

indicated quality for the country at large is 84.4 per cent., against 85.7 last year. The averages of a few selected States are: New York, 93; Pennsylvania, 84; Kentucky, 74; Ohio, 67; Michigan, 89; Indiana, 71; Illinois, 80; Wisconsin, 80; Minnesota, 89; Iowa, 83; Missouri, 80; Kansas, 81; Nebraska, 84; South Dakota, 90; North Dakota, 87; Washington, 85; Oregon, 87; California, 94. The wheat crop is generally short in quantity and poor in quality, owing to unfavorable weather, drought at seeding time, deficiency of snow protection, and excessive rains after harvest, producing scanty growth, shriveled grains, and rust. It is worst in the great central region, Ohio to Kansas, and adjoining States. Crops fairly good in New Jersey and Maryland and adjoining parts of Pennsylvania and New York; also in the Rocky Mountain valleys.

Cotton.—The returns to the Statistical Division of the Department of Agriculture for October make cotton show a decline of 3.5 points from the September condition, which was 64.2 per cent., against 60.7 for the present month. The percentages by States are as follows: Virginia, 58; North Carolina, 64; South Carolina, 67; Georgia, 67; Florida, 66; Alabama, 61; Mississippi, 60; Louisiana, 61; Texas, 57; Arkansas, 53; Tennessee, 69; Missouri, 79. The Department's report as to the condition of cotton last month is fully sustained by the returns for the present month. In all the States east of the Mississippi river little or no top crop will be made, and the crop will all be gathered by the middle of the month. Damage is reported from Mississippi by frosts on the 28th and 29th of last month. Caterpillars and rust are complained of in the sea island district of Florida. A slight improvement has been made in some few Louisiana and Arkansas counties, but the crop will be gathered before the close of the month. There has been a general deterioration also in Texas. In some sections the crop has been injured by worms, rust, frost, and heavy rains the last of September. There will be a very small yield from the top crop, and the reports say that the crop will all be gathered by November 1.

Oats.—Preliminary reports of yield average 24.3 bushels per acre, against 29.6 a year ago, and 0.2 point lower than in 1894. In the States of largest acreage the average yields were as follows: Iowa, 28.1; Illinois, 28; New York, 30.6; Wisconsin, 34.5; Kansas, 11.3; Nebraska, 18.9; Minnesota, 32.2; Indiana, 8; Pennsylvania, 28.6; Missouri, 15; Ohio, 30; and Michigan, 29.2. Returns as to quality indicate a general average of 74.9, the range being from 55 in Kansas to 104 in Montana. The principal States report the following averages: Iowa, 62; Illinois, 60; New York, 94; Wisconsin, 85; Kansas, 55; Nebraska, 63; Minnesota, 90; Indiana, 72; Pennsylvania, 91; Missouri, 65; Ohio, 74, and Michigan, 82.

Rye.—The average yield of rye indicated by preliminary returns is 13.3 bushels per acre, against 14.4 bushels in 1895. The States having the largest acreage report average yields as follows: Pennsylvania, 16; New York,

In New York and Pennsylvania, where the major part of the crop is raised, the conditions are 85 and 82, respectively.

Irish Potatoes.—The general condition of this crop declined from 83.2 to 81.7 during September. The October condition of 1895 was 87.4, and of 1891, 91.3. Excepting these two years the present has better prospects than any since 1888. Taking the leading States, conditions have fallen in New York, Pennsylvania, Ohio, Michigan, Wisconsin, Iowa, and Missouri, though the change has been slight in the last two. Conditions improved somewhat in Maine, Illinois, and Minnesota. Of these ten States only one, Maine, has a condition above 100; three, Pennsylvania, Ohio, and Illinois, a condition above 90; two, Iowa and Missouri, above 80; three, New York, Michigan, and Minnesota, above 70, and one, Wisconsin, above 60. In other important States conditions range from 64 in Colorado, to 98, the figure reported for Virginia, Kentucky, and South Dakota. From this it is seen that the crop promises to be one of larger volume than usual, notwithstanding a small reduction in area reported in the preliminary returns made in July. The questions of size of tubers and keeping quality of the product enter largely into the matter of marketable supply, however, and returns show that in this respect the crop is quite generally disappointing. More or less complaint of rotting comes from nearly every section of the country, but particularly from the New England and Eastern States. The State agent for New England, for instance, reports: "Late potatoes rotting badly; sections of the State (Maine) will not realize above half a crop." Connecticut, "Much of the crop unmerchantable by reason of size and quality." "Much rot is discovered by digging in New York and Pennsylvania," is the statement of the Department's agent for those States. In the South and parts of the West tubers show effects of drought. Notwithstanding these unfavorable features, when the prospective volume of the crop is considered, there would seem to be no great danger of any decided shortage in the supply. A feature of the present outlook, encouraging to the producer, is the prospective shortage of the European crop. In Germany, a heavy producer of potatoes, not more than half a crop is likely, and with less heavy shortages in other States, an increased demand for export trade will probably arise.

Sweet Potatoes.—The October conditions of sweet potatoes show improvement in New Jersey, Pennsylvania, Maryland, and Virginia, where figures range from 93 to 100. Conditions which are lower, beginning with North Carolina, have generally remained about stationary through the list to and including Tennessee, if exception be made of decided losses occurring in South Carolina, Georgia, Florida and Arkansas. The poorest prospects are found in Arkansas and the Gulf States, the effect of severe drought in that region. In other sections the conditions are uniformly high. On the

of this crop, the percentage figures are declining from 76.5 to 68.6. The drought has been the principal cause of low condition. In the principal States changes took place as follows: South Carolina, condition declined 92 to 79; Georgia, 97 to 85; Louisiana, 67 to 61.

Apples.—The average condition of apples has remained practically stationary during September, and there is little to add to previous reports. The crop is heavy and of fine quality in the northern tier of States, and prices are extremely low. This is particularly the case in Michigan, where the markets are glutted. Fine packed fruit is selling in that State as low as 35 cents per barrel, and evaporating stock at 10 cents per 100 pounds. The disastrous storm of the last week in September did much damage to fruit along the Atlantic coast. The loss was particularly heavy in parts of Pennsylvania and New York. Some complaint of the dropping of fruit comes from the middle West.

Millet With Potatoes.

EDITOR KANSAS FARMER.—My article on the "Low Cost of Potatoes," which was published in the KANSAS FARMER, has been extensively copied by the Western daily and weekly press, thus extensively advertising the usefulness of the FARMER, and also showing how closely the busy editors of the great dailies scan the FARMER for something of general interest to their readers. There are many who will wish to read from first hands and will subscribe for the FARMER at once, as they should do.

My mail has been very large of late, and among the letters I have opened there is one from a man who takes the Kansas City Star, and who read the above-named article in that paper, copied and credited to the FARMER. He says: "I shall at once take the FARMER. I have forty acres of rich bottom land that I have experimented on with an irrigation plant for two years, and I believe I now am in condition to successfully use it on potatoes. By putting the forty acres all in potatoes I would have to own four horses and would have to buy grain and hay for them the year around. Now, by following Kelsey's plan, as described by you, I can raise forty acres of potatoes and forty acres of millet, and the latter, together with the digging of potatoes and fall plowing, will effectually kill out the cockle-burs. By threshing out and selling the millet seed I will get enough money to buy corn for the four horses, three cows and some pigs and fowls, and the 120 tons or more of millet straw will furnish roughness and bedding for the stock. What you have written has opened my eyes to a wonderful chance and has taken off my mind lots of worry about my success. Of course, I fully understand you, that the potatoes and millet must both be a good stand in order to do as you say. There are some of your figures that I can still reduce, but on the whole, I consider your figures are very conservative. I have a potato-cutter that will cut the

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seed cheaper than your estimate, and my harrow will go over fifty acres per day, while my two-horse cultivator will cultivate nicely two spaces, or two rows at once, and my mower will cut six feet at once and the rake twelve feet. I can also haul and stack the millet some cheaper, as I have handy tools. However, I do not see how one could secure the millet without injury to the potatoes."

If the seed is planted fully four inches deep (not guessed at, but by actual measure) with the Aspinwall planter, the shoe of the planter will also leave a crease two inches below the dropped seed. The growing tubers seem to use this space to grow in and I did not see as the 1,500-pound horses or the wagon and mower did any harm to the potatoes. I thought the tools would injure the crop, but they did not. When I have mowed and raked off the crab-grass in previous years, it has always been on land planted by hand and in furrows made by the cultivator, and I have found that many tubers were injured, many more left exposed to the sun, while the hay rake would scratch up many more. From this year's experience, I think the planter is of special advantage, but I still think that hand planting will give the best stand.

CLARENCE J. NORTON.

Morantown, Kas.

Looked at a Farm in Sedgwick County.

EDITOR KANSAS FARMER.—I have just returned from Sedgwick county, Kansas, where I went to look at a farm. I was told by the neighboring farmers that alfalfa could not be successfully grown in that vicinity. The soil is of a reddish cast, and is considered to be good for wheat. There is also some rich sandy loam adjoining the Ninnescah river. I saw one small piece of alfalfa, two years old, off of which four or five crops have been cut this year. But some of the farmers say it is liable to be killed by the heat and drought, even at two or three years old.

On the farm which I looked at is quite a large number of acres—200 or 300—now in cultivation, which it is desired to put back in grass; but the farmers told me there was no grass that could be made to grow, except the original blue-stem or prairie grass. They further told me the only way to get the land now under plow into grass was to let it go back, by pasture, which would, of course, take a long time. Now, I want to ask some of your farmer readers what to do in such a case.

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 NOVEMBER 19—B. R. Adamson, Fort Scott, Kas., J. M. Turley, Stotsbury, Mo., and G. Hornaday & Co., Fort Scott, Kas., combination sale of Poland-Chinas.

A PROBLEM IN FEEDING.

EDITOR KANSAS FARMER:—A correspondent, who is feeding 200 steers, desires to know which of the following feeds it will be most economical to use at the prices named. He can buy corn and cob meal at \$5 per ton, bran at \$6, shorts at \$8.50, linseed oil meal at \$15 per ton. The steers have been fed for thirty days past on corn and cob meal, all they would eat, and about five pounds linseed oil meal per head daily in addition.

The problem is an interesting one, and I have spent some time in working it out. In the first place, I would advise you to eliminate shorts altogether at the price given. Shorts are no better than bran in feeding value, and, in fact, scarcely as good as bran for cattle. So, to be an economical feed, it should not cost more than a good quality of roller mill bran. You do not give the age or weight of your cattle, but I take it that they represent average feeders and weighed, thirty days ago, when you began feeding, about 1,050 pounds per head. I estimate, further, that they will eat on the average about twenty pounds of grain feed per head daily, and that they have in addition a fair quality of hay, with, perhaps, some corn fodder or other roughness. Under these conditions the ration you have been feeding, five pounds of linseed oil meal daily per head, mixed with about fifteen pounds of corn and cob meal, should have caused these steers to gain about 125 pounds per head during the past thirty days. Your ration is almost an ideal balanced ration; if anything, you have fed a little more oil meal than necessary; 4.5 pounds per head would have been about as effective as five pounds. According to the prices given, and if my assumption is correct that each animal consumes on an average twenty pounds of grain feed per day, the ration you have been giving them would cost 7.5 cents daily per head. Assuming, further, that you will continue to feed until each steer has gained about 400 pounds, each steer will still have to gain 275 pounds on the average. I estimate, further, from the results of our own experiments, that with the present ration of five pounds oil meal daily and about fifteen pounds corn and cob meal, they will make that gain (275 pounds) in about 120 days, with an average daily gain of 2.44 pounds per head. At 7.5 cents a day for the grain it will cost about \$9 per head for the grain feed alone to reach that weight.

If you should make a mixture of about five pounds of bran, one pound of oil meal and fourteen pounds corn and cob meal, and allow this amount on an average for each steer daily, I estimate that they will gain the 275 pounds in about 142 days. The ration will cost 6 cents per day, or \$8.50 in round numbers, for the grain feed per head during that period.

If you, on the other hand, should feed corn and cob meal only, I estimate that the steers will gain a trifle more than a pound and a half daily, and it will hence take about 180 days to gain the 275 pounds they have to make to reach the 400 pound mark. At a quarter of a cent a pound for the corn and cob meal the feed will cost 5 cents daily, or about \$9 per head for the grain feed. This, it will be seen, is exactly the same as the estimated cost if you continue the present ration, but in addition it will necessitate that you hold the steers about two months longer before they reach the same weight. You are, of course, aware that fattening steers on full feed make their best gains during the early period of feeding. They have already

gained faster than you can hope to make them gain hereafter, if the conditions have been normal. My advice would be, if you do not continue your present ration, to make a mixture of corn and cob meal, bran and oil meal in about the proportion noted above. On that ration I estimate that you will be at least \$100 better off when the 400 pound mark has been reached than you will be if you feed corn and cob meal alone, and you will have to hold them only about three weeks longer than would be necessary if you continue the present ration. It is further to be noted that to reduce them to corn and cob meal after having been on the much richer feed they have been getting, it is probable that they will not even make as rapid gains as I have here allowed on the corn and cob meal ration. The nutritive ratios of the three feeds stand about as follows: Present ration as 1:5, the mixture I have mentioned as 1:7.7, and corn and cob meal as 1:9.7. The ration of about 1:6 is considered to give the most rapid gain. If you have alfalfa hay to feed them the gains of the mixture and on corn and cob meal alone will both be better than here indicated.

C. C. GEORGESON.

State Agricultural College, Manhattan, Kas.

Texas Fever in Australia.

EDITOR KANSAS FARMER:—Dr. Hunt, a government veterinarian, and Mr. Collins, an extensive stock-raiser of Brisbane, Australia, have recently visited this country, having been sent by the Australian government to investigate the disease commonly known as Texas fever of cattle, or, as it is called in Australia, "red water."

This disease was first known in Australia some five or six years ago, having broken out or been introduced in the northwestern part of Australia, and since that time it has gradually extended until it seriously threatens the cattle industry of that country.

Dr. Hunt and Mr. Collins brought specimens of the cattle ticks which infect the diseased cattle in that country and they proved to be the same variety of tick which is known in this country as the Southern cattle tick (*Boophilus bovis*) which conveys Texas fever from Southern cattle to Northern native cattle. This fact, together with the same symptoms and post-mortem conditions, proves that they have this serious cattle disease, known as Texas fever, to deal with in Australia.

