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PRESIDENT RIPLEY WRITES A SECOND LETTER TO THE PEOPLE OF KANSAS.

Industrial problems are engrossing much of public attention. Among these the railroad question takes a leading place. The frank and open discussion of this question by President Ripley of the Santa Fe has added not a little to the interest in this question. Mr. Ripley's second letter to the people of Kansas reads as follows:

"Since the publication of my first letter I have received a very large number of communications, of which about one-half are in approval, one-quarter in criticism, and the rest asking for information.

"Finding it out of the question to answer each letter, I have decided to answer all at once so far as is practicable.

"Those who take issue with first letter mainly dwell on these points:

- "1. Alleged over-capitalization.
- "2. The taxation of railway property.
- "3. The issue of free passes.
- "4. The alleged interference of the railroad in politics.

"As to the first: I stated that the Santa Fe was worth all it is capitalized for. I am asked if the stockholders who bought the stock ten years ago at, say \$13 a share, have not made money. Of course they have, but has that anything to do with the case? They had courage enough to buy an interest in a discredited concern, just emerging from bankruptcy—only a few had the courage to do it. The great bulk of our common stock was held by those who owned it when the bankruptcy occurred; who held it throughout the receivership and who paid an assessment of \$10 per share in cash in order to keep it. How about those people, most of whom paid par or more for the stock in the '80s, and who not only got no returns between 1889 and 1899, but paid an assessment besides?

"Among the letters received is one from which I quote as follows:

"On March 11, 1889, I bought Santa Fe stock, paying \$55 for each share. On July 11, 1895, I paid on each share of stock a cash assessment of \$10. Fifty-five dollars, with interest at 6 per cent compounded annually for seventeen years, amounts to \$147.95, and \$10 compounded at the same rate for eleven years amount to \$18.90. And there has been no time in the last seventeen years that I could not compound at that rate semi-annually instead of annually. My stock should to-day represent to me \$166.85 per share. I have received on each share dividends to the amount of \$21.50. Deducting this from the above amount would leave each share standing me at \$145.35. The stock is selling at 93, and I am a loser of \$52.35 on each share. And yet, according to the (Topeka) Capital, because stock sold at 13 each year ago, I am not a loser at all, but am a gainer by 300 per cent. No doubt but that most of the stockholders stand about in the same position I do."

"The above letter is from a citizen of Kansas whom I do not know and never heard of before, but he was fortunate in only having paid \$55 per share—many of the present stockholders paid \$120.

"I repeat that, whether we consider what the property has cost (including in the cost the interest on investment), or whether we consider its reproduction value, it is not over-capitalized.

"Second, taxation: The Santa Fe desires to pay its fair share of the taxes levied for the support of the State; it will not be heard to murmur so long as its property is assessed at the same proportion of its real value as is the property of other citizens; there is no reason why it should be favored in this respect on the one hand or oppressed on the other. (I may say that, in my opinion, a strict and honest application of this principle would considerably reduce the taxes we now pay.)

"Third, as to passes: It is almost universal custom in every part of the country to transport free of charge National, State and county officers; it was originally meant as a courtesy, and I have never felt that it gave the railroad any claim on the conscience of the official receiving it, nor have I known of any case where a legislator has voted or been expected to vote against his convictions because of holding a pass. If the people of Kansas desire that this courtesy shall cease to be extended to their officers, there will be no objection raised by this company. But the prohibition of passes to other than railway employees will not materially increase the passenger receipts.

"Fourth, the railroad in politics: We have the same interest in good government as has any other citizen and the same right to display that in-

terest. As the largest corporation in the State and the largest tax payer we have a vital interest in sane and conservative legislation—and when (as has too often been the case) there is danger that the State will be swept off its feet by appeal to passion and prejudice made by designing demagogues for their own personal ends, it becomes a duty to oppose those men, by fair and legal means—in such cases, and in such cases only, will the Santa Fe be found in politics. Individual employes are unrestricted; they may hold and express such views as they think proper, but their action is not to be taken as that of the company, nor is the latter responsible for their political opinions or utterances.

"I realize fully that such prosperity as the Santa Fe has enjoyed is due largely to the energy and thrift of the Kansas people, but they should also recognize that we have done our share. Each is necessary to the welfare of the other; and if, in the last decade, there has been any good work done in the State, or for the State, in which the Santa Fe has failed to do its part, and more than its part, I am much mistaken."

The four points with respect to which the controversy has been waged, viz, "Railroad Capitalization," "Taxation," "Passes," and "The Railroad in Politics," are doubtless important. It is strange, however, that those who have joined issue with Mr. Ripley should have failed to notice one other aspect of the railroad problem, namely, "Discrimination." This, however, while the respect in which producers of Kansas have most need of relief, is, strangely enough, the respect in which the railroads also need protection.

It has been shown that the great Standard Oil monopoly was built up on unfair advantages in transportation rates. So potent has been and is the power of this company that it has been until very recently and may be even now able to force concessions from the strongest and most unwilling transportation companies. Another instance in which the people and the railroads of Kansas are quite as much interested is that of Kansas City in forcing concessions in freight rates that must often have left little or no profit on the traffic, rates which could not be obtained for any city in Kansas and for not more than two others in Missouri. Another case of inequity is that which forces the shipper of grain from Kansas points to the Gulf to pay the sum of the rates from the shipping point to Kansas City and from Kansas City to the Gulf. Doubtless, the Santa Fe would be glad to haul Central Kansas wheat directly to Galveston at a fair rate; but it dare not put in such a rate because of the vengeance that would be visited from Kansas City and from other roads which desire to share the Kansas City traffic for Eastern points and are therefore interested in keeping the Gulf rates at figures which drive the grain to Kansas City where they can get a chance to divide it.

For the remedying of these evils of discrimination both railroads and people need the aid of the strong arm of the law well administered. For this purpose the amended Inter-state commerce law is expected to be efficient. That its authority will be used is fully expected by all who remember that Theodore Roosevelt still occupies the Presidential chair. The prescribed penalties for violation of the law of the "square deal" should be and doubtless will be so rigorously enforced as to protect those who have heretofore suffered injustice and to punish all who shall in any wise violate the letter or the spirit of the new statute.

When unfairness shall have ceased through the aid of the law, it is probable that the railroad question will have lost most of its importance in the estimation of the people. So, too, when railroads shall by the aid of the law be able to refuse to be bled in favor of persons, corporations, or places, the

question of earning satisfactory returns on just valuation will have dwindled in importance in the estimation of stockholders and directors.

President Ripley's entrance into the arena of public discussion of questions affecting the interests of his road and of the people with whom it does business is timely. Most misunderstandings arise from lack of attention to the views of those with whom the misunderstandings occur. The people of Kansas will weigh well every fair presentation of these important matters.

RHUBARB WINE.

EDITOR KANSAS FARMER:—Will you please publish in your paper a good recipe for making wine out of wine-plant (rhubarb).

We do not like it, but we must take a little for our "stomach's sake" you know. J. H. GLENN. McPherson County.

Our correspondent must be aware of the fact that making wine for sale or to be "given away," as an evasion of sale, is contrary to the constitution and laws of Kansas. There is grave difference of opinion as to the utility of using any kind of alcoholic beverages for the "stomach's sake." The number of those who doubt the wisdom of Saint Paul's advice in the matter is constantly on the increase. A good friend of THE KANSAS FARMER, who came out of the army at the close of the war of the rebellion with some of those wasting alimentary disorders which swept thousands into their graves, was in a hospital at Leavenworth. Two companions were likewise afflicted. The physicians directed that brandy be administered. The veteran refused to take it. The physicians said, "You will have to cross the dark river if you don't." The veteran replied, "I'll get there sober." The two comrades took the brandy. Our friend lived to attend the funerals of both and is spending the evening of his last days confident that liquor did not save him. But there are some people who desire to know how to make wine. Here are directions given by Prof. F. A. Waugh, of the Massachusetts Agricultural College:

"Take the rhubarb stalks and grind them up. Just here comes my greatest difficulty. I do not have a suitable grinder. There are small machines made, working somewhat on the principle of a cider-mill, and intended for just this purpose, but I do not have one. If one is going to make much rhubarb wine, he certainly ought to have such a machine. However, he may use any meat or sausage grinder, or might even chop the stalks up with a chopping-knife. The stalks are best taken young and tender in the spring. After the stalks are ground, the pulp is placed in a large woolen bag to drain. The juice is drained off and not pressed. It is strictly contrary to rule to squeeze a bag of pulp in order to get the juice out. Such squeezing of the pulp drives out a large amount of solid matter which makes the wine thick and turbid. The juice may be allowed to drain over night. It is then mixed with sugar. The amount of sugar is very precisely stated by some persons, but this is in fact a minor point. I usually use one pound of sugar to a quart of juice, but twice as much can be used if desired. As a general rule, it will be found that more alcohol is formed in wine which has a large amount of sugar than in that which has less. The sugar is mixed with the juice without heating and is set away in a moderately cool place. It is best to have it in stone jars or jugs. These should be covered enough to keep out gnats and such-like vermin, but should not be tightly

corked. Fermentation now takes place and lasts for several days or even weeks. It is best to leave the wine standing in this way for about two or three months. It may then be skimmed if any refuse is found on top or the wine may be drawn off with a syphon. Care should be taken not to disturb the pus in the bottom of the vessel. The clear wine is put into bottles and corked tightly. There should not be any further consideration fermentation, and it should therefore not be necessary to tie in the corks. This wine is ready for use almost any time after bottling, but it improves with age.

"Other kinds of domestic fruit wines can be made in almost precisely the same manner."

A BIG KANSAS RANCH TO BE DIVIDED INTO FARMS.

The Clairmont ranch, near Englewood, in Clark County, Kansas, consisting of 21,000 acres of fine land, has been sold by Col. C. D. Perry to the Ora J. Gould Company, Burlington, Iowa, and will be divided into farms of varying sizes. The town of Englewood will be moved to a 240-acre site on the ranch which has been deeded to the new town company. Two banks will serve the new town and surrounding country. The Gould company will retain about 4,000 acres of the ranch, and will further improve and cultivate it.

The writer visited this ranch several years ago and was greatly pleased with the beauty of the situation and the fertility of the land. Then irrigation was thought necessary to successful farming. More recently Colonel Perry has found that the modern methods of improved dry farming are preferable for all crops except alfalfa for hay. Alfalfa-seed is best produced by dry farming. The alfalfa-seed crop of the ranch netted \$54 per acre last year.

The new owners expect to have a grand opening and barbecue which will occupy the week October 2-6, inclusive. This will be a great occasion at Englewood. Among other interesting features will be the delivery of 100 loads of broom-corn on each day of the opening.

The division of such great ranches into moderate-sized farms, each of which becomes the home of a prosperous American family, is a move in the right direction.

LISTING WHEAT.

EDITOR KANSAS FARMER:—Having seen a clipping from your paper translated and printed in the Bohemian Agricultural Journal, called "Hospodar" published in Omaha, Nebr., about listing ground for wheat, I take this way of asking you for a sample copy of your paper, and you would oblige me very much if you could send me the one copy in which the article about listing for wheat appears. It was written by one W. B. Eames from Ottawa County, but the postoffice is not given. In this county (Grant) and especially here around Lamont, the plow is a thing of the past. Nearly every farmer uses the lister until very late in the season when the ground becomes very hard and cloddy. The lister has quite a few advantages over the plow, some of which I will mention here:

- 1. The lister plows more than twice as much as can be plowed with a plow in the same time, thus enabling one to plow more land after a rain before it dries out. It also leaves the soil in good condition when plowed moist.
- 2. The ground being in form of ridges and furrows, more of its surface is exposed to action of weather—sun, air,

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Agriculture

Seed Selection and Soil Culture.

BY PROF. A. M. TENEYCK.

[Abstract of lecture on Santa Fe "Wheat" Train, under auspices of Santa Fe System and Kansas State Agricultural College and Experiment Station.]

The average yield of wheat in Kansas for the last 10 years, 1896-1905, was only 13.1 bushels per acre. The average yield for all of the States during the same interval was 13.4 bushels per acre. Kansas, although having a soil and climate naturally adapted for growing wheat, produces less wheat per acre than the average of all the other States, several of which are much less adapted for growing wheat than Kansas.

The large production of wheat in this State is due to the number of acres grown, rather than to good farming and large fields. The possible wheat-crop of Kansas is much greater than the actual crop.

This season, 1906, a measured acre of wheat grown by the agronomy department of the Kansas State Agricultural College produced an actual yield of 3,516 pounds of grain, or 58.6 bushels. Twelve acres in the same field yielded on the average over 50 bushels of wheat per acre.

In 1905 some of the best-producing plots of wheat on the Agricultural College farm yielded at the rate of nearly 50 bushels of grain per acre, and some farmers in Central and Southwestern Kansas reported nearly as great yields from large fields, and yet the average yield of winter wheat in the State in 1905, as given by Sec. F. D. Coburn's report, was only 13 bushels per acre.

There is great opportunity to increase the average yield of wheat in this State. It may not be possible to produce average crops of 50, 40, or even 30 bushels per acre, but by growing better-producing varieties of well-bred wheat, maintaining the fertility of the soil, and practicing reasonably good culture, the average wheat yield of Kansas for the next 10 years may be made to reach 20 bushels per acre, or 50 per cent greater production than during the preceding 10 years.

The wheat-crop may be injured by insect pests, by plant diseases, and by unfavorable weather conditions. The farmer has no control or only partial control over these agencies. The most important factors in wheat-production over which the farmer has control are good seed, a proper seed-bed, and fertile soil.

THE SEED.

Good seed means more than seed that will sprout and grow: it means well-bred wheat adapted to the climatic and soil conditions of the locality in which it is grown. Crops must be grown and bred in the regions where they are intended to be grown. Drouth-resistant crops can not be produced or bred in humid regions. Very little has been done in the way of breeding or adapting crops to Western farming conditions.

Nearly all of the grain-crops which are grown successfully in the West today, or at least the best-producing varieties of these crops, have been introduced from other lands, which have a climate similar to that of the Western Plains. These crops were either native to the country from which they came or they are varieties which have been developed in the older civilizations of the world, where man, by persistently planting seed year after year and for centuries, has at last, through natural selection, produced varieties better adapted to resist the adverse conditions than the original variety from which the strain sprung.

We find a demonstration of this principle in the fact that wheat and other grains brought from the steppes of Russia and Turkey are well adapted for growing in the Western Plains region of the United States, which has a climate and soil very similar to that of the countries named. The Turkey and Russian varieties of wheat, because of their greater hardiness and productiveness, have largely replaced all other varieties of winter wheat grown in the West. The durum or macaroni wheat, brought from these same countries, has also proven to be better adapted for growing in the semi-arid regions of the West than the common varieties of spring wheat.

That there is a great difference in varieties of wheat in productiveness and quality of grain produced is shown by the trials at the several experiment stations. Among 18 varieties of winter

wheat grown at the State Experiment Station at Manhattan in 1904, the yields varied from 19.5 to 35 bushels per acre. In 1905, 30 varieties were planted, the yields ranging from 30 to 47.5 bushels per acre. Even larger differences in yield between what were considered good varieties of wheat have been observed at the Ft. Hays Branch Station and at the United States-Kansas Cooperative Station at McPherson.

A large number of varieties of wheat have been tested at these several stations during the past three years. The varieties which have given the largest average yields at Manhattan are: the Kharkof, Malakof, Red Turkey, Bearded Fife, Defiance, Ghirka, Zimmerman, and Fultz; at the Ft. Hays Station: Turkey, Imported Turkey, Kharkof, Weisenberg, Theiss, Crimean, Banat, and Ulta; and at the McPherson Station: Turkey, Kharkof, Crimean, Theiss, Weisenburg, Banat, and Ghirka.

There are seven or eight different species of wheat. Only one of these species succeeds well in all parts of Kansas; the botanical name of this species is *Triticum vulgare*. It includes practically all the winter wheat grown in this State. The species *Triticum durum*, commonly called macaroni wheat, also succeeds well as a spring wheat in the drier portions of the State.

There are several divisions of the species *T. vulgare*, as the hard wheat and the soft wheat, and either of these may be divided into several groups, as the hard red and hard white wheat, and the soft red and soft white wheat. Furthermore, there are bearded and beardless types of each of these groups, and while some varieties have a smooth chaff others have a rough or velvety chaff.

It is important to observe that in the varieties named above the Ghirka is a hard red wheat with smooth chaff, the Zimmerman and Fultz are varieties of soft red wheat having smooth chaff, while all of the other varieties are hard red bearded wheat.

The hard red winter wheat and the soft red winter wheat are the two types best adapted for growing in this State, and these types have their special adaptation to certain sections of the State, the soft red wheat being superior to the hard red wheat only in the Eastern and Southeastern counties, while throughout the great central wheat belt of Kansas and in the North and West the hard red wheat has been found to be the most hardy and productive.

In order that the testing of varieties of wheat by experiment stations may become of permanent value to farmers, seed selection and propagation must go on with variety testing, and this work is being undertaken at the several Kansas Stations. Some 600 bushels of seed-wheat of the best-producing varieties were sold and distributed among the farmers of the State by these Stations in the fall of 1905, and two or three times this amount of winter wheat and other winter grains has been produced at the several stations this season and is now being distributed for fall seeding.

There is no question but that some varieties of wheat are superior to others in hardiness, quality, and productiveness, and that certain varieties are better adapted than others for growing in certain sections of the State. The tests at the experiment stations prove this, and a farmer should be well repaid for securing and planting a little pure seed-wheat of one or more of the best-producing varieties, as shown by the tests at the experiment stations.

Perhaps the breeding and improvement of wheat and the establishment of new varieties may best be left to the experiment stations or to specialists in plant-breeding, but every farmer may at least keep his seed-wheat from deteriorating, and even improve the wheat by a little extra care and labor.

To produce seed-wheat, the grain should be well graded and only the heaviest, plumpest seed sown, in a separate field, at the most favorable season, and given the best possible culture. Care should be taken to grow the seed-wheat on a field free from volunteer wheat. Much of the wheat of Kansas, because it is so mixed, grades No. 3 or 4, while if the wheat were pure in type it might grade No. 1 or 2.

Harvest the wheat which is to be saved for seed when it is just fully mature. Immature seed is apt to be shrunken and deficient in vitality. On the other hand, as soon as the wheat is over-ripe it begins to deteriorate in quality and may lose some of its vitality. Do not allow the seed-wheat to be damaged by rain, but thrash it at once or

put it in the stack or barn for safe keeping. Take great care in thrashing the seed-wheat not to mix it with other grain or other varieties of wheat; keep it in a bin by itself. Clean the grain well and sow the best grade again to secure seed for another year's planting.

If such a method of growing and saving seed were practiced by a majority of the wheat-farmers of this State, the average yield of wheat should be increased several bushels per acre and the quality of the grain would be much improved.

Many farmers have made it a practice to change seed of wheat and other crops occasionally, claiming that when they grow the same seed for a long time that it runs out and becomes less hardy and productive than it was when first introduced. If wheat is not adapted for growing in a certain region, doubtless there is an advantage in securing new seed occasionally from the sources where the crop grows to perfection, but if a variety of wheat is adapted to a certain climate and soil, or has become adapted by a long period of planting and selection, nothing would be gained and much might be lost by introducing new seed of the same variety from the original source. If a better variety or better strain of the same variety is obtained, there might be some advantage in changing seed.

The hard red winter wheat is better adapted for growing in Western and Northern Kansas than in the Eastern and Southern portions of the State, and some advantage may be gained in the sections last named by introducing new seed-wheat occasionally from the West and North, since in these sections of the State a more perfect type and better quality of hard red winter wheat may be grown; but it is not advisable to introduce seed-wheat from a foreign country or State which has a climate or soil very different from the climate or soil of the locality where the wheat will be grown.

THE SEED-BED.

With viable seed planted in the soil, a few simple factors largely determine the strength of germination, the stand and yield of the crop, and the quality of the grain produced. These factors are moisture, heat, and air.

Every farmer knows that a dry seed will not germinate. No matter how favorable other conditions may be, before the processes are begun which start or renew life and produce growth the seed must absorb moisture.

Every seed requires a favorable degree of heat before it will germinate, and the presence of air is necessary in order to supply the "life-giving" oxygen. A seed placed in a vacuum with the proper degree of heat and moisture will not germinate, and the same results often occur when seeds are planted in a very wet or water-logged soil, because the air is largely excluded from a soil in such condition.

All fertile soils contain an abundant supply of plant-food elements, but the compounds in which these elements exist are usually in an insoluble condition in the soil, a provision of Nature which prevents the wasting of plant-food and insures the permanency of soil fertility and the continued productiveness of the soil for ages, if man does his part toward maintaining its tilth and fertility.

The plant-food of the soil is gradually made available by the action of weathering agents, which cause the rocks to break down and disintegrate, and by the action of the soil bacteria, which assist in the processes of decay. Thus chemical changes take place by which the insoluble plant-food is gradually changed into a soluble condition, in which the elements become available as nutrients to the plants when absorbed by the plant-roots.

This digestion of the plant-food in the soil, by which it is made available to plants, at least so far as bacteria are concerned, is favored by the same conditions which are essential for the germination of seeds and the growth of plants, namely, the soil must be warm, moist, and well aerated, not only in order to germinate the seed and supply water and air to the growing plant, but also in order that productive soils may supply the necessary amounts of plant-food elements other than water, which will give a balanced food-ration to the plant, resulting in a healthy, vigorous growth.

In order to secure the ideal conditions for seed-germination and plant-growth, a seed-bed for wheat should not be too deep and mellow; rather the soil should be mellow but yet finely pulverized only about as deep as the seed is planted. Below the depth at which the seed is planted, the soil should be firm, making a good connec-

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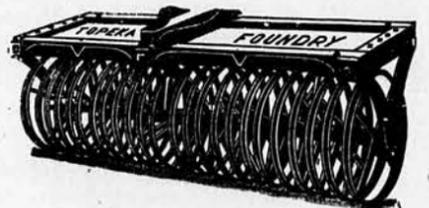
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tion with the subsoil, so that the soil water stored in the subsoil may be drawn up into the surface soil.

The firm soil below the seed, well connected with the subsoil, supplies the moisture to the seed, while the mellow soil above the seed allows sufficient circulation of air to supply oxygen and favors the warming of the soil, gathering the heat of the sunshine during the day and acting as a blanket to conserve the soil heat, maintaining a more uniform temperature of the soil during the night.

The mellow soil above the seed conserves the soil moisture, acting as a mulch to keep the water from reaching the surface where it would be rapidly lost by evaporation, and the same condition favors the growth of the young shoot upward into the air and sunshine, where, in the presence of oxygen, light, and a favorable degree of heat, the green leaves quickly begin the work of assimilation, and the soluble plant-food elements absorbed by the roots are rapidly transferred into protoplasm, starch, and the various tissues which build up plant structure, and the young plant grows and is soon established on its own roots.

With a deep, loose seed-bed the conditions are less favorable for seed-germination than in the "ideal" seed-bed described. The mellow soil may be warm enough and well aerated, perhaps too well aerated, causing the soil to dry out, but with the deep, mellow seed-bed the moisture in the subsoil is not available for the use of the germinating seed, because the capillary rise of water is checked at the bottom of the mellow soil.

Such a seed-bed is almost wholly dependent upon rains for sufficient moisture to germinate the seed and start the young plants, and even if such favorable weather conditions prevail at seeding time, so that the seed may germinate and the crop start, yet at almost any time during the growing season if drouth prevail, the crop growing in the deep, loose seed-bed is more apt to be injured because of the rapid drying out of the surface soil. In such a seed-bed the crop is not only apt to "burn out" in summer, but it is also more apt to "freeze out" in winter than a crop grown in the "ideal" seed-bed described above.

CONSERVING SOIL MOISTURE.

So far as cultivation is concerned there are three principal steps in the conservation of soil moisture:

1. The soil must be loosened to a considerable depth in order to prepare a reservoir to receive the rain and carry the water downward into the soil. This may be accomplished by deep plowing or by disking unplowed lands.

2. The water which is carried down into the subsoil must be brought back again into the surface soil where the seed is germinating and the young roots are growing, and to accomplish this a good connection must be made between the furrow slice and the subsoil, and this is the purpose of the use of the subsurface packer immediately after plowing.

3. Finally, in order that the water which is drawn up again towards the surface may not reach the air and be wasted by evaporation, the upper two or three inches of the soil must be kept mellow in the form of a soil mulch, and this is accomplished in the growing of crops by frequent cultivation, which is not so practicable with wheat as with corn and similar crops. However, the harrow may often be successfully used in preserving the soil mulch in the wheat-field.

PREPARING THE SEED-BED.

When wheat follows wheat or other small grain, a good seed-bed may be prepared by plowing early and cultivating at intervals until seeding time. The natural settling of the soil with the surface cultivation produces in the average season nearly ideal seed-bed conditions.

When it is not possible to plow early, an excellent plan is to disk the ground immediately after harvest, continuing the use of the disk or common harrow at intervals, if the soil becomes firm or weedy, until the land is plowed or seeded again to wheat.

When the plowing precedes the sowing by a short interval, it is well to follow the plow with the subsurface packer and harrow in order to pulverize and pack the soil at the bottom of the furrow slice and leave a mellow, even surface.

This packing and pulverizing of the furrow slice is especially necessary when the soil is plowed dry or when a large amount of stubble, trash, or manure is plowed under, because if the furrow slice is left loose and unpulverized, the capillary connection of the soil with the subsoil is largely

broken off, and the soil water will not rise into the surface soil to supply the germinating seed and feed the roots of the young plants; hence the seed fails to germinate well, the stand is often poor, and in such a seed-bed the crop "freezes out" during the winter or "burns out" during drouth the succeeding summer.

If corn or other cultivated crops are removed from the land early, provided such land has been given good cultivation and is free from weeds, disking and harrowing will put such soil into good condition for sowing wheat.

No crop that grows late into the fall, leaving the ground dry at the surface, is a suitable crop to follow with wheat. Late corn, Kafir-corn, and sorghum often leave the soil too dry and hard or are removed too late in the season to sow wheat.

