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A subscriber asks what he should do with frosted grape-vines. If any reader knows any better plan than to let them alone, trusting to nature to repair the injury, the editor will be glad to publish the better plan.

A striking illustration of the effect of war on the financial standing of countries is afforded by comparing market quotations of English and Spanish government bonds. Five years ago the bonds of Spain were quoted at 30 per cent of their face value because of war with the United States. In the same year British consuls were held at 113. More recently Spain has been at peace and England has been engaged in a "successful" war with the Boers in South Africa, and consuls have sold below 90 while Spain's bonds rose above that figure.

If anyone wants to get into a live-stock business in which the size of the gross income will depend more upon quality than on numbers, he should investigate a kind suitable to Alaska. In the McMillan Fur and Wool Company's price-list, best black fox skins are quoted at \$400 a piece. The prices run down for lower grades to \$200, \$150, etc., and to \$5. But, why raise any but "prime large," the \$400 kind? Dark silver-grays are quoted at about half the price of the blacks, while pale silver-grays bring only a paltry \$75 apiece for the best. Professor George-son forgot to mention this agricultural possibility of Alaska in any of his several reports.

Mr. N. O. Waymire who dates his correspondence at "Garfield-on-the-Arkansas," is a dealer in hardware, lumber, implements, coal and ice. In a letter enclosing his renewal of subscription he indulges in the following pertinent remarks: "Herewith enclose you \$1.00 to renew my subscription. Kindly send the KANSAS FARMER one year to O. W. Oleen, Garfield, Kas., as per 'block of two' offer. Directly in my business I do not need a farm paper but to keep in touch with the progress of our great State and the men that are doing so much to make agriculture a success I want the KANSAS FARMER. Besides, I was raised on a farm, my customers are largely farmers and in order to talk intelligently with the up-to-date farmer I must have some gospel along that line."

BLOCKS OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar year, every old subscriber is authorized to send

his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

A WHITE BLACKBERRY.

When something unusual in the line of modifying plants takes place, the name of Luther Burbank, of Santa Rosa, California, comes involuntarily to mind.

For some time Mr. Burbank has been engaged in cultivating various grades of blackberries, obtaining by cross-breeding a grade which he calls the "Iceberg," and finds the plant is as productive and hardy as the black variety, the berries being as abundant large, handsome, and delicious as the best black ones. The change in the color of the fruit does not affect its flavor. A field of these "Iceberg" berries is a veritable picture to the eye.

The well-known Lawton blackberry is one of the great grand-parents of this white blackberry. The Lawton when ripe is excellent. It is one of the most productive berries on the market. Owing to its fixity of race, it is said to produce itself from seed almost exactly, and its seedlings will not be influenced, when raised from seed pollinated by other varieties, but readily imparts its good qualities when employed as the staminate parent.

The first experiment of Burbank with this blackberry resulted in the seedlings, when crossed with crystal white, being all black. The second also was black, though varying much in other respects. But the third produced this wonderful plant, bearing the snowiest white berries ever seen.

Very little attention was paid to the long rows of cross-bred descendants until one day this white berry was discovered among its black relatives, with the canes bending in various directions with its load of delicious snowy berries, which are not only perfectly white, but so transparent that the seeds, which are unusually small, may be seen in the ripe fruit.

Clusters larger than those of Lawton berries, as near as could be judged were earlier, sweeter, and more tender and more melting throughout, though as firm as Lawton is when ripe.

PLANT BREEDING GOING INTO PRIVATE HANDS.

At the risk of being called a crank—or possibly with the hope of earning such distinction—the editor of the KANSAS FARMER has for many years urged the importance of plant-breeding as a means of increasing the productiveness and value of farm crops. The opportunities for development of great and lasting value to be enjoyed by every farmer whose environment is such as to make the improve-

ments available to him are so manifest and of such magnitude that only astonishment can be felt at the apathy manifested by some experiment station people towards the work. Since the KANSAS FARMER began calling attention to the need of this kind of experimentation the pliability of plants to the wishes of the breeder has been repeatedly demonstrated. The possibility of developing in farm crops variations adapting them to great variations in conditions of climate and soil has been shown and is, in Kansas at least, no less important than the ability to increase yields, as has been shown of wheat in Minnesota and of corn in Illinois.

Whether this work so appropriate to the State experiment stations shall be energetically done in the interest of all the people seems yet an open question in some quarters. But enough has been demonstrated to indicate to shrewd private individuals opportunities for gain from breeding plants.