The difficulties of preventing Texas fever by some quarantine system are much greater in Australia than in this country, as in Australia cattle run wild over large areas of country the year around, and when old enough are mostly driven to the southern part of Australia to market. For these reasons they have been unable to find any effective means to prevent the spread of this disease. Mr. Collins and Dr. Hunt visited Washington, Kansas and Texas to learn what they could of Texas fever in this country and the methods employed to prevent the spread of the disease.

Mr. Collins owned about 125,000 head of cattle, which ranged over 2,500 square miles of land, where they graze the year round, and are sold fat off the grass, usually as four-year-olds. Mr. Collins employed only about twenty men in handling his cattle.

Corn in Australia is worth three times as much as in Kansas and cattle only one-third as much.

Manhattan, Kas. N. S. MAYO.

Hogs in the World.

Hogs are scattered around over the world as follows: For every 1,000 inhabitants in Asia, one hog; Africa, two hogs; South America, forty-four; Europe, 134; Australia, 295; North America, 817; and the agricultural report of 1895 allotted the United States over 44,000,000 head, which was over 6,000,000 head less than was reported in 1891, showing the supply is decreasing and the demand increasing. For the last three or four decades we have witnessed some very sudden changes in the price of hogs. In 1862 the range of prices in the Chicago market was \$2.15 to \$2.70. Within three years, or in 1865,

the range was \$9.75 to \$12.75. Again in 1869, \$9.51 to \$11.34 was reached, and from that time to the present, we have witnessed ups and downs, but the average for the past decade has remained around \$5. per 100 pounds live weight.

Colorado Feeders.

By W. W. Cooke, Agriculturist Colorado Experiment Station, in Bulletin No. 34.

Most of the Colorado steers that are shipped out of the State are sold for feeders, that is, they are sold to Kansas and Nebraska men who feed them for three or four months on corn and then send them to the market for beef. Some of the steers are sold directly from the range, but the great bulk are fed on hay for two or three months and then go East for the grain feeding. The business of grain-feeding these steers in Colorado is yet in its infancy, and opinions differ as to whether it can with profit ever become the principal method of handling them. Colorado is not a corn State, and it looks reasonable that it should be cheaper to ship the steers to the corn-producing districts rather than to ship the corn west to Colorado and then the fattened steers eastward. It has so far proved profitable to bring in corn for sheep feeding; but this success is largely due to the Colorado climate and the possession of large amounts of cheap alfalfa that cannot be fed to the sheep unless it is accompanied with grain. The problem with steers is somewhat different. Alfalfa alone can be fed to steers and they will make a reasonable growth. The question before the feeder is, whether, if grain is fed in addition, they will grow enough faster and sell for enough more per pound to pay for the grain and leave a fair margin of profit for the extra risk. Incidentally there comes in the additional fact that the alfalfa is raised on the farm, while the grain will usually have to be purchased with money advanced by the banks at a high rate of interest.

A few figures will show the conditions of the two methods of feeding. Steers are usually brought in the fall with a 3 per cent. shrink and sold in the spring with a 4 per cent. shrink. In the fall of 1895 cattle off the range, if of good quality, sold for about \$2.85 per hundred pounds live weight. A 1,000-pound steer would, therefore, cost 1,000 pounds less 3 per cent. shrink, or 970 times \$2.85, or \$27.65. A good steer on hay alone should gain a pound a day in live weight. At the end of a hundred days' feeding the steer would weigh 1,100 pounds and sell with a 4 per cent. shrink, or 1,056 pounds. The steer will have eaten and wasted about two tons of hay, so that if sold for half a cent a pound more than its cost, it would return \$3.86 per ton for the hay. Each 10 cents increase, or decrease, in the selling price makes a difference of 50 cents per ton in the amount realized for the hay.

When steers are grain-fed to make beef of them they are fed the first sixty days on hay and the next ninety on hay and grain. The grain feeding in connection with alfalfa will seldom go higher than eight pounds of grain per day per head, and this maximum amount will be reached by the middle of the grain-feeding period. This gives 600 pounds of grain for each steer. The grain takes the place of some of the hay, so that in the whole five months the steer eats and wastes about three tons of hay. The growth should average about a pound and a half a day for the whole period, or 225 pounds. At \$15 per ton, the 600 pounds of grain would cost \$4.50. To return \$4 per ton for the hay, the steer will have to sell for 90 cents per hundred pounds more than its cost. The question before the feeder is, therefore, whether the chances of grain-fed cattle selling for 90 cents per hundred more than they cost, are greater or less than the chances of hay-fed cattle advancing 50 cents per hundred more than their cost. This is a difficult question to answer. The average of the markets for several years makes the two systems about equal, and since the hay feeding involves the less risk, most Colorado feeders have adopted this method. On April 1, 1895, hay-fed steers sold for \$1.15 per hundred more than they cost off the range the October previous,

Nervous

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while the following year the difference was but 45 cents. The markets of these two years show that cattle-feeding is largely a lottery. The final gain or loss depends primarily on the feeder being a good buyer, and getting stock that will fatten well at a fair price. After this he is at the mercy of the general tendency of the market. He may lose on his investment after careful feeding and good care, and the market may turn in his favor, as it did the winter of 1894-95, and give good returns to even poor feeders.

Hog Cholera.

By A. W. Biting, Purdue University Agricultural Experiment Station.

Last year Indiana lost 580,260 hogs by disease, entailing a property loss of \$3,250,000. Nearly the entire loss was due to cholera and swine plague. It was distributed as follows: In 232 townships the loss was from 10 to 20 per cent.; in 127 from 20 to 30 per cent.; in fifty-nine from 30 to 40 per cent.; in fifty-three from 40 to 50 per cent.; in twenty-four from 50 to 60 per cent.; in twelve from 60 to 70 per cent., and in one 77 per cent., while the remainder lost less than 10 per cent. of all the hogs that were produced.

The disease is well disseminated in the State this fall, and the season of greatest loss will soon be upon us. Every effort should be made to lessen its ravages as much as possible. An important factor in reducing the loss is to provide proper shelter, as all hogs with only a mild attack, or having apparently made a recovery, may take a relapse if exposed to a cold rain or a sudden change to rough weather. There are thousands of hogs now in a condition to become affected with pneumonia, which would escape if given a little protection. Any shed which will keep off the rain and break the wind is sufficient. The floor should be dry, but little bedding needed, and that renewed frequently. Burn all litter and bedding once a week. Keep the herd divided so that crowding is impossible. Remember, a straw stack is the most unfavorable place that can be provided for sick hogs.

The essentials in prevention are good food, pure water and clean, dry quarters.

The station would be pleased to receive information from any source as to the presence of the disease and of all successful ways of checking it.

While thorough in action, Ayer's Pills strengthen rather than stimulate the excretory organs. Leading physicians recommend them because they are free from calomel or other injurious drugs, being composed entirely of the best vegetable aperients.

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J. E. Lockwood, Kansas City, Mo.

Kalamazoo, Mich., is famous for celery—also as the home of Thos. Slater, whose advertisement appears on page 15.

Irrigation.

A FUNDAMENTAL PROBLEM IN IRRIGATION.

By President Geo. T. Fairchild, of State Agricultural college, read before Kansas Irrigation Association, 1896.

In the brief paper which I present this afternoon I intend to show my good will toward this association and its projects for irrigating our plains and upland prairies as well as our promising valleys. I believe that irrigation has its place in the economy of agriculture, as truly as any other device for making nature yield its reluctant service. If I shall say anything that may make me appear a doubting Thomas, in comparison with some of my enthusiastic neighbors or friends, I beg of you not to think that I would in any way be guilty of throwing cold water upon even a cold water enterprise. I am simply thoroughly in earnest to find the real outcome for irrigation on the plains of Kansas, and if possible, to gain attention early to such lines of development as shall remain essentially permanent. I realize, as many of you do, that a few serious blunders in overestimates of results may damage the cause, possibly beyond recovery for many years. Dampened expectations are the worst possible substitute for a genuine irrigation that stays.

I shall make no attempt in this brief paper to suggest more than an outline of the principles which seem to me involved in our problem. Your own ingenuity will extend and apply them.

In a general way the problem of irrigation, after the devices for furnishing water and distributing it are settled, is the same as for any enterprise. No enterprise will last or fulfill reasonable expectations which does not replace the capital involved, with a fair compensation for its use, sustain the amount of labor involved in its use on a scale of living equal to that maintained in surrounding portions of the country, and provide for possible savings against the proverbial rainy day, whether it rains pitchforks or sandstones, or encourage the accumulation of capital for further extension. Multitudes of experiments in agriculture, as in other enterprises, will fail in some of these particulars. But every student of agricultural welfare must, so far as possible, anticipate such failures and by skillful planning prevent them. So the ultimate problem in irrigation upon the plains and divides of Kansas is to so plan that the extra cost of capital in supplying water, and the extra labor involved in its application, may be fully met by the superior crop, and give a fair margin for so-called profit, or better, for saving.

To illustrate: If an irrigation plant is to be devoted to vegetable-raising, one must foresee to what advantage he can raise vegetables of various kinds, can market them without fail at a compensating price, and can adjust his labor to seasons and circumstances, so that he shall have a fair employment through the year. He must remember that his market is likely to be limited by extensive competition; that potatoes, cabbages, tomatoes and all sorts of garden truck are easily multiplied in almost indefinite quantities, and that an immense population, producing other commodities to be used by exchange for these, is absolutely necessary to the success of the market gardener. For such a market the conditions of western Kansas are not as favorable as those of some of the mountain States and Territories, where a large proportion of the people are engaged in mining, lumbering and manufacturing from the raw materials so abundant there. It is easy for a limited number of irrigation plants, skillfully managed, to supply the local market in any of our Western towns. At the same time, the extension of irrigation generally must reduce materially the range of the market, which now depends largely upon the wants of ranchmen and farmers themselves. Vegetables will never pay for transportation to great distances except when they can be raised at trifling cost. They must always be marketed within quite a limited range. These,

then, cannot be thought of as furnishing a sure promise of profit under any costly system of irrigation. A similar question may be raised in regard to fruits. While their value makes it possible to reach a larger market, that world's market always fixes the price as low as the bulk of producers can bear, so long as the supply keeps near the demand. The tendency in this, as in vegetable-raising, is to increase the supply in anticipation of the demand. The long distance over which western Kansas must transport its products will render its costly fruit much more costly before it reaches consumers. This added cost, however, will be borne by the producer, since the consumer will still measure value by the less costly product, so long as he can supply his wants fairly. We have no extra early or extra late season by which to take advantage of the first in the market, or the last to be had. A very large product would undoubtedly have to be utilized by processes of preserving, as canned or dried fruits, in which all the world can compete.

If we depend upon cereals the transportation problem is less serious, since some of the grains will bear the longest transportation at little cost; and we are likely to be nearer the ocean highway in the future than in the past. But in such crops the pioneer world everywhere can compete. The rich lands of South America and southern Asia, almost without price, and near a population ready for service at the smallest possible cost for living, will make competition of American farmers in the wheat market practically useless. How soon this will come nobody can foretell, but it seems as certain as the transfer of the grain-raising center in the United States in the past from the Atlantic coast to these Western plains. The enormous advance in transportation facilities will hasten the time beyond exact calculation.

In a study of the statistics of profitable irrigation, furnished me by the chief engineer of irrigation in France, a transcript of which I have already presented to our State Board of Irrigation, I was especially struck with the fact that almost every instance of profitable irrigation in the south of France showed a dependence upon forage and soiling crops. This, of course, shows that the crops there raised are consumed as far as possible upon the premises, or near them. As most of the stock of France is kept by the soiling process, the irrigated fields maintain a larger quantity of stock per acre than any others. The products of the dairy and the stall are always marketable and bring the largest pay for the labor expended. It seems to me that any permanent profit from our irrigated farms must come from a careful mixture of cropping and stock-raising. The condensed value in beef, butter, cheese, poultry and eggs will bear transportation further; it affords the best possible combination for labor with fair compensation, and keeps the labor occupied the year round. The necessary feed for stock and poultry is easily insured, and capital can always be secured for such careful handling of stock as this would involve. I feel certain that those who set about the study of their immediate circumstances with reference to this solution of the fundamental problem of profit and loss will find their way safely along this line.

But there is another phase of our Kansas irrigation which suggests a somewhat different solution of the problem. Large portions of our country produce from time to time abundant crops, and will maintain in ordinary seasons from natural pastures considerable herds of stock. But every year there is dearth of some of the satisfactory staples of home life, vegetables and fruits, and some years there is entire failure of every crop. To those who hold such lands in these high prairie regions, the irrigation of a few acres at a cost far exceeding any fair basis for profit, is like the insurance of property. It makes safe many undertakings in the way of farming which otherwise would be hazardous. It provides certain living for a family. It gathers the essentials of home-making,

and cheers against despondency. Moreover, the greater part of the expenditure can be in the shape of labor at the odd moments and the unoccupied days and weeks so likely to occur in grain farming. All labor expended in this way is clear gain; for one of the chief sources of loss in pioneer farming is the want of profitable occupation during a large part of the year. A small irrigation plant of four or five acres, such as one good well may make, will provide a large part of the living for a family, by simply utilizing the waste time. The profit from such a means of culture in things comfortable and tasteful, cannot be measured in dollars and cents. If our State Board of Irrigation proves feasible, at moderate cost, the raising of water from deep wells, they will have opened the way for a fair settlement of all our western countries, and have given a natural solution to the fundamental problem suggested in this paper.

This natural solution promotes no boom in real estate, and is not likely to be overworked, with the result of disappointment. The ways and means may be imperfect at present, but the devices will surely come; and a country which grows by the labor of its people is sure of all the progress it makes. A speculative energy which promises immediate fortune almost certainly brings successive periods of reaction, because of habitual overestimate of chances. The average of profits will surely be maintained in the long run, and any proposition which ignores this fundamental truth should be questioned with utmost scrutiny. These prairies will be conquered by the careful, earnest workers who make the best of opportunities at hand, and irrigation will figure, not as the chief encouragement to energy, but as one of its principal props.

What Can be Done on a Forty-Acre Farm in the Arkansas River Valley.

By I. L. Diesem, read before the Kansas Irrigation Association, 1896.