It is a common practice to sow wheat in corn with the one-horse drill, but the objections to this method are the same as already urged, for if the corn is late in maturing the ground is left dry and exhausted in available plant food, often resulting in a poor start and thin stand of wheat. Better follow corn with some spring grain-crop which may be harvested early enough so as to prepare a seed-bed by plowing early and cultivating according to the methods outlined above.

The general experience of farmers and the results of experiments are much in favor of early plowing for wheat. At the Ft. Hays Branch Experiment Station, trials carried on for the two seasons, 1904 and 1905, gave an average yield of 11.6 bushels per acre for early plowing, August 1 to August 15; 5.4 bushels per acre for medium plowing, September 1 to September 30; and only 2.1 bushels per acre for late plowing and late sowing, October 15 to October 30.

The experiments at the above-named station also greatly favor plowing for wheat rather than disking and sowing in the stubble. As an average for three seasons, 1903, 1904, and 1905, land which was plowed, packed, and harrowed gave an average yield of 11.3 bushels per acre, while disked stubble land yield 6.7 bushels per acre, and wheat sown in the stubble without disking yielded 6.4 bushels per acre. It pays to prepare a good seed-bed.

MAINTAINING SOIL FERTILITY.

It has been the history of wheat-farming in this country that all wheat lands have finally ceased to produce profitable crops, and the wheat-growing areas has moved ever westward. Now, however, practically all land available for the growing of wheat has been taken, and if wheat-growing in this country is to continue to be profitable, there must be a change in the methods of farming.

Wheat can not be grown continuously on the same land without exhausting the fertility of the soil for the production of this crop. Much of the land of Kansas has already been cropped continuously with wheat too long. Such land is "wheat sick." It is only partially exhausted in fertility, but it needs a change of crops.

Land which is long cropped with wheat becomes deficient in humus and nitrogen, which must be restored by manuring or by the growing of grasses and legume-crops. By a proper rotation of crops, in which the humus and nitrogen taken from the soil by the grain-crops is restored again in the growing of annual legumes, grasses, alfalfa, and clover, with a return to the land of the manure made by feeding to the stock on the farm the coarse fodder and a part of the grain produced, it is possible to maintain the fertility of our soil and continue to produce large crops of wheat.

A practical and scientific rotation of crops should include the following:

1. Grasses and perennial legumes;
2. Pasture, manured a year before breaking.
3. Cultivated crops.
4. Grain-crops, followed by annual legumes for green manuring.

The following are some rotation plans which may be adapted to the wheat-growing sections of the State:

ORDER OF CROPS ON EACH FIELD.

Plan No. 1.

- First year—Grass.
- Second year—Pasture (manured).
- Third year—Wheat.
- Fourth year—Wheat.
- Fifth year—Legumes and forage.
- Sixth year—Wheat.
- Seventh year—Wheat, followed by legumes as green manure.
- Eighth year—Spring grains (seed to grass).

Plan No. 2.

- First year—Grass.
- Second year—Grass.
- Third year—Pasture (manured).
- Fourth year—Pasture (manured).
- Fifth year—Wheat.
- Sixth year—Wheat.
- Seventh year—Wheat.
- Eighth year—Wheat.



Harvest 100 Per Cent of Your Corn Crop

Don't go over your field and snap or husk the ears and leave the stalks standing because you will waste 40 per cent of your crop that way.

Get a good reliable corn harvester and binder or harvester and shocker and go over the field just at the right time, cutting the whole crop and thereby securing the full 100 per cent of its feeding value.

That's the only way you can get all the profits you deserve because at the time of maturity the feeding value of the crop is almost equally divided between the ears and the fodder—60 per cent is in the ears, and 40 per cent is in the stalks, leaves and husks.

Government Experiment Stations have been pointing this out to farmers time and time again in their bulletins, and other high authorities have been preaching and teaching it for years. As a result, a lot of farmers have doubled their profit on corn. How about you?

It has been proved by practical experience and chemical analysis that fodder, when cut at the right time, properly cured and then run through the shredder, has a feeding value about equal to good timothy hay.

High authorities place the value of such stover at \$8.00 a ton. An average stand will yield at least two tons of stover, which will mean \$16.00 an acre extra to you over the old practice of husking or snapping in the field.

Understand, you don't have to find a market for your shredded fodder to make the extra profit—you can sell

your hay and feed the stover. The hay crop for 1906 is very light, and the demand for roughage is going to be greater than the supply in many localities—therefore you can readily sell all of your hay at a good price, and feed your stock shredded fodder which is as good as hay.

Can you afford to lose that \$16.00 worth of feed to every acre and gather only 60 per cent of your crop when hundreds of other corn growers are getting it all—cutting a 100 per cent crop, by using a binder or shocker?

Don't expect to get this stover value unless you use the binder or the shocker at the right time—when the ears begin to glaze. The stalks that are left standing in the field after the corn has reached maturity decrease rapidly in feeding value, and the wind and frost and sun soon reduce them to little more than woody fibre.

Take a lesson from the dairyman who makes ensilage. He considers the binder a necessity. You will, too, if you apply the same business principles to your corn crop as you do to your other operations.

When the stalks are once cut and cured, they lose none of their palatable and nutritious food elements. Then, sometime in the fall or winter, whenever most convenient, you can run the crop through the husker and shredder.

Start to investigate now. You haven't much more time in which to get ready. Don't put it off. Get that extra 40 per cent this year.

YOU HAVE A CHOICE OF

Milwaukee, Osborne, McCormick, Deering and Champion Corn Binders; McCormick, Plano and Deering Huskers and Shredders.

In each of these machines you have all the advantages made possible by the unequalled manufacturing facilities of the International Harvester Company. The International Harvester Company owns its own timber lands and saw mills, its own iron and coal mines, its own coke plants and rolling mills, from which it produces a large percentage of all raw materials used, selecting in every instance only the best material and working it out in the best way in the above great manufacturing plants. These are advantages which no buyer can afford to overlook.

The International lines are represented by different dealers in your town. Call on them for catalogues and investigate these machines.

International Harvester Company of America, Chicago, Ill. (INCORPORATED)

Did Your Wheat Crop Average 45 Bushels Per Acre? If Not We Can Tell You Why

Pure, graded seed is the first essential for a good crop. It makes no difference what the weather or seed bed may be, without good seed you will not get a good crop. You have no control over the elements but with a moderately fertile soil, by preparing your seed bed and sowing clean, graded, perfect seed, unless the season be unfavorable you can be assured of a 45-bushel crop.

DO IT NOW! Decide that this season you will do everything in your power to insure a perfect crop. Prepare your seed bed with care but above all else sow clean, graded seed.

A "Perfection" Cleaner, Separator and Grader will enable you to properly prepare your seed grain. It will remove all Rye, Oats, Cheat, and other noxious seeds from your wheat and will more than pay for itself on even the smallest farm. It separates, cleans and makes three grades all in one operation and will handle any kind of seed or grain from Corn to Red Top.

Decide now and write us to-day so that we can show you why a "Perfection" has eclipsed the fanning mill and why it is the best.



What F. D. Coburn, Secretary of the Kansas State Board of Agriculture said of the "Perfection" in sworn testimony given at a recent court proceedings: "It was nearer perfection than anything of the kind I had ever seen and far more so than I had supposed possible. I couldn't have believed it without seeing it."

Tell us what kind of grain you raise and we will send you cleaned samples showing the way a PERFECTION will clean and grade it.

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Plan No. 3.

First year—Legumes and forage.
 Second year—Wheat.
 Third year—Wheat followed by legumes as green manure.
 Fourth year—Spring grains (manured).
 Fifth year—Legumes and forage.
 Sixth year—Wheat.
 Seventh year—Wheat, followed by legumes as green manure.
 Eighth year—Spring grains.

Plan No. 4.

First year—Alfalfa and grass.
 Second year—Alfalfa and grass.
 Third year—Pasture (manured).
 Fourth year—Pasture (manured).
 Fifth year—Corn.
 Sixth year—Spring grains.
 Seventh year—Wheat.
 Eighth year—Wheat (seed to alfalfa).

If Plan No. 1 does not leave the land long enough in grass, the farm may be divided into two parts and either Plan No. 2 or Plan No. 3 may be used on each division of the farm for eight years, when the systems may be interchanged, the first taking the place of the second and the second of the first.

Observe that in the above systems of rotations it has been the plan to introduce grass and perennial legumes or annual legumes, cultivated crops, and small grains as the essential crops in rotation. When the grasses and perennial legumes have been left out, the annual legumes and green-manuring crops have been introduced to take their place as far as possible.

All of the plans allow the growing of money crops (namely, crops which can be turned readily into cash) upon at least one-half of the farm each year. The other half of the farm is kept in crops which have a renovating effect upon the land, and which can be turned into money indirectly, by feeding them to stock.

The farmer who carries out such a system of rotation, growing wheat on only half of his fields each season, will produce more wheat on his farm in the next twenty years than he would by continuously growing wheat, as is the present practice, and the crops introduced in rotation would simply give an additional profit equal to the value of the crops, while at the end of the twenty years, provided stock are kept on the farm to consume the forage produced and some of the grain, and the manure is returned to the soil, the land will be as fertile and even more capable of producing large crops than it may be at present.

Method of Increasing Wheat Yield—Varieties for Western Kansas.

I wish to ascertain if there are any methods by which we can increase the yield of wheat in this section of the State, as the profit in wheat-raising consists in having a good yield. Would fertilizers pay?

I notice a kind of wheat advertised in the KANSAS FARMER by Mr. Kellam, of Topeka. Do you know anything about this variety? What about subsoiling for wheat, especially on sod? How would the Mediterranean of Fultz do here?

N. H. MENDENHALL.

Kiowa County.

I have mailed to you abstract of wheat lecture delivered on the Santa Fe wheat train run in Southwestern Kansas August 13 to 18.

In my judgment it will not pay, as a rule, to use chemical fertilizers in the growing of wheat in Kiowa County. Better rotate crops, use the barnyard manure, and practice the best methods of tillage in order to develop the fertility of the soil. These points are discussed in the lecture on wheat referred to above. The Kharkof wheat, the variety advertised by Mr. Kellam in the KANSAS FARMER, has proved to be one of the best-producing varieties of hard red winter wheat. I mail you copy of a circular giving information regarding seed-wheat of the best-producing varieties as shown by the tests at this station.

I do not think it necessary or advisable to subsoil for wheat on sod land. Such soil is sufficiently porous and open to give good environment for the roots. I question also whether subsoiling can be made to pay on older land. Better practice rotation of crops, growing such crops as alfalfa and clover. It would be a good plan, however on most of the farm land of Kansas, if the farmers would plow a little deeper. Instead of plowing three or four inches deep, plow six, seven, or eight inches deep, and then take care to see that the soil is well settled and in good seed-bed condition before sowing the wheat.

The Fultz or Mediterranean wheat would not succeed so well in Kiowa County as the hard red Russian or the Red Turkey wheat. Such varieties as Kharkof, Malakoff, and Red Turkey would succeed well in Kiowa County. Your section of the country is not well adapted for growing soft wheat, but

the hard red winter wheat grows there to perfection.

I have sent you circulars Nos. 2, 3, and 5, discussing rotation of crops and giving information regarding the use of chemical fertilizers and manure in the fertilizing of wheat and other crops.

A. M. TENEYCK.

Questions Concerning Nitro Culture.

What is your opinion of nitro-culture? Can it be used except with the seed at time of planting? I have quite a lot of alfalfa on upland that is not very good and I have not the manure to spread on it. Have been thinking of turning it into pasture.

J. E. BROWN.

Marion County.

The nitro-culture preparation is usually used only to infect the seed before sowing. However, it is possible to mix the culture solution with a quantity of earth, and when it has become fully dry, the fine earth may be spread thinly over the alfalfa-field and mixed with the soil by disking and harrowing. As a rule, I prefer to use infected soil taken from an old alfalfa-field, spreading this thinly over the field which requires inoculation, preferably before seeding the alfalfa. However, the work may be done after the alfalfa has started, in the manner described above. I enclose copy of article giving further information regarding the use of nitro-culture.

An application of barnyard manure, as you suggest, would greatly improve the growth of the alfalfa on the land which you describe. Disking and harrowing early in the spring might also give more favorable conditions for growth and thus cause the production of larger crops of alfalfa from this land. You can readily determine whether it is necessary to inoculate the field with the bacteria which grow on the roots of the alfalfa-plants. Take up some of the plants with a spade and shake out the loose earth or carefully wash away the soil. If the bacteria are present, small tubercles or nodules will be observed on the finer roots which lie near the surface of the ground. If these are present only in small numbers, then the disking and harrowing would be beneficial in spreading the bacteria more rapidly through the soil, thus infecting the whole field.

You might by seeding grass in this field, say a combination of Bromus inermis and English blue-grass, at the rate of 8 or 10 pounds of each per acre, secure a good stand of grass, which with the alfalfa would make good pasture. If the fall is favorable, sow about September 1, after disking, and cover the seed with the harrow; otherwise, disk early in the spring and sow the grass-seed. The alfalfa alone will furnish pasture, but cattle are likely to take injury from feeding on alfalfa alone, and then if closely pastured, will soon become thin and unproductive.

A. M. TENEYCK.

Grass for Low Bottom-Land.

I wish to sow to grass five acres of low, yet not wet, bottom-land. It is now in millet. Will cut it in a day or so. How had I better prepare the land, by plowing or disking? What kind of grass is best for a pasture for a cow and a horse and some hogs? I already have five acres in alfalfa for hay, but want five acres only for pasture. Please be so kind as to tell me what kind of grass to sow and how and when to sow it. Any information will be gladly received.

E. M. PUNTEY.

Marshall County.

I would prefer to disk and harrow the land in question in preparing a seed-bed for the fall seeding of grasses, rather than to plow. If you plow at this late date, the soil will remain too loose and mellow to make a good seed-bed for the sowing of grasses. By following the plow with a sub-surface packer and by frequent use of the disk and harrow, provided the weather conditions do not remain too dry, doubtless you could prepare a very good seed-bed by plowing. However, if you succeed in getting the millet off without reseeded the ground, and if you can disk and put the ground in condition before the weeds start too much, then disking and harrowing will be preferable to plowing.

A good combination of grasses for pasture in your part of the State is Bromus inermis and English blue-grass with a little clover or alfalfa. Sow ten pounds each of the grasses with three or four pounds of clover and four or five pounds of alfalfa per acre. Although cattle may not safely be pastured upon alfalfa alone, when alfalfa is sown with the grasses named, there is little danger of injury to cattle, and such a combination will make an ex-

cellent pasture for hogs. If you are afraid to use the alfalfa, however, clover will succeed fairly well in your section of the State, although it is not so permanent as alfalfa and needs to be reseeded occasionally in order that the clover in the pasture may not entirely run out.

For permanent pasture there is nothing better than Kentucky blue-grass and white clover, although the combination of grasses named above will produce more pasture for the first four or five years than the Kentucky blue-grass and white clover, and, as a rule, I recommend not to keep the land continually in grass, but to rotate the pasture the same as other crops. If you prefer, however, to keep this land continually in pasture, I would advise that you include with the grasses named above a little Kentucky blue-grass and white clover. Although the blue-grass and white clover may not show up much at first, yet these plants will gradually spread and perhaps run out the other grasses so as to make the pasture largely blue-grass and clover in the course of several years.

A. M. TENEYCK.

Barley Questions.

Have you any winter barley for sale? How does it yield? What is your price? When should it be sowed? How is it for feed?

GEO. P. BABCOCK.

McPherson County.

We have left for sale for seed about 150 bushels of the Tennessee winter barley. We have already sold over 200 bushels. Our price is \$1.00 per bushel, f. o. b. Manhattan with an extra charge of 15c for each two-bushel sack.

During the last three years the Tennessee winter barley has yielded, on the average at this station, nearly twice as much grain per acre as the best-producing varieties of spring barley. Last season our seed-field, containing about three acres, yielded at the rate of 65 bushels to the acre. This year the crop was not quite so good, but the average yield per acre from a four-acre field was about 60 bushels. Another field, poor in fertility, yielded only about 25 bushels per acre. To secure large yields, it is necessary to grow winter barley on fertile land.

Winter barley is not so hardy nor so sure a crop as winter wheat. However, our strain of seed, having been grown at this station for three seasons in succession, is probably somewhat hardier than seed-barley imported from the South.

In an experiment carried on at this station last season, a plot of winter barley was sown each week from September 1 to November 1. The largest yields were produced by the sowings made September 21 and 29. The latest-sown plot (Nov. 3) entirely winter-killed. Usually, I would recommend to sow the winter barley a week or two weeks earlier than the usual date for sowing winter wheat in your locality.

We have not made any special trials in feeding winter barley as compared with spring barley or other grain. The grain has been fed on the farm, but without any special reference to its feeding value as compared with other grain feeds. Apparently the winter barley is very similar to the spring barley in chemical composition and feeding value.

A. M. TENEYCK.

Horticulture

Peach Questions.

How should peach-pits that are to be planted be cared for? Will trees grown from the pits of budded peaches bear as good peaches or will they be natural fruit?

SUBSCRIBER.

Sadgwick County.

The seed of the peach is so well protected by nature that there is little danger of its becoming injured before planting time. We have had uniformly good results from seed kept in a box from canning time until fall, seed nicely dried and sacked, and seed kept in moist sand from time of gathering until fall.

If your ground is in condition to plant this fall, and there is little danger in your locality of the depredations of squirrels, skunks, or other small animals that are fond of nuts, you may safely plant the pits this fall in rows where you wish them. We usually follow this plan with our seed for budding stocks. Where but a few seeds of some special interest or value are to be planted, we stratify them over winter in a box of sand. Care must be taken that the sand is kept moist so that freezing will open the

Make More Money on Fruit Crops

Everyone who grows fruit, whether a large commercial grower, or one who has only a few fruit trees, a berry patch or a garden, should be interested in knowing how to get the most profit from his crops.

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ST. JOSEPH, MISSOURI
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 A. C. Anderson, Columbus, Nebraska.

SEED WHEAT
 For sale. Pure wheat of my own raising which made the following averages, per acre: Zimmerman 45 bu's., Pulso-Mediterranean, 41 bu.; Karkoo, 40 bu.; This wheat re-cleaned and sacked, either variety. I will sell at \$1.10 per bu. f. o. b. Manhattan. Checks accepted. Address A. F. Huse, Manhattan, Kan.

Seed Wheat Imported No. 4 Kharkov. The best hard wheat for the wheat belt. Produces 35 to 60 bu. per acre and the greatest yield of all varieties tested at the Kansas Agricultural College Station. See college bulletin. All re-cleaned and graded. \$1.25 per bu., 10 bu. or over, \$1.15 per bu.; car lots, \$1 per bu. at Russell, Kansas.

Chas. E. Sulton, Box F, Lawrence, Ks

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The Greatest Novelty of the age. No buggy is complete without one. Price, \$1; postage paid to any part of U. S. Address E. T. Davis Co., Tippecanoe City, Ohio. Send your orders quick.

CEMENT FENCE POST or Building Blocks WITH THE CROUCH \$10 MACHINE
 Any Farm Hand can use it. Will not rust or burn. Cheaper than wood, and will last for ages. Circulars Free. Ellsworth Crouch, Oakland, Kansas

The Arch Pump Equalizer will equalize the stroke of pump so it will pump with any visible breeze. Will fix your pumps so the Mill will not stop on the up-stroke just before it passes center stand and wait for more wind. Will fix pump so wife or children can pump. Price \$1.50. The Arch Pump Equalizer Co. Council Bluffs, Iowa.

CUTS Engraving Dept. of the Mail and Breeze (Topeka) makes our CUTS.

pits. A piece of wire screening tacked over the box will keep out the squirrels. These pits are taken from the sand and planted as early in spring as the soil can be well worked.

For budding stocks we usually plant in rows four feet apart and the seeds quite thick in the row.

Any peach-tree grown from a seed is a seedling peach. The quality of the fruit varies as much with the seed from budded fruit as does the fruit from seedling trees. The chance of getting good seedling fruit is probably greater from budded fruit than from seedlings, as the parent fruit is, as a rule, of higher quality. Every variety of peach we grow was started from a tree produced from a seed and found to be superior to other seedlings. The varieties have been propagated by budding in order that more trees of the superior sort might be secured with certainty. There are many seedling trees bearing fruit the equal of some budded varieties, but unless the seedling peach is superior in some way to the varieties now known, most growers prefer to plant trees of sorts that have some reputation in the markets.

The raising of seedlings is a most interesting horticultural proposition, but the grower must in the light of past experience expect to get many more inferior to the parent stock than he will get superior or even equal in value.

Seed from a large block of trees of one variety is less likely to produce a variable lot of seedling trees than seed from an orchard of many varieties, due to the cross-pollination, but while the general characters are sometimes somewhat uniform, the matter of size, quality, date of ripening, firmness, and flavor are likely to vary considerably.

Cause of Dwarfed Alfalfa.

EDITOR KANSAS FARMER:—"What Ails His Alfalfa" is the heading under which S. E. Linscott on page 795 of the THE KANSAS FARMER states that he sowed alfalfa on ground that had been in clover and timothy up to the time he plowed and sowed alfalfa on it. Three years ago I plowed up a piece of alfalfa that had been sowed fourteen years. I plowed and resowed it on account of its having been injured by gophers. I got a good stand, but it has not grown to exceed twelve inches in height at any time since it was resowed. A farmer living several miles from me states that he found that after alfalfa has been grown fifteen or more years on the same land, it falls to grow to a desirable height. If this is uniformly the case, would deem it best to plow up the ground and grow corn or wheat on it for several years. I will treat mine in this way in case it continues to produce only dwarf crops of alfalfa. I suspect that Mr. Linscott's failure is due to protracted clover and timothy growing on the land he speaks of.

G. BOHRER,

Rice County.

The Cherry and Its Care.

While it does not as yet compare in acreage with the apple and peach, none of our fruits have shown such an increase in the attention they are receiving as the cherry. That this should be the case is not strange when the crop from a single tree has in several instances been sold for fifty dollars and upward. There are no fruits that can to a greater degree be relied upon to produce a full crop, and the disease and insects to which the cherry is subject are such as yield readily to simple treatment.

As a fruit for home use it has few equals, since it comes at a time when there are few fresh fruits, and by use of a good selection of varieties it can be made to cover a period of about two months; while for commercial planting it is also desirable for the same reasons as well on account of the highly remunerative returns that may be expected. The principal drawback to the extensive culture of this fruit is the difficulty of securing pickers.

The cherry succeeds well on a variety of soils, provided they are properly drained. As a rule, a moderately heavy loam is to be preferred, although it does well upon a fairly light sand or rather stiff clay soils. While a considerable amount of humus is desirable in the soil, an excess should be avoided as it tends to cause a late and soft growth and winter-killing may result.

Cherries are commonly divided into two classes, sweet and sour, and each of these groups may be again subdivided. Many of the early ripening sweet cherries are included in the

"Heart" class. These have an upright habit and the fruit is large, heart-shaped, sweet, and quite juicy. The other group of sweet cherries is known as the "Bigarreau." It is distinguished from the "Heart" class by being more spreading in habit, and the leaves are larger and rather dull in color, while in the other class they are a glossy green. The fruit of the "Bigarreau" cherries is of a firmer texture and less juicy than the "Heart" cherries. Napoleon, Rockport, and Elton are good examples of the former, while Black Tartarian, Gov. Wood, and Transcendent are among the best of the "Heart" cherries.

While the sweet varieties have large, coarse branches, with grayish twigs and large leaves, the sour cherries have rather slender, dark-colored branches and small leaves. In this group there are also two classes, commonly known as "Dukes" and "Morellos." In the former, the growth is upright with rather stiff shoots and thick, rough leaves, while the Morello trees have round heads, drooping branches, and thin leaves.

The fruit of the Duke cherries is generally larger and less acid than of the Morellos. May Duke, Royal Duke, Late Duke, and Montreuil are well known varieties of the former and Richmond, Moutmorency, and English Morello of the latter class. The principal difficulty in growing sweet cherries comes from the cracking of the bark on the south side of the trunk, which is generally followed in a few years by the death of the tree. The trouble is due to the rapid thawing of the frozen bark and wood, and it can be greatly lessened by heading the trees fifteen to twenty inches from the ground, so that the branches will shade the short trunks, and by planting on northern slopes. When sweet cherries have been grown with high heads, it is a good plan to protect the trunks by means of board fastened to the south side.

Cherry-trees are now commonly grown upon Mahaleb stocks and these are preferable to Mazzard stocks as they seem to be hardier and they are particularly adapted to heavy soils. When purchasing trees, it will generally be advisable to obtain two-year-old trees of sour varieties, but one-year sweet cherry-trees will be better as these can be headed at any point desired. As commonly found in nurseries, two-year sweet cherry-trees have trunks three or four feet high, which is altogether too much, for the reason given above.

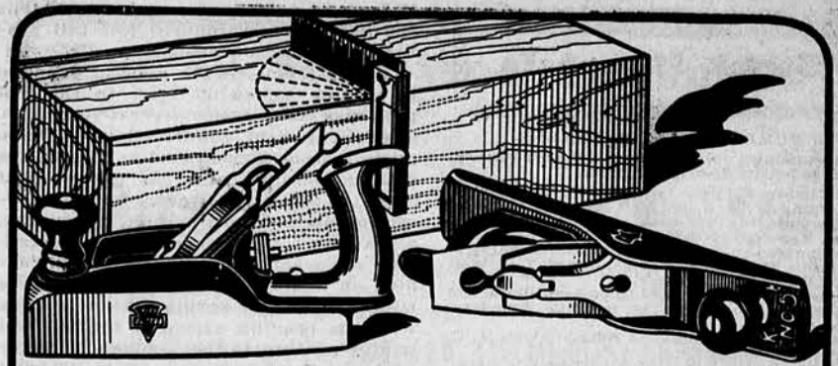
In setting out a cherry-orchard the distance at which the trees should be placed will depend a good deal upon the soil and varieties. As a rule, about twenty feet will answer for sour cherries and twenty-five feet for sweet sorts. If double planting is to be used, the sour kinds may be set 20 by 12 feet, and sweet kinds 20 by 15. They should give several good crops at this distance before the trees begin to crowd. The great difference with double planting in the case of cherries is the same as with all other fruits, viz: just as the trees begin to bear good crops, it will be necessary to remove one-half of the trees, and few men have sufficient nerve to do it. As a result, the trees engage in a struggle for existence and all of them are more or less injured.