A notable instance is that of Mr. A. E. Cook, of Odebolt, Iowa, who has just engaged the capable services of Prof. H. M. Cottrell, formerly of the Kansas Agricultural college, as manager of the seed department of his great farms. On this farm there have been seeded this spring 2,000 acres to small grain and 65 acres to alfalfa, and the ground has been prepared for planting 4,000 acres of corn. Professor Cottrell arrived too late to get all of his work started this spring. Next fall Mr. Cook expects to erect a laboratory on the farm and will then employ a chemist the year round. He will make a specialty of breeding farm seeds rich in protein and in oil. When the chemist is not busy with seed work, he will work on digestion tests in connection with the feeding.

The farm consists of 7,350 acres in one body, said to be as good land as can be found in the United States, and every acre tillable. It is divided into 23 sub-farms of 320 acres. Each sub-farm has a house, barn, implement shed, cattle and hog sheds, cribs, and a foreman.

The central plant is located near the center of the farm. On it are Mr. Cook's residence, residences for the assistant manager and for Professor Cottrell, two corn cribs holding 100,000 bushels each, grain elevator, seed houses, implement shed, shops, office, and a complete system of waterworks. On one side of the implement shed are 15 twine binders in a row. There are 28 corn planters running in the fields. The office has telephone connections with each of the sub-farms and with local and long-distance lines.

The Iowa Agricultural College is doing cooperative experiment work with this farm on a large scale. The station now has 500 steers in Mr. Cook's feed-lots in a test of concentrated feeds. Professor Holden, of the Iowa
(Continued on page 540.)

Agricultural Matters.

Possibilities of Corn Improvement.

GEO. M. TUCKER, INSTRUCTOR IN SOILS AND CROPS, UNIVERSITY OF MISSOURI.

[The following excerpts from a recent bulletin of the Missouri Experiment Station furnish excellent subjects to think about while cultivating the corn crop. The suggestions about selection of seed can not be made available for the benefit of this year's crop but the improvements that might have been made by better selection can be considered as the crop develops. We can never know too much about corn. —EDITOR.]

In tests at the station it is not unusual to have one variety or type of corn yield practically twice as much as another, even though they are grown side by side, on the same kind of soil, and receive the same treatment. It is evident that the reasons for this difference in yield can not be attributed to environment, but must be found in the inherent qualities which the seed possessed when it was planted. Seed of a variety which has been grown for a number of years on rich soil with abundant moisture, has acquired the habit of using large quantities of plant food and of developing large stalks and ears out of this food.

If seed of this corn is planted on thin soil, it will exhaust the food supply in its efforts to build a large plant foundation for the large ear, which it is in the habit of forming, and the result is a crop giving a large yield of fodder and little grain.

The reverse is also true; and the seed from a variety that has been grown on thin land and has acquired the habit of making small plants that bear good grain, because the available plant food is in limited quantities in such soils, when planted on rich soils reaches the limit of its capacity to grow long before it has exhausted the soil, and the result will be a smaller yield than the soil is really able to produce, provided a variety with inherent tendencies to larger growth had been used.

So a farmer, by observing the quality of his soil, average weather conditions, and methods of cultivation, may be able to increase his yield by selecting and using a variety of corn that has the inherent qualities that adapt it to the conditions of that particular location.

POSSIBILITIES.

The acreage of corn in Missouri for 1902 was 7,645,600. An increase of one bushel per acre in 1903 would mean 7,645,600 bushels more corn than in 1902, and this means an increased valuation for 1903 of over \$2,000,000.

The State revenue by direct taxation in 1902 was about \$2,632,000, so one bushel of corn per acre (30 cents per bushel) will almost pay the direct tax of the whole State. What will two more bushels of corn per acre do? It will pay the price of pure-bred seed and more than pay the direct tax. It will do it in this way.

One bushel of pure-bred corn purchased of a reliable seed grower will cost, say \$2. Since this is high-grade seed, less will be needed per acre, for it will germinate better, and what is of still more importance, there will be fewer barren stalks. Three kernels per hill will be enough and a bushel will plant ten acres. This will make the seed cost 20 cents per acre, and two bushels of corn will be worth 60 cents, giving a profit of 40 cents per acre over the cost of seed. This 40 cents per acre means \$3,058,240 for the State, which will more than pay the direct tax. There will be over \$400,000 that would then be left to the farmers of the State, after paying taxes and cost of seed.

