleomargarine. Before the restrictive measures were taken oleo oil sold at 10 and 11c per pound. As a result of the decreased value of beef suet, cattle sold by the producers in the live-stock markets of the country are worth from \$3 to \$5 per head less than they were prior to the enactment of laws against oleomargarine."

These statements and inferences are as mischievous as they are misleading. The eighteenth annual report of the bureau of animal industry contains a table which sets forth the quantities, kinds, and values of the ingredients which entered into the oleomargarine manufactured in 1899 in the United States. According to that table, fourteen ingredients were combined to make the oleomargarine of commerce, oleo oil constituting 26.82 per cent of the whole. In order to approximate the loss which would have been sustained by cattle-producers has the passage of the oleo law entirely cut off the manufacture of oleomargarine, let us assume that if the law had not been enacted the output of oleomargarine during the fiscal year 1903 would have equaled that of 1900, a year of unusually heavy production, viz., 107,045,028 pounds. The percentage of oleo oil in this product would have been 28,709,476 pounds. This, at 5c per pound (the difference between the price of common tallow and oleo oil) would have amounted to \$1,435,473.80. Had this sum been apportioned among as large a number of cattle as were marketed in 1900 in the leading cities of the United States, viz., 10,135,096 head (exclusive of calves) the amount to be credited to each animal as gain obtained through the superior value of the oleo oil employed in the production of oleomargarine over common tallow, would have been 14c. But production was not entirely cut off nor was it the design of the law to effect that result. It was not the intent of legislators to check the manufacture of oleomargarine nor to increase the financial burdens of the manufacturers. They simply endeavored to protect consumers against imposition and compel dealers and manufacturers to sell oleomargarine for what it really is. Production, as we have seen, has been reduced perhaps 35 per cent, so that the loss on beef cattle has not been 14c cents per head but 35 per cent of that amount or 49-10c per head. I can discover no basis on which losses of \$3 to \$5 per head could be figured out.

There is another outlet for oleo oil, however, entirely independent of oleomargarine, of which no mention has been made. This is the foreign trade. In 1901, 161,651,413 pounds of oleo oil were exported, against 28,145,942 required for the 104,948,856 pounds of oleomargarine manufactured that year in the United States.

In view of all these facts, an attempt to explain the present depressed prices of beef cattle by the reduction of the oleomargarine product, is, to say the least, exceedingly lame.

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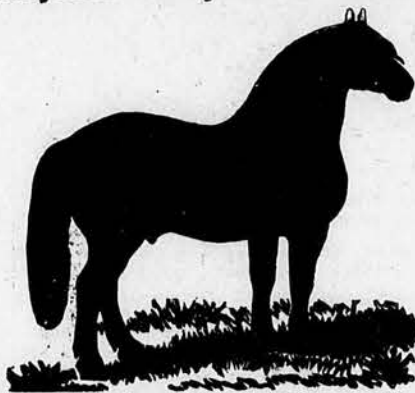
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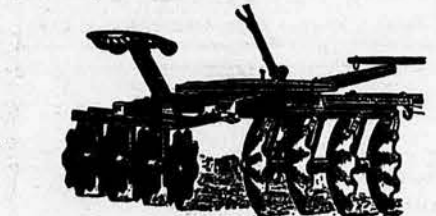
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