If cherry-trees are started properly, they will require but little pruning after the first two or three years. When they are planted, three or four side branches will be sufficient, and these should be cut back from one-third to one-half. In the case of one-year unbranched trees, head them back to about twenty inches and allow four branches to grow. The pruning that will be needed for the next two years should be for the purpose of keeping the heads fairly open and to secure a symmetrical form. When branches make a long, sprawling growth, they should be cut back, and the heading back is often advisable in trees where the heads are too open, but in the case of the cherry it is an easy thing to go too far, both in heading back and in thinning out the branches.

Some little pruning will, of course, be necessary from year to year, such as the cutting out of the branches that show a tendency to cross or when the trees are making an unsymmetrical growth, but with most varieties little pruning will be required if the trees have been properly started.—Practical Fruit Grower.

California \$25.00.
Santa Fe.

Tickets on sale daily from August 27th to October 31st. Good in Tourist sleepers and Free chair cars.
For full particulars address
T. L. KING, C. P. & T. A.,
Topeka.



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We Can Supply **ALFALFA SEED** Pure Native, New Crop. Sow during August and September. Write to-day for samples and Prices.
Missouri Seed Co., 1427 St. Louis Ave., Kansas City, Mo

Kentucky Blue-grass Seed
For a beautiful as well as a most profitable pasture sow Blue-grass. The genuine Kentucky seed is what you want, and from September until June is the proper time to sow. For pure seed of our own raising, and full particulars write Mr. AIRY SEED FARM, PARIS, KENTUCKY.

ALFALFA SEED FOR FALL SEEDING
Strictly Kansas grown seed. Write for prices.
Highest award at St. Louis Exposition.
MOBETH & KINNISON, GARDEN CITY, KANSAS

CATALPA AND OSAGE FOR POSTS
Every farmer should grow his own post timber. Get the true catalpa speciosa. We have it. We also offer fruit trees, shade trees, small fruits, grape vines, flowering shrubs, etc. Tell us what you want. We will make the price right.
PETERS & SKINNER, No. Topeka, Kans.

WINTER SEED WHEAT
62 BUSHELS PER ACRE That's the yield of Ratekin's new imported "Malakoff" Winter Wheat. This wheat was imported by us from Russia, near the Black Sea, five years ago. We have grown and sold thousands of bushels of it. It has been thoroughly tested everywhere. It is as hardy as rye. Many Experimental Stations pronounce it the largest yielding, surest cropper and best quality of milling wheat grown. Seed wheat circular with full description of winter wheat, rye, timothy, clover and other grass seeds mailed free, with sample of "Malakoff" to all who want to make a change of seed. Write to-day. Address RATEKIN'S SEED HOUSE, SIENENDOAH, IOWA.

Order Today---Apple Shipping Boxes
Just what you need to get the top market price. 1 bu. size, nicely lettered. Made by California Pine Box Lumber Co. For prices address at once,
WHITEKER BROS., Topeka, Kansas
WHOLESALE FRUIT DEALERS.

STEEL FRAME PITLESS SCALE
Best all steel, ball-bearing pitless scale made. Made of structural steel throughout—no gas pipe or other inferior material used. Very rigid and firm. Scale sets on ground—no expensive pit to dig. No costly repairing to be done on account of decayed timbers, etc. Cost of installation is only about \$5—\$30 to \$40 less than for old style, unreliable pit scales. Possesses numerous advantages over all other scales—is accurate, reliable, strong and durable. Will give a lifetime of constant service and still retain its accuracy. Weighs only 1200 pounds—can be easily loaded on wagon and moved from place to place as desired. Saves time, trouble and expense of unnecessary hauling to and from scales. Made in four and five ton capacity. No better scale on the market.
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GUARANTEED FOR FIVE YEARS
Shipped anywhere in the United States on 30 days free trial, complete and ready to set up except flooring lumber.

When Writing Our Advertisers Please Mention This Paper

Stock Interests

PURE-BRED STOCK SALES. Dates claimed only for sales which are advertised or are to be advertised in this paper. September 20, 1906—Duroc-Jerseys at Hutchinson State Fair, N. B. Sawyer, Cherryvale, Kans.

Varieties of Wheat for Pasture.

Kindly advise what varieties of fall wheat will make rank growth for cattle pasture. Years ago wheat in this community furnished an abundance of fall and spring pasture when the prairies were brown, but for the past few years we have been able to make no use of wheat for pasture; even rye does not furnish much pasture.

It may be a fact, as you suggest, that the hard wheat produces less fall pasture than the soft wheat.

Again, I believe the general practice is to sow somewhat later in the fall than was the practice several years ago. The ravages of the Hessian fly have made it necessary to sow as late in the fall as possible and yet get a good stand of wheat.

We have grown the Tennessee winter barley at this station now for three successive years, with good results. On the average, the winter barley has yielded nearly twice as much grain per acre as was produced from the best-producing varieties of spring barley.

Another crop which could be used for winter and spring pasture, but which can not be grown very profitably as a grain-crop, is Einkorn. This is really a species of wheat. The grain makes a very thick rank growth of foliage in the fall and does not stem very early in the spring, furnishing an abundance of good pasture.

In sowing rye or other grain for pasture, sow a little thicker than is usual when the grains are sown for seed-production.

Carlots at the American Royal.

Cattle-feeders of the corn belt are looking forward with much interest to the American Royal Live-Stock Show because of the prospect for a great display of fat, black cattle in carlots. A few weeks ago A. Weber, of Kansas City, offered a prize of \$500 for the best carload of fat cattle, any age, averaging 1,400 pounds or upward and showing a preponderance of Aberdeen-Angus or Galloway blood.

Cattle-growers in the Southwest are taking much interest in the carlot exhibit of feeding stock at the American Royal this year. The entries already are many, and the outlook for a large exhibit is good.

The Kansas State Fair.

The Kansas State Fair of 1906 will be bigger and better than ever before. It has always been a big fair, and a good one, but this year it will have a number of unique features. Among these will be the complete working dairy in which large quantities of milk will be separated and put through all the processes of butter-making.

Wilson County Fair.

The Wilson County fair at Fredonia, Kans., was held on Aug. 22, 24, and 25, and was one of the best in point of attendance and quality of stock shown ever held by this association.

In Shorthorn cattle, H. M. Hill, Lafontaine, Kans., won first on aged bull, I. L. Swinney, Lafontaine, Kans., won first on 2-year-old bull. Hill got first on bull calf, and B. B. Hamilton, of Fredonia, second.

In beef herds all breeds competing, Drybread won first and H. M. Hill second. As previously noted, Hill won sweepstakes on females and Swinney on bulls.

Duroc-Jersey swine, yearling boar, C. D. Gibson, Morehead, Kans., won first and Robert Hall, New Albany, Kans., second. Boar pig, Hall first and second. Yearling sow, Hall first; Wooddall second. Sow pigs, Hall first and second. Produce of dam, five pigs, Hall first.

Berkshire swine, aged boars, W. C. Hatcliffe, Cherryvale, Kans., first; boar pigs, Hatcliffe first. Best boar, any age or breed, C. D. Gibson first on a son of Tip Top Notcher, the World's Fair champion Duroc-Jersey.

Gus Loether, proprietor of the Loether Hotel, is president of the association, and D. L. Polson is its secretary. Secretary Polson has one of the best small herds of Shorthorn cattle established in the last two years.

Missouri Live-Stock Pavilion.

The Board of Directors of the Missouri State Fair has just completed the finest State Fair Live-Stock Pavilion in the world. One or two fairs have large pavilions, but these are more in the order of mammoth sheds, and for conveniences, modern improvements, architectural beauty, ventilation, seating capacity, and elegance in finish and appearance will not compare with the Missouri building.

This pavilion is 187 feet by 237, is built on solid concrete foundation, vitrified brick walls, tile roof, and steel truss supports. The arena is 125 feet by 175 seating capacity, 12,000, with numerous stairways leading to the seats, and to the broad promenade above and in the rear.

The arena is sufficiently large for the exhibition of buggy, carriage, and saddle horses and equestrian rings, and a number of classes of cattle, exhibition horses, mules, and jacks may be passed upon at one time.

The Rockefeller Ranch.

Soldier Creek Park in Kiowa County, Kans., owned by Frank Rockefeller, Cleveland, Ohio, is one of the most magnificent estates in the United States. It comprises some fifteen thousand acres of choice grazing and agricultural land and is stocked with Hereford, Shorthorn, and Polled Durham cattle, Percheron and road horses, and Poland-China hogs.

The greatest herds of Herefords and Polled Durham cattle found in all my travels are to be seen grazing the succulent buffalo, bluestem, and grammagrasses that grow so successfully in this locality.

Neither time nor expense has been spared to equip this place for the successful handling of the large herds. No less than twelve great barns are on the farm to house and protect the cattle when weather conditions are such as to demand the need of shelter, which is not often in this climate.

It was with much pleasure that I spent a number of hours watching the cows and calves and yearling heifers turning the products of the pastures into the highest quality of beef that is possible to produce.

Horse Owners! Use GOMBAULT'S Caustic Balsam. The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action.

A Humane Society in a Bottle KENDALL'S SPAVIN CURE. Nothing affords such relief for Curbs, Splints, Ringbones, Spavins and Lameness as Kendall's Spavin Cure.

Sanitary Hog Troughs. Will not rust or rot out and will last a life time. Every breeder should use them. Blue Valley Mfg. Company Manhattan, Kansas

Fli-Kil is a safe, sure, efficient non-offensive remedy for Keeping Flies Off Cows, Horses, Mules and all Live Stock.

THE HAPPY HOG AT DIPPING TIME. Is happy because he is being freed from lice that torture and torment. August, September, October, are best months to dip hogs to kill lice.

Bog Spavin. Cure the lameness and remove the bunch without scarring the horse—have the part looking just as it did before the blemish came. Fleming's Spavin Cure (Liquid) is a special remedy for soft and semi-solid blemishes—Bog Spavin, Thoroughpin, Splint, Curb, Capped Hock, etc.

very best breeding and show a flesh-carrying ability that is marvelous, and still it is what should be expected when the high-class quality of the foundation cows are considered and that the \$5,100 Columbus 17th, with a score of assistants, all of which are his equal and some superior in individual merit, are the sires of the Herefords that have been produced on the farm. Most of the Polled Durhams claim Scotch Emperor as sire, one of the best individual and greatest-producing bulls ever known to the breed. I think there are to be found here more real good Double-Standard bulls by this sire than are offered for sale by any other firm. This great bull is being followed by one of his sons, produced on the farm, that bids fair to be superior to his sire and is assisted by Crowder who is siring an excellent lot of calves from the Scotch Emperor dams.

Mr. Rockefeller is producing cattle here that will assist very materially in raising the standard of the Western herds and is making prices on the bulls produced that can be paid by any one desiring to use a pure-bred sire, which should be the only kind used in the production of any class of stock. The advertisement of the Soldier Creek herds is to be found at all times in our advertising columns and should be consulted by all contemplating the purchase of either Herefords, Shortorns, or Double-Standard Polled Durhams.

Wright's Stock Feeder at Iowa State Fair.

There are many Kansas people who attend the great Iowa State fair each year and always with interest and profit. It is a great place for the inspection of agricultural implements and machinery. Many of the larger manufacturers have permanent buildings on the fair grounds for the exhibit of their wares.

Among the interesting exhibits that will be found on the grounds this year will be Wright's Economy Feeder which is made by C. A. Wright, Rosendale, Mo. This is at once the most practical, economical, and satisfactory feeder that the writer has seen. After using one of these feeders for some months we would not be without it. The money paid for it is well invested. This feeder is advertised on page — of THE KANSAS FARMER.

Gossip About Stock.

Sale dates: E. E. Axline, Oak Grove, Mo., Oct. 8; Bollin & Aaron, Leavenworth, Kans., Oct. 16; Dr. O. S. Kerr, Independence, Mo., Nov. 2.

Samuel Boston, of Smith Centre, writes us that he is now ready to ship some good boars sired by Klondike Prince 24889. In Klondike Prince Mr. Boston has one of the greatest individuals in Kansas. Write him for prices.

Everett Hays, of Hiawatha, Kans., has purchased a yearling bull of M. C. Vansell, of Muscotah, Kans. The animal is a straight Scotch and one of the best individuals we have seen for a long time.

Write C. F. Hutchinson, of Bellaire, Kansas, if you want a boar that will be the biggest one in your neighborhood. Charlie has been trying to get them bigger each year for the last quarter of a century and while they look mighty big to us he says they are still too small.

Miller & Reid, the real estate men at 615 S. Kansas Ave., Topeka, Kans., have some very tempting offers of Kansas farms. One of their most attractive offers is that of some Western Kansas land which is advertised in this issue of THE KANSAS FARMER on page —. Write about this.

E. E. Axline, of Oak Grove, Mo., on October 8, the first day of the Kansas City Royal, will sell the best lot of Poland-Chinas he ever offered, consisting of 20 extra fall gilts and about 20 spring gilts and 20 or 25 boars that are all good. Be sure your name is on Mr. Axline's mailing list.

Grant Chapin, of Greens, Kans., writes us that he is having many calls for spring boars. Mr. Chapin is a fellow who has the push and energy that makes things move, and his rapid rise to a place among the foremost breeders of Kansas is the result of business methods which have made one of the best known business men in Central Kansas.

Bollin & Aaron will sell, at Leavenworth, Kans., October 16, a select draft from their two good herds. It will be remembered that these gentlemen made one of the top brood sow sales of Kansas last year, and most of this offering will be sired by their good herd-boar to which the February offering was bred, and this is assurance of an offering of more than usual merit. Be sure you watch the columns for future announcements and get catalogue.

Dr. O. S. Kerr, not content with producing I. O. C. that break all world's records, both in high selling and prizes won, is better equipped than ever this fall to supply breeders with top stock of either sex. There are now a number of choicest pigs of several breeders' herds at his farm in Independence, Mo., besides those produced from his World's Fair winners. We predict something doing at Independence, Nov. 2, the date arranged for his annual fall offering. Write for catalogue.

Hays & Gibbs, of Hiawatha, Kans., will hold their annual sale on October 4. These well-known breeders have a choice bunch of spring pigs sired by their two well-known herd boars, Kansas Chief and First Quality. Hays & Gibbs are a firm of breeders who can not help but command the admiration of every one who knows them. They are self-made men and have built their reputation on a foundation of honesty, and the "square-deal" policy which they are maintaining is sure to bring to them the success which they deserve.

Ben Bell, of Beattie, Kans., has some spring pigs that now tip the scales at over two hundred pounds. Mr. Bell is breeding for the large type and is certainly reaching the point to which he attains. He has over 60 of as fine a

lot of young boars as we have ever seen and even a larger number of gilts equally as good. The majority of animals are sired by Belle Mettle, a son of Expansion. Belle Mettle is one of the best big boars in the State and his pigs are admired by every one who sees them. Mr. Bell will hold a fall sale at his farm near Beattie on Monday, October 29, and the offering will be the equal of any in the State. Better file your application with him now for a catalogue.

C. O. Anderson, the Duroc-Jersey breeder of Manhattan, Kans., writes as follows: "I have a nice lot of spring boars that I would like to dispose of in the next two months. They are by Blue Valley Boy 38017, he by Hunts Model 20177. His dam is Missouri Girl 4th 82668. These boars now weigh 125 pounds or better, and are of April farrow. They are nice and smooth, with best of cherry color. They have plenty of bone with good heavy hams and shoulders. They are first-class boars and will make herd-headers. I am pricing them at \$15.00 each." Write C. O. Anderson, Route 3, Manhattan, Kans.

Rev. Jas. McGuire, of Hiawatha, Kans., has one of the best lot of spring Duroc-Jerseys that we have seen this year. While Mr. McGuire has only a small herd and is in the business for the pleasure he derives from it, he has built up a local reputation of which he is very proud and has at the same time made it pay him well for his time and trouble. His foundation stock was bought from Newton Bros., of Whiting, Kans., and Jas. Chandler, of Frankfort, Kans. His sows are excellent individuals. Among his best spring pigs are two litters by Sir Thomas by Kansas Wonder, one, by Chief Perfection, and one by a grandson of Kant Be Beat. Mr. McGuire will hold a sale at Hiawatha on October 10. His offering will be one of the good ones of the season.

O. B. Smith & Son, Cuba, Kans., who have long been known as breeders of the best Poland-Chinas, have an especially attractive offer of six fall boars by one of the best sons of the famous Keep On. These are herd-headers and are worth going after. This firm of breeders has Poland-Chinas of all ages and both sexes for sale, and they are in the finest condition. They keep nothing but the best blood lines and the best individuals, and any breeder or farmer who wants something good for the money will be sure to get it here. If you can not go to Cuba just now, write and tell them what you want. You will get it. Remember that here is the place to get Tecumseh, Wilkes, Black U. S., and Perfection blood among the females, and Keep Coming 84889, Chief Expansion and Coming Perfection from the herd-boars.

Geo. Kerr, of Sabetha, Kans., has received the Ohio Chief pig which he purchased of Jno. Taylor, of Lincoln, Nebr. The price paid for him was \$250, and he is certainly worth the money. Mr. Kerr's old herd boar, a Crimson Wonder bred animal, is about the best Crimson Wonder we have seen and he is proving to be a great breeder. He will be one of the show herd exhibited by Mr. Kerr at Hutchinson next month. Mr. Kerr is taking a great interest in making the Duroc-Jersey show at the American Royal a success. He says that a great number of the breeders have responded to his call for funds to help carry on the expenses of this exhibit, but that he could use a few more dollars to good advantage. If every breeder of Durocs in Kansas would each contribute \$1.00 which Mr. Kerr asks for, the Duroc breeders will be represented at the American Royal in a manner that will be a credit to them. Send Mr. Kerr your dollar and help the cause along.

One of the ideal ranches in Kansas is that belonging to John Marriage, located eight miles south of Mullinville, Kans. The writer recently had an opportunity of partially inspecting the ranch. Mr. Marriage is making a specialty of a new breed of cattle, which he claims to have originated and is known as the "Marriage Muleys." These cattle have the distinction of being what is known as dual-purpose cattle, being excellent milkers as well as beef animals, produced at a cost not to exceed that of beef animals. Mr. Marriage is a native of England, where his family for upwards of two hundred years have been making a specialty of breeding animals best adapted for both milk and beef. The animals which Mr. Marriage has on his ranch are the best crossing of twenty years on the best foundation stock from England. Mr. Marriage's ranch consists of 10,000 acres in one tract, 2,000 acres of which are cut up into canyons, which make ideal shelter for the cattle in winter time, and it has not been necessary for him to provide any other shelter for them, since he has been on the ranch. Everything on the ranch is arranged for the utmost convenience, and well supplied with conveniences that go to make up an ideal ranch. Mr. Marriage has taken advantage of one of the canyons and has built a 33-room house. For the three lower floors, the east, north, and west walls are made out of the walls of the canyon, leaving the south side open and exposed from top to bottom.

Big Crowds Coming.

The most prominent of the horse men on the big St. Joseph market has recently been traveling extensively in St. Joseph territory in the interest of the fall auctions, which open on September 6.

Asked this morning what the pulse of the country is on the coming Interstate Show, Mr. Sweet said: "There is no question of the crowd or the stock for it to see, if the weather is good. Nearly every town of consequence in the whole of St. Joseph territory will be represented in some department of the show, and this, together with cheap rates on railroads and the show coming at an opportune time, will have a tendency to attract crowds. There is plenty of talk of the show in the country and this will increase as the dates draw closer. I certainly look for one of the biggest weeks St. Joseph has ever seen." —Daily Journal.

Get All Your Wool Is Worth.

Wool Growers! Buyers in the country are trying to obtain your wool at a low price to make up for last year's losses. If you want the highest market price instead of the lowest

Ship Your Wool To Us

We will get full value for you at once, and do it for one cent a pound commission. Reference any bank anywhere. Write us today.

Silberman Brothers, 122, 124, 126, 128 Michigan St., Chicago, Ill.

Make More Money Off Your Hogs

Price, \$10

Including Farm Right to make all kinds in any number. Freight prepaid on all orders for a limited time.



Hog and Sheep Feeder. Mention Kansas Farmer.

That's what you want to do, and that's what you can do if you use Wright's Stock Feeder. Any man who has a sow and litter of pigs can't afford to be without one of these feeders. It saves feed, and always keeps it in good condition; makes big, strong, thrifty pigs; develops the whole bunch evenly, and will pay for itself in one season. Used for slop, shelled corn, oats, barley, ground feed, etc.

WRIGHT'S STOCK FEEDER is now being ordered by up-to-date hog raisers everywhere. Hundreds using them. They all say they would not think of raising hogs the old way.

My catalog tells all about the hog, sheep and poultry feeder. Send for it.

C. A. WRIGHT, Rosendale - Missouri

The Veterinarian

We cordially invite our readers to consult us when they desire information in regard to sick or lame animals, and thus assist us in making this Department one of the most interesting features of The Kansas Farmer. Kindly give the age, color, and sex of the animal, stating symptoms accurately, and how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply all letters for this Department should give the inquirer's postoffice, should be signed with full name and should be addressed to the Veterinary Department of The Kansas Farmer, Topeka, Kans., or to Dr. C. L. Barnes, Veterinary Department, Kansas State Agricultural College, Manhattan, Kans. If in addition to having the letter answered in The Kansas Farmer, an immediate answer is desired by mail, kindly enclose a 2-cent stamp. Write across top of letter: "To be answered in Kansas Farmer."

Poll Evil and Fistulous Withers.

I have a 5-year-old gelding with poll evil and fistulous withers. The swellings have not broken yet. Is there any treatment one can give that will keep the swellings from breaking? Tescott, Kansas.

Answer.—We are sending you a press bulletin on poll evil and fistulous withers which I trust will give you the desired information. I would try a poultice of Thermofuge in order to try and draw the parts to a head as soon as possible rather than try to scatter it.

Slimy Milk.—I have some cows whose milk is ropy and slimy after it stands a few hours. The cows seem healthy and we milk them regularly and feed them as usual, except that we are feeding them Hess's Stock Food at present. We never had anything like this happen before, and would like to know the cause and get a preventive, if possible. W. J. O.

Elk City, Kansas.

Answer.—The ropiness in the milk is caused by a germ which is harbored in the milk-strainer, milk-pans, pails, cans, etc. The way to get rid of this affection is to scald the above-named articles daily and place in the sun so that the direct rays will strike upon the inside of them.

Bruised Foot.—I have a mare that became lame about three weeks ago. I thought she was tenderfooted so had shoes put on her fore foot, but I find that that is not the trouble. The foot is very large above the hoof and somewhat larger than the top. Is light in color and peeling off. Yesterday morning one hoof was broken loose about two inches and running. Both feet seem to be tender but the one much more than the other. W. N. D.

Minneola, Kans.

Answer.—I would judge that your horse had evidently bruised his feet or possibly run a nail into it and the nail pulled out. Would advise your using a poultice of bran on the foot, cleansing the wound by the use of hydrogen peroxide, diluting it one-half. Continue poultices and cleanse the wound as long as any pus escapes around the top of the foot.

Special Summer Tourist Rates

via Nickel Plate Road, to Canadian and New England points. Fifteen-day limit one fare plus two dollars from Chicago; thirty-day limit, one fare plus four dollars from Chicago. On sale September 5th and 19. For reservation of sleeping car berths, etc., write or call at city ticket office, 107 Adams St., Chicago. No. 26.

The St. Joseph Business College, which starts its advertisement in this

No More Blind Horses For Specific Ophthalmia Moon Blindness and other Sore Eyes, BARRY Co., Topeka, Ia., have a cure

Scours and Thumps

Can be quickly cured by using Anti-Scour. For prices and full particulars write the Agricultural Remedy Company, 523 Kansas Avenue, Topeka, Kans.

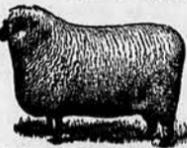
O. K. Herd of Duroc-Jerseys

Herd headed by Russell's Choice 27985, assisted by Chief of Ninescah 39619. Sows of equal merit. I breed big-boned, smooth hogs and quick, easy feeders. Write H. D. COMPTON, Milton, Kans.

B. M. BELL, - Beattie, Kansas Poland-Chinas.

Herd Boar, Bellmetal by Expansion, assisted by Highland Prince. 200—For Sale: 80 Boars, 120 Gilts—200. Competent judges have said that I have the largest and best lot of spring pigs in the country. Write me and come to see them.

VINEWOOD SHROPSHIRE.



The leading flock in the state, large size and good form, strong constitution, true type and the very richest breeding are outstanding characteristics of all our imported and home bred rams and ewes. All registered and ready for shipment.

GEO. F. KELLERMAN, Mound City, Kans.

THE GILA COUNTY ANGORA GOAT CO.

of Globe, Arizona. Have all kinds of goats for sale. We have 800 registered Angora goats, 9,000 graded Angora goats and 1200 Mexican and milk goats, making in all 11,000 to pick from, and will sell pairs or car load lots. We have anything you want in the goat line. Write for prices F. O. B. GLOBE. We have also 10,000 shares for sale yet. In our Goat Co. Write for booklet. We paid 20 per cent last year. Good references. J. R. BARNETTE, Mar.

LUMP JAW

A positive and thorough cure easily accomplished. Latest scientific treatment, inexpensive and harmless. NO CURE, NO PAY. Our method fully explained on receipt of postal. Chas. E. Bartlett, Columbus, Kans.

For Sale at Public Auction, Wamego, Kans., Sat. Oct. 6, 1906,

at 3 p. m., on one year's time, 6 per cent interest bankable note, or 2 per cent off for cash.

Tapageur 2477, the imported French Coach stallion; brown, left front and right hind foot white; trace on left hind foot; foaled April 8, 1897. Bred by M. Jean Brisset. Sired by the Government stallion, Nouveau Monde; dam Mouvette by Farnesse 2nd, dam Delphine by Platin 3rd, dam by Gloire.

The Kaw Valley Coach Horse Breeding Asso.

St. George, - - - Kansas

week's issue, is one of the oldest colleges in the West and is worthy of the confidence and patronage of the public. If you are in need of a business education, you can not make any mistake by attending this school. Write for their catalogue. It is free and well worth reading.