Now if three, four, or five bushels more could be raised, \$2,293,680, \$4,587,360 or \$6,881,040 respectively would be clear profit to the farmers of the State.

It may seem doubtful whether two bushels more could be produced this year than last. The average yield for the State last year was 39 bushels per acre. That means (if the hills are 3 feet 8 inches apart, 16 ears to 15 hills, allowing 100 ears to make a bushel).

Now the chief reason (the failure of many seeds to germinate is also an important one) that there are so few ears per hill is because a great many of the stalks are barren. This is largely a result of careless selection of seed, for if the ears of the growing corn are fertilized by the pollen of the barren stalks of the field, then the corn which is taken from those ears and used for seed has a great tendency to produce barren stalks. If we could get five ears

to every 4 hills, we would be getting 42 bushels per acre, which is an increase of three bushels.

With selected seed-corn we may expect to do better than that, because great care has been taken in preventing fertilization from barren stalks. We may plant three kernels to a hill of pedigreed corn and expect at least four ears for every three hills (taking into account missing hills). If care is exercised in planting, and no farmer can afford to be careless in planting his corn.

METHOD OF IMPROVEMENT.

It is clear that by planting proper seed and giving good cultivation, the yield of corn may be increased materially and that the expense connected with it is small.

Improved seed may be obtained by directly buying it of seed growers (and this is generally the most satisfactory way to begin if the corn that is now being grown on the farm is of only ordinary grade) or the farmer may by careful selection from his own field improve the qualities of the seed that he raises from year to year.

In either case, after the first year the farmer should select his seed from his own crop, unless some special and peculiar calamity has happened to his crop which would make the seed entirely undesirable.

Seed well selected from a crop on the farm will have the advantage of similar environment year after year: the soil, climate and method of treatment will be about the same, and then the farmer has the opportunity to adapt the type and quality to his special needs and uses, and the educational value of carefully watching his corn and the pleasure of seeing the improvements from year to year can not be estimated. Each farmer will thus become his own seed-grower and in order to be successful in this he must have a standard of good corn in his mind.

First a type must be established. There are certain characteristics which are found in all good corn and which seem to be essential in order to get a large yield and good quality. These characteristics are in the appearance which the corn plant, ear and kernel present to the eye. That is, the height, symmetry, vigor of the plant, the length, diameter, number of rows, etc., of the ear, and the shape of the kernel.

The first thing that may be in mind is the yield of corn, and the grower must have a clear idea of the type of plant that will give a large yield. He would work on similar methods that a stock breeder would. A breeder of dairy cows has in mind the style of cow that experience has shown to be the best for dairy products, and his mental picture would be very different from that of a man who would breed beef cattle.

So with the corn grower. If the cornfield is made up of ill-formed plants, twisted, crooked, spindling, dwarfed, abnormally large, abnormal leaf development, little tendency to produce ears, tendency to leaf-growth, and other objectionable points that a corn-grower learns in his experience, he can not expect to get a large yield of grain, for the seed from such a field will be subject to a similar abnormal growth and poor development.

The quality and quantity of grain is dependent upon the plant that bears it, and the plant which has fertilized it.

Such plants should be strong and vigorous, of thrifty, healthy appearance; with an erect, symmetrical and well developed stalk, tapering regularly from the base to the tassel; with well developed leaves, uniformly set on the stalk; a perfectly developed tassel, and no appearance of dwarfed or stunted ears at the various nodes, but with one well developed ear, and this borne at a medium height above the ground.

The height of the plant will vary to meet the conditions. On good, fertile soil it may be from 10 to 14 feet; varying from 1 to 10 feet on a thin soil; and from 14 to 16 feet or even more on a very strong productive soil.

It is not advisable to select seed from large abnormal plants, nor to select the abnormally large ears to plant. The result will be to develop a tendency to produce plants that the soil will not be strong enough to bring to maturity, and the grain will suffer in consequence. This would be particularly true in a dry season or when any adverse circumstances overtook the plant.

In a field or breeding plot there are always abnormally small and abnormally large plants, but the actual adaptation of the crop and soil is measured by the average, and not by the ex-

tremes. The best yields will be secured when there is uniformity in the size of the plants.

A large yield depends, first, upon the perfection of the stand; second, upon the number of ears per acre; third, upon the type of the ear; fourth, upon the type of kernel.

A PERFECT STAND.