In the first place, diversified farming should be the object, in my judgment. In so many cases, where men start out in one certain line, to farm, there are many failures to where there is one success. On a farm of forty acres there ought to be at least five acres in orchard, consisting of apples, cherries, plums, peaches, grapes and the smaller fruits. Two acres in vegetables, including both Irish and sweet potatoes, cabbage, tomatoes, etc., which is an insurance that the family will be supplied and with some to spare for the market. Eight acres for the different kinds of corn, so as to have grain for the team, also to fatten the pork for home consumption, and the fodder is left for the cattle. Twenty acres should be in alfalfa, and should be so managed as to get both hay and seed. This now leaves five acres to grow a cane crop for feed, or any other kind of grain that a man may think best.

Now an irrigation plant is a necessary thing to irrigate the five-acre orchard and the two acres of vegetables, which, if the family is not accustomed to living too high, will alone insure a living, one year with another, to the common family of five in number. Whenever there is more water on hand than the seven acres demand, turn it loose on your corn or alfalfa. I have this year grown five large hogs and four shoats on a half acre of alfalfa, and at the low price of pork at the present time can be sold and would bring \$40 for the lot. In 1895 I produced on two acres of ground \$120 worth of onion seed. This year the crop was somewhat lighter than last year; have not sold it yet. Alfalfa seed this year turned off one to three and one-half bushels per acre. Sweet potatoes from 100 to 200 bushels per acre. This year I also grew six acres of red Kafir corn, that I have just headed, which I have estimated will turn off twenty bushels per acre of corn, with a splendid crop of fodder left. I have peach trees that the fruit



Don't waste time. Gain vital, valuable knowledge at once—knowledge worth thousands of dollars, which comes to you absolutely free. Many very common ailments come upon us with very alarming symptoms. People have really died of fright. It isn't a desirable thing to leave all physiological and medical knowledge to the doctors. This was Dr. Pierce's idea when he wrote his great book, "The People's Common Sense Medical Adviser." He has described hundreds of common ailments and prescribed for them. He has devoted a few, terse, plain, chaste chapters to the reproductive physiology of both men and women.

The book is finely illustrated and contains over 1000 pages. In these pages there is condensed much of the best of all a busy brain has gathered in thirty years devoted to the study and practice of medicine. Any one may possess this great book by sending 21 one-cent stamps, to pay cost of mailing only, to World's Dispensary Medical Association, Buffalo, N. Y. Anyone who wants the book bound in fine French cloth may secure it by sending 10 cents extra (31 cents in all). Do it to-day. The offer is open for only a limited time.

CONSTIPATION CURED.

Nothing will kill all the energy and ambition in either a man or woman more effectively than constipation. The bowels are clogged with poisonous matter that should be cast out. The blood is soon loaded with impurities. The organs and tissues in turn reluctantly accept these impurities in place of the healthful nourishment they need. The whole system is poisoned. It shows its distaste for the condition of affairs very plainly. The head aches. The skin becomes sallow and the vision blurred. The mouth tastes bad and the breath becomes foul. The stomach is sour and the appetite poor. Constipation, the sole cause of all this trouble, is promptly and permanently cured by Dr. Pierce's Pleasant Pellets.

gathered from them this year netted \$4.50 per tree. Cherries this year did not do so well, but trees six years old netted about \$1 per tree. I always keep ten to fifteen sheep and about fifteen head of cattle on my farm. I have no trouble getting \$3 apiece every year for my lambs, when 6 to 8 months old. We also milk three to five cows the year round, and the butter and cream from this source that is sold always in turn pays for the tea, coffee and sugar, and many times some left to buy a pair of shoes for the baby. In 1895 I sold what hay I had to spare at \$3 per ton in the stack. This year it is some higher. But hay, in my judgment, should be fed on the farm instead of selling.

Now this farm I speak of should be irrigated from pumps or river. The more irrigation the better, unless followed to the extreme, which is not likely to be done unless there is more water received from some other source than was received this year, 1896. The demand seems to have been more and the supply a great decrease from other years. Four years ago, in 1892, there was possibly thirty acres irrigated in our county from pumps. This year, 1896, there is a little less than 1,000 acres irrigated from pumps where the power is windmills alone.

Summary of crops this year:

Forty tons alfalfa hay, at \$3.....	\$120.00
Rough fodder feed, twenty tons, at \$1.50.....	30.00
Alfalfa seed sold, nineteen bushels.....	52.00
Fruit sold.....	25.00
Onion seed on hand.....	40.00
Sweet potatoes on hand, sixty bushels.....	24.00
Increase, nine lambs, at \$3.....	27.00
Profit on cattle sold.....	211.50
Increase in cattle, nine calves.....	90.00
Alfalfa seed yet to thresh, fifteen bushels.....	40.00
Corn on hand, 100 bushels.....	25.00
Butter and cream sold.....	50.00
Hogs grown during the year.....	40.00
Total.....	\$774.50
One hired man six months, at \$25.....	150.00
Balance.....	\$624.50

Thos. Slater has a message for every man on page 15.

We can furnish you KANSAS FARMER and Peterson's Magazine, each one year, for \$1.75. Or KANSAS FARMER and Arthur's Home Magazine for \$1.65. Send to this office amounts above named.

WEBER Gasoline Engine

For use in any place or for any purpose requiring power. Only a few minutes attention required each day. Guaranteed cost of operation is 1 cent per horse-power per hour. The simplest, most economical and best power. Address Weber Gas & Gasoline Engine Co., 459 SW. Blvd., Kansas City, Mo.



The Home Circle.

COMPENSATION.

Could I stand once more, as I did that day
Years long since at the forks of the road,
Where youth stood beside me, with pleasure
gay,
And plucking a daisy, I tried to show,
One by one, from its petals, which way to go.

Could I know that the road I refused to take
Would have led me o'er heights most sweet
and fair,
With none of the sorrow and pain and care
That have crushed me low to earth ofttime,
And have marked each step of the way that's
been mine.

Could I see onward only to know
The one way I have gone, with its cloud and
unrest—
I would wait not to question, but gladly go
Over the selfsame tear-marked way,
With unflinching heart, and come back to-
day.

For have I not proved, as one only may
Who has walked through the furnace of grief
and pain,
How soul touches soul, as we meet by the
way
In this journey of life? How love is the
same
Priceless jewel for heart's ease, be it sun-
shine or rain?

And faith has not faltered to breast the
stream,
And hope beckons ever with joyous eyes
To the life beyond, where the dreams come
true.
Where love never ending and joy will greet
Me at heaven's threshold, earth's story com-
plete.
—Margaret Grant, in Harper's Bazar.

MRS. SARAH MALLOY.

**First Woman Chosen for Presidential
Electors in This Country.**

Mrs. Sarah Malloy, of Cheyenne, Wyo., has been chosen a presidential elector by the republicans of Wyoming, being the first woman in the United States to attain that high position. This is the most pronounced victory for the cause of woman's suffrage so far recorded, and marks an era in the political progress of the female sex. It realizes the wildest dreams of Mrs. Susan B. Anthony and the other pronounced advocates of woman's rights.

From this nomination to the choice of a woman for governor of a state is now only a step, and the possibility of a female president seated in the white house at Washington looms up with startling clearness.

That Wyoming should have been the first to break down the bars that kept woman out of the electoral college was to have been expected. It was here that the political equality of the sexes was first recognized. Mrs. Malloy has been active in politics ever since Wyoming adopted woman suffrage. She was one of the first workers in the cause in the west, and helped materially to secure the adoption of what was then the territory of Wyoming of the law giving women the franchise.

"If we are good enough," she argues, "to raise and train the boys who are to go up to the polls and vote, then we ought certainly be good enough to vote ourselves."

From the first Mrs. Malloy has worked with the republican party. Every election day has seen her at the polls, and she has taken a steady interest in every campaign. But, despite this public activity, she is by no means considered the "new woman" the funny paragraphers have pictured her to be. For, while participating actively in politics, Mrs. Malloy has shown no inclination to wear divided skirts or to throw the care of the baby on her hus-



MRS. SARAH MALLOY.

band. She is a model housewife, and her tastes are thoroughly domestic. Her married life has been ideal. No better commentary on the excellent conjugal relations that exist between her husband and herself can be made than the fact that Mr. Malloy has always been a staunch democrat, while

Mrs. Malloy has invariably worked for the republican party. Mr. Malloy is the superintendent of the Wyoming division of the Union Pacific railroad. His headquarters are at Cheyenne. The couple have lived in Wyoming since 1870 Mrs. Malloy's native state is Ohio.

THOROUGHNESS PAYS.

Why Parents Should Develop Precision and Accuracy in Children.

There is no habit that young people can acquire that is likely to be so valuable to them in every relation of life as the habit of being exact. Indefiniteness is a crying fault of youth. It is an easy thing to get into slipshod habits of thought and work. Such work may be brilliant, but unless work is directed toward a definite purpose it is valueless. Thought that appears in brilliant flashes is as useless for guidance as the light of a jack-o'-lantern. A beacon-light must be steady and certain. The value of a fixed definite purpose in life, steadily adhered to, cannot be overestimated. It is the secret of success, and so fully is this recognized that some one has defined genius merely as the power of persistence. He who has ability to maintain a fixed purpose in spite of disappointments and apparent failures, must, in the end, win, if he is guided by honor and truth.

Exact habits are best formed in youth. It is next to impossible for a man or woman who has grown up in "happy-go-lucky" habits of work to turn back and learn to be exact. Parents often excuse inaccuracy and careless ways in children on account of their youth. It is a great mistake to do this. While youth cannot be justly burdened with the cares of age, yet whatever a young person is called on to do should be accurately done. The common habit of acquiring a smattering of many things should be discouraged as a vice. It is far better for the young student to have two studies and pursue these to the definite purpose of comprehending them thoroughly than to take up a dozen, of which he can only secure a frivolous knowledge.

The habit of giving simple, accurate information is a most rare and valuable one. Not one person in ten can give definite, clear directions on any stated subject of which they have full knowledge. Yet this is a habit which successful business men are compelled to acquire. The trained specialist in any branch of art or science is chiefly valuable because he has learned to crystallize his information and reduce it from vaporous theory to something that can be made practical. From the earliest childhood, children can be taught to be exact and clear. This is the chief value of the kindergarten system, and it should be supplemented by home training for the same object. Children who learn to know what they are taught clearly and definitely will have nothing to unlearn, no superstitions and false ideas to correct when they reach maturer years. An early training in definite, correct methods of work has trained the mind as well as the hand, so that the small student from these schools is at once ready to enter the paths of higher knowledge by a royal road.—N. Y. Tribune.

Treatment for a New Broom.

There is a great deal of common every-day sense in the old saying: "A new broom sweeps clean" beyond its application to a strange servant. If you examine a new broom you will find the ends of the straws and the base of the brush square; after it has been in use for some time the straws become sharp as needles, and likely to injure the carpet. To remove these sharp points dip the broom in hot suds and trim it off neatly, thus preserving the square shape.

Not Ashamed to Wash Dishes.

In a recent sketch of Hawthorne by his daughter we are told that in his early married life he helped his wife, who was not strong, by doing the housework. He washed the dishes, cleaned knives and cooked. All this he did without "surliness and sudden snarlings." The great romancer's good sense put to shame some lesser lights in literature who have counted it a thing common and unclean to work with their hands, except in using the pen.

Scott's Emulsion

of Cod-liver Oil because it keeps the system in such good condition that things are not
with Hypophosphites Prevents Consumption favorable

for the growth of the germs of that disease.

50c. and \$1.00 at all druggists.

Cod-Liver Oil makes rich blood, and the Hypophosphites strengthen nerves.

TALK ABOUT CORSETS.

To Secure Good Results Women Must Know How to Wear Them.

The corsetiere who knows her business, says L'Art de la Mode, can supply the correct shape of corset from time to time as the figure develops, but the woman for whom the corsets are made must do some of the work herself. Mme. X. herself says that with all the corsets in the world she cannot keep her promise to produce a perfect figure unless the woman who wears them will do her part. She must learn to walk well, to sit correctly, to "carry" herself properly, to hold her head up, to elevate the bust by raising the chest to where it belongs, and to keep the shoulders where they should be (which is where they fall naturally when the chest is carried up where it belongs).

Then again, while every corset must be molded to conform to the figure it encircles, the woman who appreciates a good figure must have several corsets at one time. For the cloth tailor-made gown there must be one corset, for the décolleté dinner gown another kind, for the negligee robes de chambre another style, for the bicycle quite another, and so on.

The correct bicycle corset, for example, is ventilated, and over the hips has merely a side steel and some elastic bands. The dinner corset about the bust is shaped to conform to the low-necked bodice. The corset for the lounging gown is little more than a bust support. The corset for a walking gown is built close and high above the bust and long over the abdomen. The corset for the empire gown has no bust to speak of and is little more than a belt, etc.

The woman who by patience and practice and proper corseting has acquired a good figure can wear a corset longer than the woman who has a shapely carriage, and "flops" instead of sitting correctly. The latter soon forces the bones which support the corset into improper shape, and then if she continues to wear it her figure will be molded badly instead of well.

A well-known New York corsetiere, who sympathizes with the woman who must be economical, says that when a corset is seen to be losing its shapeliness it can be steamed until the bones are flexible, and then over a flatiron the bones can be restored to their correct shape. This is only possible, however, where the best materials are used, so that the actual shaping of the corset was done in cutting the forms, the bones being used merely to hold the pieces in place.

If corsets were worn in sight, as bonnets are, what a revolution there would be in their appearance.

Simple Cure for Headache.

An apostle of physical culture says that an excellent and never failing cure for nervous headache is the simple act of walking backward. Ten minutes is as long as is usually necessary to promote. It sometimes, however, requires more than ten minutes to walk at all if one is very "nervous." But it is not understood that it is necessary to walk a chalk line. Any kind of walking will do, provided it is backward. It is well to get into a long, narrow room, where the windows are high, and walk very slowly, placing first the ball of the foot on the floor, and then the heel. Besides curing the headache this exercise promotes a graceful carriage. A half hour's walk backward every day will do wonders toward producing a graceful gait.

It is well to remember when papering a small room that blue in all light shades makes a room look larger. Dark colors or papers with large patterns have the opposite effect.

DAINTY POWDER PUFFS.

Thousands of Cygnets Are Killed Each Year to Supply Them.

A new count in the indictment against woman in the matter of her craving for plumage ornamentation is found in the way in which it is said the needs of her dressing-table are supplied.

An English journal warns the London ladies that their powder-puffs, those airy necessities of the toilet, are heavy with the blood of slaughtered innocents.

It is stated that as many as 20,000 young swans—cygnets, as they are called—are killed every year to supply this dainty fluff, to say nothing of innumerable young birds of the elder duck and wild goose variety. The bulk of these are imported—the swan and geese from the islands of the Baltic and from Norway and Sweden, and the eiders from the northern and more ice-bound seas.