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Home Departments

CONDUCTED BY RUTH COWGILL.

Coming Back.

Lilting and laughing
The summer days go by,
The blossoms nod to every breeze
And laugh back to the sky;
The children laugh and romp and play
As children always do,
And every laughing little girl
Reminds me, dear, of you.

Dancing and skipping
And playing in the sun;
Just living sunbeams clothed and curled
And given legs to run!
And glad—it seems that every one
Is glad as she can be.
And every one just walks right in—
Into the heart o' me.

Toiling and molling,
And, oh, the days are hot!
And, oh, my heart is longing
For the lass I haven't got;
The little lass afar from me,
With windblown curls of gold,
Who's coming back to kiss her dad
When summer has grown old.

Lilting and laughing,
Arms outstretched and glad!
God bless the little girl who'll run
With blowing curls to dad!
God keep each daddy safe from harm.
And babes with curls o' gold,
And bring them heart to heart again
When summer has grown old.

—J. M. Lewis, in Houston Post.

Let Nothing Be Lost.

When Christ fed the multitude, He provided a plenty. There was no lack and there was much left, but He was careful that nothing be lost. That is economy. Economy is not the saving of something that is needful in order to procure something one may merely fancy, as is so often thought. Some people think they are economizing when they stint the table and furnish cheap and unwholesome food that they may buy a new carpet or pretty bric-a-brac. Some economize by buying a dress of cheap material, that would not be worth the making, in order to add a few more flowers to the hat. I have known some to even wear shabby, ill-fitting shoes that they might sport cheap jewelry, and they call it economy. Such do not know the meaning of the word. Let nothing be lost, is the meaning. It is economy to buy a pattern to cut a garment by rather than spoil the garment to save the expense of the pattern and use needlessly that unpurchasable article—nervous energy. It is economy to buy a hat of good material—plain and becoming—and wear it as long as it looks well rather than a cheap, dowdy one every season.

It is economy to buy an up-to-date washing-machine and save the clothes from wearing out on a wash-board, and save the back from pain. It is also economy to use paint on the buildings and save them from decay and repair; and it is economy of time, temper, and money to provide shelter for implements and machinery that they may work properly when needed.

Everything in nature is utilized. Nothing is ever lost. The clouds shower down the rain and the heavens drop the dew; then the moisture is taken up for use again. Material of various kinds may be consumed and disappear in smoke. It goes into the air in the form of gases, and both it and the ashes are used in plant life again. Ages ago, our fuel was made out of waste material, leaves and vegetation, decaying and solidifying, forming coal. Thus Nature teaches us economy in all her ways. Necessity and experience have taught man many things. Never before were so many things utilized as at the present time. When some of us were young, a beef was killed for the meat, hide, and tallow. Now every part of it is used. One might enumerate various things showing that nothing is lost. The Santa Fe brass-foundry in Topeka has been for years accumulating a pile of refuse brass-skimmings and cinders from the smelters. When screened out and ready for shipment to the concentrating plant, in Chicago, there will be three train loads of thirty-five cars each of the material—which will be concentrated and utilized.

It is a mistake to think economy is to scrimp and save in order to lay up something or invest in lands for the future. It is wise to put something aside for a "rainy day," if it can be done without causing one to dwell too much on the money problem. But this saving business has made rainy days by stinting body and mind of needful things. Economy is judicious, spending as much as saving, and sav-

ing one thing, whether time, money, or health, at the expense of another is not economy.

There are many ways by which the housekeeper may economize. She must see to it that nothing is lost. By looking after the little things here and there, and by planning wisely the outlay of the family income, she may be able to provide many comforts for the home and also lay aside something for the future.

Refreshing Drinks.

Boston Cream.—Boil three quarts of water and one and one-half pounds of granulated sugar until of the consistency of honey; let become cool; add two ounces of tartaric acid, one and one-half teaspoonfuls of lemon essence, whites of two eggs beaten stiff and dry; stir thoroughly and bottle; keep in a cool place. When wanted, place half a saltspoonful of baking soda in each tumbler; fill half full of ice water and stir until soda dissolves, then pour in each tumbler a wine glass full of the "cream." Drink while foaming.

Cold tea added to fruit juices and sweetened constitutes a delightful and invigorating drink.

Cold Chocolate.—This most refreshing summer drink is made by cutting into small bits one ounce of unsweetened chocolate. Put this into a granite saucepan and gradually pour over it half a pint of boiling water, stirring all the time over the fire, until the chocolate is quite smooth. Add one pint of granulated sugar and stir until it begins to boil. Cook a moment or two longer, then strain and let cool. When quite cold, add one tablespoonful of vanilla extract. Bottle and keep in a cool place. When ready to serve it, put into a tall glass one tablespoonful of cracked ice, two tablespoonfuls of the chocolate syrup, three tablespoonfuls of whipped cream, half a cup of milk and a dash of soda water from a siphon bottle, and a tablespoonful of vanilla ice cream. This is a delicious drink, even if the soda water and ice cream are omitted. A plainer drink can be concocted by combining the chocolate sirup, three-fourths of a cup of milk and the cracked ice, and shaking it well.

Pineapple Lemonade.—Boil together two cups of sugar and one pint of water for ten minutes. Let cool and add the juice of three or four lemons and one grated pineapple. Let the mixture stand for two hours, add a quart of water, and serve at once.

A Restful Drink.—One of the best drinks for a tired person is bran water. It is prepared as follows: Stir one teaspoonful of clean, sweet bran into a quart of water letting it stand for six hours, or even longer, stirring occasionally. When ready, pour off and add ice, or dring without, as preferred or convenient. A little lemon juice will add to the flavor, and it will be found to possess wonderful resting qualities. There will be no disagreeable "after-math" to drinks of this kind.

A College Education.

FLORENCE SHAW KELLOGG.

"Will you please give me your idea of what a full college course does for a girl?" asked a young friend of mine in a recent letter—a girl who has given up her hope of going to college for the present to be her mother's right hand, her father's cheerful helper, and the good angel of the younger children of the farm home. Other girls all over the country are asking the same question, other girls are wondering, will it be right or will it pay to give up the home life with all the work and duty there for four years of study; for them I answer thus publicly. Though I can not tell much of the real benefit of a "full college course" in a single article, I may suggest a line of thought that, if followed to its logical conclusion, will help to give a clearer understanding of the uses of study and of what education really is.

EDUCATION DEFINED.

To begin with, it trains the mind, makes it receptive to new truths, opens it to the light of the newer day, the broader, better day slowly dawning for us all. It helps one to see, hear, and feel more deeply, more truly. It gives new meaning to all that is around us and brings a mighty uplift to thought and life. Because of it and because of its broadening, deepening influence, we better understand the "tongues in trees;" we give a holier interpreta-

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tion to the "sermons in stories;" read better the "books on running brooks," and more easily find the "good in everything." Not only does it open wide the great book of nature—the Bible of God's own making wherein each day opens a new leaf and turns a fresher, holler page—not only does it help us to read aright from this glorious book, but it helps us also to read and understand the books of man's making; it lets us into the deep thoughts of master minds of all ages, leading us on over the mountain tops and through the peaceful valleys of the literary world, and makes us each one at home there. It gives newer, deeper meaning to all that is about us, to all we see or hear or feel, to all we are or can be. It takes away all commonplace things, all drudgery, and lifts our work, whatever it may be, into the realm of beauty and service. It gives wings to the mind so that while the hands are busy with the menial tasks, it may soar away—away to the bright world beyond and gather up a rich store of treasure—great thoughts that shall enrich and strengthen the heart and life. It broadens all our outlook, deepens all our feelings, uplifts all our thoughts. The educated mind holds communion with Nature and understands her varied tongues. Her secret recesses lie open to his investigation. He learns as did the devout astronomer to "Think God's thoughts after him," and to understand His way with men. He reads the story of creation in the rocks—Nature's printing-press, wherein her story is indelibly recorded. He hears a sweet lisping of love in the flowers; he traces the finger of God in the blue dome of the archings sky, bright with the mid-day sun, or with the myriad stars of night. Everything speaks to him and he understands, as the uneducated minds can not, that which is and is to be. He follows mankind from the savage hiding in his cave among the rocks, living physically only, not yet knowing that he has a soul, afraid of his shadow, thinking it is something evil that pursues him, trembling at the thunder's roll and at the rushing of the mighty wind through the tree-tops—he watches his slow growth and the slower evolution of his mind; he sees the whole race of man still as "sons of brutish force and darkness who have drenched the earth with blood," the blood of his kind, as one savage race fought with another for supremacy and dominion. He watches the gradual onward sweep of humanity, and sees where the first man stood.

"God conquered with His face to heaven, with His face upturned," and the first faint stirring of an universal love is recorded in the slowly improving life of the race. He follows his own onward march, noting all the ways by which we have come, noting the upward reach and struggle, the progress in spiritual things, in justice and right between man and man that, despite occasional lapses and discouragements, mark our growth toward God. He learns of the rise and fall of nations and of empires and the causes tending thereto. He is inspired to greater effort and a more manly way of doing by reading of the lives of the truly great; aye, the mistakes and failures of the weaker ones help him also, and he becomes constantly greater because of all education is bringing to him. His is a constantly growing, deepening world with all its

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PAVENTS.

J. A. ROSEN, PATENT ATTORNEY 418 Kansas Avenue, Topeka, Kansas

doors opening to him. Everything speaks to him. Everything gives to him that of which it is and hath. The very insects of the air, the worms that crawl beneath his feet, the birds that sing among the trees, the trees, the flowers, the everlasting hills that lift sunward, the valleys in between, glowing under the smile of God—all—everything speaks each in its tongue to him and he listens and understands. He finds beauty and blessing everywhere. He knows with Lowell:

"There is never a leaf nor a blade to mean
To be some happy creature's palace."

He feels the "stir of might" in everything and sees how the "Instinct within" "climbs to a soul in grass and flowers." He sees beauty and blessing where but for his opened eyes and trained senses there would be a great void. The great symphonies of Nature and Nature's God ring in his ears, and though he may have nothing of what the world calls wealth, he is yet rich, very rich."

WOMAN'S NEED OF A COLLEGE EDUCATION.

A girl—a woman—needs this deepening, broadening influence and uplift of education almost more than a man does, for her work is perforce more quiet, more monotonous, and more inclined to get into a rut than his, and possibly she is more apt to degenerate into a gossip if uneducated than man is. She does not necessarily become a malicious gossip, but one whose mind becomes in time content to dwell amid the petty affairs of the neighborhood—the new dresses and bonnets of some fortunate woman, the sitting hens, the butter made and sold, and things of that kind, for "Minds that have nothing to confer find little to perceive."

From such food as this the educated mind revolts healthily and with strong crying for something more and better. Women, too, are the mothers of the race—the ones who have most to do with the inspiring and molding of the youthful minds, and for this, if for no other reason, they should be freed from the tyranny of ignorance and unthinking. But let me not be misunderstood here. While a college course is a grand thing and something to be greatly desired and most earnestly striven for, it is by no means the only way of obtaining an education. Education—the educating of that within one, the strengthening and developing of one's faculties, the bringing out of hidden resources, is not after all so much a matter of schools and of text-books as one of living, thinking, and of observing. One may be educated without books, cultured without college, and ever must it be true that the best development must come from the doing of one daily duty faithfully and well.

Jenkin Lloyd Jones says, "Duty is the mountain road that leads to God." Along that road all of life's truest, best riches must grow; there will spring the fairest flowers; there we shall hear the sweetest songs; there we shall learn how to secure parts of the great anthem forever singing—a bit of God's own love story. Take the college course if you can take it, though it means present self-denial and hardship, struggle and long-sustained endeavor; let the great minds, both of the past and of the present, speak to you; take the message of the books—beautiful books—all athrob with life and love, books over which men have agonized lest their words should fall to tell the mighty meaning, the great thoughts that burn and struggle for expression. Let them sink deep into your soul and give you their inspiration and their joy if you can, for this is indeed good, this is blessed; and if all this be denied you, do not despair; know that even yet you need not fall of an education. "God's great outdoors" is for every man, every woman, to be had "Without money and without price."

"Tis heaven alone that is given away,
"Tis only God may be had for the asking."

TRUE EDUCATION.

The true education lies in learning to think, to observe, to live. It is in finding the relation of things to each other and to self; in the fitting one's life to the great harmonies of the Universal Life—the getting in tune with the good, the true, and the beautiful; in tearing away the blinds of superstition and letting the light—God's light—pour in through the many windows of the soul with its vivifying, inspiring power.

Though you, dear girls, walk in so-called lowly paths, though the luxuries of wealth be denied you, and

you must keep close to home and the humble work there, though you may not become familiar with the beautiful scenes of Nature in far-off lands or with the scarcely less beautiful works of art gathered in the great cities everywhere, though your life may seem commonplace and pinched to many, yet, if you are true to the trusts given you there, if you are faithful, affectionate daughters to the old fathers and mothers, and are helping them bear the daily burdens and find the daily blessing, if you are kind to and patient with the little brothers and sisters, doing good as you have opportunity, if the threads of your lives are "strung with beads of love and thought," if you are living near to Nature and to Nature's God, then indeed you are on the royal road to knowledge and life's best riches are yours. You are finding and following "The Master's foot-prints in our daily life and are giving a reasonable service of good deeds." Whittier tells us:

"He who wanders widest lifts
No more of beauty's jealous veils,
Than he who from doorway sees
The miracle of flowers and trees."

It is all in the having of the eyes to see and the heart to feel the beautiful and good in that that is all around us. True education is of the heart as well as of the brain; and life is all one great school of which we have only the primary department here. What shall come hereafter? He knows and we shall know some day, "Some sweet, sweet day."

Trick With Figures.

No little trick of figures that we know of will give more fun to a company than this:

Ask Tommy Jones, for instance, to set down the year he was born; then have him add 4 to it, and then his age at his next birthday, if that birthday comes before the next January 1; if it comes after that, let him add his age at his last birth.

Now let him multiply the result thus obtained by 1,000, and from the product subtract 694,423. Finally, let him substitute in this result letters of the alphabet for the figures, and he will have his name as most persons know it. In substituting the letters A is 1, B is 2, C is 3, D is 4, E is 5, etc.

The rule here given applies to the year 1905; if the test is made in 1906, the sum 695,433 should be deducted, instead of 694,423.

Try this with your own age and see how it works.

A change from one kind of work to another is often a picnic for horses. Steady work of any kind is fatiguing, and although the change may not be for lighter work, it may be restful and refreshing to the teams.

The Backbone of a Mighty Nation

is good food—food for brain, food for brawn, food that is strengthening, that gives energy and courage. Without a proper appreciation of this great fundamental truth no nation can rise to greatness.

As an article of food, soda crackers are being used more and more every day, as is attested by the sale of nearly 400,000,000 packages of **Uneeda Biscuit**, which have come to be recognized as the most perfect soda cracker the world has ever known.

And so **Uneeda Biscuit** will soon be on every table at every meal, giving life, health and strength to the American people, thus in very truth becoming the backbone of the nation.

NATIONAL BISCUIT COMPANY

The Young Folks

Chipeta.

She is bravest and best of a cursed race—
Give her a lodge on the mountain side,
And, when she is gone, on the hill provide
The queen of the Utes' last resting place.

She rode where old Ouray dared not ride—
A path through the wilderness, rough and wild;
She rode to plead for woman and child—
She rode by the yawning chasm's side.

She rode on the rocky, fir-clad hill,
Where the panther mewed and the crested jay
Piped echoless through the desert day—
She rode in the valleys dark and chill.

Oh! such a ride as a woman can—
By the Godlike power that in her lies,
Or an inspiration from the skies—
Achieve for woman and son of man.

They live, and through the country wide,
Where'er they come, where'er they go,
Though their hair grow white as the driven snow
They will tell of brave Chipeta's ride.

She is bravest and best of a cursed race—
Give her a lodge on the mountain side,
And, when she is gone, on the hill provide
The queen of the Utes' last resting place.

But give her a page in history, too,
Though she be rotting in humble shroud,
And write on the whitest of God's white clouds
Chipeta's name in eternal blue.
—Eugene Field.

Chipeta, the Indian Heroine of the Meeker Massacre.

When the new Denver, Northwestern and Pacific Railroad penetrates Eastern Utah, on its way to Salt Lake, it is probable that the Uncompahgre reservation will be partially thrown open to settlement. On this reservation lives Chipeta, wife of the famous Chief Ouray, and she fears lest some such move will destroy the last remnants of her race. Chipeta is celebrated for her daring ride to rescue the women who were captured by renegade Utes at the time of the Meeker massacres in the White River country, Colorado, thirty years ago. She has always been a strong friend of the white people, and Eugene Field, when an editorial writer on the Denver Tribune, in 1882, expressed the gratitude of Western people in a poem.

Chipeta's heroism was the climax of one of the worst Indian massacres in the history of the West. Nathaniel Meeker, a reformer, who believed that he could win the Indians to the white man's mode of life by gentle means and through the agencies of education and religion, secured the post of

agent among the Uncompahgre Utes late in the 70s. Mr. Meeker settled on the site of the present town of Meeker, Colorado, in Rio Blanco County, where President Roosevelt hunted mountain lions. He had been one of the Horace Greeley followers at the settlement of Greeley, Colorado, and was imbued with many theories regarding the proper way of caring for the Government's Indian wards. Mr. Meeker was accompanied by his wife and his daughter, Rozena. He began the work of teaching the Indians to cultivate their land and to study, and he might have been successful had it not been for two Ute sub-chiefs, Douglas and Jack, who were notoriously "bad Indians," and who kept the minds of their tribesmen poisoned against Meeker. The Utes at that time were under their great Chief Ouray, but he was many miles removed from the Meeker agency and did not know the doing of Douglas and Jack until it was too late to prevent a tragedy and a threatened Indian war.

The Indians, who were told by Douglas and Jack that Meeker was trying to make squaws out of them, became bolder and bolder in flouting the wishes of the agent. Settlers who saw the way things were going became alarmed and sent protests to the military authorities in Colorado and to Washington, but Meeker advised against any show of force and matters grew steadily worse until finally the threatened outbreak came. A small party of Utes descended on the reservation and capturing Mr. Meeker, while at work in a field, tortured him in the most horrible manner. When his body was found, it was pinned to the earth by a barrel stave. The women rushed to the milk-house, where they barricaded themselves, but the door was broken in and they were carried out into captivity, where they suffered indescribable torments.

As soon as the news of the Meeker massacre was flashed to Washington, a strong command of cavalry under Colonel Thornburg was dispatched to the White River country. Not thinking that the Utes would dare resist an armed force, Thornburg did not take sufficient precautions when marching through the ravines and over the mountains of the White River country. Chiefs Jack and Douglas, however, had worked their Ute followers into a frenzy and all were on the warpath. The wily chiefs followed Thornburg's every step into the country and near Meeker laid a trap for the officer and his men. Thornburg walked into the ambush and from every side the Indians poured a withering fire into his men. Thornburg and a few of his troopers were in advance of the main body and the supply wagons. They were surrounded and made a desperate attempt to fight their way back to the wagons. Some of them, including Thornburg, succeeded. Earthworks were thrown up and the survivors prepared to make a desperate defense. At nightfall a trooper made his way through the encircling Indians and carried the infor-

mation of Thornburg's plight to Laramie, Wyo., where a relief expedition was started. The troopers were without water, however, and subject to a ceaseless fire, and before aid reached them nearly all had been killed.

Chiefs Douglas and Jack retreated as the relief column approached, leaving Ouray to deal with the white men. At the first intimation of trouble Ouray had hurried to the scene. He had always been a friend to the white people and he counseled his people against violence at all times. It was through him that some of the most important treaties in which Indian lands were ceded to the whites were carried out. Ouray called upon Douglas and Jack to give up their prisoners. When it came to sending a messenger, the great chieftain's wife, Chipeta, said she would find the renegades and rescue the white women. Alone she made the night ride that has been described by Eugene Field in his poem, "Chipeta." She delivered Ouray's ultimatum to the renegade chiefs and secured their consent. The women were given into her hands and in Chipeta's own home they found the most loving care. In their accounts of their experiences they paid the highest tribute to Chipeta, whose heroism and devotion proved their salvation.

Chipeta now lives with the remains of the tribe in Eastern Utah. A new transcontinental railroad, the Denver, Northwestern and Pacific, which is being built from Denver to Salt Lake to connect with Senator Clark's Salt Lake and Los Angeles line, will bring the white man to the very doors of this reservation. Chipeta fears that the homeseeker and the prospector will again invade the land of her people thrown open for settlement. She would like to spend her remaining years among her own people, and it is probable, no matter what is done with the Ute reservation, that she will be well cared for, as her services have been too great for her to be neglected in her old age.

Ouray, Chipeta's husband, died in 1881, and the present head of the tribe is Charley Shevenaux. Many of the tribal customs are kept up, including the annual bear dance, which is one of the most picturesque of Indian dances, being held every spring. The Utes have been proving themselves more amenable to civilization than they were in Meeker's day and have made rapid progress on their reservation. It is probable that in spite of Chipeta's plea, it is only a question of time when the Utes will be absorbed into the white man's world, according to the scheme of the present directors of Indian affairs. But it is hoped that this will not happen during the lifetime of Chipeta, the bravest heroine of all the Indian tribes.—Brooklyn Eagle.

Hints for Girls.

Be scrupulously neat in your dress and personal habits. Make it a matter of conscience that your underclothing is always tidy and in perfect repair. It will not in the least detract from your dignity or position in the regard of worthy people if it is not the finest material, or even if mended, if done neatly. Bear in mind the girl who lost a worthy would-be lover because he detected a hole in the heel of her stocking as she tripped before him in dainty slippers.

Study good taste, buy the best material within the limit of your purse, and make it in the prevailing style—and then forget all about your clothes. Dress to please, but never appear pleased with your dress. Form the habit of neatness. Good and bad habits are cumulative. A girl careless and untidy at sixteen will be a slovenly, if not a repulsive woman at thirty. Neglected teeth, unkempt hair, ill-kept, dirty finger-nails are disgraceful in a young girl.

Do not make the mistake of thinking it will make you interesting or attractive to appear helpless, or ignorant of the practical duties of life. Learn to do things. The world demands honest, faithful work. Get ready in girlhood for the serious work of womanhood. Be independent and fearless, think and act for yourself, but with a due regard for the rights, privileges, and prejudices of others.

Avoid slang and exaggeration in speech. "Oh, dear, I'm almost dead!" "It's just perfectly horrid!" "It's raining pitchforks!" "I have had a high old time;" and the like, should never fall from the lips of a girl who aspires to be a cultured, well-bred woman.

Don't gossip, don't giggle, nor gush, nor kiss your girl friends on the street, in the public hall, or at church. Promiscuous kissing, loud talking, and laughter are not in good form.

Be thoughtful of others when you go abroad; be helpful at home; consider

nothing too trivial to be done well, no homely tasks too distasteful to be done cheerfully and heartily. Keep the Golden Rule, read the Bible, love God and your mother; let your good deeds be like the perennial spring, which runs still but deep.—Sarah E. Wilcox in Northwestern Agriculturist.

Little Things Make Character.

It is by little things that we form our estimates of character. We may not often have opportunities of judging by notable deeds and valorous action as to the true nature of the acquaintance we casually meet or the companion with whom we walk and work from day to day, but trifles are always in the air by which we infer much as to their heart and brain and intention. I saw a charming young girl the other morning discard a rose because its leaves were a bit withered and its freshness just a trifle diminished by exposure to the cold winter air. After the young girl had gone, I carefully gathered up the fallen petals she had left almost as I would have befriended an abandoned baby or a lost child, and I thought to myself as I did so, "I'll wager a cookie that girl would prove fickle in love and inconstant in friendship." To cast aside a fading rose bespeaks a light-hearted indifference that might lead one to forget the sweetness of a friend when that friend had reached the time of life's decline, or to dismiss a lover when that lover grew pale and worn and tired in the friction of the world's uneven contest with sorrow and want and care. It is the prerogative of youth and beauty to be a little hard and cruel. An old lady would not have thrown away a Jack rose because it had drooped from its first loveliness. Experience broadens and deepens and sweetens the heart of the old and makes them loyal to the friend, the lover, and the rose of a vanished but unforgotten youth.—Chicago Herald.

The Little Ones

Grandmother and Me.

Grandmother dear is a very old lady,
Grandmother dear can't see;
But when she drops things or loses
her spectacles,
Grandmother's eyes are—me.

Grandmother dear is a very old lady,
Sometimes she never hears;
But I always run when the postman
comes ringing,
I can be grandmother's ears.

Grandmother dear likes houses all
tidy,
Everything dusted and neat;
So I work with my little red broom
and duster,
I can be grandmother's feet.

Grandmother dear is a very old lady,
Can't walk, and can't hear, and can't
see;
You never can tell, though, the fun we
have, playing—
Grandmother dear and me.
—Selected.

Good Old Charley.

Old Charley was in his stall. He had a pan of oats before him.

Charley was sleek and fat. He was the pride of his master, Tony Petrino. He was the pet of 4-year-old Anna and her mother. Charley's master was a contractor and it was Charley's work to haul bricks.

Tony Petrino went to the barn after breakfast. Anna went with him. Charley neighed as he heard them come. Anna had an apple in her hand.

She slipped into the stall and held the apple up to Charley. "It isn't very nice," she said. "There are specks in it, but you won't mind, Charley."

Charley put his head down and took the apple at one mouthful.

Anna laughed. "He likes specked apples," she cried.

Tony brought Charley out into the yard.

"Are you going to drive him?" asked Anna.

"No, I am going to curry him."

The curry-comb and brush slipped over Charley's sides. Anna watched them a few minutes. Then she ran off to play. Tony Petrino finished smoothing Charley's coat. He threw down some hay for his horse and then walked to work.

Near Anna's home in Jersey City is a canal. Anna spent the morning there. There were other girls and boys at play. The girls picked up little stones and threw them into the water. The boys were making boats of wood. They put them into the canal. Anna watched the children. She ran along the stream beside the boats. One boat

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L. L. Mulhman
President

ran against the shore. Anna learned over the bank to see it.

The bank was slippery. Splash! She fell into the water. "Oh, oh! Mother! Mother!" cried the little girl.

"Help, help! Anna will drown," called the children.