Uniformity in size of kernel.—Regularity is of great importance in securing a perfect stand. The corn plants will have an opportunity to develop good uniform ears when there are always the same number of stalks in a hill, and to secure this the kernels must be of uniform size so that the planter will drop the same number of kernels in each hill. Then regulate the planter and drop the desired number of kernels, and when this is once done, regularity in the number of kernels will be secured throughout the field.

With an uniform lot of kernels, the number that the planter drops can not be regular, dropping sometimes more when small kernels come to the opening and then again fewer as large kernels present themselves.

With uniform-sized kernels there will be uniformity in strength and vigor of the plants, which will result in a uniform size not only of the plants but of the ears as well, which is a very important factor in getting a large yield. Hence the importance of shelling off the butts and tips of the ears and using only the centers as these kernels are more uniform in size.

Per cent of germination.—If the seed has a high per cent of germination, a more perfect stand will be secured.

It is therefore important to test the vitality of the seed that is to be used, for many factors may have come in since the gathering of the corn the year before (or it may not have been mature when gathered) to influence the vitality.

Therefore the seed should always be tested, taking 200 kernels and placing them between wet cloths in a covered box where they should be kept moist. Germination should be completed by the fifth day. If the per cent of germination is found to be small, more kernels must be dropped by the planter than if it were high.

THE NUMBER OF EARS PER ACRE.

Barren Stalks.—When everything has been done to secure a perfect stand, there may yet be a relatively small number of ears in the field on account of the barren stalks. Many stalks that come from the best selected kernels may not bear ears. Therefore, it is necessary in order to get a large number of ears that every kernel planted shall produce an ear-bearing stalk. For this reason, detasseling the barren stalks each year must not be neglected in the breeding field. For seed from an ear that has been fertilized by pollen from a barren stalk will tend to increase the per cent of barren stalks in the field.

TYPE OF EAR.

With the greatest care in planting to get a perfect stand and to have a large number of ears per acre, there may even then be a failure to get a large yield because of a lack of well-proportioned, suitable-sized, well-filled and uniformly shaped ears.

Length and Circumference.—Every soil has a limit to its productive power and the vegetation upon the soil represents the amount of available plant food that season. In the case of this corn crop it is desirable that as much as possible of that soil food go to make kernels. The leaves, stalks and cob must all conform to produce the greatest quantity of kernels for the amount of available plant food in the field.

The shape of the cob must be such that the greatest number of kernels may be packed around it, and not only that, but the shape must allow of the largest and most uniform size of kernels.

A cylindrical ear or one varying only slightly from a cylindrical shape, will hold the largest number of kernels of uniform size. For a tapering ear means that the kernels must be either smaller at the smaller end or that there are a fewer number of rows, and either of these qualities will contribute to reduce the quantity of grain. While the cylindrical shape offers the best form for packing on kernels, there is also a most favorable relation of length to circumference of this cylinder. For if the cob is very small in circumference, the number of rows around it will be few and a small quantity of grain will result. Also, this layer of kernels around the cob will be shallow and the weight of cob will be great in proportion to the weight of grain. This means that much of the plant food has

gone into making cob which might have been used to make kernels.

The best proportion of length to circumference is 4 to 3, which in practice give an ear of about 10 inches long and 7.5 inches in circumference for ordinary soils, while for thin soils an ear $8\frac{1}{2}$ to 9 inches will give better yields. For if a large variety or type is grown on a thin soil, a very large per cent of the ears will not get food enough to mature well, and this will materially reduce the yield and greatly impair quality of the kernels.

Butts and Tips.—The more nearly the ends of the cobs are filled out with kernels, just to that extent will the per cent of grain be increased on the ear. But too much stress should not be placed on the filling out of the tip in selecting the seed ears, for while the tendency to fill out is transmitted, yet the season and cultivation has much to do with this quality. Since fertilization of the ear begins at the butt, weather conditions, a hot dry wind, a storm, or drouth may injure the vitality of the flowers, before the tip of the ear becomes fertilized.

Spaces between the rows.—As much as possible of the cylindrically shaped ear should be solid corn. The rows should be packed close together and the kernels in the rows should be firmly pressed together making a rigid compact ear having very narrow spaces between the rows.

With these good characteristics the per cent of grain to cob will be the greatest possible, and will range from 86 to 90 per cent by weight. This means that the corn will shell from 62 to 63 pounds per bushel instead of 56 pounds as is customary. It is well to always make this determination before planting, by weighing the ear, then shelling the corn and weighing it.