One cygnet will make nearly a dozen average-sized "puffs," which shows how many women must be, to a greater or less extent, addicted to the use of powder.

The puff trade is highly profitable, as may be judged from the fact that the down of cygnet costs a little more than 25 cents, the poor creature often being plucked alive, so that it may bear another crop, while the puffs are sold at from 75 cents upward, nicely mounted in bone and blue or pink satin, which adjuncts amount to comparatively nothing.

The ladies of ariis and Vienna are the largest consumers of puffs, owing chiefly to their fastidiousness in casting aside puffs as soon as they lose their pristine delicacy.

This is Your Opportunity.

On receipt of 10 cents, cash or stamps, a generous sample will be mailed of the most popular Cutarrh and Hay Fever Cure (Ely's Cream Balm) sufficient to demonstrate the great merits of the remedy.

ELY BROTHERS,

56 Warren St., New York City.

Rev. John Reid, Jr., of Great Falls, Mont., recommended Ely's Cream Balm to me. I can emphasize his statement, "It is a positive cure for catarrh if used as directed."—Rev. Francis W. Poole, Pastor Central Presbyterian church, Helena, Mont.

Ely's Cream Balm is the acknowledged cure for catarrh and contains no mercury nor any injurious drug. Price, 50 cents.

RHEUMATISM



Results from a Bad Liver and can be Cured by Using

**Dr. J. H. McLEAN'S
LIVER AND KIDNEY
BALM**

A Certain Remedy for
Diseases of the Liver,
Kidneys and Urinary
Organs

At Druggists. Price, \$1.00 Per Bottle

THE DR. J. H. McLEAN MEDICINE CO.
ST. LOUIS, MO.

KANSAS FARMER.

ESTABLISHED IN 1863.

Published every Thursday by the

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OFFICE:

No. 116 West Sixth Avenue.

SUBSCRIPTION PRICE: ONE DOLLAR A YEAR.

An extra copy free fifty-two weeks for a club of six, at \$1.00 each.

Address **KANSAS FARMER CO., Topeka, Kansas.****ADVERTISING RATES.**

Display advertising, 15 cents per line, agate, (fourteen lines to the inch).

Special reading notices, 25 cents per line.

Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.

Annual cards in the Breeders' Directory, consisting of four lines or less, for \$15.00 per year, including a copy of *KANSAS FARMER* free.

Electros must have metal base.

Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.

To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.

All advertising intended for the current week should reach this office not later than Monday.

Every advertiser will receive a copy of the paper free during the publication of the advertisement.

Address all orders—**KANSAS FARMER CO., Topeka, Kas.**

A proposition has been made to so change our method of dividing time as to have thirteen months in the year. Each of the first twelve months would have twenty-eight days or four weeks. The thirteenth month would usually have twenty-nine days, but on leap years would have thirty days. If the year should come in on Sunday, every month would come in on Sunday. The advantages claimed are considerable, but it is doubtful whether the inconveniences of the change will not outweigh other considerations in public estimation.

The liberal advances in wheat, which we had the pleasure of recording last week, have been succeeded by quite as remarkable declines. The ways of speculation are constructed with a view to large profits for the speculator at the expense of producer and consumer. A statement of the "rake-off" of speculators during the recent fluctuations in wheat places individuals' profits at \$400,000 apiece down to \$30,000. Nevertheless, the statistical position indicates higher prices than have yet been realized this year. Whether other influences shall counteract the proper rise remains to be seen.

A pretty and useful publication is *Womankind*, a monthly magazine for the ladies. The publishers of this magazine have made such terms with the *KANSAS FARMER* that for \$1.10 we will send both the *KANSAS FARMER* and *Womankind* for one year. The publishers of *Womankind* offer a number of valuable prizes to subscribers forming the greatest number of words with the letters of the word *Womankind*. Send your subscription for both publications to *KANSAS FARMER* and you can have to January 20, 1897, to make the words of the contest. In speaking of the prizes the publishers of *Womankind* say: "The prizes are all attractive. Two Columbia (\$100) bicycles, one Cleveland (\$100) bicycle, a \$25 kodak, a set of Encyclopedia Britannica, a Webster's International Dictionary are among them. And there's a prize for every contestant."

Two excellent papers will be found on our irrigation page this week. The paper by President Fairchild, of the State Agricultural college, displays his usual conservatism and then points out the way of success for the irrigator who can supply water for a few acres and continue his present method of farming on wider areas. This plan makes sure a living, even when droughts prevail, and enables the Western farmer to take advantage of the easy production of the favorable years in laying up a surplus. The paper by President-elect Diesem, of the State Irrigation Association, pursues a similar line of thought and illustrates it by his own experience. That this plan diligently and intelligently pursued will give homes and plenty with opportunity for larger results as experience widens, is not doubted by any who have given attention to the subject.

SUGAR.

The fact that the value of sugar imported to this country during the last five years has averaged over \$100,000,000 per year, coupled with the further fact that farming operations and most other industries in this country have been unremunerative during most of this period, has led to renewed inquiry whether these \$100,000,000 worth of sugar per year cannot be produced profitably in the United States.

It has been ascertained that plenty of suitable soil is available. The climate, supplemented by irrigation, is superior to that of the beet-producing portions of Europe. The test of the chemical analysis of the beets produced places them well to the front in point of quality. Two prime necessities to sugar manufacturing—fuel and water—are readily available. And last, but not least, there is a long-felt want ready to receive the \$100,000,000 in cash.

The question of natural conditions settled in the affirmative, it is natural to conclude that the only question remaining is the one of overcoming the "timidity of capital" and "inducing" the capitalist to embark in the domestic production of sugar, thereby affording the farmer a market for beets and the laborer a chance to earn a share of the \$100,000,000. As an evidence of the sure success of the sugar industry, the continued operation of factories in Nebraska, in Utah and in California is cited.

It is worth while to inquire whether the halting development of this great industry is owing to the obstinacy of the capitalist who refuses to embrace a waiting opportunity, or to the "dumbness" of the "canaille" in failing to make the "inducements" sufficiently alluring to interest the capitalist.

The sugar factories now in operation in the United States, whatever the local names of the companies which operate them, are well understood to be owned and controlled by the great sugar trust. Whether they have ever paid running expenses is not known outside of that great aggregation. Whether this great owner will ever build other factories is unknown. Possibly more money is to be obtained, by this trust, by controlling the importation of sugar than by manufacturing in this country. Possibly it may be profitable to pay a few hundred thousands in losses on manufacturing sugar in this country in order to create the impression that by adequate encouragement a great industry will be developed, while the benefits of this "encouragement" are pocketed on the trusts' refining operations. It is safe to say that no one outside of the trust knows the interpretation of the operation of the factories.

In the published accounts of the production of beets for these factories, it is stated that the hand work—the weeding and thinning—are done by women and children, and therefore cost little, or all clear gain. It is a notable fact that in the beet sugar countries of Europe women and children are thus made field hands. The necessity for this has not heretofore been regarded as a mark of the highest grade of western American civilization—but perhaps it is different in the beet sugar industry.

The United States Statistical Abstract for 1895, page 290, gives the "average cost in foreign country," of the sugar imported into the United States as 2.15 cents per pound. To this is to be added a tariff of 40 per cent., or .86 cent, making a total of 3.01 cents per pound, plus freight, as the cost laid down.

It has been expected that the temporary destruction of the Cuban sugar industry would induce such a scarcity as would cause an advance in sugar, or at least sustain the price. But the 1895 prices in foreign markets were lower than those of any previous year, and just now there is a further break with prospects of still lower prices. If there were a Cuban crop to add to the present supply it is only a matter of conjecture how low prices would be. It is tolerably safe to assume that, in view of this situation, the sugar trust is not likely to build new factories until it is evident where the sugar market will settle. At present prices for sugar, the beets command so low a price that the farmer is able to produce them by making field

hands of women and children. With the probable further reduction to follow Cuba's re-entrance to the market, and the continuous development of the tropical sugar industry in other parts of the world, there seems little reason to hope for a remunerative addition to the farmer's list of crops on account of the development of the beet sugar industry.

In making this presentation of the case the *KANSAS FARMER* is not unmindful of the desirability of every addition to our list of money crops. But it is not wise to delude ourselves with hopes which can but be blasted when the facts of the situation render their realization impossible.

A STATESMAN MISTAKEN.

In a review of a recent trip, the editor of the *Louisiana Planter*, takes a roseate view of Kansas prospects for successful production of sugar. It must be confessed that these prospects are somewhat more remote than before sugar dropped to the neighborhood of 2 cents per pound for the raw article, and possibly there are no politics in the hope held out that in face of the probability of yet lower prices of sugar Kansas can join Louisiana in making sweets and securing government help for the sugar-maker. The enthusiasm of Judge Peters, which appeared to be well based at the time alluded to by the *Louisiana* editor, may not be easily aroused to so high a pitch in view of the fact that every sugar factory ever started in Kansas is now silent and nobody is anxious to sink any more money in them. The following shows the enthusiasm of the *Planter* editor as to Kansas prospects, and also the zeal with which Judge Peters pressed what he thought a great interest for Kansas:

"A recent trip of the editor of this journal from Louisiana to Colorado, over the line of the Southern Pacific to Houston, and thence to Denver by the Santa Fe route, going north on the Santa Fe route as far as Newton, Kas., and then west to Denver, revealed the vast possibilities of the State of Kansas in sorghum production. This State, with its limited rainfall, has been brought to the culture of those crops, such as alfalfa and sorghum, that have the capacity for resisting drought and seeking by their roots a supply of water at a considerable depth. At Newton the writer had a telephonic interview with ex-Congressman, now Judge Peters, and recalled to the Judge's mind his eloquent statement made before the Ways and Means committee in Washington, a few years ago, of his hopes then expressed that within a few years the tall chimneys of hundreds of great sugar houses in southwestern Kansas, consuming Kansas coal and making Kansas sugar from Kansas sorghum, would astonish the world with the magnitude of their production and the vast possibilities of Kansas in this direction. Every word that Judge Peters then said remains equally true to-day. It seems that we are simply scarcely ready for that careful, methodical work which is essential to success in sorghum sugar production. The wonderful results brought about within recent years in beet culture in Nebraska, California and Utah may give the sugar beet the precedence from this time on in sugar production in the arid and semi-arid Western States. Were it not for this there would unquestionably be a great future for the sorghum sugar industry in Kansas, which seems to be the natural habitat of the sorghum plant.

"Passing through or near by the cities of Sterling, Hutchinson, Attica and Medicine Lodge, where sugar factories were formerly located and for which we all had great hopes of their permanent success, we could only deplore the somewhat refractory character of the sorghum plant as a sugar producer, but still believe that modern scientific research will readily remove this refractory element and permit us yet to see Kansas as a sister sugar-producing State.

"Accustomed as we are to the expensive planting and cultivation of our tropical cane in the alluvial lands of Louisiana, we can scarcely have any idea of the capacity of Kansas for cheap production of sorghum cane of

high quality. In a recent letter to the *Live Stock Champion*, of Amarillo, Tex., written by Miss Mary Best, of Medicine Lodge, Kas., she says that she encloses to the editor of that journal a photograph just taken of the eighth crop of sorghum cane grown on a certain field. This field has given an average of eleven tons of sorghum cane per acre, and thirty bushels of sorghum seed per acre during the eight years, and there is much similar land in the same county. She says, further, that when properly farmed the uplands can be depended upon for a fair crop of sorghum in the dryest years; that cattle fatten rapidly on sorghum, and that she then had 300 head of steers in a hundred-acre field of big standing cane that cost but a dollar an acre to raise.

"When we consider this extremely low cost for the production of sorghum standing; that the seed yield of some thirty bushels per acre, as stock feed, is about equal to corn, we can readily see what Kansas might do in sugar production if the industry were taken hold of seriously without the main purpose being, as it seems to have been some years back, to secure the State bounties, but rather to produce sugar from a good sugar plant. With the advantage that Kansas has in sorghum production it would seem that this problem may yet be successfully solved industrially, and that Judge Peters' anticipations of hundreds of sugar factories in southwestern Kansas in operation, supplying the country with pure sugar, may yet be realized."

The fact that an election is to take place next Tuesday is impressed upon every mind. Indications point to the polling of a larger proportion of votes than ever before. The importance of the issues cannot be overestimated. The question of prosperity for the farmer as well as for all other producers is involved. True, each party claims to have a panacea for the evils of which all complain, and the voter must be the judge. It is, therefore, important that he look dispassionately into the matter and vote as his judgment directs. The Australian ballot is ample protection to the voter and he need not let anybody know how he votes. Let every farmer vote and vote his own convictions.

A beautiful Grand Army souvenir book, containing a host of scenes, and portraits carrying one back to the days of the great war of the rebellion, has been published by Ed. G. Moore & Son, of Topeka. The faces of Lincoln, Garfield, Grant and Logan adorn the first page, and on subsequent pages can be found pictures of most of the great Generals on the Union side. There are army scenes and recent views of many of the great battles. The national cemeteries and monuments to the dead are finely illustrated. The book is devoted entirely to pictures, with such brief notes as serve as guides to the illustrations. The work is entirely creditable to the publishers and should be treasured by every old soldier and especially by the descendants of old soldiers.

Too Cheap.

EDITOR *KANSAS FARMER*:—In your issue of October 1 Mr. Norton, in his article on "Low-Cost Potatoes," invited criticism. I wish to say that I do not see how he can get his ten acres harrowed for 50 cents and rolled for 75 cents, or the millet sowed for 25 cents and cut and raked for \$3 for the ten acres. That is lower than he can get such work done here. H. F. M.
Carson, Kas.

Farmers' Institutes.

The following dates and appointments for farmers' institutes in this State, under the auspices of and to be attended by representatives from the Agricultural college, have so far been made:

Oneida, Nemaha county—December 10 and 11; Profs. Hitchcock and Willard.
Nortonville, Jefferson county—December 17 and 18; Prof. Olin and Mrs. Kedzie.
Hiawatha, Brown county—December 30; Dr. Mayo.
Abilene, Dickinson county—State dairy meeting, November 19; Profs. Graham and Georgeson.
Some others are under consideration but the dates have not yet been fixed.

The price of wheat at Chicago fell nearly 11 cents per bushel last week.

REGULATION OF FREIGHT RATES.