Anna's mother heard her. Somebody else had seen Anna fall and heard her scream. It was Charley. He had strayed from the yard. He went swiftly toward the canal and straight to Anna.

The girl's dress floated upon the water. Charley seized it in his teeth. He gave a steady pull and lifted Anna out. The water ran in streams from and that the reservation will be her dress as he laid her gently on the bank.

Mrs. Petrino picked Anna up and held her in her arms. Anna began to sob.

"My little girl is safe," her mother said. "She will soon be in the house and have some dry clothes on. She must not cry."

When Anna heard her mother speak she became quiet. Mrs. Petrino hurried home. Charley walked beside her. Now and then he put his nose to Anna's dress as if to make sure she was quite safe.

Mrs. Petrino put out one hand to pat his neck. "Good, old Charley," she said, "I'm proud of you."

Charley laid back his ears and rubbed her sleeve.

"We will give him all the apples he can eat won't we?" said Anna. She had been too frightened to speak before.

Mrs. Petrino carried Anna into the house. She soon tucked her in bed.

When Tony Petrino came home that night his wife told him how Charley took Anna from the canal.

"I will never sell Charley now," he said. "No, not for his cart full of gold."—Little Chronicle.

so does a holy purpose in the heart of Zaccheus. It might express itself in the words, "If Jesus only calls me, I will forsake all to follow Him." His master passion, avarice, most subtle and imperious of all, has received its death-blow.

Before he ever left the fork of the tree, Zaccheus was far beyond the young rich ruler. No need of Jesus testing him with the command, "Go sell all, and give all." Can this man, whose life has been one of social ostracism, believe his ears? In defiance of popular feeling and established etiquette, does Jesus invite Himself to his home? Will the great Rabbi actually enter a house, the threshold of which no self-respecting Hebrew has ever crossed? Fears He no ceremonial defilement?

It is no mistake. Jesus is looking up with smile of recognition and eyes of love. In a transport of joy this out-cast son of Abraham descends, and embraces, in all the fervor of a new affection, his self-invited Guest. Arm in arm they walk toward his tabooed home, while the opprobrium that once rested on Zaccheus falls with augmented weight upon Jesus. Above the confused and threatening roar of general disapproval can be heard at times the clear and ringing indictment, "He hath gone to be guest with a man that is a sinner."

In the portal of his lordly manor Zaccheus pauses. He is grieved at the imputation cast upon his new-found Master—grieved that he himself is cause of it. He stands forth, and, with wave of hand, asks the attention of the ill-humored throng. In substance he says: "You call me sinner. I have been such. Having lost all prestige among you by accepting office under an alien government, having no longer any reputation to support, I have yielded to the insidious allurements of my odious position, and have at times made false depositions to increase my revenue. I call you to witness that in every such instance I will make four-fold restitution. When this is completed I will give the half of the remainder to the poor. You say Jesus is going to be guest of a sinner. Granted! But not of an unrepentant sinner reveling in ill-gotten gains. A sinner, yes; but one who brings forth fruits meet for repentance."

As if to seal this protestation with Divine authority, Jesus lifts His hands and solemnly declares absolution. "Saved! saved! Both he and his house; because he is a son of Abraham, not only by nature, but by grace through faith. He proves his lineage from the father of all the faithful. You have called him sinner. Well, the very end and aim of My mission is to seek and to save sinners. I call you to witness My success in this instance."

Analysis and Key.

1. Zaccheus: His City, Office, Fortune.
2. A Desire, a Hindrance, an Expedient.
3. Jesus' Recognition and Request. Zaccheus' Compliance.
4. Popular Disapprobation.
5. Changed Nature of Zaccheus. Evidenced by his pledge.
6. Jesus' Commendation.

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LISTING WHEAT.

(Continued from page 889)

and rain, and thus its fertility is increased.

3. The furrows left by the lister catch all the surplus subsoil to be drawn on during winter and early spring when the rainfall is very small.

4. When a plow is used, the top soil is more or less disconnected from the subsoil by stubble, weeds, etc., and even a cushion of dry dust that the continuity of capillary action of water from subsoil to top soil is broken, and the wheat is more apt to freeze out and be damaged by drought in early spring than when the lister has been used.

5. The lister mixes the stubble, trash, etc., promiscuously through the soil, leaving a noticeable portion of same on top, which acts as a mulch and keeps soil from drying out.

6. Since the wheat does not freeze out so much after the lister as after the plow, it will save seed. (In our own case we were compelled to sow one and one-half bushels per acre on strong ground to keep from lodging and growing too rank, and during the last three years that we used the lister our wheat was too thick on the ground every year. Now we will cut down the seed per acre to one and one-fourth bushels. The lister will save us every sixth bushel of seed.)

To recapitulate, the lister

1. Saves time and leaves soil in good condition.
2. Increases the fertility.
3. Catches, and stores rainfall.
4. Does not break the capillary action of soil.
5. Keeps soil from drying out rapidly by mulch.
6. Saves seed.

I do not wish to impose on you and take your time, but in the article mentioned it stated that there was no reason known why the lister was better than the plow, so I thought I would give you the above reasons. I have given the matter very close study the last three years and I find that the lister increases the yield at least from 3 to 5 bushels per acre, and the work of plowing for wheat is more like play. I was brought up in a wheat-field in Sumner County, Kansas, and have worked with wheat since I was 10 years old (1881), and I must confess that I do not know of a better and easier way of preparing the ground for wheat, nor a way to secure a larger yield per acre than after the lister.

In our work here we found out a better way than with a cultivator to work the ridges down, as stated in the mentioned article.

I enclose you a copy of the patent which is self-explanatory. The lister itself is used for the second operation and it does the work much better than a cultivator.

I do not wish you to think that I want to get a free advertisement, for you do not have to say anything about it, but I wanted the mentioned copy of your paper or another one as a sample and incidentally gave the reasons why the lister is better for wheat.

There are yet other ways to work down the ridges, but the lister with share and wings, or very big share alone, is the best.

C. H. SOUCEK.

Grant County, Okla.

CORRECTING A WRONG SURVEY.

EDITOR KANSAS FARMER:—In your answer to S. A., Marion County, May 3, 1906, regarding a certain proposed survey, you make the matter of boundaries very plain. I would like to trouble you for a further opinion.

If the surveyor makes the survey as indicated and establishes a new line several rods from the old line, which is, of course, incorrect according to the Supreme Court's ruling, and the persons most interested failed to make an appeal inside thirty days, what recourse is there for the injured parties?

We are interested in a similar survey of a year ago, in which the line was moved several rods from road or supposed line, and the persons interested, owing to the belief that the surveyor was right, failed to appeal within the thirty days. Developments since then have proved to all persons interested, the surveyor included, that his survey was wrong, the Government surveyors having run two incorrect lines almost through the townships one mile of which he had tried to correct. Now is there any way of getting behind this survey of a year ago and reopening it to correct it? It is evidently wrong. An answer will be appreciated.

W. G.

Perhaps the simplest way to correct the error in this case is for some property owner, or several persons interested, to employ the county surveyor to make a new survey of the lines involved, making it correctly according to present light on the subject and re-

cording it according to law. There will then be two recorded surveys, only one of which is correct. To avoid danger of future misunderstandings which may arise after the lands or some of them shall have changed hands, let some of the interested parties appeal within thirty days of the filing of the record of this last survey. This will bring the entire question before the court. The surveyor's testimony and other evidence may be taken. The judgment of the court will be final unless the case be taken to the Supreme Court within the statutory time. In any case, a final and correct determination of the true line will have been made.

This proceeding need not be very expensive unless the suit be contested. It will be better, however, to have the matter looked after by a competent attorney.

WHO IS GROWING THE MOST CORN PER ACRE

The Kansas Corn-Breeders' Association has arranged for another "Yield per Acre Corn" contest, and will offer suitable prizes for the largest and second largest yields of corn from a measured acre of land. The man who took first prize in this contest last year grew 103 bushels of corn on an acre of land. This season promises a large crop, and it is hoped that an official record of a larger yield than that of last year may be secured.

No admission fee is required in this contest, and every farmer who has a good field of corn is requested to send in his application and select an acre in the best part of his field to compete in the contest.

The purpose of the Corn-Breeders' Association in planning this contest is not simply to discover the highest yields of corn, but to secure official records of yields in the different parts of the State. The corn in the Western part of the State is especially good this season, and it is hoped that this section will be represented by several contestants.

The rules for the contest are given below:

All entries must be made to the Secretary of the Association, by September 15, 1906.

The yield of corn shall be determined upon a measured acre of land in one body.

One bushel of ears, which shall be a fair sample of the corn produced on the acre, shall be sent to the secretary of the Kansas Corn-Breeders' Association, Manhattan, Kans., with a statement of its weight as determined on the same date as the remainder of the corn upon the acre of land is weighed.

All of the above measurements, weights, etc., shall be made by the contestant, assisted by a competent person selected by him, both of whom shall make affidavits that all measurements, weights, samples, and everything connected with the contest is fair and just and according to the rules of the contest to the best of their knowledge and belief.

The secretary will make determinations of the percentage of moisture in all samples received, and all yields will be figured on an equivalent yield containing 15 per cent moisture, as representing air-dry corn.

CRUELTY TO ANIMALS.

EDITOR KANSAS FARMER:—We would like to know if there is a humane law in the State of Kansas, and if so, we would like to know through the columns of your paper. E. AND L.

Under chapter 12, General Statutes of Kansas, "Whoever overdrives, overloads, drives when overloaded, overworks, tortures, torments, deprives of necessary sustenance, cruelly treats, mutilates, or kills an animal," or causes or procures such to be done, or fail to provide it with proper food, drink, shelter, or protection, etc., shall be punished by imprisonment in jail not exceeding one year, or by fine not exceeding two hundred and fifty dollars, or by both such fine and imprisonment."

There are further provisions forbidding specific acts of cruelty, and also authorizing officers of any incorporated humane society to kill animals under certain stipulated conditions.

RUSSIA HAS WOES.

Russia is now experiencing the woes of two rival governments. The government administered by the nobles in the name of the Czar is a government of farce. Its cardinal doctrine is the right of the throne to exist to rule, and to tax all in the interest of the governing power. For the benefit of the Czar and the governing class do the common people live, labor, and submit. Against this autocratic government there is maintained a secret organization of unknown extent, which assumes to have the right to govern

Russia. To this secret power unknown numbers of Russians have sworn allegiance. It issues decrees of punishment, including the death penalty. The recent numerous assassinations of high officials as well as the attempts on the life of the Czar are reported to have been decreed by this secret organization. Its executioners seem to count their lives of little value compared with the execution of the purpose of the decrees. Thus are they willing to use bombs, the explosion of which means almost certain death to themselves.

Should the Czar ask THE KANSAS FARMER'S advice in this situation, it would unhesitatingly urge him to try justice as a remedy for the woes of his empire, his grand dukes, himself, and his people.

Blackwell, Oklahoma, has out the premium list of the third annual exhibition of her Inter-state fair. The list indicates a live association and gives the lay-out for a big fair. They do things in the newest State.

Miscellany

THE LAW OF THE ROAD.

When the driver of an automobile runs down an aged woman, and with atrocious inhumanity rushes away from his victim, leaving her to suffer and to die unattended except for the aid of a chance Samaritan, it very naturally arouses public indignation, and no class perhaps is louder in voicing righteous depreciation than the automobilists themselves.

The cause of almost every accident and the real root of the entire evil is that so many drivers of automobiles set at defiance the law of the road—which is also the law upon which society is founded—that others have rights.

In country districts there is not quite an equal division of rights. Under the law the pedestrian has the first right. And there is a right of ownership which is frequently overlooked or usurped, for the fee of the land within the highways is vested in the adjoining property owners. The State requires for the convenience of the public that the property owner lend to the community a portion of his lands for highway purposes. The land is not purchased of the owner, but continues to be assessed to him; he pays taxes on it; and, moreover, is compelled to maintain it in passable condition for travel; but except for this necessary and orderly use by the public, he owns and controls the land as much as any other land on his farm. It is not surprising, then, that he feels that he has some right to be respected.

In the contest for the Glidden trophy, cards were posted up along the line of the route warning people off the roads lest their children, dogs, chickens, etc., should be hurt by the contestants. At many points along the route the farmers and others made a gala day of it, and turned out to see the contestants pass. Some, however, it is understood, objected strenuously to being ordered to give the right of way to automobilists. Strictly speaking, the right of one man to order another to keep off the road may be taken as a piece of impertinence, and it is not to be wondered at that the antagonism of the farmer should be aroused.

If the automobile is to become as general in its adoption as its enthusiastic advocates desire, and which as a vehicle of the greatest utility it certainly deserves, the reckless driver must be suppressed, and due regard given to the rights of others as embraced in the law of the road. And the same law, of course, includes not only the automobile driver, but every horse driver or other user of the highway.—Good Roads Magazine.

At the Kansas State Exposition.

A large number of manufacturers of agricultural implements and machinery will make exhibits on the Topeka State Exposition grounds during fair week, September 10 to 15. The large dairy building, which is the second most commodious building on the grounds, will be occupied entirely by the International Harvester Company of America with a complete line of their exhibits. The Dempster Mill Manufacturing Company, Beatrice, Neb., which is the biggest thing of its kind in the West, will make a big exhibit.

The Smith Manufacturing Co., of Chicago, will show a full line of their manure-spreaders. The Bruley Steel Fence Post Co., of Milwaukee, Wis., will show their line of steel posts. The Barrett Manufacturing Co., of Chicago, will show their famous line of roofing



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Over 70 sizes and styles for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engine or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
WILLIAMS BROS., Ithaca, N. Y.

THE AUTO-FEDAN
3-Stroke **HAY PRESS** 2 Men Can Self Feed Run It.
Sati sicuten Guu rnteed

THE AUTO-FEDAN HAY PRESS CO.
1640 Jefferson St., Topeka, Kansas

Your Advantage in Advance Fence
ADVANCE
We give thirty days' free trial on your own farm—money back if not entirely satisfactory—and allow you the wholesale maker's price if you decide to keep it. Now, Advance is the strongest fence made because we don't cut the stay wire but weave it right into the top and bottom strand wires, thus saving all the strength and making the fence solid as a rock. Our catalogue tells all about it and gives wholesale delivered prices.
ADVANCE FENCE CO., 3782 Old St., Peoria, Ill.

MITCHELL COUNTY, KANSAS FARMS—Also thousands of acres of the choicest lands in the western counties. Soil perfect and smooth, at \$5.00 and up; 20 years resident on the ground. Special opportunity at this time in Rook county, on line of new railroad now being built. A choice creek bottom farm, near town, at \$24.00. Write me your wants; I can produce the goods and at best prices. **W. P. CURTIS, Beloit, Kansas.**

BIG WESTERN BARGAIN—7,000 acre tract, Western Kansas land, under ditch, \$4.50 per acre. Some bottom, fine for alfalfa; several sections have running water, 1/2 mile from Santa Fe R. R. 490 nice smooth land, Greeley county, \$4.50 per acre.
MILLER & REID,
615 S. Kansas Ave. - - - Topeka, Kansas

A Home in Missouri.
We have them for sale; fine, black land, which grows Corn, Wheat, Clover and Bluegrass on every acre, and located in Cass county, Mo., 35 to 40 miles south of Kansas City. Send for list or come to see us.

JOT. M. WILSON & SON,
Harrisonville, - - - Missouri

The Blossom House
Kansas City, Mo.
Opposite Union Depot. Everything first class Cafe in connection. Cars for the Stock Yards, the up town business and residence parts of the city and for Kansas City, Kansas, pass the door. Solid comfort at moderate prices. A trial will please you.

materials. R. H. Quick, of Fiat, Ill., will show his adjustable stock rack. Secretary R. T. Kreipe, of the State Exposition, has numerous letters from other parties who expect to show. Free space is given to all exhibitors who show on the grounds and not in the buildings.

Owne the Farm you Till.

EDITOR KANSAS FARMER:—I would like to give my experience as a small farmer for the benefit of Mr. Babbitt and others. In 1896 I was living on a small place, farming a little and working at the painter's trade, every year farming more and painting less. About this time I rented a farm of 110 acres of an old couple nearby, they living on the place. This was in March, 1896. In July of this year the old couple informed me that they intended to sell the farm and that they wanted to sell it to me. I told them I was not able to buy. They said I was able and wanted me to listen to the plan. They would sell the farm for \$2,000, \$300 down and the balance in \$200 annual payments including interest, interest to be six per cent. I borrowed \$300 and bought the place, including their share of the crop and six head of cattle, for \$2,000. They moved to town and I moved on the farm with my wife and five children. The farm had been rented for years and was in bad shape. The first thing I did was to clean the road and farm and paint the buildings. In January I sold enough of the cattle and crops to pay the \$300. The annual payment came due August 18. This payment I met and increased my stock.

In 1902 my daughter graduated from the country schools and we had another boy. My farm was fifteen miles from any school higher than the eighth grade. I wanted to educate my children, but how to do it and stay there and pay for my home I did not know. I did not like to send them away to school and the money I did not have. My wife and I visited the Kansas State Agricultural College and looked at the country nearby, and while there made a trade. We traded our farm of 130 acres in Douglas County for 80 acres near the Kansas State Agricultural College. I had added 20 acres to the old place of 110 acres. This 20 acres I traded a horse for—valuation \$40. In the farm trade I gave \$1,000 in cash to boot. Before leaving the old place I had a public sale and sold enough stock, grain, and machinery to raise the \$1,000 and the annual payment. In 1903 we moved to our new home with a small amount of machinery, three head of horses, and three dozen chickens. The new place, like the old one, had been rented for years and was run down. The roads on two sides of the place, including two or three rods on the inside of the fence, were grown up with weeds and brush. At the present time I have one of the neatest, cleanest, and most productive farms in this neighborhood. I have improved my machinery, have nine head of horses, eleven head of cattle, forty-eight head of hogs, twenty-four ducks, five hundred chickens, and another boy. There are twenty acres of prairie on the place. This is used for pasturing. I mow this twice a year to kill weeds and brush. I have sixteen acres of alfalfa and plenty of all kinds of fruit. I raise corn, kafir-corn, and cane and garden truck of all kinds. We keep the children in school from six to nine months each year and with their help do all the work and help the neighbors make hay, haul hogs, shuck corn, and thrash. I never hire any help, and since the first of April my oldest son has worked for the Kansas State Agricultural College at Hays. I farm 35 acres away from home. This ground I disked, listed, rolled, harrowed, and cultivated four times and the outlook for a crop is good. I have cut alfalfa three times, mowed the road twice, trimmed the hedge three times, dragged three-fourths of a mile of road twenty-one times since the first of March, worked three days on the road, set a young orchard, hoed the garden, hived the bees, picked and marketed the fruit, made a pond in the pasture, put a pump in the well, kept the fence in repair, attended political conventions and school meeting, went to picnics, kept a record of everything bought and sold, the time of planting and harvesting, and the kind of weather. I milk five cows and help care for little Ross Stubbs who is developing into quite a "Boss Buster."

Now if my friend will go back with me to the time I rented the farm he will see that the farm was worth about \$2,000. Seven years later I sold or traded the farm for \$4,000 and had practically put nothing on the place except labor. This farm would have rented for two hundred dollars per year. Suppose I had rented it for the seven years. I would have paid the owner

CONGO

NEVER-LEAK
ROOFING

THE NEVER-LEAK ROOF

After you've tried the other kinds—the kinds that need constant coating—the kinds that rot through from below—the kinds that rip off in the wind—the kinds that wear out in a year—the kinds that leak when the snow thaws on them—and all the rest—after that you will settle on Congo Roofing—the kind that endures.

Lots of other people have had that experience and that explains the popularity of Congo.

Samples and Booklet free.

BUCHANAN-FOSTER COMPANY
PHILADELPHIA, PA.

\$1,400 and he would have still owned the place. As it was I made and saved \$3,400.

Now I would say to any man who is renting, stop it at once and buy a farm though it be small. You will be surprised how much you can keep and how much you can raise on a small place run by your own hand and head.

Now in conclusion let me say, I would rather live in a little cabin built by myself, where I could always express my honest thoughts on all questions as I see them, than to live in the finest palace in the world owned by another. There is an independence that goes with the ownership of a home that every American ought to possess, and what I would like to see is a real Boss Buster organization to encourage and assist young men and women to own their own homes. This would mean more and smaller farms which would be a blessing.

I think there ought to be a limit to the amount any one man holds in real estate, and there would be a limit if men would stop following up the large real estate owners to rent what they themselves could own.

R. A. WILLIS.

Riley County.

Last Call for Farmers' Institute Dates.

EDITOR KANSAS FARMER:—The final schedule for farmers' institutes will be printed in THE KANSAS FARMER in two weeks. There are still several open dates in September and a few in October and December. As had been stated before, preference will be given after October 16, to those institutes that have boys' corn contests. The second and fourth weeks of September are open and several speakers from the Agricultural College are available for those weeks. No dates will be made for institutes with corn contest before October 15, as that will be as early probably as it will be fair to judge the boys' corn. Requests that come later will be granted when possible.

Copies of the Institute Report may be had on application.

J. H. MILLER,

Supt. Farmers' Institute Department, Kansas State Agricultural College, Manhattan, Kansas.

Cost of Living to-Day and Ten Years Ago.

The following figures speak for themselves. They are taken from daily papers in comparison of prices paid for commodities and necessities of life. During the last ten years the prices of luxuries have soared absolutely beyond reason, the cost of rentals having increased from 25 to 150 per cent, cost of help 50 to 75 per cent, lumber, nails, and building material from 75 to 150 per cent.

The following table gives a list of food articles with a comparison of their cost in 1896 and 1906:

	August 15, 1896.	1906.
Butter, creamery.....	\$.15	\$.24
Cheese, New York cream.....	.07 1/4	.19
Eggs.....	.10	.20
Chickens, broilers.....	.12	.23-25
Lemons, box.....	1.50	4.50-50
Watermelons, per 100.....	12.00	30.00
Rocky Ford cantelopes.....	2.50	6.50
Potatoes, per bushel.....	.15	.70
Onions, per bushel.....	.50	2.25
Cabbage, per 100.....	.50	1.50
G. beans, per bushel.....	.25	1.75
Tomatoes, per bushel.....	.15	1.50
Cut loaf sugar.....	5.15	6.50
Granulated sugar.....	4.45	5.85
Coffee, per pound.....	.20	.28
Dressed beef, loin, lb.....	.08-10	.23-30
Ribs, per pound.....	.06-08	.21-23
Hams, per pound.....	.11	.20
Bacon, per pound.....	.10	.22
Lard, per pound.....	.06-08	.12
Salt pork, per pound.....	.07	.15
Sack coal.....	.85	1.85

Taken from papers same day ten years apart.

Million to Spend.

(Extract from San Francisco Call, August 11, 1906.)

If the big Eastern railways succeed in diverting any part of the California tourist travel from the Golden State to Cuba this winter, it will not be for lack of determined opposition on the part of the Harriman lines. To preserve this business and to keep the Pacific Coast from suffering because of the calamity liar on the one hand and the keen Eastern hunter of passenger traffic on the other, the Southern Pacific are waging a battle unique in the history of railroad publicity campaigns. The initial war-chest holds a cool million dollars in money and transportation, every penny of which will be spent in offsetting the work of rival lines and stopping the mouth of deliberate misrepresentation.

At the recent meeting of the traffic officials of the Harriman lines in Chicago, a half-million dollars in cash was appropriated for different lines of work in creating traffic to California. As much more will be expended through transportation issued in exchange for advertising, unless it be decided that such exchange comes under the ban of the new interstate commerce law. The cash appropriations are to be expended for magazine and newspaper advertising, for industrial promotion, for booklets setting forth the advantages of California, for pictures illustrating California's wonderful scenery, for pamphlets making known the delights of steel trails leading hither, for card displays in urban railway systems announcing excursion rates and reasons why it is the time to come West—in brief, in all the effective ways the advertiser may find to express the attractions of California.

Extensive Advertising.

The Harriman lines propose not only to advertise California and San Francisco more than ever before, but they propose to do the advertising from San Francisco. From the ashes the literary bureaus of these lines are telling the story of the city's reconstruction. Immediately after the fire, the Southern Pacific equipped two photograph cars in San Francisco with gasoline "scout" cars to accompany them, and began the task of photographing all points of interest in California and along the lines between Portland, Omaha, and New Orleans. A collection of advertising material valued at \$75,000 has been destroyed; already one-half of the photographs have been replaced. At the same time an illustrated folder, "San Francisco, Imperishable," with maps and pictures showing that only a small part of San Francisco's area had been burned over, that the earthquake damage was relatively insignificant, that the water-front was intact, was sent to the four corners of the earth—and to all intermediate stations. Three editions of this folder have been issued and a fourth is in the press, with a total issue of 250,000 copies.

Progress is Noted.

At the same time a weekly bulletin of San Francisco's reconstruction was begun. It was named "Progress." Each Saturday it carries the news of the city's growth to three thousand of the leading newspapers of the United States, besides all of the big railway offices, etc. To each number of "Progress" at least one prominent California citizen has contributed articles from the hopeful point of view, the list including the Governor, the Mayor of San Francisco, a United States Senator, presidents of universities, internal revenue collectors, presidents of nearly all local commercial organizations, Harbor Commissioners, etc. Thousands of clippings taken from "Progress" by Eastern papers have been received by the Southern Pacific Passenger Department.

Three hundred and fifty employees of the Southern Pacific commercial agencies in the East were instructed to talk good cheer about California immediately after the disaster. In every Southern Pacific Eastern office is a large picture of San Francisco taken after the earthquake and before the fire, showing the destruction to have been caused by fire.

This winter's limited trains to California—the Overland Limited and the Golden State Limited—are to be extensively advertised with appropriations of at least \$50,000 each by the Harriman lines and connections.

Elaborate Works of Art.

The "Road of a Thousand Wonders," probably the most elaborate work of color printing ever issued, 45,000 copies of which were destroyed by the fire, will be at once reissued by the Southern Pacific. Describing the line from Los Angeles to Portland, it is of particular value in inducing tourist travel in connection therewith, and beginning in September, the Southern Pacific has begun a year's campaign in twenty-one leading Eastern magazines, in advertising the attractions of California and the "Road of a Thousand Wonders." The expense of this one campaign will be \$75,000.