TYPE OF KERNEL.

Uniformity of kernel.—Not only is the advantage of uniformity of size of kernel seen in order to get a perfect stand, but also it is a factor in getting a large per cent of grain on the ear. If the kernels are more shallow at either end of the ear, then the per cent of corn is reduced in proportion.

Shape of Kernel.—The shape of the kernel should be such as to make a deep, compact layer of corn around the cob, and since this layer forms a hollow cylinder, the inside circumference of which is less than the outside circumference, the kernels which are in reality only sections of this layer, will have to be wider at the outer end than at the inner end where they are attached to the cob. This gives them a wedge shape with straight edges so as to leave no spaces between the rows or between the kernels but make the whole grain layer compact and well filled out at the outer surface.

The wedge should be deep to give a thick layer of grain around the cob. The increase in depth takes place in the outer end of the kernel, and if the edges of the sides of the wedge tend to run out straight and give a flat rather than a rounded outer end to the kernel, the kernel will receive, by continual selection, a tendency to deepen.

HOME IMPROVEMENT.

The most satisfactory method for home improvement, where it is possible to be carried out, is to plant selected corn in some part of the farm on good soil and at least one-fourth of a mile from other corn. Careful attention can be given to this small area, the undesirable stalks can be detasseled, good cultivation given, and in the fall the seed can be selected that will be of much higher value than that in the general cornfield which is too large to handle with great care.

Detasseling of undesirable plants is done to prevent pollen from fertilizing ears which may be growing on desirable plants. If pollen from such undesirable plants fertilizes an ear, the seed from that ear will inherit the tendency to reproduce the undesirable qualities of the pollenating plant.

Detasseling is done by pulling out the tassel just as soon as it appears in the roll of the last leaf and before it begins to open. Care must be taken to get the whole of the tassel.

The whole principle of selection may be summed up in a few words:

1. Begin with the whole field or breeding plot, from which select the best plants, according to performance.
2. From these best plants select by the eye and by measurements the best ears.
3. From these best ears select the best kernels.
4. From these best kernels select the few very best for the breeding plot and plant the whole field with the remainder.

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Farmer Fredricks:
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able seed-corn-growers have approached this stage in corn breeding and it seems very advisable for Missouri's corn growers to purchase seed corn which has been brought to this improved stage, and use it instead of the many inferior varieties that are now largely grown.

If seed-corn can not be purchased for planting this season, we would recommend that ears uniform in shape and size with deep wedge-shaped kernels, narrow spaces between the rows, well-filled butts and tips, small shank, be selected from the corn crib. The proper time to select is in the field when not only the ear but the whole plant can be taken into account, and selections made upon the performance of the whole plant in the field.

Do not select non-uniform ears. We must begin this season to improve our corn crop. The effect of corn breeding may be readily seen in Illinois where during the last ten years the farmers of the State have given the matter increased attention. To show this effect we notice the average yield per acre of corn in the ten years between 1890 and 1900 was 22.8 per cent greater than it was during the ten years between the 1880 and 1890. In Indiana where increased attention has recently been given to corn breeding, there is an average increase in yield per acre in the last decade over the preceding one of 12.8 per cent per acre. In Missouri for the same time the increased yield per acre has been less than one per cent (0.8 per cent).

The average value of corn per acre for the whole country during the last decade has decreased. But the value per acre in Illinois has decreased only 1.6 per cent, while the decrease in value of an acre in Missouri, where practically no attention has been given to corn breeding, has been 9.3 per cent.

The difference between the rates of gain in yield per acre and the rates of decrease in value per acre, both prominently in favor of the States that are giving increased attention to corn breeding, brings home to us the importance of a more careful seed selection and cultivation of our corn.

We would impress upon each farmer of the State who raises an acre of corn, to use only carefully selected seed. We seriously urge him to begin this season. Purchase seed always on the ear—it will pay. If it is impossible to purchase, select from the best you have, but begin improvement with this season.

Professor C. G. Hopkins, of the Illinois Agricultural College, recommends the following method of planting the breeding plot: "Forty selected ears are planted in forty separate parallel rows, one ear to a row. Consequently the breeding plot should be forty rows wide and long enough to plant three-fourths of an ear to a row. It is well to shell the remainder of the corn from the forty ears, mix it together and use it to plant a border several rows wide entirely around the breeding plot, to protect it especially from foreign pollen."