Just as the Interstate Railroad Commission is getting the machinery of the law into somewhat useful operation, comes the demand that it be revised, as will be seen from the following from a grain-buyers' publication. Whether the grain-buyers most represented are the great transportation lines which, in some sections, handle grain, is not known to the writer. Its endorsement of the position of the *Railway Review* is as follows: "Another illustration of the futility of endeavoring to regulate rates by means of voluntary association where such association is dependent only upon the pleasure of its members, says the *Railway Review*, is afforded by the withdrawal during the current week of two members of the Western Freight Association from that organization. Mention is now made simply to emphasize the oft-repeated assertion that if rates are to be maintained upon a paying basis, the pooling principle must be re-established. There is enough influence possessed by the railroads of the United States, if only united in such purpose, to effect a revision of the interstate commerce law in this respect in the near future. It is true that the coming session of Congress is a short one, but it is probable that upon the advent of a new President it will be succeeded by a called session, and opportunities will thus be given for this much-needed legislation.

"The policy heretofore pursued by the railroads in connection with this matter should be immediately abandoned, and they should unite with the Interstate Commerce Commission and the various commercial bodies throughout the country in securing a passage of what is known as the amended Paterson bill. It is conceded that from the standpoint of either of the three parties mentioned the bill could be improved in some particulars, but as a compromise, and particularly as securing two or three of the most necessary reforms, it is doubtful if any better bill could be prepared.

"So far as the railroads themselves are concerned they need to understand that, whatever may be the facts in the case, maintenance for long-continued periods of abnormally low rates furnishes to the minds of those who hereafter are to prescribe their rates abundant evidence of their reasonableness, and all the facts, figures and arguments that may be presented to overthrow such conviction will be altogether futile. No time should be wasted in further discussion of this question, but all parties should at once unite and use their combined influence toward the early introduction of the bill and its rapid progress through Congress."

Kansas Farmers' Institutes, 1882-1896.

In the Secretary's office may be found a map of Kansas which shows, by colored marks, the various places in the State at which farmers' institutes have been held since their inauguration in 1882.

The college authorities desired that the objects of its endowment should be accomplished in every possible way. They realized that there were to be found, in every part of the State, men and women who are in hearty sympathy with these objects, and who, by reason of advancing years and the responsibilities of life, and are unable to matriculate as students, would most gladly welcome any efforts put forth to bring within their reach the influence of knowledge. And so, in 1882, long before the University extension idea had reached the height of its popularity, there was inaugurated this system of "College extension," which we name farmers' institutes. These institutes are simply meetings of the farmers and their families with representatives of the college for mutual discussion and information upon matters of interest in farm and home life. Interested attendance is the only requisite to membership in an institute, and all may share in the proceedings.

The faculty began this work by assisting in six institutes each winter, and, with the growth of the college and the demands upon it for work in this line, this number has grown to

about twenty each year. Wherever an institute has been held it is expected that another will follow. Indeed, it is true that the faculty are obliged to deny requests from most desirable locations quite often for the reason that the settled policy of the "greatest good to the greatest number" can be better subserved by holding institutes in new and untried places.

During the past sixteen years there have been held a total of 159 institutes, which were distributed among the various counties as follows: Brown, Jefferson, Johnson, Nemaha, and Russell, seven each; Finney and Shawnee, six each; Franklin, Linn, and Reno, five each; Marion, Osborne, Pottawatomie, Rooks, Wabaunsee, and Washington, four each; Clay, Cowley, Ellis, Ford, Kearney, McPherson, Marshall, Montgomery, Osage, Ottawa, Riley, and Trego, three each; Allen, Cloud, Coffey, Crawford, Douglas, Ellsworth, Geary, Greeley, and Sherman, two each; and Anderson, Atchison, Barton, Butler, Chautauqua, Cherokee, Decatur, Dickinson, Harper, Harvey, Jackson, Jewell, Miami, Mitchell, Phillips, Republic, Rice, Sumner, Wallace, one each.

It will be seen that institutes have been held in fifty-six counties of the State, and that the following counties have not held such meetings in connection with the college: Barber, Bourbon, Chase, Cheyenne, Clark, Comanche, Doniphan, Edwards, Elk, Gove, Graham, Grant, Gray, Greenwood, Hamilton, Haskell, Hodgeman, Kingman, Kiowa, Labette, Lane, Leavenworth, Lincoln, Logan, Lyon, Meade, Morris, Morton, Neosho, Ness, Norton, Pawnee, Pratt, Rawlins, Rush, Saline, Scott, Sedgwick, Seward, Sheridan, Smith, Stafford, Stanton, Stevens, Thomas, Wichita, Wilson, Woodson and Wyandotte, a total of forty-nine.

The fact that several institutes have been held in a given county is not to be interpreted as meaning that these have all been held in the same town or neighborhood.

As the applications for college aid in institutes to be held during the coming winter come in it is to be hoped that many of them will come from counties wherein no institutes have yet been held. Were the great benefits to be derived by all parties from these meetings fully appreciated there can be no doubt but the applications would be even more numerous than they have been in the past.—Secretary I. D. Graham, in *Industrialist*.

Remedy for Rabbit-Bitten Trees.

EDITOR KANSAS FARMER:—I have had apple trees barked several times by rabbits, and immediately after such work being done by them I have thrown up earth around the trees to cover the wound, and in a year's time the scars were completely healed over. I have had trees partly girdled by sheep, and took fresh cattle manure and mixed with earth and water and plastered such wounds over and tied cloth around to hold the plaster in place, and in a year's time found such wounds completely healed.

A puddle made of fresh cattle manure and earth, to puddle the roots of young trees, or any kind of garden plants, is the best thing I have ever tried in such cases to insure plants to grow. But take straw, tall grass, corn stalks or anything of the kind you happen to find, get binding twine from your straw ricks, tie them together, wind them in balls and carry them along and tie up your trees ere the rabbits begin their depredations.

D. D.

Alfalfa Sowing.

Mr. William Paton, of Galva, McPherson county, Kansas, has sent several inquiries to Secretary Coburn. They are so pertinent and so important that the Secretary suggests they be placed before the readers of the KANSAS FARMER. The letter is as follows: "I take the liberty of addressing a few lines to you in relation to the raising of alfalfa. Some of us farmers tried it last spring and made a failure of it, although there are patches of it doing well here. But we want to know the best way to plant the seed to get a stand.

Last spring we plowed the ground deep and put the ground in good condition. The seed started well but finally died out. Where the drill ran over on the soil that was not plowed seemed to stand the dry weather best.

"Now, I will ask two or three questions: (1) Will we plow the ground in the fall or spring? (2) Deep or shallow? (3) Would it answer better not to plow the ground, but simply stir the surface with a harrow? (4) Best time to plant? By answering the above, you will confer a favor on several of the farmers and friends in this vicinity."

Management of Brood Sows.

A man bought a brood sow and put her where the manure was kept. She dug a hole in the manure for the little pigs, then laid down and crushed every one to death. A few days before the sow was due to farrow she should have been removed to a pen with a solid floor, covered with suitable material. A rail should have been put around inside of pen eight inches to a foot from floor, and about a foot from the sides of the pen, which prevents the sow from lying snug against the sides of the pen, and perhaps crushing her little ones. We must take all the precautions we know of in order to save the little pigs, as our chances for success will then be much improved. Let us remember and profit by this and other mistakes, not only our own, but those made by others as well. Mistakes are costly, so why suffer loss by repeating one we know of? Better keep a record of all heard of and commit them to memory, then the thoughtful farmer will steer clear of them. Better still, send them to this department, and they may help some one else.—E. T. Perkins, in *Practical Farm Journal*.

Publishers' Paragraphs.

Notice in another place offer for election day club of ten subscribers. If this does not strike you, send in your own and one new subscription. Notice our premium offers and take advantage of one of them.

FRUIT-GROWERS.—Fruit-growers should not forget to apply Carnahan's Tree Wash and Insect Destroyer this fall and winter. It protects your trees from rabbits and destroys the bore worm and aphids. It is endorsed by all large fruit-growers who have used it. John Wiswell, Columbus, Kas., is the sole manufacturer.

The catalogue is out for the second annual sale of J. N. Kirkpatrick's Taury Creek herd of Poland-Chinas, three and a half miles east of Main on Wilson St., Ottawa, Kas. Please notice that among the forty head of finely-bred animals to be sold is J. N.'s Victor 14095. Send for catalogue and if you don't find in it something that you must have to make your herd tip-top you are an exception. Col. S. A. Sawyer will preside at the block.

The advertisement of the Farrian Business University and Art School, in this paper makes a brief statement of advantages of that institution. A practical business education is of value in every walk of life. Whatever general education a young man or woman may have, the value of a practical business training like that afforded by this school is always desirable. Write for full information, mentioning KANSAS FARMER.

ELECTION DAY OPPORTUNITY.—Every reader of this paper can do something good on election day by securing a club of ten subscribers for the "old reliable" KANSAS FARMER for 1897, each subscription to begin now, thereby giving the members of the club the remainder of 1896, free. After election the people must necessarily turn their undivided attention to business and will be glad of the relief from politics, and therefore will appreciate a paper like the FARMER. For an election day club of ten subscribers we will accept \$3, the club-raiser making \$2 and ten men happy. Vote and do good on November 3, 1896.

THE GREAT JENNY LIND CONCERT.—Only a few remain who can recall the marvelous enthusiasm which attended Jenny Lind's first appearance in America, in the old Castle Garden, in 1850. When she arrived from England 50,000 people were at the dock to greet her. That night 30,000 people serenaded her in front of her hotel. Seats for her concert sold at fabulous prices. On the night of her first American concert over 5,000 people had gathered in the Battery before Castle Garden by 6 o'clock, although the concert did not begin until 8. When the doors were opened the crush was terrible, and within fifteen minutes every available inch of room, other than the reserved seats, was occupied, and 10,000 people were outside unable to get in. Then

every rowboat, sailboat, and steamer which could be pressed into service was engaged to lay in the water by the old Garden hall, crowded with people who could only hear the strains of Jenny's voice as it floated through the open windows. The whole scene has now been reprinted by Hon. A. Oakley Hall, ex-Mayor of New York city, and he gives a wonderfully graphic recital of the event in the November *Ladies' Home Journal*. The actual scene of Jenny Lind singing her first song to her wonderful audience of thousands is shown in a picture copied by De Thulstrup from a photograph made at the time.

Gossip About Stock.

Vote right on election day. Meantime send to J. N. Kirkpatrick, of Ottawa, Kas., for a catalogue of his Poland-China sale, to be held on November 10, 1896. You can ratify your choice at this sale and besides have a chance to prosper next year by buying at your own price fine Poland-Chinas that will make you more money than ever politics will. Don't forget the date and place. Everybody invited.

In this week's issue we call attention to our new advertiser of Duroc-Jersey swine, Mr. J. D. Stephenson, New Hampton, Harrison county, Missouri. He informs us that he has about forty March pigs that are good representatives of the breed, and are heavy-boned, good length, good color, and of the very best breeding. The pigs were fed especially for breeders, and received but very little corn, and Mr. Stephenson will ship to responsible parties pigs subject to approval for inspection. The brood sows in this herd averaged twelve pigs each this fall, and from eight to ten have been saved out of each litter. Mr. Stephenson guarantees everything as represented or money refunded. Stock also carefully registered. He also breeds B. P. Rocks and Bronze turkeys. Our readers are invited to correspond with him for further information.

ROME PARK STOCK FARM.—If it were desirable to interest "the 400" of New York, or the fine society folks of "London town," it might not be advisable to tell them about a herd of finely-bred swine. As it is not to such ones that these lines are addressed, but to those whose business causes them to take active interest in knowing where the finest animals of the kind they breed can be found and purchased, it will be entirely proper to tell them to "go to Rome," even if they do not kiss every pretty girl they meet along the way. Yes, for Poland-Chinas of royal breeding, and for Berkshires with family pedigrees straight enough to make a king proud, go to Rome, Sumner county, Kansas, and see the herd of Hon. T. A. Hubbard, and enjoy a half day in visiting the many different pens and lots, in which over two hundred Berkshires and Poland-China swine are kept in the best condition. A member of KANSAS FARMER editorial staff made such a visit last week, and formed the conclusion that he saw there a greater number of fine swine than at any county or State fair he ever visited. Mr. Hubbard has made swine-raising his principal business for over fifteen years, and he has studied his business as a careful student should do, and the results of his efforts have amply repaid him for every thought and item of work expended on his herds. His farm of over seven hundred acres furnishes ample room to keep them always in good health. In the issue of KANSAS FARMER of June 4, 1896, was given an extended list of his finest animals, showing their breeding and record. By dropping a card to Mr. Hubbard, one may be supplied by him with the article in question. The Rome Park herd is in best of condition now to send out choice animals, and Mr. Hubbard will be pleased to have correspondence with all who are expecting to purchase either Poland-Chinas or Berkshires to improve their herds. The KANSAS FARMER, from long acquaintance with Mr. Hubbard, feels safe in saying that all who deal with him will find him an honest and upright gentleman. He is President of the Kansas Improved Stock Breeders' Association, a position to which he was elected years ago in acknowledgement of his success as a fine stock breeder.

HOW DO YOU MAKE FARMING PAY?

The KANSAS FARMER desires papers on this subject from practical farmers in every county in Kansas, and, in order to secure the best, makes the following offer: For the best paper from each county we will give one year's subscription to the KANSAS FARMER; for the second best, six months' subscription. In this way two persons in each county can get the FARMER free.

The papers are not to be longer than 1,000 words each. It is desired to hear from the successful farmers, but mere brag has no merit and is not desired.

This offer is open for all papers received at this office before Christmas.

Horticulture.

THE USES OF BAMBOO IN JAVA.

David G. Fairchild, a son of President Fairchild, of Kansas State Agricultural college, writes from the land of the Javanese, where he is pursuing special study in botany, giving an interesting description of the bamboo and its various uses, many of which will doubtless be new to the average reader. The letter is published in the *Industrialist*. He says:

"DEAR FOLKS:—I have had it in mind some time to write you a few lines about the uses of the bamboo. I had, of course, often read in books of travel of the wonderful usefulness of this plant, yet it has taken me three months here in the midst of it to make me realize what an influence its properties have had upon this Javanese civilization.

"You are accustomed in America to associate bamboo with fishing poles and a few Japanese trinkets; here you are constantly finding that everything new which strikes your eye is made of some part of this plant.