Simultaneously, a similar book, "The Overland Route," showing the way from Omaha to San Francisco, is being printed with the same beautiful color illustrations. This book, too, will be extensively advertised so that all who ride must read. One hundred thousand booklets descriptive of every part of the State have been printed since the fire, and another hundred thousand will be printed within sixty days. The two color books, and indeed all others, are being engraved by San Francisco engravers and printed by San Francisco printers. The Eastern magazine advertising designs are being made by California artists, and picture reproductions by California photographers.

The Shawnee County Horticultural Society will meet at the home of J. F. Cecil, five miles north of Topeka, on Thursday, September 6. This will be an all-day meeting, to which it is proper to bring your lunch-basket and enjoy a profitable day and listen to this excellent program: "Education for the Country Boy," Prof. John Carter. "Picking, Packing, and Storing Apples," T. E. Armstrong. "Food Value of Fruit," Dr. Meninger.

TUMORS CONQUERED
SERIOUS OPERATIONS AVOIDED.

Unqualified Success of Lydia E. Pinkham's Vegetable Compound in the Case of Mrs. Fannie D. Fox.

One of the greatest triumphs of Lydia E. Pinkham's Vegetable Compound is the conquering of woman's dread enemy, Tumor.

The growth of a tumor is so sly that frequently its presence is not suspected until it is far advanced.



Mrs. Fannie D. Fox

So-called "wandering pains" may come from its early stages, or the presence of danger may be made manifest by profuse monthly periods, accompanied by unusual pain, from the abdomen through the groin and thighs.

If you have mysterious pains, if there are indications of inflammation or displacement, secure a bottle of Lydia E. Pinkham's Vegetable Compound right away and begin its use.

Mrs. Pinkham, of Lynn, Mass., will give you her advice if you will write her about yourself. She is the daughter-in-law of Lydia E. Pinkham and for twenty-five years has been advising sick women free of charge.

Dear Mrs. Pinkham:—

"I take the liberty to congratulate you on the success I have had with your wonderful medicine. Eighteen months ago my periods stopped. Shortly after I felt so badly that I submitted to a thorough examination by a physician and was told that I had a tumor and would have to undergo an operation."

"Soon after I read one of your advertisements and decided to give Lydia E. Pinkham's Vegetable Compound a trial. After taking five bottles as directed the tumor is entirely gone. I have been examined by a physician and he says I have no signs of a tumor now. It has also brought my periods around once more, and I am entirely well."—Fannie D. Fox, 7 Chestnut Street, Bradford, Pa.

Sick Headache

When your head aches, there is a storm in the nervous system, centering in the brain.

This irritation produces pain in the head, and the turbulent nerve current sent to the stomach causes nausea, vomiting.

This is sick headache, and is dangerous, as frequent and prolonged attacks weaken the brain, resulting in loss of memory, inflammation, epilepsy, fits, dizziness, etc.

Allay this stormy, irritated, aching condition by taking Dr. Miles' Anti-Pain Pills.

They stop the pain by soothing, strengthening and relieving the tension upon the nerves—not by paralyzing them, as do most headache remedies.

Dr. Miles' Anti-Pain Pills do not contain opium, morphine, chloral, cocaine or similar drugs.

"Sick headache is hereditary in my family. My father suffered a great deal, and for many years I have had spells that were so severe that I was unable to attend to my business affairs for a day or so at a time. During a very severe attack of headache, I took Dr. Miles' Anti-Pain Pills and they relieved me almost immediately. Since then I take them when I feel the spell coming on and it stops it at once."

JOHN J. McERLAIN,
Pres. S. B. Eng. Co., South Bend, Ind.
Dr. Miles' Anti-Pain Pills are sold by your druggist, who will guarantee that the first package will benefit. If it fails he will return your money. 25 doses, 25 cents. Never sold in bulk. Miles Medical Co., Elkhart, Ind.

Dairy Interests

The Chemical and Bacteriological Composition of Market Milk.

FROM BULLETIN NO. 110, MASSACHUSETTS AGRICULTURAL COLLEGE EXPERIMENT STATION.

One hundred and thirteen samples of milk were collected and examined during the months of July, August, September, December, January, February, and March; they were obtained largely from milkmen while engaged in retailing the product. In many cases the retailer produced only a portion of the amount sold, though occasionally he produced his entire supply. When a whole or part of the supply was purchased, the station representative in some instances visited individual producers in company with the purchaser and took samples of the product.

1. ACIDITY OF MARKET MILK.

Freshly drawn milk possesses a slight amphoteric (acid and alkaline) reaction, due to the presence of acid and neutral phosphates, alkaline carbonates, and free carbonic acid. Fresh milk is free from lactic acid which is a product of fermentation. Richmond states that 100 cubic centimeters of fresh milk require about 20 cubic centimeters of 1-10 normal sodium hydrate to neutralize it, and the number of cubic centimeters required he designates "degrees of acidity." Most of the samples collected were tested at different times for acidity, the first test being made in the afternoon of the day of collection. During the entire time they stood in the laboratory where the temperature was from 70° to 80° Fahr.

The results of the first test made on the day of collection show extremes of 12.0° and 21.3° with an average of 14.7°. Two samples known to have been watered, and one sample, noticeably below the normal, were excluded from the average. During the second day two tests were made, one in the morning and one in the afternoon, a slight increase of acidity being noted each time in the majority of cases. In case of some samples the increase was very marked on the afternoon of the second day, while in a few samples sufficient lactic acid had been produced to cause the curdling of the milk. On the morning of the third day the acidity showed a marked increase and a general curdling had taken place. In some few cases curdling did not actually occur until the fourth day, although the milk had a disagreeable odor. The milk produced by the experiment station showed very little change in acidity until the beginning of the third day, and none of the sev-

eral samples curdled until the fourth day.

Lactic acidity being due to the action of lactic acid germs does not necessarily indicate a dirty milk. Any appreciable degree of acidity above the normal (13° to 20°) would be an evidence of old milk, or it might indicate that the milk had not been properly protected from dirt or dust, or that it had been kept at too high a temperature. Because of the normal acidity of the milk when first tested, and because most of the milk did not sour for 36 hours thereafter, one may safely conclude that the larger part of the product was not over 12 to 24 hours old at the time of collecting the samples. The two samples of milk known to have been watered tested 10.3° and 11.2°, and one very suspicious tested 10.4°. It seems quite probable that milk testing 11° or lower has received more or less water.

2. CHEMICAL ANALYSIS OF THE MILK.

The analyses of the samples were made in the usual manner. The fat was determined by the Babcock method, the total solids by evaporation on sand, and the solids not fat by difference.

The chemical analyses of 110 samples gave average results of 13.23 per cent total solids, 4.49 per cent fat, and 8.74 per cent solids not fat. In general it may be said that the solid ingredients contained in the milk were above the legal requirements. Only two samples collected were known to have been watered (about 10 per cent) while 5 other lots were considered somewhat suspicious. Fifty samples, or 44 per cent of the entire number more of fat, and in most cases 13.5 per cent or over of solid matter, and may be designated as "rich"; twenty samples contained 5 per cent or more of fat.

The milk collected west of the Connecticut River was not as rich in solid ingredients as that obtained in the territory of Amherst and vicinity, most of the samples testing between 3.75 and 4.50 per cent of fat. Such milk may be pronounced of average chemical quality.

All of the milk retailed at 6 cents a quart, quite often in glass bottles if desired. In so far as the food value of the milk was concerned, it is certain that the consumer was paying a very moderate price for this article of food.

3. BACTERIOLOGICAL ANALYSIS OF THE MILK.

COMMON FORMS OF BACTERIA IN MILK.

The most common forms of bacteria usually found in milk may be classified and briefly described as follows:

1. Acid bacteria. (B. acid lactic, 1 and II, and B. lactis aerogenes).—The name was given because they produce lactic acid from the sugar of the milk. The common forms of lactic acid organisms are comparatively few in fresh milk—usually below 30 per cent of the total number of bacteria—but develop with great rapidity at ordinary temperature (70° Fahr.) and, as a rule, overcome the other forms. Ordinarily, most of the bacteria in old milk consist of the harmless lactic acid organisms.

2. Rapid and Slow Liquefiers.—A number of different species compose this group which is so named because of its ability to liquefy gelatine. Rapid liquefiers are relatively few in number in fresh clean milk, and are eventually overcome by the lactic acid bacteria. They produce putrefaction by attacking the nitrogenous matter of the milk, and their presence in large numbers probably renders the milk unwholesome.

Slow liquefiers produce enzymes and most of them cause putrefaction. They are not found in the milk as it comes from the udder, nor are they found in well-cleaned milk-pails, and their presence in milk in considerable numbers is an indication of dirty cows or stable. Such milk must be regarded as unsanitary.

3. All Others.—Under this grouping is included a considerable variety of species, such as the so-called neutrals, those producing yellow or red brown colonies, and those peculiar to certain samples of milk, and not found in other samples.

NUMBER OF BACTERIA IN MILK.

Freshly drawn milk that has been produced under strictly sanitary or aseptic methods should contain but a few hundred bacteria to the cubic centimeter. Such milk will keep for a considerable length of time, especially if held at a low temperature.

Country milk produced by ordinary methods, but drawn from reasonably clean cows, kept in passably clean stables, ought not, as a rule, to con-

tain more than 5,000 to 25,000 bacteria per cubic centimeter when first placed upon the market. Such milk, if free from objectionable flavor and odor, may be regarded as satisfactory for general consumption.

Country milk, produced under conditions ordinarily prevailing, is likely to contain 50,000 or more bacteria per cubic centimeter when first offered for sale. Milk offered in large cities often contains from several hundred thousand to many million bacteria to the cubic centimeter. The city of Boston forbids the sale of milk containing over 500,000 bacteria to the cubic centimeter.

MEANING OF BACTERIA IN MILK.

1. A large number of bacteria in market milk (100,000 or more to the cubic centimeter) means that the milk is old, or that it has been kept at too high a temperature, or that it has been produced under unsanitary conditions.

2. Strictly fresh milk contains, as a rule, comparatively few lactic acid organisms (rarely above 25 or 30 per cent of the total number present). The few lactic acid bacteria develop rapidly, especially at ordinary temperatures, and at the end of two days very largely overcome the other species. Milk containing chiefly lactic acid organisms is usually old, but not necessarily dirty.

3. The presence of many liquefiers is an indication that filth has gained access to the milk. A noticeable percentage of liquefiers in milk containing a high total count is very indicative of filthy conditions.

1. The examination of the 113 samples of market milk showed extremes of 12.0° and 21.0° degrees of natural acidity with an average of 14.7°. These tests may be considered normal and indicate that scarcely any of the milk had begun to develop lactic acid (turn sour) when first collected. It is believed that milk testing 11° or less of natural acidity has received more or less water.

2. The investigation showed that the larger part of the milk was above the average in chemical composition; hence, at six cents a quart the consumer was paying a comparatively low price for this article of food.

3. A large total number of bacteria, 100,000 or more, and a relatively large number of liquefiers, in nearly every case went hand in hand with dirty cows and dirty barns. When the cows were brushed, and bedded, and the barns kept in a passably sanitary condition, the total bacterial content, as a rule, was relatively low. In some cases, milk produced in unsanitary barns and drawn from dirty cows did not contain an excessive total count. This may be explained on the ground that the milker was more than usually careful while milking and that the milk was fresh and had been placed in clean vessels and rapidly cooled.

4. Out of 101 samples examined bacteriologically, 50 samples contained more than 50,000 bacteria, 41 samples more than 100,000, 13 samples over 500,000, and 9 samples over 1,000,000 to the cubic centimeter.

5. In only 14 out of 69 cases did the percentage of acid-producing organisms comprise more than 50 per cent of the total bacteria present. In the majority of samples the percentage varied between 10 and 35. Such figures would indicate that much of the milk was comparatively fresh when offered for sale.

6. 32 per cent (22 samples) of the 69 samples examined contained 10 per cent or more of liquefiers.

"THE WORLD'S STANDARD"
DE LAVAL
CREAM
SEPARATORS
 THE DE LAVAL SEPARATOR CO
 74 CORTLANDT ST. NEW YORK. RANDOLPH & CANAL ST. CHICAGO.

7. Of 84 samples examined, 55 or 65.5 per cent had either an old, strong, barny or very disagreeable smell, only 34.5 per cent being of normal character. This condition is evidently to be traced to a number of sources, such as dirty cows, careless milkers, old milk, and especially to allowing the milk to stand exposed to the atmosphere of the stable for a time after milking.

8. The milk appeared to be comparatively free from visible dirt particles, although upon standing a slight sediment was noticed in many samples. No effort was made to quantitatively determine the amount.

9. The large number of total bacteria, the excess of liquefiers, and the objectionable odor in so many samples, as well as the many badly kept stables, previously referred to, make clear that a great deal of the milk offered for general consumption was not produced under satisfactory sanitary conditions. It is believed that the conditions prevailing in the area canvassed would be similar in other portions of the State.

The Covered-Yard System for Stabling Dairy-Cows.

A new scheme for stabling dairy-cows has been suggested by Professor Erf, of the dairy department of the Kansas State Agricultural College. A covered-yard plan consists of building a cheap structure and allowing the cows to run loose in the stable. In other words, it is merely a covered yard with some cheap roofing material, closed in on all sides. On one end of this yard is a milking stable, into which the cows are driven to be milked every night and morning. They are fed their grain-rations while being milked. The roughage is fed in the covered yard proper.

The advantages of this method of stabling are enumerated as follows:

1. Cheapness; no stalls, no expensive building, and no cement floors are required except those that are in the milking stable.
2. This covered yard is bedded daily. It has the advantage of making the greatest amount of the best manure of any plan that may be devised. The stable is cleaned out at such time as to allow the manure to be hauled directly from the stable to the field. Thus nothing is lost in the way of fertility.
3. Cows are more comfortable in such a stable than in stalls.
4. With plenty of bedding the cows can be kept cleaner.
5. It saves labor to clean out the stable every day.
6. All that it is necessary to keep scrupulously clean is the milking stable, which is but a small part of the barn.

Lost Strayed or Stolen—One Cow

That is about what happens each year for the man who owns five cows and does not use a Tubular cream separator. He loses in cream more than the price of a good cow. The more cows he owns the greater the loss. This is a fact on which Agricultural Colleges, Dairy Experts and the best Dairy men all agree, and so do you if you use a Tubular. If not, it's high time you



did. You can't afford to lose the price of one or more cows each year—there's no reason why you should. Get a Tubular and get more and better cream out of the milk; save time and labor and have warm sweet skimmed milk for the calves. Don't buy some cheap rattle-trap thing called a separator; that won't do any good. You need a real skimmer that does perfect work, skims clean, thick or thin, hot or cold; runs easy; simple in construction; easily understood. That's the Tubular and there is but one Tubular, the Sharples Tubular. Don't you want our little book "Business Dairy men," and our Catalog A.165 both free? A postal will bring them.

The Sharples Separator Co.
 West Chester, Pa.
 Toronto, Can. Chicago, Ill.

The Topeka Wholesale Oil Company

Will Fill Orders for Barrels or Carloads of Kansas Oils

Water-White Kerosene, for lighting purposes, Refined Fuel Oil, for stoves and furnaces, Heavy Crude Oil, for painting or fuel, Black Diamond Lubricating Oil, Light Crude Oil, for fuel or dipping, Prepared Carbo-Petrol, for dipping and disinfecting, Tank Asphalt Residium, for good roads. Write for price list. Address

Lock Box No. 198, Topeka, Kansas

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Miscellany

Consideration of Insect Life Essential in Nature Study.

ELBERT S. TUCKER, MUSEUM ASSISTANT IN SYSTEMATIC ENTOMOLOGY, UNIVERSITY OF KANSAS, LAWRENCE.

Insects are the most abundant forms of animal life, but the deplorable fact is apparent that comparatively few persons know much about them, or what is worse, care little about them unless some injurious or noxious kind compels attention. Almost every kind of insect that happens to be noticed is simply called a "bug" and then dismissed from further regard by the majority of people. This lack of interest is unfortunate, not only that older persons thoughtlessly or intentionally deny themselves an insight into the wonders of nature, in many instances of vital concern, but fail to encourage their children to observe and study what would afford useful knowledge instead of being ignored throughout life.

Following the examples of their parents, children are apt to detest the "crawling things," as caterpillars and other larvae, even winged insects, are sometimes called, with fearful though needless, abhorrence. Thus, what should provide entertainment and instruction even for children is too generally condemned, and much that could be learned from Nature in a simple way is lost. On the other hand, influence once started in the right direction often spreads rapidly.

The work of inducing and directing children to learn about animals and plants, then, mainly falls upon the teacher in the school-room. Efforts in this direction, however, have proved to be a source of pleasure as well as of profit. Requirements of a teacher's ability to instruct in Nature study, particularly in the higher school grades, are necessarily becoming exacting, so that candidates must have a certain degree of preparation in that line. Of course, in the small country school, such attainment can hardly be expected of the teacher, nevertheless, observations and experiments can be conducted in a simple way sufficient to attract the interest of the youngest as well as the oldest pupil, besides proving a revelation to the teacher.

No teacher need offer any excuse against giving lessons in Nature study for want of special preparation when so many excellent elementary guides are published at prices that can well be afforded. Information can readily be obtained from a good book dealing with any subject as desired. In regard to insect life, the commendable work of Hyatt & Arms can be purchased at a cost of only \$1.25, but the larger manuals of Comstock or of Kellogg cost \$5.00 each.

Demonstrations of the structure and transformation of insects can be easily carried out under the directions ordinarily given, using examples of the most common insects, but not all of the authorities agree on a system of classification. Most of the old Linnean orders have become considerably subdivided, but still a modified arrangement is very convenient for a beginner or in teaching children. After a little experience, one may learn to distinguish the 19 orders as advocated by Comstock and Kellogg.

The modified system of Linnæus may be presented as follows:

ORDER "THYSANURA."

Fish-moths, Bristle-tails, Spring-tails, and Snow-flies.

The lowest forms of insects are placed in the order Thysanura. These insects never become winged and simply attain growth by increase in size without distinct stages of development. The mouth-parts are usually formed for biting, are somewhat hidden, and often undeveloped. Generally the tip of the abdomen bears two or more appendages, and on this account, some of the common names are bestowed on the creatures, the name Thysanura itself meaning "tassel-tail."

ORDER "NEUROPTERA."

Ant-lions, Scorpion-flies, Caddice-flies, Dragon-flies, Termites, May-flies, and Lace-wings.

The term Neuroptera is applied to "nerve-winged" insects on account of the numerous veins which strengthen the gauzy structure of the wings. There is a radical difference in the nature of the transformations. Neuroptera proper is now restricted to those insects with complete metamorphosis, and Pseudoneuroptera is applied

to those with incomplete metamorphosis.

One of the most common Neuropterous insects is the Dragon-fly. The eggs are laid in water, where the young, or nymphs, pass their stages, feeding on aquatic animals. They are characterized by wearing a "mask" over their powerful jaws. When the nymph is ready to transform, its body becomes robust. It then crawls from the water, and shortly, from a rent in the back the winged adult emerges. The adults are as predaceous as the nymphs, hence their vigorous flight and strong jaws.

ORDER "ORTHOPTERA."

Grasshoppers, Crickets, Locusts, Katy-dids, Cock-roaches, Walking-sticks, and Praying-horses.

The name Orthoptera means "straight-wing," a character found in the front wings of this order, which are leather- or parchment-like. The hind wings are membranous, and fold in a fan-like manner. The mouth-parts are well fitted for biting by means of a pair of horny mandibles with cutting edges, besides two lower outer jaws, the maxillæ.

In considering the cock-roach we find a curious fact—the eggs are laid all at once, enclosed in a case. The young resemble the parents in appearance, but are without wings; just on emerging from the egg, or after a moult, they are white colored, but assume a dirty brown on growing older.

All insects of this order have active metamorphosis, that is, the young grow in appearance like the adults until wings are obtained.

ORDER "HEMIPTERA."

Bugs, Plant-lice, Scale-insects, Cicadas, Leaf-hoppers, and Water-boatmen.

The name Hemiptera, meaning "half-wing," was suggested by the form of the front wings in the sub-order, Heteroptera; here the basal half of these organs is thickened, only the terminal half being membranous and wing-like. The second pair of wings are membranous and fold beneath the first pair. In the other sub-order, Homoptera, the first pair of wings are membranous throughout.

The metamorphosis of the Hemiptera is active. The young differ mostly in coloration from the parents, as illustrated by the cabbage-bug. Most of the Heteroptera emit a disagreeable odor for protection. The mouth-parts are for piercing and sucking, and the beak consists of four bristles, two representing the mandibles and two the maxillæ, inclosed in a fleshy, jointed sheath.

ORDER "COLEOPTERA."

Beetles and Weevils.

In this extensive order of insects, the fore-wings are usually thick and solid, and serve as sheaths to protect the hind wings, which fold under. Hence the meaning of the word Coleoptera, "sheath-wing." The mouth-parts of the June-bug, for example, are for biting, being provided with well developed mandibles and maxillæ.

The young of the June-bug are called grubs, and live in the ground, feeding on roots, mainly of grass. The pupa is found occupying a cell in the ground, and, after passing the winter, the adult emerges in May and June.

ORDER "LEPIDOPTERA."

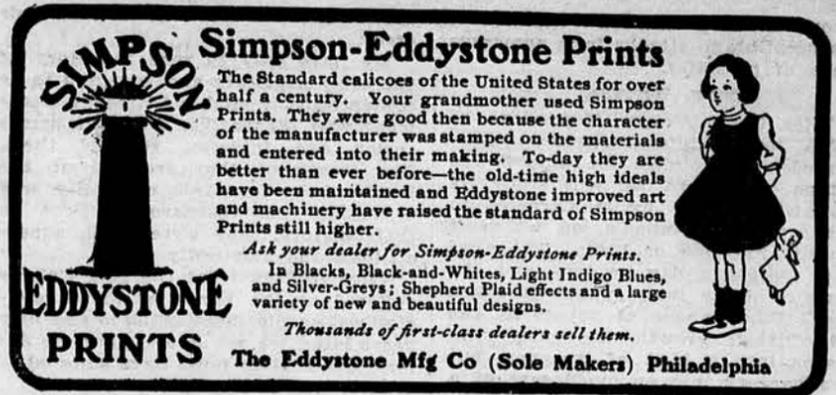
Butterflies and Moths.

In the Lepidoptera, the wings are large in proportion to the size of the body and thickly covered with microscopic scales; hence the meaning of the term Lepidoptera, "scale-wing."

Following the life-history of the milk-weed butterfly, we find the eggs laid on milk-weed in the spring. On hatching, the young caterpillar is of a green color, but on growing older, black and yellow cross-stripes appear, and also black bristles at the head and tail. When old enough it suspends itself by its tail hooked in a net of silk, and assumes the chrysalis stage, from which emerges the winged adult.

The mouth-parts of the caterpillar are biting, but of the butterfly sucking. The eyes of the caterpillar are small and simple, but the eyes of the butterfly are large and compound, supported on the cheeks or genæ; between the compound eyes of the adult arise the antennæ at the top of the head on the epicranium. On the front of the head lies the clypeus to which the front lip or labrum is attached below. The maxillæ are converted into a sucking-tube or tongue.

Many caterpillars of moths spin cocoons in which they pupate. The brown bear moth lays its eggs on sweet clover, which is a food-plant of the caterpillars. The caterpillar on hatching has but few hairs covering the body, and until it grows older and



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St. Louis, Mo., daily to Sept. 30. Limit Oct. 21.....	12.70
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Grand Canyon of Arizona, daily to Sept. 15. Limit Oct. 31.....	55.00
Denver, Colorado Springs, Pueblo, Colo., daily to Sept. 30. Limit Oct. 31.....	17.50
Asbury Park, N. J., daily to Sept. 30. Limit Oct. 31.....	58.50
Long Branch, N. J., daily to Sept. 30. Limit October 31.....	53.45
Ocean City, N. J., daily to Sept. 30. Limit Oct. 31.....	54.45
Cape May, N. J., daily to Sept. 30. Limit Oct. 31.....	54.45
Kingston, Ontario, daily to Sept. 30. Limit 30 days.....	35.60
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St. Lawrence, N. Y., daily to Sept. 30. Limit 30 days.....	36.05
Thousand Island Park, N. Y., daily to Sept. 30. Limit 30 days.....	36.05
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becomes densely covered with hair, it is susceptible to attacks from numerous kinds of parasites.

ORDER "DIPTERA."

Flies, Gnats, Midges, Mosquitoes. The term Diptera signifies "two-winged." Examining the blow-fly as a type of Diptera we will study its life history. The fly is attracted to meat and dead animals, on which it deposits its eggs or blow. The eggs hatch within a day or two, and the maggots obtain their growth in seven days. When about to pupate at the end of their growth, the outer skin loosens into a kind of wrapper, but soon hardens into an ovoid case of a reddish-brown color, called the puparium, within which the transformation to a winged fly takes place, as may be observed by opening the puparium and exposing the pupa inside. The adult appears within six days more.

A diagram of the head and mouth-parts will indicate the position and structure of the eye, epicranium, antennae with terminal bristle, maxillary palpi, proboscis, and labellum.

ORDER "HYMENOPTERA."

Bees, Wasps, Ants, Saw-flies, Gall-flies, and Ichneumon-flies.

The term Hymenoptera signifies "married-wing." To perceive the distinctive features of this extensive order, one should examine a honey-bee. Looking at the head of a bee, which is carried vertically, the large compound eyes, the three simple eyes or ocelli arranged in a triangle on top of the head, the slender and elbowed antennae, and the mouth-parts can all be easily distinguished. Diagrams commonly represent the mouth-parts extended; at the base is shown a pair of jaws or mandibles for biting; extending lancet-shaped is a pair of maxillae for piercing and sucking; and projecting from between the maxillae is the labium extending into the tongue or lingua after branching off the labial palpi.

The hinder pair of wings is less than one-half as large as the front pair. No other insect bears so important a part in the fertilization of flowers as the bees do. The young are footless and are fed by the parents. The sting is equivalent to the ovipositor of other Hymenopterous insects.