"The very best ears of seed corn are planted in the center rows of the breeding plot, the remainder of the ears being planted in approximate uniform gradation to either side, and in final selection preference is given to the rows near the center of the plot."

Horticulture.

The Melon Plant-Louse and How to Fight It.

J. J. THORNER, ARIZONA EXPERIMENT STATION.

During the past year the melon plant-louse, which causes the so-called "manteca" disease of the watermelon and other Cucurbitaceous vines, has been the subject of considerable correspondence. In many instances the melon crop has been reduced one-half to two-thirds in quantity, besides being greatly impaired in quality. From observation and correspondence it appears that this insect prefers watermelon vines to those of other Cucurbits, though it is by no means uncommon on muskmelon, cucumber, and squash vines. The melon plant-louse has also been observed feeding on alfalfa, silver-leaf horse-nettle, ground-cherry, pigweed, purslane, mustard, morning-glory, and evening primrose, also on several species of Amaranths and salt-bushes growing in and about melon patches. The wingless form of this plant-louse was found on the flowering stems of shepherd's purse about Tucson during the present winter. From the above it is seen that the species feeds on a large number of our common plants in addition to the Cucurbits, and that at least under favorable conditions it can endure our winters.

LIFE-HISTORY.

The life-history of the species is in brief about as follows: Winged males and females are developed in the late fall, at which time the eggs are deposited on weeds and other plants that will afford nourishment in the early spring; with the return of warm days the eggs hatch, and the young, with those plant-lice which have wintered over, multiply rapidly; by means of winged forms which appear in abundance at this time, the species is transferred from the weed patches and other situations to the melon-fields. In the course of a few days these winged forms on the melon-vines become surrounded with small colonies of wingless forms, their offspring, which, like their winged mother, continue to multiply rapidly by bringing forth their young alive, frequently several a day. In the meantime the winged insect has left for other parts of the patch to start more colonies.

HOW THE LOUSE FEEDS.

Unless the melon-grower makes frequent examination of the condition of his vines, the first indication to him of the presence of this pest in his melon-field is the characteristic wrinkling or curling of leaves, usually those at the center of the hill; this peculiarity results from the melon-louse feeding from the lower surface of the leaf, thus exhausting the sap as well as killing the cells in that portion. At this time, also, or sometimes a little later, the excretion of enormous quantities of honey-dew—the "manteca" of the Mexicans—becomes noticeable, the vines, the ground, and even the fruits at times being covered over with the sweetish, oil-like liquid. It is this sweet fluid—the honey-dew—that so greatly attracts the flies and ants, and, generally speaking, the presence of nu-

merous ants running to and fro on the vines can be taken as an indication of the occurrence of the melon aphid somewhere in the immediate vicinity.

MEXICAN PRACTICE NO GOOD.

It is a common practice among Mexicans and other melon-growers to destroy, by burning or burying, the "lousy" hills wherever found. The uselessness of this treatment is apparent when we examine the melon hills immediately adjacent to the ones badly infested, for we find them well-stocked with plant-lice. Though they may show no signs of the leaf-curl or of the honey-dew, they are, nevertheless, veritable centers of infection, and are just as dangerous to the field as the hill the vines of which are ready to die. From the points of infection the spread is rapid if conditions are favorable, and in the course of ten days or two weeks an entire field may be uniformly infested from a few starting points. As the attacked leaves become withered, winged forms are developed which make their way to neighboring hills and fields. These winged forms were observed last year early in June, and continued more or less during the growing season.

The "lousy" hills referred to above can be treated effectively as will be described later, and with a little extra care they may be made to outgrow the attack and bear melons.

CLEAN CULTIVATION.

Since these melon aphids feed upon a large variety of plants, including many of our common weeds, in addition to the Cucurbitaceous vines, clean cultivation is of prime importance. Clean cultivation will do much to lessen their chances of rapid development in the early spring, and it may do away with them entirely for the year. Also, at the close of the season, all weeds, vines, and other trash in the field, together with the weeds growing on waste lands in the vicinity of melon patches, should be raked in piles and burned. If the land is covered with a growth of young plants in the fall, it should be plowed deep before winter, so as to destroy all weeds and other plants that are likely to harbor plant-lice or their eggs.

CARBON BISULFID IS EFFECTIVE.