"I counted fifteen styles of hat on the Djalan Besar, or main road, here the other day. Some looked like brass kettles upside down, others were six feet across and looked like the top of an umbrella minus the handle; some had crowns, others were perfectly flat; some were red, others bright blue, still others covered with tar. I wondered where the natives got the material to make so many and varied styles of head-dress, and on inquiry found they were made of plaited bamboo. In fact, a large share of the fashionable Paris bonnets are made in Tangerang, near Batavia, where a Frenchman has established a large factory.

"But if you look closely at the host of strange wagons and still stranger baskets which the coolies carry, you find bamboo everywhere. The short, straight stick, at each end of which hangs the basket of goods, be it fish or ladies' dry goods, is made of bamboo. Of course the baskets are of bamboo. You may think you have seen many forms of baskets, but I can assure you five minutes here on the road would convince you you were mistaken. There are square flat baskets, two feet wide and about three inches high, in which living goldfishes are grown, or rather cultivated, in the flooded rice fields, from young furnished by the Javanese fish commission, are brought to market. There are cubical cages filled with chickens, clucking and squealing at a great rate. The chicken is the principal meat-producer of the tropics, you know. I eat cold chicken at breakfast, cold and hot chicken in several forms at dinner, and chicken salad, cold chicken again, and chicken stew for supper. Then there are the dry goods baskets of the Chinese. The Chinaman is a wealthy man, and often disdains to carry his own twin basket, but marches on in front, shaking a little baby's rattle, made of bamboo, of course, or blowing a horn made of the same substance. These baskets are are much more elaborate, often two stories, with racks, drawers, and a thousand places to store things. The restaurants, too, are all in pairs, and gather seemingly automatically where there is any excitement. You don't need to hunt for a cafe, for it will follow you if you wish. Iced drinks, fruits of all sorts, hot stews, dried and rattan fish, roots and herbs, and last but not least by any means, cigar stores and sirih shops. One has only to realize what a disgusting habit that is which complicates a stimulation of the salivary glands. I blush with shame when I think that enlightened Americans have taken up a custom so truly barbaric, although their forefathers on European soil had never stooped to similar habits. A sirih chewer in Java and a tobacco chewer have much in common. The former has, however, the disadvantage in that he most always keeps his cud in sight between the lower lip and lower row of teeth.

"But I have not exhausted the kinds of bamboo twin baskets, etc., yet. In fact, I have not time to tell the tenth. One more I must mention, however,

and that is the hay vans. A man with a load of hay on his back looks like a big caterpillar. Into triangular frames at both ends of his carrying stick he presses and jams the short-cut fresh grass until it forms two peculiar-looking masses, between which he himself sinks into insignificance.

"Let me continue my enumeration of uses of the bamboo, however, as I shall not finish if I do not. The mat which serves the purpose of a carpet to my room is made of strips of bamboo plaited together. It is one seamless mat covering the whole floor. It is funny to see these immense mats carried through the streets on the shoulders of a coolie. I can't avoid the feeling he is playing hide and seek, as children do under a carpet in cleaning time as it is hung out to beat on the line. Then the walls of the houses are made of similar mats fastened to bamboo posts and braced by bamboo braces and tied on with strips of bamboo. The rafters are made of bamboo, the joists of bamboo, the windows and window sills, the doors and door casings, the bedsteads and "springs"—in fact, all but the shingles, which are palm leaves, and some of the main ropes binding braces, or "hip rafters," which are of rattan—everything is of bamboo. Yes, I forgot, they cut the grass on the lawns here with a bamboo knife and sweep it up with a broom made from the midrib of the cocconut leaf.

"I have not yet seen all the utensils of the ordinary native house, but know already that they make knives and forks of bamboo. Wine, or rather lemonade flasks, are of bamboo, as well as the numerous baskets. Most of their musical instruments are either entirely of bamboo or in part constructed of this substance—flutes, whistles, pipes, stringed instruments, etc.

"Like so many of our impressions of nature gathered solely from the temperate regions, that of construction is one-sided. The child of a mother's nursery is taught to use the building blocks. When he grows older he learns to drive nails and bore holes into or through solid pieces of wood. The problems set before a little half-naked Javanese boy are quite different, for he deals only with tubes, or at most, sections of tubes. He doesn't want to know how to drive a nail or bore a hole, for the knowledge of the first he can never use to advantage, and it is much easier to chop a hole in the tube on opposite sides than it is to bore through with a bit. If he wants to fasten a rafter-plate to the corner post of his house, instead of driving nails or spikes down through it into the post, he simply points the post by slanting cuts on opposite sides, making then a notch to receive his tubular rafter plate; and to fasten it, cuts two holes on opposite sides of the post about a foot lower down, runs a straight piece of bamboo through, and binds the whole down with rattan. He needs no saw, either, for his little knife is ample to split, shave, or hack in two, and that easier than saw can do it. As for a chisel, that is wholly superfluous. A mortise in a tube, as any one will easily see on a moment's thought, is simply two holes into it opposite each other.

"Then, too, our idea of the consistency of building material is based upon our acquaintance with woods of northern climates. The building material of the Javanese is as elastic as hickory, but splits easier than pine, and is as tough as the fibres of hemp almost. Take a large internode, and you have a rigid beam or truss. Split it into sections, and you have a steel spring; split it again, and you have a cord stronger than the strongest binding twine. Our northern woods are of like consistency throughout, excepting the sap wood, of course. Bamboo has an exterior filled with silica, and as hard and smooth almost as glass. Knives made of this part cut admirably; in fact, surgical knives such as are used, for instance, in the circumcision, are made of bamboo. I cannot close this letter on this most wonderful of tropical plants—a grass and yet a tree rivaling the giants of our forests in height—without relating a story told here to illustrate its usefulness. A naturalist, with his coolies, lost his way and found himself without food or shelter, far from

CAMPBELL'S EARLY GRAPE Our Marvelous New

Best and most valuable. Highest commendation from highest authorities. Hardy, healthy, vigorous, very productive. Early or late. Largest clusters, finest quality, not foxy. Seeds need not be swallowed. Sold by many reputable Nurserymen. None genuine without our seals. We guarantee safe arrival by mail. Largest stock of grape vines in the world. Small fruits. Introducer of unrivalled Red Jacket Gooseberry and Fay Currant. Catalogue free. GEO. S. JOSSELYN, Fredonia, New York.

any village. He looked about him and saw that he was in the midst of a big bamboo thicket. The sun set and left him in despair. His coolies, however, cheered him, saying they would soon make him comfortable. But his matches were all gone, he declared. This announcement did not disconcert them, however, for while two of them set to work to build him a house of bamboo, roofing it with their leaves, the other cut two dry pieces from the same thicket, cut a few fine shavings from the one, and rubbing the two pieces rapidly against each other, soon had a mass of burning shavings, and in a short time a crackling fire. From the bases of two large stems he soon made two kettles, which he filled with water and hung over the fire on bamboo cranes. All was now ready but the evening meal. To his astonishment, he saw the cook select from the rapidly growing shoots (one-half meter in twenty-four hours) of the bamboos near by, the juiciest and tenderest, and cutting it into morsels, throw it into the kettles, in which by this time the water was boiling. Before night had really set in, the traveler was lying comfortably on his bamboo couch, after having partaken of a frugal repast of boiled bamboo as delicious as any asparagus grown in Maryland, and protected from the downpouring rain by a perfect roof of bamboo and from the wind by the same beneficent plant. When one recollects that all these useful properties are possessed by a plant which has never been found blooming in Java, one cannot but be astonished."

Best Kind of Blackberries.

EDITOR KANSAS FARMER:—In answer to A. T. Houghton, Cottonwood Falls, Kas., in your issue of October 8, will say that I have grown blackberries for over thirty years. Have had thirty-two varieties in the last ten years, and I find that the Early Harvest will make double the clear money of any other variety. It is a little smaller than other kinds but ripens two weeks earlier. While at once it catches a big price, and can be shipped farther than any sort of which I have knowledge. It commences ripening in the southwest from the 1st to the 8th of June, a time when I have no trouble getting pickers.

The best time to mulch grape vines

is in the early spring. They should be pruned every year. If not pruned for one year, or pruned too much, the yield of grapes will be reduced.

The Early Ohio potato I find to be one of the best. I would prefer to have six large potatoes to twelve small ones. Montevallo, Mo. JACOB FAITH.

THE WAY TO CURE catarrh is to purify the blood, and the surest, safest, best way to purify the blood is by taking Hood's Sarsaparilla, the one true blood purifier.

HOOD'S PILLS are prompt, efficient, always reliable, easy to take, easy to operate.

Union Pacific Route.

What you want is the through car service offered between Denver and Chicago via the Union Pacific and Chicago & Alton railroads, which is unexcelled by any other line. Magnificent Pullman sleepers, dining cars and chair cars, run through daily without change, Denver to Chicago via Kansas City.

A Look Through South Missouri for Four Cents.

The Kansas City, Fort Scott & Memphis Railroad Company has just issued a magnificent book of sixty or more photo-engraved views of varied scenery in south Missouri. From these views an accurate knowledge can be obtained as to the productions and general topography of that highly-favored section that is now attracting the attention of home-seekers and investors the country over. The title of the book is "Snap Shots in South Missouri." It will be mailed upon receipt of postage, 4 cents. Address J. E. Lockwood, Kansas City, Mo.

FREE TO ALL WOMEN.

I have learned of a very simple home treatment which will readily cure all female disorders. It is nature's own remedy and I will gladly send it free to every suffering woman. Address MADEL E. RUSH, Joliet, Ill.

KANSAS HOME NURSERY now offers choice Berries and orchard fruits of all kinds in their season. Fresh shipments daily by express. Prices to applicants. A. H. Griese, Box J, Lawrence, Kas.

SMITH'S SMALL FRUITS FOR SPRING 1897

100 varieties old and new Strawberries, including Wm. Belt, Brandywine, Paris King, Bissel, Isabel, Barton, Marshall. New Raspberries—Egyptian, Miller, Bishop, Columbian. If you want plants I have two millions for sale. B. F. SMITH, Box 6, LAWRENCE, KAS.

Carnahan's Tree Wash and Insect Destroyer

Destroys the bore worm and apple root louse, protects the plum from the sting of the curoculio and the fruit trees from rabbits. It fertilizes all fruit trees and vines, greatly increasing the quality and quantity of the fruit. Agents wanted everywhere to sell the manufactured article. Address all orders to John Wiswell, Sole Mfr., Columbus, Kas., and Cleveland, Ohio.

Plant Trees and Orchards in 1896.



The old reliable Hart Pioneer Nurseries, of Fort Scott, Kas., have large supplies of choice stock for sale at special prices. 600 acres in nursery, 240 acres in orchard. Extensive growers for the wholesale trade. Write and obtain prices before placing your orders elsewhere. No transfer or expcure of stock. We take up, pack and ship from the same grounds. Send for our

Illustrated Planter's Catalogue and Price List.

We solicit your correspondence and invite inspection of our stock.

Reliable Salesmen Wanted ADDRESS HART PIONEER NURSERIES, FORT SCOTT, KANSAS.

Early Ohio Grape, Six Weeks Earlier Than Concord.

In the Dairy.

Conducted by A. E. JONES, of Oakland Dairy Farm Address all communications Topeka, Kas.

The Issue Concerning Oleo.

The great dairy interests of Kansas require that the sale of oleomargarine be so regulated that it cannot bear the color or be sold on the market as butter; when this is done the price of butter will be more remunerative and stability be assured in the dairy industry. Oleo is an illegitimate compound, and wherever it comes into competition with the genuine article prices are reduced to the bare cost of production. The outlook is discouraging when farmers receive only 50 cents per hundred for milk through the summer months. The dairymen of Kansas have been agitating the question of anti-oleo laws for twelve years, and yet no legislation has been secured for their relief. The combine and the treachery of some of our law-makers have been able to defeat all attempts to secure what, by rights, belongs to a legitimate and honorable business. Every pound of the spurious article sold in Kansas takes the place of that much butter, which the farmer and his wife worked hard to produce, and which ought to bring them better prices. In Pennsylvania and Iowa the sale of oleo has been abandoned because their laws have been so framed as to make it impossible to sell the imitation article for butter.

The next Kansas Legislature will be called upon to enact a measure for the relief of dairymen in this State and against the unrestricted imposition of the packing-house product in our markets. Our law-makers are the servants of the people they represent, and should not hesitate to follow the wishes of a majority of their constituents, who are engaged in dairy farming, the largest single calling in Kansas. Dairymen, at the election next week, vote only for men that will champion your views, and instruct those whom you select to work for the best interests of the farmers who work early and late. Don't hesitate to ask the various candidates how they stand on this important matter. The coming session should settle for all time to come this vital question: "Shall the dairy interests of Kansas be protected or left at the mercy of the packing-houses?" Be watchful and vigilant and our cause will succeed.

A Portable Creamery.

L. W. Beard, the veteran creameryman of Decorah, Iowa, has made a discovery that may revolutionize the creamery business. He has constructed a wagon on which he has arranged a complete separating outfit, which can be moved from patron to patron, skimming the cream in the door yard and going merrily on like the old-fashioned cream wagon. This machine is now in successful operation.

For a number of years the dairy people of the Northwest have fully realized that the enormous expense of hauling milk, which averages about 10 cents a hundred, was a burdensome item of cost to the producer, and that it must eventually be done away with. Numerous plans have been suggested, among which was to induce patrons of the creamery to buy hand separators, but the machines cost so much and farmers were so slow to take stock in them that in only two or three neighborhoods are they used to any extent. We understand that there is only one creamery where the product comes entirely from the hand separator.

Mr. Beard's portable creamery consists of an ordinary wagon in which he has fitted a Shipman boiler. This is sometimes called a porcupine boiler. It has a two-horse power capacity and uses very little water, the fuel being kerosene oil. In connection with this he has a No. 3 Alpha turbine separator, which has a capacity of 750 pounds of milk per hour. Then there is a receiving can for the cream, the whole outfit making an ordinary load for a good team of horses.

The wagon is started in the morning and if the route is not too long, from

3,000 to 5,000 pounds of milk can be separated in a day.

Mr. Beard's idea of using a boiler instead of a gasoline engine is that it does away with belting and adjustments and he has steam for heating the milk in cold weather. The complete outfit costs about \$300. It is understood that Mr. Beard has taken out a patent on the portable creamery and that he will manufacture the outfits and lease them to creameries.