As a means of arousing interest in Nature study, the insects serve admirably, taking for example even an ordinary fly or bee. When once the interest of the child is aroused, there is an eagerness to learn about all of the different forms of life on the earth. Things that can not be seen can nevertheless be read about and represented in pictures. In the development of the juvenile mind in this direction, much depends on the efficiency of supplementary reading carried on in connection with regular graded studies. For this purpose, the Educational Publishing Company of Chicago offer a three-volume series entitled "Leaves from Nature's Story-Book," written by Mrs. M. A. B. Kelly, and adapted to the third, fourth, and fifth school grades. The price is 40c in boards, or 60c in cloth per volume.

To show how effectually these books can hold the attention, the following letter, written by my little daughter, ten years of age, is here quoted: "I like to read 'Leaves from Nature's Story-Book' because it is plain enough for me to understand and teaches me many things about insects and animals that I want to know. It tells about the beautiful shells that are brought from the sea, once the homes of wonderful little creatures."

From small beginnings great results have been achieved. The child can find the book of Nature as absorbing in interest as fairy stories, and none too early should it learn that "truth is stranger than fiction."

Are All Indians Bad?

HON. J. H. FLETCHER, EX-GOVERNOR OF OREGON.

How often do we hear it said that the only good Indian is a dead one. I dissent from this atrocious charge so flippantly expressed. The Indians are not all brutal, deceitful, and untrustworthy. No body of men ever executed their orders more faithfully than the band of Indian police which was sent to capture Sitting Bull. They could have spared the old man's life; they could have deserted; they might have disobeyed orders; but they did not. As officers of the Government they fought like demons with men of their own flesh and blood. They returned to the Agency with their prize—the dead body of the great chief. It is possible that they were not good Indians, but they were at least loyal to the Government and faithful to the men who employed

them. Let this much be said to their credit.

We have only to read the story of the early explorers and voyagers to be convinced that kind and humane treatment won the natives and that persecution and injustice repelled them. The treatment they received at the hands of the Spaniards, especially, was tyrannical and barbarous. True to their history, they were cruel, superstitious, and unfriendly.

After reading what the poor Cubans suffered at the hands of these semi-civilized people three hundred and fifty years later, we can guess what the defenseless natives must have suffered in the hey-day of their power.

The Spaniards sought to compel the red men to accept their religion. If they refused to do so—and if they judged it by its fruits as practiced by them, they would be almost sure to reject it—they were either enslaved or killed. This policy caused the very name to be hated and feared by the savages. That brand of religion was too strong a dose even for a people who feasted on "yellow dogs" and the entrails of animals. We never heard that the American aborigine attempted to make a meal of any of those wandering Spaniards. They evidently feared that they would turn their stomachs.

Do you think I am too severe upon those European adventurers? Let Columbus himself answer the question. He reports: "Twelve years after the discovery of Hispaniola, six-sevenths of the natives died through ill treatment." What do you think of that?—you people who imagine that the whites are all angels and the reds all devils. Dr. Pedro Sotander, in his address to the King in 1587, referring to De Soto's expedition, said: "This is the land promised by the Eternal Father to the faithful, since we are commanded by God in the Holy Scriptures to take it from them, being idolaters, and by reason of their idolatry and sin to put them all to the knife, leaving no living thing, save maidens and children, their cities robbed and sacked, their walls and homes leveled to the earth." I have wondered often in what part of the Bible he found that authority. I think some spirit-rapper should call the Doctor up and ask him to explain or retract.

The Reverend Increase Mather later on enunciated the same idea. He said: "The heathen people amongst whom we live, and whose land the Lord God of our fathers hath given us for a rightful possession."

I wonder where the Reverend Increase got his authority for saying that the Lord God had given them this land as a rightful possession? I notice when a man wants to steal, to plunder, or exterminate a people, he always tries to shuffle off the responsibility on the Almighty. Paul Kruger said that God had given him South America as a "rightful possession," and when he made up his mind to exterminate the English and all other utlanders, he assured his people that God would direct the bullets of the Boers, and that he would drive the British Army into the sea. But he didn't do it—not by a good deal. Now if God had given old Paul the land of South Africa, it strikes me that He would have been honorable enough to have made the title good. But He did not. The Russians preached the same doctrine regarding their fight with Japan, but I notice that it is the "heavy battalions," when intelligently used, that count.

But to return. It was this attitude of hostility that gave rise to many of the quarrels between the white and red races. The Indians get all the blame, of course; but let it not be forgotten that the white man has been the his-races. The Indians get all the blame, told. The Indian owns no telegraph, employs no press reporter, and sends no dispatches, so that his side of the story will never be known.

The English explorers, more particularly Cabot, Sir John Hawkins, and Sir Francis Drake, acted with almost as much severity as did the Spaniards, and the result was that the natives feared and distrusted them.

But the policy pursued by the French was different. It was conciliatory and kind; hence their love for the French. The policy of Jacques Cartier and Samuel D. Champlain was very different from that of Hawkins and his countrymen. With them religion was not enforced by the dungeon and the dagger. The Frenchmen, as a rule, were genial and kind. Take away a Frenchman's politeness and his religion vanishes with it. Charlevoix says: "The savages did not become French; the Frenchmen became savages." The French colonists were not above wan-

(Continued on page 908)

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The Account part is indexed (read indexes) handy arrangement we think.

Hired help. This is for your labor account; shows the name of the one hired, time worked, wages paid, how paid, etc.

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Live-stock account has a double ruling, sales and purchases for each kind of stock being side by side, and as this is to be for five years it makes an interesting comparison. Then over here you have a history of each deal that you make.

Grain and fruit are ruled and printed in the same way, also space for sales on butter and milk or cream, eggs or poultry, in fact there is space for everything raised on a farm and all you have to do is to make the figures. It certainly is an easy matter to have your affairs in shape if you have a system like this.

The inventory sheets are short but businesslike, you fill in under the proper headings the value of the different kinds of stock, grain, tools, bugles, wagons, etc., and the total is of course, the amount of your resources; then under this other heading you fill in anything you happen to owe on these things, and the difference is your actual worth. This is left in the book and the next year you do the same thing and the difference is your profit for the year.

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The Poultry Yard

Poultry Notes.

Many an old hen that has outlived her usefulness is kept year after year, because the owner has not happened to think she is eating five times as much as all the eggs she produces are worth.

Cull your flock and use the axe freely. Aim for quality rather than quantity. There are too many fairly good specimens. The money is made in raising first-class specimens. Better raise one bird worth ten dollars than two birds worth five dollars each. The one sells for the same money as the two, requires less room, care, and feed, and will produce better specimens of its kind.

It is a common notion that hens kept in yards during the summer and fall months can not be made profitable. It is true. They will not lay as well as with a free range around the premises, but with proper food and restricted freedom, the hen will lay fairly well, and three-months-old chicks will grow about as fast as in perfect freedom. They should have one hour's run before roosting time, to get grass and insects, with a little watching to keep them out of young plants and ripening fruit. They need large, roomy yards, with regular attention and feed every day, by one person, who is responsible for their welfare.

Do not send a lot of scrawny, half-finished fowls to market and expect to get the top price for them. We don't know why people will insist on doing this when it is so easy to get them in shape. Confine them in a semi-dark coop for a couple of weeks, feeding plenty of nourishing food, with a supply of clean water and good, sharp grit, and at the end of that time they will be worth double what they were before being so treated. They will not only increase in weight, but will present a much better appearance and the flesh will be firm and juicy.

Keep an eye open for the first symptoms of disease in the flock. As soon as an ailing bird is discovered, it stands the poultryman in hand to get busy at once. Separate the sick bird from the balance of the flock, clean up the premises, disinfect and take every precaution to prevent a spread of the disease. Unless the ailing bird shows signs of improvement, under proper care, it should be killed and the carcass burned. Ordinarily, it does not pay to spend much time doctoring sick fowls, and unless it happens to be a valuable specimen, the best thing to do is to kill it.

The fall is a very good time for a person to begin the fancy poultry business, as he then can select young birds as a foundation stock, and these young pullets may well produce eggs enough before spring to compensate in a large measure for their cost. But the beginner would do well to inspect the yards of the breeders and buy his stock early, for as the fall and early winter months advance, so do values for pure-bred poultry. Usually, early fall finds breeders overstocked, and therefore, they are ready to give buyers bargains. The early purchaser is also better served because he finds a larger number of birds from which to make a selection. Buying fowls is really a surer way of beginning than to buy eggs in the spring, for eggs are always more or less of expectations, while the birds themselves are tangible and the buyer knows what he is getting. In connection with buying birds it is well to caution the novice to get good stock. Do not buy merely because the fowls are cheap. A cheap price very naturally means cheap stock, and what folly to lay the foundation of a breeding yard with inferior specimens. No, a good beginning is half the battle, so do not practice false economy and thereby insure failure at the outset. Get the best or as nearly the best as you can. Then you are in a fair way to climb ahead and get to the top.

Drawing Poultry.

Most commission men and dealers prefer to handle undrawn stock claiming that it keeps much better, though Government inspectors claim that if not disposed of at once, it is liable to poison the one who eats it. On the other hand, those who do not want it drawn claim that the incision in a drawn fowl readily admits molds and germs of different kinds into the body, where they find ideal conditions for rapid multiplication. The cavity is dark, damp and not easily accessible, and frequently a drawn bird, which

outwardly appears all right, is really not fit for food. As it requires considerable time to draw the birds contained in an ordinary shipment, and there is a decided loss in weight, as well, much stock is shipped undrawn whenever the market will accept it.

When birds are to be drawn, the operation should be performed immediately after the pin-feathering is finished or after they have become slightly cooled, as it is more difficult after they are thoroughly chilled. A sharp knife is essential, although some dressers prefer to make the necessary incision with curved scissors similar to those used by surgeons. Drawn fowls usually have the head removed also, and this should be done first. Sever the neck close to the head, taking care not to cut the windpipe and gullet, which can be more easily pulled out if left attached to the head. Draw the neck skin back and remove a short section of the bone, thoroughly washing out any blood that may collect. Finally draw the skin forward, and tie firmly. Remove the intestines through a small opening, as a large aperture is unsightly as well as unnecessary. Cut carefully through the walls of the abdomen, making the incision entirely around the vent, then hook the first finger into the loops of the intestines and thus pull them out. Usually the heart, liver, lungs, and gizzard are left attached in their natural position, as ordinarily the removal of the intestines is considered sufficient. After this has been accomplished, the cavity should be thoroughly washed to remove all blood and other secretions.

A select private trade often demands that poultry be even more carefully prepared, in which case the giblet should be removed and cleaned. Cut the gall sack from the liver, the blood vessels from the heart, and remove the contents of the gizzard. Cut off the shanks after first removing the strong sinews which run up through the leg and injure the quality of the "drum stick." To take out these sinews run a knife blade down the back of the shank, between it and the sinews. Remove the skin above the sinews, and pull the latter out singly by means of a strong fork or skewer. A still easier way is to have a strong hook fastened to the wall at the proper height. Place the point of the hook under each sinew, which can then be easily drawn out. The bird is now ready for tying up. Replace the giblets in the body cavity, draw the end of the drum-sticks down to the "pope's nose," and there tie firmly. Finally fold the wings behind the back. Birds so tied are usually attractive, always appearing plump and chunky, due to the absence of sprawling legs and wings.

Broilers may be attractively prepared for private trade as follows: Pluck carefully and remove the legs and sinews as above. With a heavy, sharp knife make a cut each side and the entire length of the backbone, severing the ribs. Let these incisions meet in front of the neck and below the vent. This permits the removal of the head, neck, backbone, and entire intestinal tract, and the bird opens out flat in convenient form to be placed upon the broiler. The giblets should be cleaned and should accompany the remainder of the carcass.

Poultry Pointers.

Lice and overfeeding are the main troubles with fowls in summer. Hens, when they cease laying, fatten very easily, and a hen is a thrifty candidate for all kinds of poultry disease. The remedy, of course, is to get rid of the lice and to give less feed, especially of the fattening kind.

Provide plenty of shade for your fowls during the heat of the day, and see that they have plenty of pure water. Give them the run of the place, if possible, as that will tend to keep them healthier than when confined to short yards.

It is a good time now to be culling all the cockerels from the flock that you do not absolutely need for next year's breeding or selling. All that are off-color or off in shape or comb should be taken to the butcher's. You will get more money for them now as broilers than you will get after they are fully matured, besides saving the expense of feeding and caring for them for several months.

It is the flock that receives careful attention in the summer that does well in the fall and winter, when eggs command high prices.

If there is any season when neglect is more costly than at other times it is in hot weather. It is at this season of the year when the "little things" timely observed and promptly looked after forge the chain of success in

PLYMOUTH ROCKS

BARRED PLYMOUTH ROCK EGGS - From free range stock, no other fowls kept on the farm. Price \$1 for 15; \$5 for 100. Mrs. C. F. Brown, Box 61, Manchester, Oklahoma.

BLUE BIRDS - Barred to the skin. Hawkins Ringlet strain. Eggs, \$1 per 15, \$5 per 100. Minnie K. Clark, Lyndon, Kansas.

B. P. ROCKS AND BUFF ORPINGTONS - Eight grand matings. Send for price list on eggs and Collie pups. W. B. Williams, Stella, Neb.

White Plymouth Rocks
EXCLUSIVELY.

Good for Eggs, Good to Eat and Good to look at. W. P. Rocks hold the record for egg-laying over every other variety of fowls; eight pullets averaging 289 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96% and as good as can be found anywhere. Eggs only \$2 per 15; \$5 per 45, and I prepay expressage to any express office in the United States. Yards at residence, adjoining Washburn College Address: **THOMAS OWEN, Sta. B, Topeka, Kans.**

LEGHORNS

ROSE COMB BROWN LEGHORN EGGS, 15 for \$1, 50 for \$2.50, 100 for \$4. Mrs. John Holshey, Bendena, Kans.

BUFF LEGHORNS AND BUFF ORPINGTONS. Catalogue free. W. H. Maxwell, 1240 Quincy St., Topeka, Kans.

STANDARD-BRED SINGLE-COMB BUFF LEGHORNS - Headed by first prize pen Chicago show 1905 and took six first prizes and first pen at Newton 1904. Eggs \$3 for 15. S. Perkins, 801 East First street, Newton, Kansas.

SINGLE-COMB WHITE LEGHORN cockerels, \$1 each; two or more, 90 cents each. Fine white, pure, thoroughbred birds. Also a few Barred Plymouth Rocks, barred to the skin - fine, pure and vigorous; hens, cocks and pullets, \$1 each; two or more, 80 cents each. All of our customers are very well pleased. We will make reductions on large lots. Meadow Poultry Farm, Centerville, Illinois

EGGS FOR SALE - S. O. W. Leghorns, W. Wyandottes, \$1 per 15. W. H. turkeys, \$1.50 per 9. Embden geese, 20c each. W. African guineas, \$1 per 17. All guaranteed pure-bred. A. F. Hutley, Route 2, Maple Hill, Kansas.

FOR SALE - Exhibition S. C. Black Minorca cockerels, \$2. I guarantee them. Address George Kern, 817 Osage street, Leavenworth, Kans.

Pure Single Comb Brown Leghorn Eggs - 30 for \$1; 100 for \$3. F. F. Flower, Wakefield, Kans.

Buff Leghorns S. C. Eggs, 30 for \$1.25, 100 for \$3. John A. Reed, Route 2, Wakefield, Kans.

Johnnie Chase, Glasco, Kas.
Breeds Black Minorcas, S. C. Brown Leghorns and Barred Rocks. Second to none in the state. Eggs, \$2 per sitting.

The Egg Season



being about over, we wish to thank our patrons from the Atlantic to the Pacific. We are ready to quote prices on our famous Golden Buff Langshans, and forty other different varieties. Our object the best for the least money. America's Central Poultry Plant, J. A. Lovette, Prop., Mullinville, Kans.

BEE SUPPLIES



We can furnish you bee and all kinds of bee-keepers' supplies cheaper than you can get elsewhere, and save you freight. Send for our catalogue with discount sheet for early orders.
Topeka Supply House
7th and Quincy, Topeka, Kansas

WYANDOTTES

WHITE WYANDOTTES - Choice early hatched cockerels and pullets, at very low prices. Write me. S. W. Artz, Iarned, Kans.

SILVER LACED WYANDOTTES - Thorough bred cockerels, \$2; pullets, \$1.50. Jewett Bros., Dighton, Kansas.

GOLDEN WYANDOTTES - Choice young cockerels for sale, also year old cocks and hens; prices reasonable; address Mrs. A. B. Grant, Emporia, Ka.

RHODE ISLAND REDS

ONE DOLLAR buys 15 eggs of either Rose Comb R. I. Reds or Barred Rocks from prize-winning stock at the college show. Mrs. A. J. Nicholson, Manhattan, Kans.

MAMMOTH BRONZE TURKEYS

Eggs for Hatching

M. B. turkeys, \$3 per 10. Golden Wyandottes, \$2, \$1.50 and \$1.25 per 15. Satisfaction guaranteed. Mrs. A. B. Grant, Emporia, Kansas.

BRAHMAS

LIGHT BRAHMAS

More prizes than any breeder in the state; 10 firsts this season. Eggs, \$1.50. Cockerels, \$3 to \$4. T. F. Weaver, Blue Mound, Kansas

Light Brahma Chickens

Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kan. Route

AGENTS - to sell and advertise our Poultry Compound; \$35 weekly; rig furnished. Franklin Manufacturing Company, Norwalk, Ohio.

SAVE YOUR CHICKS.

Use the Itumar Mite and Lice Killer, a mite and lice destroyer. Guaranteed to kill mites and lice if properly used. If not satisfied return bottle and label and money will be refunded.

CHAS. E. MOHR,

Glendale Park, Hutchinson, Kans.



Subscription, 25 Cents a Year.

"OUT THERE IN KANSAS"

All about the chicken industry in Kansas, the bees and pigeons. Full of information illustrated and made plain for the people. Practical, by and for practical people. The paper that reaches the chicken folks. If you are interested in poultry, bees, or pigeons, THE HEN will interest you. Address **THE HELPFUL HEN, Topeka, Kansas.**

GIVEN AWAY



For the names and addresses of ten good farmers likely to be in need of grain seeding machinery, and sets in stamps, to cover postage, we'll send

FOUNTAIN PEN FREE.
We do this so that we can explain to these farmers how they can buy a seeding machine that cannot be clogged in mud, grubs, adobe, cornstalk or trashy ground; that is 1-3 lighter draught than any other that takes 1-5 less seed; that increases the yield of wheat from 2 to 7 bu. per acre over others. Ask for 1906 catalog B and mention this paper.
MONITOR DRILL CO., Minneapolis, Minn.



NEW and RECENT POULTRY BOOKS

The New Egg Farm

By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor-saving devices, etc., etc. 140 original illustrations. 331 pages. 5x7 inches. Cloth, \$1.00

Turkeys and How to Grow Them

Edited by Herbert Myrick. A treatise on the natural history and origin of the name of turkeys; the various breeds, the best methods to insure success in the business of turkey growing. With essays from practical turkey growers in different parts of the United States and Canada. Illustrated, 154 pages. 5x7 inches. Cloth, \$1.00

Poultry Architecture

Compiled by G. B. Fiske. A treatise on poultry buildings of all grades, styles and classes, and their proper location, coops, additions and special construction; all practical in design, and reasonable in cost. Over 100 illustrations. 125 pages. 5x7 inches. Cloth, \$0.50

Poultry Appliances and Handicraft

Compiled by G. B. Fiske. Illustrated descriptions of a great variety and styles of the best homemade nests, roosts, windows, ventilators, incubators and brooders, feeding and watering appliances, etc., etc. Over 100 illustrations. Over 125 pages. 5x7 inches. Cloth, \$0.50

Poultry Feeding and Fattening

A handbook on the standard and improved methods of feeding and marketing all kinds of poultry, covering all branches, including chickens, broilers, capons, turkeys, water fowl; how to feed under various conditions and for different purposes. Illustrated. 160 pages. 5x7 1-2 inches. Cloth, \$0.50

American Standard of Perfection

A complete description of all recognized varieties of fowls, as revised by the American poultry association at its twenty-eighth annual meeting. It contains all changes in and additions to the constitution and by-laws, and the text of the standard, as authorized to the present time. Illustrated 300 pages. 5 1-2x2 3/4 inches. Cloth, net, \$1.50

THE KANSAS FARMER CO.
Topeka, Kansas

poultry-keeping. By providing shade, exercise, and pure water, your fowls will not get debilitated and worn-out.

A mess of carrots or cabbage chopped fine should be given frequently to fowls, both young and old, for scarcely anything else conduces as much to their general healthfulness.

Great productiveness in our hens is a trait which can be easily fixed by breeding. The principles governing our breeding are the same as those which apply to all other classes of animal breeding.

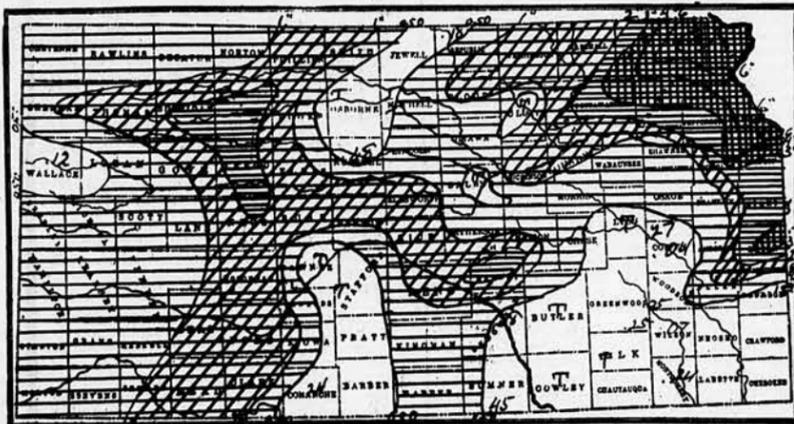
Weather Bulletin.

Following is the weekly weather bulletin for the Kansas Weather Service for the week ending August 28, 1906, prepared by T. B. Jennings, station director:

CLIMATOLOGICAL DATA FOR THE WEEK.

Table with columns for Temperature (Maximum, Minimum, Mean) and Precipitation (Total, Departure from normal). Rows are categorized by Western, Middle, and Eastern Divisions.

RAINFALL FOR WEEK ENDING AUGUST 25, 1906.



SCALE IN INCHES:

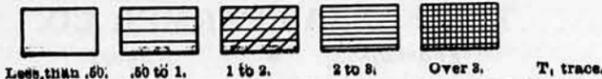


Table of weather data for various locations in Kansas, including Fort Scott, Frankfort, Fredonia, Garnett, Grenola, Horton, Independence, Iola, Lawrence, Lebo, Manhattan, Olathe, Osage City, Ottawa, Pleasanton, Sedan, Topeka, Toronto, Valley Falls, Wamego, and Division.

DATA FOR STATE BY WEEKS.

Table showing weekly weather data for the state of Kansas from June 4 to August 27, 1906.

GENERAL SUMMARY.

The first days of the week were hot, and in Phillips County some hot winds were experienced. As noted in the table above, not only the highest temperature this season was reached, but the highest weekly mean temperature also occurred.

The first days of the week, generally, were dry, but showers became quite general on the 23d, 24th, and 25th, and, though a few counties received but light showers, the majority of the counties received ample precipitation.

COUNTY SUMMARIES.

EASTERN DIVISION.

Allen.—The week was generally cloudy and moderately warm. Precipitation amounting to 0.88 of an inch fell on the 22nd and 25th.

Anderson.—The weather was warm throughout the week with 0.20 of an inch of rain on the 23rd and 1.50 inches on the 25th.

Bourbon.—There was not much rain this week, but there were heavy dews at night. The days and nights were uniformly warm.

Brown.—The rainfall on the 23rd and 24th amounted to 4.31 inches at Horton and 8.40 inches at Baker and was generally beneficial.

Coffey.—The first two days were clear and the last five cloudy. The weather was warm all week with only 0.04 of an inch of rain at Burlington and 0.27 of an inch at Lebo.

Douglas.—The mean temperature, 78.8° was 6.3° above the normal making the warmest weather experienced from the 19th to the 25th of August since 1898.

Franklin.—The weekly mean temperature was above the normal, though the first of the week was rather warmer than the last. There was 0.87 of an inch of rain on the 23rd.

Greenwood.—The days and nights were warm, with little cloudiness. There was 0.25 of an inch of rain at Fall River and 1.62 inches at Eureka.

Jefferson.—This was a very dry week until Thursday, the 23rd, when 2.28 inches of rain fell. The first five days were clear and the last two partly cloudy.

Johnson.—The week was warm, with maximum temperatures ranging in the eighties every day and minimum temperatures generally in the sixties. There was a fine rain of 2.62 inches on the 23d which was very beneficial.

Linn.—Temperatures were uniform and moderately high this week. Every day was clear but the last one. There was a heavy rain of 2.90 inches on the 23rd and a lighter rain of 0.18 of an inch on the 25th.

Lyons.—Warm weather with only a trace of rain, prevailed this week.

Marshall.—The week began with a maximum temperature of 97° on the first two days but the latter part was cooler. The weather was clear till the last two days, which were partly cloudy.

Montgomery.—The week was warm and moist, with light rains and heavy dews. Temperatures ranged from 69° to 97°.

Osage.—Maximum temperatures exceeded 90° on every day but the last one. There was only a trace of rain.

Pottawatomie.—The week was warm and rather unpleasant on account of the high humidity and light winds. The rainfall amounted to 1.38 inches. There was a thunderstorm on the 23d.

Riley.—The week was warm, the highest temperature being 96° on the 19th and the lowest 68° on the 25th. The rainfall amounted to 1.18 inches.

Advertisement for D&S lightning rods. Title: 'Save Your Crop'. Text describes the benefits of copper lightning rods and offers a booklet 'The Laws and Nature of Lightning and How to Control It'.

Advertisement for the Kansas State Exposition Company. Title: 'Kansas State Exposition Company'. Dates: 'September 10 to 15, '06'. Location: 'Topeka, Kansas'. Features: 'Summer Meeting', 'Plenty of Racing', 'Many New Features', 'Largest of Its Kind in Kansas', 'Splendid Attractions', 'Grand Music'.

Advertisement for T.C. Davis and Benedict, Kansas. Title: 'Save Money on Oil'. Text: 'We Sell Premium Machine Oil at Less Than Half the Price You Now Pay. Our Premium Machine Oil is sold at \$3.50 per barrel.'

Advertisement for Ross Brothers Seed House. Title: 'WHEAT: - OUR SEED WHEAT is nearly PERFECT-'. Location: 'Wichita, - - Kansas'.

weather the first two days. Light southerly winds prevailed. Beneficial rains, amounting to 0.51 of an inch fell, on the 23d, 24th, and 25th.

temperature was 97° on the 23d and the lowest 68° on the same day.

KANSAS FARMER.

Established in 1868.

Published every Thursday by the Kansas Farmer Co., Topeka, Kansas

SUBSCRIPTION PRICE: \$1.00 A YEAR

Entered at the Topeka, Kansas, postoffice as second-class matter.

ADVERTISING RATES.

Display advertising, 20 cents per line, agate (fourteen lines to the inch). Continuous orders, run of the paper, \$1.82 per inch per week.

Special reading notices, 30 cents per line. Special rates for breeders of pure-bred stock.

Special Want Column advertisements, 10 cents per line of seven words per week. Cash with the order.

Electros must have metal base. Objectable 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 new advertising orders intended for the current week should reach this office not later than Monday.

Change of copy for regular advertisement should reach this office not later than Saturday previous to publication.

Every advertiser will receive a copy of the paper free, during the publication of the advertisement. Address all communications to

KANSAS FARMER CO.,

116 West Sixth Ave., - Topeka, Kans.



Kansas City Live-Stock Market.

Stock Yards, Kansas City, Mo., Aug. 27, 1906.—Cattle receipts last week were 62,000 head, heaviest of any week this year, but the total for the month will still fall 25,000 head short of last August.

The supply consisted mainly of cattle on the Western order from Native territory, including a liberal number of stockers and feeders. Prices on fed cattle made a small advance during the week, reaching \$6.40 for a few head, a new top record for the season.

Butter—The butter market is up and down, but strength is dominant, market strong to 5 higher to-day on receipts of 6,000 head. Run last week was 39,000 head, smallest week this month.

The hog market is up and down, but strength is dominant, market strong to 5 higher to-day on receipts of 6,000 head. Run last week was 39,000 head, smallest week this month.

J. A. RICKART.

South St. Joseph Live-Stock Market.

South St. Joseph, Mo., Aug. 27, 1906.—Moderately liberal receipts of cattle for the opening market of the week were quite well distributed as to the different grades, and met fairly satisfactory reception at the hands of buyers.

Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week.

CATTLE.

WANTED TO BUY—One bull, and four to six cows of heavy milking breed. Write to Thomas W. Houston, Leavenworth, Kansas.

SPECIAL SALE—5 straight Crutckshank Short-horn bulls for sale at bargain prices for quality. H. W. McAfee, Topeka, Kans.

FOR SALE—A fine young Holstein-Friesian bull by J. P. Mast, Scranton, Kans.

CU' PRICES—Registered horses, cattle, hogs, poultry, pet stock, all kinds of seeds and nursery stock. Catalogue 10 cents. Real Estate bought and sold everywhere. A. Madsen & Sons, Atwood, Kans.

FOR SALE—Some good young Shorthorn bulls just a year old by the 2800 pound Marshall Abbotts-burn 3rd 188305. Cheap, breeding and individual merit considered. D. Ballantyne & Son, Herington, Kans.

FOR SALE—Registered Holstein-Friesian bull and nine females; also 40 head of choice cows and heifers, a few of them fresh now and the balance will come fresh in the fall. M. S. Babcock, Nortonville, Kans.

FOR SALE—The pure Crutckshank bull, Violet Prince No. 145647. Has been at the head of our herd as long as we could use him. An extra animal. H. W. McAfee, Topeka, Kans. 2 miles west of Kansas Ave. on Sixth street road.

FOR SALE—Registered Jersey cattle. Two yearling bulls. Sires—son of Bessie Lewis, 32 lbs. butter 7 days, and "Financial Count" (imported); granddam held Island butter record 3 years. Sire's dam holds public milk record of 58 pounds daily, and his dam and Island winner in class for two years. Her four dams 23 to 26 quart cows, and all winners. Sayda Polo Jersey Farm, Parsons, Kansas.

REGISTERED GUERNSEY BULLS—Ready for service. Also pure-bred Scotch Collie puppies. Dr. J. W. Perkins, 422 Altman Bldg., Kansas City, Mo.

GALLOWAY BULLS—4 head, 16 to 18 months old, suitable for service. All registered. Address C. A. Kline, R. F. D., Tecumseh, Kans.

ABERDEEN-ANGUS CATTLE and Percheron horses. Stock for sale. Garret Hurst, breeder, Peck, Sedgwick County, Kans.

A BUTTER-BRED Holstein bull calf—the best purchase for grade dairy herd. See report Santa Fe Dairy Educational Special. Start right in your breeding. Sixty-five head to choose from. Geo. C. Mosher, Hillcrest Farm, Greenwood, Neb.

PEDIGREE SHORTHORN BULL 3 years old; sire Magneta, who cost \$1,000 at 3 months. Cheap. S. J. Rents, Leavenworth, Kans.

SEEDS AND PLANTS.

WANTED—New crop alfalfa; send samples, name quantity offered. T. Lee Adams, Kansas City, Mo.

WANTED—When the season opens Kaffr corn, barley and millet in car lots. Parties who will have to sell please write. J. R. Young, Aberdeen, Miss.

FOR PRICE OF ALFALFA AND GRASS SEEDS for fall sowing, ask The Barteldes Seed Company, at Lawrence, Kans.

KHARKOV SEED WHEAT—The new variety from Russia. Matures early and perfectly hardy; yielded this year 35 to 40 bushels per acre. Price, sacked, f. o. b. Lawrence, \$1.25 per bushel. Prices for larger quantities and samples on application. Have also Fultz, Harvest Queen, Harvest King, and Pearl's rufflic, soft, smooth varieties, at \$1.10 per bushel, sacked, f. o. b. Lawrence; seed rye at 75c per bushel, sacked, f. o. b. Lawrence. Kansas Seed House, Lawrence, Kans.

FOR PRICES OF ALFALFA AND GRASS SEEDS for fall sowing, ask The Barteldes Seed Company at Lawrence, Kans.

ONE DOLLAR will buy enough of McCauley's white seed corn to plant seven acres if you send to A. J. Nicholson, Manhattan, Kans.

In the day at strong prices, but packers would not meet shipper bids and bought sparingly at steady to easier prices closing the market on a 2 1/2 to 5c decline, and leaving close to a thousand hogs unsold at the finish. The outlook promises declining prices should receipts show any tendency to increase. Hogs to-day sold largely at \$6.00 to \$6.15, with prime top making \$6.30.

The sheep market was fairly supplied, all offerings being Western rangers. The demand for killers was fairly good and although quality was not strictly attractive prices ruled steady to strong. The best lambs here sold at \$7.45 against \$7.60 for the top last week. Half the supply was made up of feeder grades of yearlings and ewes, these met an active demand at strong prices.

WARRICK.

\$15 St. Paul and Minneapolis and Return

From Kansas City via Chicago Great Western Railway. Tickets on sale June 1 to September 30. Final return limit October 31. Equally low rates to other points in Minnesota, North Dakota, Wisconsin, and Lower Michigan.

The man who makes the money and has health and happiness for himself and family is the man who uses his head and does not abuse his muscles. A steady gait will accomplish more in the course of a day than crowding for a while and then taking a rest and will be much easier on the team.

erly winds and only a trace of rain. The days were generally partly cloudy. Phillips.—There were hot winds the first part of the week, with a maximum temperature of 103° on the 22d. The latter part of the week was cooler. A good rain of 1.37 inches fell on the 24th and a lighter rain on the next day.

Reno.—The mean temperature for the week was above the seasonal average, but cooler weather began on Friday, the 24th. A very beneficial rain of 1.47 inches fell on the 24th.

Republic.—Temperatures were high the first of the week, but became more moderate as the week progressed. The weather was clear till the 24th, when 0.18 of an inch of rain fell.

Russell.—Maximum temperatures the first six days averaged 95°, with the warmest, 99°, on the 22d. A trace of rain on the 24th was all that was received.

Saline.—This was a very hot, dry week, and rain is badly needed. The highest temperature was 98° and the lowest 67°.

Sedgwick.—While the days have not been as hot as usual for the season, due to increased cloudiness and reduced percentage of sunshine, the nights have not been as cool as usual, and the mean temperature averaged about 5° above the normal. The week closed sultry, with showers on the 23d and 24th.

Stafford.—Moderate day temperatures and warm nights characterized the week. The rainfall was a trace.

Sumner.—The first of the week was favorable for outside work. The highest temperature was 95°, the lowest 65°, and the rainfall 0.45 of an inch.

Washington.—A maximum temperature of 98° was reached on the 19th, 20th, and 23d, but the week closed cooler. A very welcome rain of 1.10 inches fell on the 23d.

WESTERN DIVISION.

Decatur.—The first of the week was unusually hot and dry for the latter part of August, a maximum of 102° occurring on the 22d. The first four days were clear, the next two cloudy, and the last day partly cloudy. The rainfall was 0.68 of an inch.

Ford.—The first five days of the week ranged from 2° to 9° above the normal. The latter part of the week was cooler. Good rains on the last three days of the week amounted to 1.32 inches.

Hamilton.—Day temperatures were very high till the 23d, when more comfortable weather was experienced. The highest temperature, 105°, occurred on the 22d and was followed by welcome showers.

Lane.—The week was hot and dry, with considerable wind until the 23d, when 0.67 of an inch of precipitation occurred.

Norton.—The fore part of the week was dry and windy, with the maximum temperature 101° on the 22d. Rain fell over most of the county on the 22d and 23d, the total at Norton being 0.85 of an inch.

Scott.—Maximum temperatures ranged from 95° to 102° the first four days and from 78° to 89° the last three days of the week. Cloudiness increased from the beginning to the end of the week. The rainfall was only a trace. More rain would be very welcome.

Sherman.—The first four days of the week were hot, but were followed by cooler weather. The nights were pleasant. An inch of rain was distributed over the last three days of the week. The highest temperature was 99° and the lowest 54°.

Thomas.—The highest temperature of the week, 101°, was reached on the 22d. This was also the highest temperature of the year. The lowest temperature, 58°, occurred on the 25th. The rainfall amounted to 1.07 inches.

Trego.—The hottest day of the week was the 22d, with a maximum temperature of 102°. After this day the air was much cooler. Rains on the 24th and 25th amounted to 2.31 inches.

Wallace.—The week has been very dry and hot, with a light shower of 0.12 of an inch on the 24th. Maximum temperatures the first four days of the week ranged from 97° to 101°. The nights were comparatively cool.

Big Crops in the Far Northwest.

Reports from various parts of the Spokane grain district indicate that this year's yield of wheat will be much larger than was expected earlier in the season, the run being from 25 to 30 bushels an acre, while barley is going as high as 60 bushels, and grain hay three tons to the acre. However, it is declared by State Senator R. C. McCroskey, of Garfield, that the yield in eastern Washington will be fully up to last year's figures. Mr. McCroskey has cut and shocked 900 acres of grain, and reports a yield of 30,000 bushels of wheat and oats.

Lilis F. Smith, of Endicott, says the yield in the Colfax district will be 25 bushels of wheat to the acre, while at Sunnyside, R. H. Ely harvested an average of 4 1/2 bushels from 100 acres. In the Walla Walla district the average yield was 20 bushels of wheat, which is considered high in light soil. J. M. Elgin, of Franklin County, Wash., averaged 30 bushels and J. E. Hoon harvested 33 bushels. Both own immense tracts of wheat lands.

Reports from Oregon, south of Spokane, show crops of barley running 90 bushels the acre, and at Milton it is from 35 to 40 bushels of wheat to the acre. D. DeGraw, a farmer near Athena, harvested 54 bushels the acre from a tract of 150 acres, while others in the vicinity, including southern Washington cut from 45 to 50. On the whole in that part of the country the wheat seems to have stood up better than in the western part of the State.

Shortage of labor was one of the principal things with which the farmers in the Inland Empire contended this season. In some instances wages were as high as \$4 a day, and as the men were not to be had the woman and children took hold and assisted with the harvest.

It is estimated that the wheat-crop of the Inland Empire, embracing an area of 150,000 square miles, including the towns, cities, forests, and mines, will be in the neighborhood of 55,000,000 bushels. In some instances 62 cents a bushels has been obtained, but the average price is 60 cents.

Vegetables have been plentiful this season, but in spite of the enormous crops, prices have kept up. Onions, potatoes, and tomatoes came in early and were of good weight and flavor. They are finding a ready market at top prices.

One Fare for Round Trip.

From Chicago, plus two dollars, for fifteen-day limit, and one fare for the round trip, plus \$4.00, for thirty-day limit, to Canadian and New England points. Tickets on sale via Nickel Plate Road, from Chicago, Sept. 5th and 19. Information given upon application to John Y. Calahan, general agent, 107 Adams, St., Chicago. La Salle St. Station, Chicago, the only depot on the elevated railroad loop. No. 25.

HORSES AND MULES.

FOR SALE OR EXCHANGE—For good Belgian or Percheron stallion, some well bred brood mares and colts, all sound and unblemished. A snap if taken at once. Address Postmaster, Wayne, Kans., for breeding, photo., etc.

STALLIONS AT AUCTION—There will be sold at auction to the highest bidder for cash at Olathe, Kansas, Saturday, September 1, 1906, at 2 o'clock, the imported Percheron stallion, Valencourt (44581) 24481. Valencourt is 8 years old and was imported by McLaughlin Bros. and sold to Pioneer Horse Association and is as fine a specimen as ever came to Eastern Kansas. Has demonstrated that he transmits the same fine qualities to his progeny. It will be of interest for any one wanting a high-class stallion to be present as he will be sold at a bargain. W. M. Green, C. E. Walters and John H. Lyons, Board of Managers.

FOR SALE—At reasonable prices, Black Imported Percheron stallions. E. N. Woodbury, Cawker City, Kans.

FOR SALE—One black team, 6 and 7 years old, weight 2,800 pounds. Mr. & Mrs. Henry Schrader, Wauwata, Kans.

LOST OR STRAYED—Brown mare, weight 1,100 pounds, white spot in forehead, barb wire out on side, somewhat swaybacked. Suitable reward for return. J. W. Gillard, 686 Highland Ave., Topeka, Kans.

SWINE.

FOR SALE—20 good strong spring and yearling Berkshire boars that are just what the farmers want. Prices right. Address E. W. Melville, Eudora, Kansas.

AGENTS WANTED.

Wanted—Gentleman or lady with good reference, to travel by rail or with a rig, for a firm of \$250,000 capital. Salary \$1,072 per year and expenses; salary paid weekly and expenses advanced. Address with stamp, Jos. A. Alexander, Topeka, Kans.

SHEEP.

FOR SALE—5 Registered Dorset rams; especially noted for early maturity and fine mutton qualities; also a few full-blood and registered ewes. If taken soon, will sell cheap. J. L. Paucake, Tully, Kans.

BREEDING EWES.

About 2,000 breeding ewes for sale at a price so they will cost about \$5.40 each delivered to points on the Santa Fe railroad in Kansas. Address for particulars, Henry C. Yaeger, Phoenix, Ariz.

HELP WANTED.

FARM and ranch hands furnished free. Western Employ Agency, 704 Kansas Ave., Topeka, Kans.

MISCELLANEOUS.

BEAN HARVESTER FOR SALE—Good as new, does fine work, used but one season. Address W. T. Baird, Tulsa, T. T.

OLD FEATHERS WANTED—You can sell your old feather beds, pillows, etc. to McEntire Bros. Topeka, Kansas. Write them for information and prices.

WANTED—100,000 subscribers for The American Farm Library, the great 98-page magazine of information for progressive farmers and stockmen. Comprehensive, authentic, down-to-date. Each number a copyrighted, handsomely illustrated, completely indexed reference volume. Send 25 cents (the price of a single copy), for trial year's subscription. The American Farm Library, Dept. D, Edgar, Neb.

HONEY—New crop. Write A. S. Parson, 403 S. 7th St., Rocky Ford, Colo.

6,000 FERRETS—Some yearlings, especially trained for rats. Book and circular free. Levi Farnsworth, New London, Ohio.

WANTED—Non-union molders. Call or write Topeka Foundry, 318 Jackson, Topeka, Kans.

DOGS AND BIRDS—For sale dogs, hogs, pigeons ferrets, Belgium-hares, all kinds; 8c 40-page illustrated catalogue. C. G. Lloyd, Sayre, Pa.

WANTED—A good second-hand grain separator. Dr. Barker, Chanute, Kansas.

WANTED—At once sound young men for firemen and brakemen on railroads; high wages; promotion; experience unnecessary; instructions by mail at your home; hundreds of good positions now open. Write National Railway Training Association, 620 Faxon Block, Omaha, Neb.

EARN FROM \$7.50 to as high as \$15.50 per month. Wanted—40 young men and sound men of good habits to become brakemen and firemen. Big demand in Wyoming, Nebraska, Kansas, Colorado, and Missouri. Instructions sent by mail; stamp for reply. Northern Railway Correspondence School, Room 202 Skyes Block, Minneapolis, Minn.

\$25 A WEEK and expenses to men with rigs to introduce our Poultry Goods. Javelle Co., Department 92, Parsons, Kansas.

SCOTCH COLLIE PUPS.

COLLIES—Female pups at a bargain, 4 months old; \$4 each. Richly bred. Sired by a grandson of Ormskirck Gelopin. A. P. Chasey, N. Topeka, Kans.

FOR SALE—Scotch Collie pups, from trained stock. Prices reasonable. Wm. Killough, Ottawa, Ks.

For Sale—Scotch Collie Puppies sired by Ottawa Gelopin; he by Ormskirck Gelopin. J. P. Morgan's, \$8.50 dog. Price, males, \$25; females, \$15. J. C. Harmon, 915 Buchanan St., Topeka, Kans.

Stray List

Week Ending August 9. Johnson County—Roscoe Smith, Clerk. PONY—Taken up by Joel Wells in Stanley, Kans. May 14, 1906, one 5-year-old bay pony, 30 branded on left hip; valued at \$10.

THE KANSAS STATE FAIR HUTCHINSON, SEPT. 17 TO 22, 1906

17
General
Department's

This fair is for all the people—this includes the children. A day or two at a big fair is a most valuable experience for children. It promotes the ideal and gives them something to think and talk about, relieving the hum-drum of all-work days. This is also applicable to men and women regardless of their vocation. The 15 great races, with horses representing the best trotting and pacing blood will be worth the days spent in seeing them. The 17 General Departments represent the entire industrial occupation of the people and all is arranged upon an educational system. 700 stalls and pens filled with cattle, horses, sheep and swine will be worth the attention of stockmen and farmers of the entire southwest. The model dairy with the machine milking the cows and the process of butter making from warm milk to the finished product in the refrigerator is worth seeing. Cornet bands will furnish the music every day, carnivals and attractions of all kinds including a fine balloon ascension each day will provide amusement. The new electric railroad will carry the people right to the gates. Grounds open at night and lighted by electricity. This is the great annual social, intellectual and recreational week for the people of Kansas and everybody is invited. Competition is open to all. Send for catalogue and exhibit something. One fare on all railroads to Hutchinson. Ask your agent about it. Regular passenger trains daily—also special excursion trains on all roads. The State Fair this year will excel all former successes.

15
Great
Races

A. L. SPONSLER, Secretary

Are All Indians Bad. (Continued from page 904)

dering with the Indians in the woods and joining them in their hunts and wars. They addressed them as "brothers," shared in their discomforts and hardships, and sometimes married their maidens. It is related that Comte De Frontenac, when Governor General of Canada, often led in the war dance of the natives, waving the hatchet while the braves shouted and sang and danced around him like mad men. Possibly this was carrying politeness beyond the bounds of discretion, but there was more religion in it than in cutting their heads off. Champlain dealt generously with the dusky natives also. He visited them in their homes, joined them in their hunting, feasting, and fighting. He even taught them the use of fire-arms, trained them in military tactics, and led them in battle. It was, therefore, little wonder that the Indians conceived an admiration for the French which never suffered a reaction as long as the French power existed on the American continent. Such is the power of kindness, everywhere, at all times, and under all circumstances.

The benevolent William Penn dealt with the Indians in the same way. He invariably treated them kindly and justly. One instance of his manner in dealing with them may be related: In the year 1698, Penn wanted to purchase a fertile piece of land from the natives. They said they would rather not sell, but that they would do anything to please "Father Onas," as they called him. Finally, the Indians proposed that he might have as much as a young man could travel around in a day, for which they were to receive a certain quantity of goods. This was agreed to. After the land was stepped off the Indians were greatly dissatisfied. The young man selected to walk traveled around a larger portion of their possessions than they had anticipated. In consequence, they came before Penn's commissioners and said: "Not fair; white brother make heap big walk." "They must be compelled to abide by it," replied the commissioner. "It was their own bargain." "Compelled," exclaimed Penn. "How can you compel them without bloodshed?" Then turning to the dusky delegation, he inquired, "How much more will satisfy you?" They made their proposals and they were accepted. The grateful Indians shook hands with Penn and then went away happy. After they left, Penn remarked: "Oh! how sweet a thing is charity. Some of you spoke just now about compelling these creatures to stick to their bargain. That, in plain English, meant to fight and kill them, and all about a little piece of land."

The result of Penn's action was that these untamed savages became his staunchest friends. A few years after this event, when the Quaker colony was pressed by famine and no provisions could be had, the Indians came to the rescue, and materially assisted them by the fruits of hunting. And, although many years have passed away since this humane man died, he is still remembered by the red man, for they still retain traditions of his virtues, and speak of him very differently from the way in which they speak of others who came among them with treachery and greed in their hearts and fire-water in their grip-sacks. Penn had heard much of Indian treachery before he came to America. He undoubtedly was told that the only way to civilize a savage was to kill him. But he resolved to test what to many in that age was a new and untried law—the law of kindness—a law that is the energy of the universe; law that incites to martyrdom and mercy; a law that gilds the palace and sanctifies the hovel; a law that reaches from the family tree to the forms of government. So he brought to this new continent neither swords nor guns, but instead the scriptural injunction: "Do unto others as you would they should do unto you." When he bought land of the natives, he

paid them promptly for it. When he made a treaty with them, he kept it. When he promised them clothing, he did not try to put them off with rotten blankets. When he agreed to give them beef, he did not throw them the entrails, the horns, and hoofs. When he took one of them by the hand, he in effect said: "We are both the creatures of the same God, and if you had my opportunity and I yours, you might be in Congress and I wearing the breech clout." It is, therefore, absurd to assert that the same law and the same policy, if properly and judiciously administered with the Indian tribes of our time, would not have as powerful an influence for good as it had upon the Indians in 1687.

Nearly all fair-minded persons who have investigated the subject agree that the majority of the Indian outbreaks in the country of recent years have been the result of neglect and double dealing on the part of the authorities at Washington or the agents of the reservations. It is freely admitted that once the red man is fairly aroused there is no limit to his cruelty. But this is true of all barbarous and semi-barbarous nations. In the Indian's ignorance and wrath he erroneously imagines that every white person is his enemy, in league with his oppressors, and is directly or indirectly responsible for whatever wrongs that have been inflicted upon him. Consequently, when once aroused, he makes no distinction between the innocent and guilty; between those who hate him and those who sympathize with him. And thus, it often happens that an unoffending individual has to suffer for the folly and crime of the actual transgressor.

Ridpath, in his history of the United States, says: "It was thus by the cupidity, injustice, and crime of the whites done on the unoffending natives that the chasm of hostility was open between the English-speaking races and the aborigines of North America. Nor have three hundred years sufficed to bridge over the abyss." Even the good people who came over in the "Mayflower" introduced into this country pumpkin pie and rotten rum. The pie they ate themselves; the rum they gave to the untutored and unsophisticated savages, and the conquest of the country was complete. "Many years ago," says Bishop Whipple, when testifying to the honesty of the red Indian, "I was holding services near an Indian village camp. The things were scattered about, and when I was going out I asked the chief if it was safe to leave them there while I went to the village to hold service." "Yes," he said, "Perfectly safe—there is not a white man within three hundred miles." Red Cloud once paid a visit to the Black Hills and was hospitably entertained by his white friends. In bidding them goodbye, he expressed the hope that if they did not meet again on earth, they might meet beyond the grave, "In a land where the white men cease to be liars."

SUMMER VACATIONS IN COLORADO.

Low Rates via Rock Island Lines. Colorado, as a place for recreation, is the choice of many thousands of summer tourists. Colorado is a land of clear, pure air and golden sunshine. It is a land of sparkling mountain streams and glassy-surfaced lakes. There are more enjoyable things to do, more grand sights to see in Colorado than any other place under the sun. From June 1 to September 30 Rock Island lines will sell summer tourist tickets at rate of \$17.50 from Topeka to Denver, Colorado Springs, or Pueblo and return. Return limit October 31. Very low rates will also be in effect to Glenwood Springs, Colo., Salt Lake City and Ogden, Utah, Yellowstone National Park, and to the Pacific Coast, with cheap rates for side trips to nearby points of interest en route. New and improved train service via the Rock Island is an important feature of the Colorado travelers to consider. Full details of rates, routes, service and any information desired will be gladly furnished by Rock Island ticket agents. A. M. FULLER, C. P. A., Topeka, Kans.

Horses and Mules

CHEYENNE VALLEY STOCK FARM PERCHERONS
Patsy and Keota Scoggan

At Head of Stud

STALLIONS MARES AND COLTS FOR SALE. ALSO COACH HORSES

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The Northern Lake Resorts

Very low rates all summer via the Rock Island to the Lake Resorts of Northern Michigan, Wisconsin, Minnesota.

It's cool and delightful along the shores of the "Fresh Water Seas"—and it doesn't take long to get there, if you go Rock Island Way.

Spend a few weeks this season on the lakes and enjoy the finest kind of midsummer outing.

Let me tell you about the excursion rates and arrangements.

A. M. FULLER, C. P. A.
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Low One-Way Rates

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- to San Francisco, Los Angeles, San Diego and many other California points.
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