Five portable creameries would have a capacity from twenty to twenty-five thousand pounds of milk a day, saving a hauling expense of \$25. An immense expense is also saved in the operation of separators at the home plant. All that will be necessary in the modern Beard creamery will be a combined churn and worker, with a small engine and tempering vat. This will lessen the cost of a creamery plant enormously.

Mr. Beard has figured out the advantages of his new scheme and says that under the new arrangement he can pay the farmers about 2 cents more per pound than they are now getting for their butter.

A prominent Iowa creameryman who was in *The Creamery Journal* office on the 27th, commenting on the invention, said: "I believe this scheme of Mr. Beard's is going to revolutionize the creamery business. When I first heard of the plan to go from house to house and separate the milk, I did not give it any serious consideration, but since visiting Decorah and seeing the machine in operation I am thoroughly convinced of the practicability of the plan. The outfit is very simple and easily handled and can be made to do its work so quickly that when you see it you are at once overcome with the idea that you must have been a fool not to have thought of it yourself. With the porcupine boiler you can get up steam from cold water in ten minutes, and when you once have things hot it is no trouble to maintain an even steam pressure all day. Instead of a No. 3 separator, Mr. Beard thinks he could successfully handle a machine with the capacity of 1,200 pounds of milk an hour. A good man can go out on any of our best milk routes and skim 5,000 pounds of milk in a day. His work would cost about \$50 a month. The load on the team would not be so great as a load of milk. Four or five portables would do the work of six or eight milk haulers. Mr. Beard says the farmers are highly pleased with the plan and many of them have asked him to send his creamery around to their doors as they have grown tired of the expense of hauling."—*Creamery Journal*.

Latest Butter Machine.

The *English Dairyman's Journal* describes the Lister butter drier, worker, molder, printer and weigher, a combination of five machines, constructed to perform each of those operations perfectly, and entirely dispense with the butter worker or drier and also with the arduous and expensive labor of making up butter by means of the "Scotch hands" and the continuous use of the weighing machine. The butter is taken directly from the churn in a granular state and fed into a shallow hopper, from which it is taken directly through the machine by means of a screw of peculiar shape, the water being thoroughly pressed out without any risk of overworking. It then passes through a die that gives it the proper shape and under a printing arrangement onto a table fitted with rollers, where it is accurately cut off into quarter, half and one-pound blocks as required, the machine being constructed so as to be readily adjusted to do this with perfect accuracy. The speed of the machine depends upon the skill of the operator who works the cutting mechanism, it being easily worked by an ordinary person at the rate of 600 half or one-pound blocks per hour. This output can be largely exceeded with a little practice. The advantage of the machine is that the butter is made up into blocks of perfect uniformity of size, weight and shape, direct from the churn, without any handling or skilled labor being required. The makers do not recommend this machine where less than sixty pounds or half pounds are made up at one time.

TO SAVE DOCTOR'S BILLS Use "Garland" Stoves and Ranges.

A CURTAIN FALL.

Death Rang Down the Curtain on an Ideal Wedded Life.

Lived, Loved, Died, Together.

A little village newspaper published out in the "Blue-grass" region of Kentucky, tells a pretty and touching story of real life.

It is the story of an old couple, whose parents were neighbors nearly a century ago in the little Kentucky hamlet where the newspaper is published. As boy and girl this couple went to school and played together. In youth came courtship, and with maturity marriage. Children were born to them, and grew up, made their homes in the same village, and prospered. The couple, still



lovers, prospered also. Day by day they toiled together, each ever ready with a helpful hand. Finally old age found them happy, healthy, prosperous and respected by all. Together they passed the milestone that marks four score and ten years. They had lived, loved and toiled in sunshine and shade, together. Now in their green old age they cheerfully awaited the final summons. One day it came. Death rapped on the door of the home that had been the scene of their joys and sorrows, their toils and their triumphs, but for once death was kind. The old couple, surrounded by their children and grandchildren, hand in hand, made their final bow and stepped out into the Great Unknown together. And the curtain fell.

It is the story of two lives worth living. There are too few like it. It is a sad commentary on modern civilization that people are in too big a hurry to be helpful or kind or loving or happy or healthy. Here was an old couple who all their lives had understood the true science of living. They had toiled long and hard, but had always found time to be kind and helpful to each other. They laid up a snug fortune for their children and their children's children, but they were never too busy to look after their own health and their own happiness. They possessed a secret that would transform the world. That secret was the knowledge that good health is the basis of all happiness, and ill-health the starting point of most unhappiness. It doesn't lie within the possibilities of nature for an unhealthy man to be a happy man, or for a sickly woman to be a smiling one. Of all the sayings of all the sages there are none truer than those which say, "Health is happiness," and "Health is wealth." To these may be added, without fear of dispute, "Health is long life."

It is easy to be healthy. It is easier to be healthy than it is to be ill—and it is much more comfortable. Health is a matter of right living and just a little patch here and there. There never was a machine made that did not occasionally get a little out of order. If the defect is remedied at once, little or no harm is done. But if the machine is left to pound and hammer ahead, regardless of the defect, an ultimate "smash-up" is a certainty. It is thus with health. If a man will live rightly, and whenever there is an intimation that the human mechanism is ever so little out of order, have immediate re-

sort to the proper remedy, he has every assurance of happiness, competence and long life.

There is one all-embracing disorder that is responsible for almost every form of ill-health. It is indigestion. Nearly every known wasting disease, including mankind's direst enemy, consumption, has its inception in this disorder. People make the mistake of thinking that a slight touch of indigestion doesn't amount to much. It is the biggest mistake a human being ever made. The man who doesn't properly digest his food suffers from slow starvation. When food is not properly digested the system doesn't assimilate the requisite amount of nourishment. The blood is not sufficiently supplied with the life-giving elements with which to build up the tissues of the body. Emaciation, debility, nervous prostration and consumption or some other wasting disease is the result.

Dr. Pierce's Golden Medical Discovery is a sure, swift and permanent cure for all wasting diseases. It cures 98 per cent. of all cases of consumption. It will cure any case of nervous exhaustion or prostration. It goes directly to and remedies the cause of these diseases. Its first work is upon the digestive organs. It corrects any derangements that may exist there. It restores the appetite and makes it keen and hearty. It causes the food to be properly assimilated. It fills the blood with the life-giving elements that build up new and healthy tissues. It acts directly upon the lungs, driving out all disease germs. It soothes and tones the nerves. It is the great blood-maker and flesh-builder. It doesn't make soft, flabby, unhealthy flesh, like cod liver oil, but it builds up strong, firm, healthy tissue. It is sold by all good druggists. The druggist who offers something else as "just as good" cares more for his pocket-book than he does for the purchaser's health.

Every wife and mother should know something about medicine. She should be prepared to meet the emergencies of illness and accident. She can only acquire the necessary knowledge by reading and studying a good home medical book. There is just one such book published; that is written in plain, every-day language that any woman can understand. It is Dr. Pierce's Common Sense Medical Adviser. It contains no technical terms. It describes all the diseases that are susceptible of home treatment and gives many valuable prescriptions. It contains over a thousand pages and 300 illustrations. Over 680,000 copies were sold at the original price of \$1.50 each. A new edition has just been printed. It will be distributed absolutely FREE. If you want a copy with heavy manilla cover, send twenty-one 1-cent stamps, to cover the cost of mailing only. If you prefer a fine French cloth binding, beautifully stamped, send 10 cents extra, 31 cents in all. Address the World's Dispensary Medical Association, No. 663 Main street, Buffalo, N. Y.

A good policy for dairymen: Sixteen good cows to one poor one. The reverse, sixteen poor cows to one good one, is what too often makes the dairy farmer ready to listen to the humbug politician. The source of our difficulties are very often on the inside when we are looking for them outside.

The Belle Springs creamery, near Abilene, Kas., paid to its 1,018 patrons \$14,500 for August milk. The price paid per hundred was 52 1/2 cents. The creameries of that county pay \$20,000 a month and the farmers are learning to appreciate a sure cash revenue every month, even if it is not so very big.

Buckingham's Dye for the Whiskers is a popular preparation in one bottle, and colors evenly a brown or black. Any person can easily apply it at home.

Rose Registered Jersey Cattle and Poland-China Swine

are unrivaled. **JERSEYS** are grandsons of Pedro and Marjoram 2d—won first premium New Jersey State fair, 1894, when a calf. Herd bears fashionably bred and high-class individuals. Head herd boar **Rosewood Medium 16453** by Woodburn Medium, he by Happy Medium; dam Fantasy by One Price. Assisted by Tecumseh the Great by Chief Tecumseh 2d; dam Moss Wilkes by Geo. Wilkes. Second assistant **Domino 16734** by What's Wanted Jr.; dam Bonnie Z. by Gold Coin, he by Short Stop. Domino won first, pig under 6 months, Nebraska State fair, 1896. Our **SILVER WYAN DOTTES** are high scorers. We have the best equipped dairy farm and most complete breeding establishment in northern Kansas. Farm in Republic county, near Nebraska State line. Take U. P. or Rock Island railroad to Belleville, or write. **JOHN F. TOLFORD, Manager, Chester, Neb.**

The Apiary.

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

Care of Empty Combs.

Empty frames of combs should be well taken care of during the winter, when not in use. With a good lot of surplus combs we win almost half the battle of a good honey crop or an increase of bees. The worst enemy to empty combs during winter is mice. They will totally destroy them in a very short time, and more especially so if the combs contain some honey, which they usually do. To secure them from their ravages it is necessary to inclose them in boxes that are absolutely mice-proof. The ordinary body of hive may be used for this purpose, providing they are tight and well made, and with lid and bottom removed they may be stacked up one above another as high as desired, and well covered. The frames should be carefully and regularly placed in the boxes and by no means jammed together or bruised, and should not touch, but occupy about the same position as when in the hive. If frames are to be carried over during the summer months it requires some different treatment, as moth worms will attack them in warm weather, and for this they should be examined occasionally, and if infested they must be fumigated with burning sulphur. All section honey boxes containing comb and all pieces of nice comb should be cared for and treated in the same manner.

Uniting Colonies.

All queenless colonies, except in case of very strong ones, that can be supplied with queens, and all weak colonies should be united in the fall. It is seldom profitable to go into winter quarters with weak colonies, as it is a certainty that they will come out much weaker in the spring, and prove of but little value the following summer. There are several methods of uniting bees, but the plan we have practiced, which we think is the easiest and simplest, and has always been successful with us, is the following: For instance, we have two colonies which we want to put together; we first examine into the condition of them, and select the best queen to remain, and remove the other one. Very late in the evening, either the same evening or the next, we quickly pick up the queenless colony, the hive without the bottom, and set it directly on top of the other, the lid being removed of course, and allow them to remain undisturbed for two or three days. They will thus unite themselves without any trouble, at least they have always done so for us. Hives that are made with a tight bottom cannot be handled in this way, but if they are movable-frame, the frames may be taken out and set into the other hive on the same principle, selecting the frames containing brood and honey to make up the colony.

Moving Bees.

Moving bees, either long or short distances, ought to be done before cold weather. They should be located on the exact spot where they are intended to be wintered early in autumn during warm weather, so as to be thoroughly acquainted with their surroundings before cold weather sets in. This not only answers for long distances, but more especially so if they are to be moved about in the same apiary. If colonies are thus changed just at the beginning of winter, when they do not have a chance to mark their new location by frequent flights, it will result in an irreparable damage and a heavy loss in bees. The only safe plan to move colonies in the same apiary is to move the hive a few feet each day that the bees are flying until the desired spot is reached. In this manner the bees will follow the hive and find their way home; otherwise they would become lost or enter other hives, in which case they are liable to be stung to death by other bees. Bees may be moved without loss in this respect a mile or more, that is, perceptible loss, as few bees will return in a move of

two miles or more. There is less loss in this respect during the autumn months than at any time during spring or summer, as the bees are lying idle the greater part of the time at this season.

Bees should not be moved during winter. They should not be disturbed or molested in any manner while taking their winter's doze, except on a fine day when they are flying, to look after their necessary wants. They may be moved in early spring in safety when they are beginning to fly daily.

Winter Care of Bees.

Bees require but little care through the winter season if proper attention is given them at the right time through the fall months. Successful wintering of bees depends to a great extent on the right kind of fall management, and all work necessary for their welfare should be done before winter comes on. It often occurs that colonies run short of stores during winter, or more often in early spring before winter is fairly gone. This will happen, even if we are very careful to furnish the required amount of stores the fall previous. We can safely examine bees during winter if we select a day that is warm and bees flying freely, but not otherwise. It will be very damaging to them if we molest them during cold weather, and they should be free from disturbance at all times during the winter, except on such days as mentioned above. Sirup feeding, which is usually done in the fall of the year, will not answer for winter feeding. Such treatment as is just the right thing in autumn will destroy bees in winter, and hence a different manner of management must be adopted. Upon finding colonies short of provisions we can supply them with feed in the shape of candy. This is made from granulated sugar, and is the only sugar fit for the purpose. The sugar must be melted and boiled as in ordinary sugar-making and molded into cakes or slabs, which may be placed in the hives where the bees have access to it. This candy may be molded in the ordinary frame and hung in the hive, the same as an ordinary frame of honey. This makes a good and healthy diet for bees and is pronounced by many as superior to their natural stores.

The entrances to hives should be contracted during winter. We have experimented in this line considerably, and my observations are such as to convince me that bees do not require the full-sized entrance to the hive, for ventilation in winter, even if the colony is a very strong one. An entrance three inches long and three-eighths of an inch wide gives me better results. It is very important to have an alighting place convenient for the bees to enter the hive, and an east or south front is desirable. Bees should seldom ever take a fly while there is much snow on the ground, and if they are in proper condition they will not do it. They are liable to do this when wintered in thin, unprotected hives, on bright days when the sun warms the hives, and this of itself well pays for chaff hive protection. Bees may be prevented from doing this by shading the hives, and especially the entrance. Heavy snows should be allowed to remain about the hives just as it fell, even if it covers the hives totally. It is a mistake to shovel it away or open the entrance. Bees will not suffocate in a snow bank. When bees are well protected in chaff hives they will endure confinement much longer than if left in ordinary hives.

KANSAS FARMER and *Agricultural Epitomist* to January 1, 1898, for \$1.25. Subscribe now.

No Room for Doubt.

When the facts are before you, you must be convinced. The facts are that the UNION PACIFIC is leading all competitors, is the acknowledged dining car route, and great through car line of the West. The line via Denver and Kansas City to Chicago in connection with the Chicago & Alton railroad, with its excellent equipment of Free Reclining Chair Cars, Pullman Palace Sleepers and Pullman Dining Cars, demands the attention of every traveler to the East. Ask your nearest agent for tickets via this route. E. L. LOMAX, Gen. Pass. and Ticket Agent.

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There is No Doubt ABOUT the MERIT OF THE DEHORNING KNIFE. It cuts both ways, does not crush. One clip and the horns are off close. Write for circular. A. C. BROS. CO., Cochranville, Pa.



Thayer's Berry Bulletin for November.

For several successive seasons, disappointments have come to the growers of small fruits. Frosts and droughts have ruined the crop in some localities, while large production, unequal distribution and low prices have been equally discouraging in others. Soil, location, cultivation and mulching are all important factors in guarding against drought. Results should be carefully noted.

Overproduction is practically impossible for many years to come, if distribution can be made more uniform. The great study should be, not only to produce best fruit, but so distribute it that all may have some and none too much. The great cities are often glutted with inferior fruit, carelessly-picked, poorly-packed and roughly-handled, making reshipment to small towns and cities an impossibility. While this may result in good pay for the transportation companies, it leaves small profits for the commission man and certain loss for the producer.

Growers should understand that it costs just as much to pick, pack, transport and sell poor fruit as good; good fruit in a fair market is sure to pay well, while poor fruit in any market is almost certain to return a loss. The remedy is in giving more care to all the details of production and working for better markets in the smaller towns and cities. Many good local markets are entirely overlooked in the mad rush of shipments to the larger cities. Near local markets are often best; study them well.

The proper distribution of small fruits will not be complete until special refrigerator cars are placed on all lines from which sales can be made at any point, the same as meats at the present time. Better methods of distribution would lessen cost to consumer and largely increase the demand. Fruits would then be considered a necessity with other food, not a luxury for occasional use.

The universal consumption of fruit means the employment of millions of women and children in a pleasant occupation, it means the most perfect combination of the useful and beautiful, in the common walks of life, a stimulant to better health, higher thought and a deeper interest in rural pursuits. With a growing demand, promising a larger consumption, we will next consider, who shall grow small fruits.

Important to Breeders.

Every one interested in improved stock should have the *Breeder's Gazette*, of Chicago, as well as the KANSAS FARMER, which we furnish for the price of one—both papers one year for only (\$2) two dollars; or we will supply the *National Stockman and Farmer*, of Pittsburgh, Pa. (the best general farm and stock journal in this country, price \$1.50), and the *FARMER*, for \$1.50. Send for sample copies to the papers direct, and save money and get a big benefit by sending your subscription to KANSAS FARMER, Topeka, Kas. No progressive farmer or breeder can afford at this low price to be without this great trio of farm magazines.

A View of Irrigators.

During the Kansas Irrigation Congress at Great Bend, last week, F. W. Litchfield, manager of the Wichita View Co., made a very fine photograph of the Congress, which he will mail to any one interested for only 50 cents

A Welcome Utensil.

The physicians sounded the alarm in the matter of consumption of fruit stones and the danger was readily recognized by laymen and now the wonder is why people did not long ago see the unfitness of fruit stones as a diet, since they had the wisdom to discard potato skins and wheat and oat husks, which are just as rational articles of diet. The difficulty of disposing the fruit stone has doubtless made it a part of our ple, system, but the danger of its use has



brought into existence the most necessary as well as the neatest and handiest of all kitchen utensils in the Enterprise Raisin and Grape Seeder, manufactured by the Enterprise Manufacturing Co., of Philadelphia, whose advertisement appears in another column of this paper.

This little machine fastens on the table and is so simple a child can manage it, and seeds a pound of fruit a minute without waste. It never gets out of order and is very readily cleaned. The danger of the stones not considered, this utensil is one of the most necessary articles about a kitchen, saving time and labor and rendering the fruit more palatable. A woman's time and patience are too valuable, though she be only your cook, to sit for hours preparing raisins and grapes by the old method, pinching the seeds out with her fingers, when you can for a nominal sum provide this modern time and labor saver, the Enterprise Raisin and Grape Seeder.

Remember that you can get the KANSAS FARMER and the Kansas City Daily Star, both for one year, for \$4, or the KANSAS FARMER and the Kansas City Weekly Star, both for one year, for \$1.20.

"Dairying for Profit, or the Poor Man's Cow," is practical, was written by a woman who knows what she is talking about, and is cheap—only 10 cents for a 25-cent book, to subscribers for the KANSAS FARMER. Send to this office.

Unequaled Service

Denver to Chicago via Kansas City is given via the UNION PACIFIC and Chicago & Alton railways. Through Pullman Sleepers, Pullman Dining Cars and Free Reclining Chair Cars leave Denver Daily. The Union Pacific is the great through car line of the West. Ask your nearest ticket agent for tickets via this line. E. L. LOMAX, Gen. Pass. and Ticket Agent, Omaha, Neb.

Tours in the Rocky Mountains.

The "Scenic Line of the World," the Denver & Rio Grande railroad, offers to tourists in Colorado, Utah and New Mexico the choicest resorts, and to the trans-continental traveler the grandest scenery. The direct line to Cripple Creek, the greatest gold camp on earth. Double daily train service with through Pullman sleepers and tourists' cars between Denver and San Francisco and Los Angeles. Write S. K. Hooper, G. P. & T. A., Denver, Col., for illustrated descriptive pamphlets.

To St. Paul and Minneapolis via Burlington Route.

Two splendid through trains each day from Missouri river points to the north via the old established Burlington Route and Sioux City line. Day train has handsome observation vestibuled sleepers, free chair cars, and dining cars (north of Council Bluffs). Night train has handsome sleepers to Omaha, Council Bluffs and Sioux City, and parlor cars Sioux City north. Consult ticket agent. L. W. WAXLEY, Gen. Pass. Agt., St. Louis, Mo.

The Poultry Yard

POULTRY HOUSE PLAN.

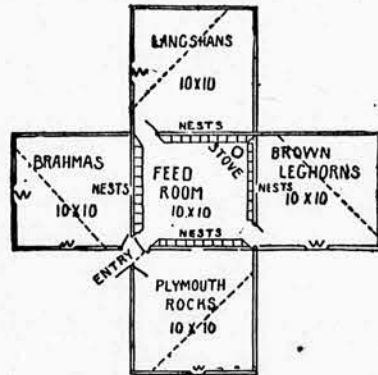
Building Calculated to Accommodate from Eighty to One Hundred Fowls.

Several readers have asked for a plan for a good hen-house that will accommodate from 75 to 100 fowls, the same to be constructed in a manner that will keep the hens warm during severe winter weather, and enable the builder to keep several varieties or small lots of 20 to 25 in one room of it. Nothing said about cost.

We always presume that those contemplating going into the chicken business are not seeking merely a place to spend ready cash, but for the purpose of making pay out of the employment. We always endeavor to aid such persons by suggesting economy in the construction of buildings to the degree that will encompass the possibilities of making them strong, durable and comfortable.

It is generally conceded that fowls kept in small flocks do best, and in making up a plan for keeping the number mentioned we have followed up that idea closely, and present a five-room house with each room ten feet square, four of which are intended to provide accommodation for at least 20 to 25 hens.

To economize time, labor and expense, we suggest that this house be framed from posts set in the ground two and one-half feet, and seven and one-half feet above, with two by four studding spiked on top, running all the way



HOUSE FOR 80 TO 100 FOWLS.

around and across inside partitions, and the same six inches above ground. I would side with inch boards up and down, batten cracks, and make four gables, running the roof together to one point at center of feed room.

It is not essential that the building shall be over seven feet from floor to square; less will do. I prefer that a hen-house be roofed with either boards or shingles, as metal or slate get too hot for the best welfare of the fowls. The lights should be placed in so that they will point to south or east and should be from two and one-half feet to three feet wide and five to six feet high and well protected with strong wire netting.

The partitions that separate the four rooms from the feed room are intended to be made mostly of wire netting or lattice work. The nests are arranged with the entire construction made in feed room, with loop-hole from each room leading into the alley that fronts the nests, which allows the fowls of each room to pass secretly into the nests in the dark and still be in no way connected with another set of nests.

The idea of making these nests in the feed room is so that the eggs can be taken out without going into the adjoining room; also hens setting can be let into center room, fed, and replaced in their nests without disturbing any of the laying fowls.

The dotted lines are to locate how the roosts can be put in diagonally, about three or three and a half feet high, and a slanting floor placed underneath so that the droppings will not get onto the floor, and can be easily gathered by pushing them with a scraper down to the corner where they will drop into a portable box prepared for that purpose. This can be done every morning if absolute cleanliness is desired. The reader will observe that this arrangement affords the fowls full range on the floor of each room without the necessity of having the droppings to annoy them through the day.

For heating and keeping warm, the sides lined with wind-proof paper will add much comfort, and I suggest the

placing of a cheap coal stove in the center room, which will aid materially in extreme weather in keeping the temperature up, which will add great comfort to the fowls and insure their laying right along without interruption, regardless of the extreme cold.

The ranges outside can be arranged in size to suit the owner of the fowls, either large or small, according to the room he may have to expand in. By all means do not make such inclosures too small. The entrance door, two and one-half feet wide, opens into a short entry which opens with a door to the room on the right and left and also into the center room.

This house will cost in the neighborhood of \$40, labor included. I think an amateur who thinks of taking on three or four breeds of fowls will find a poultry house of this plan quite suited to the requirements of fitting out several breeding pens.—George E. Scott, in Ohio Farmer.

MARKETING FOWLS.

How to Dress Chickens and Turkeys for the Chicago Market.

Poultry should be kept without food or water 24 hours before killing for market; full crops injure the appearance and are liable to sour, and when this occurs correspondingly lower prices must be accepted than obtainable for choice stock. Never kill poultry by wringing the neck. The demands of various markets vary a little in the manner of dressing poultry, and in preparing it for market; the custom of the market to which one is to ship should be followed.

Chickens for Chicago should be killed by bleeding in the mouth or opening the veins of the neck; hang by the feet until properly bled. Leave head and feet on; do not remove the intestines nor crop. Scalded chickens sell best to home trade, and dry picked best to shippers, so that either manner of dressing will do if properly done.

For scalding chickens the water should be as near the boiling point as possible, without boiling; pick the legs dry before scalding; hold the fowls by the head and legs and immerse and lift up and down three times (if the head is immersed it turns the color of the comb and gives the eyes a shrunken appearance, which leads buyers to think the fowl has been sick); the feathers and pin feathers should then be removed immediately, very cleanly and without breaking the skin; then "plump" by dipping ten seconds in water nearly or quite boiling hot, then immediately into cold water; hang in a cool place until the animal heat is entirely out of the body.

To dry pick chickens properly the work should be done while the chickens are bleeding; do not wait and let the bodies get cold. Dry picking is much more easily done while the bodies are warm. Be careful and do not break or tear the skin.

In dressing turkeys for Chicago observe the same directions as are given for preparing chickens, but always dry pick. Dry picked turkeys always sell best and command better prices than scalded lots, as the appearance is brighter and more attractive. Endeavor to market all old and heavy gobblers before January 1, as after holidays the demand is for small, fat hen turkeys only, old toms being sold at a discount to canners.—Farm, Field and Fireside.

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with LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing catarrh. Send for testimonials, free.

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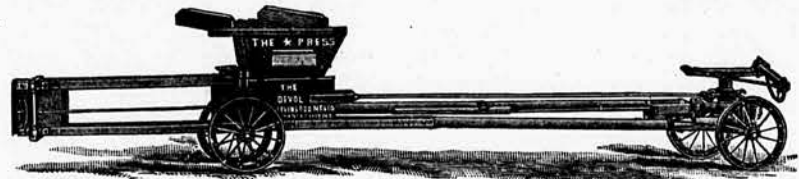
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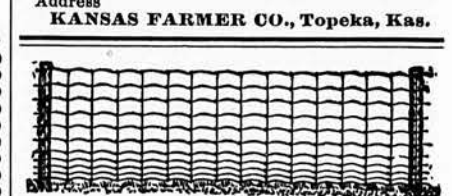
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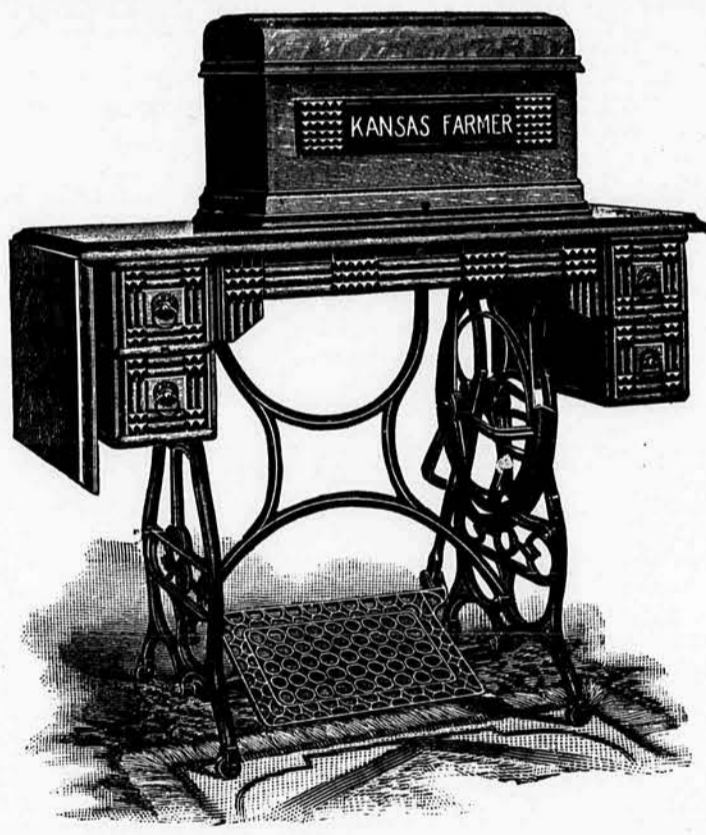
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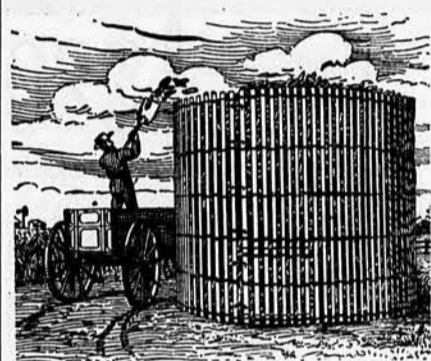
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