As soon as the young vines get four or six leaves they should be carefully and frequently examined for plant-lice, and at the first appearance of the winged forms they should be fumigated with carbon bisulfid. It has been shown here and elsewhere that carbon bisulfid will kill the melon-louse without injuring the vine. It is a matter of great importance that these winged plant-lice be destroyed as they come in from the surrounding vegetation, before they have had time to establish large colonies. In order to combat this insect most successfully a mutual action is desirable. One negligent neighbor may be as great a menace to a melon-growing community as a "lousy" melon hill is to a thriving patch.

The method of fumigation consists in covering the young vines with tight boxes or other covers twelve to eighteen inches in diameter, and introducing under each box a vessel containing one or two teaspoonfuls of carbon bisulfid. One teaspoonful should be

allowed for every cubic foot of space under the cover, and this will easily kill all the plant-lice in three-quarters of an hour, though it will do no harm to leave the cover in place for an hour. A cheap tin cup, a clam-shell, a saucer, or other open dish will answer to hold the carbon bisulfid. It is very desirable that the cover should be fit snugly to the ground, either being ing pressed into the soil a little or having loose earth pressed against its lower edge; otherwise the heavy vapors will escape from below and not fill the space above. Satisfactory covers may be made from gasoline cans cut in two, each half answering for one cover; or boxes may be made from wool or paper; or, as suggested by the New Jersey Experiment Station, two barrel hoops may be used, one hoop being cut in two, and the two halves being crossed so as to make a dome-shaped frame-work over which heavy paper or cheap muslin (the latter dipped in linseed oil) may be tacked and pasted and the cover thus made practically tight. With fifty or a hundred of these covers a field can be treated quite rapidly.

EXPLOSIVE.

It may be desirable to say a few words about carbon bisulfid. It is a colorless, volatile liquid with a disagreeable odor. Its vapor is heavy and about as inflammable as that of gasoline, a spark from a cigar or pipe being sufficient to ignite it. It is, however, no more dangerous in this respect than gasoline. The vapor is also very poisonous to all animal life, but no one need fear inhaling small quantities of it in the open air. As purchased at drug stores, carbon bisulfid is rather expensive; but if bought in fifty-pound lots it can be secured for about 10 cents a pound. A grade known as "fuma carbon bisulfid" is manufactured by Mr. Edward R. Taylor, Cleveland, Ohio; it is much cheaper than the ordinary carbon bisulfid and at least as efficient. Mr. Taylor will be glad to quote prices on application. If two teaspoonfuls of the fuma bisulfid are used to the hill, the cost of the material will be less than 1 cent a hill.

SECOND CROP OF LICE.

It sometimes happens that vines become infested a second time with aphids after they are too large to be fumigated. This condition, which is due to incomplete fumigation or to a second flight of the insects, can be best controlled by excessive irrigation. An abundance of moisture with ordinarily rich soil means an abundance of food-supply which will greatly assist the plant to outgrow the attack. The prevailing hot weather at this time, which is favorable for the growth of melon vines, is unfavorable for the rapid multiplication of plant-lice. Also the numerous enemies, chief of which are the lady-bugs, are usually more than able to hold the

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pest in check during the summer months. Lady-bugs are hemispheric in form and about the size of a half-pea; the commoner species are yellow or red with black spots on the wing covers. The larvae of these insects, which are small, flattened grubs of a bluish or blue-black color, devour the aphids even more rapidly than the adult forms.

Shall Potato-Growers Spray?

This is the question asked by Bulletin No. 221 of the Experiment Station at Geneva, N. Y., and the figures given in the bulletin go far toward answering the query with a very strong affirmative. In seasons when blight and rot are very destructive, as they were in 1902 in nearly all parts of that State, there can be no question as to the profitability of the use of Bordeaux mixture. The results at Geneva showed this very plainly; for spraying seven times, at an expense of about \$10 per acre, gave an increased yield of 123½ bushels of potatoes, and three sprayings increased the yield 98½ bushels.

But growers generally think they can not afford to pay the premium for disease insurance through spraying, since rot and blight do not come, destructively, very often. The results of the test of Long Island, though, indicate that even in sections seemingly free from disease, the spraying does more than enough good to repay its cost. Both early and late blight were absent from the experimental area near Riverhead, Long Island, yet here spraying seven times gave a gain of 45 bushels per acre, and spraying three times a gain of 7½ bushels.

Miscellany.

TILLAGE AND FERTILITY.

The two following papers are from members of A. M. Ten Eyck's class in tillage and fertility. The essays are not claimed to be exhaustive, but are a part of the regular class work:

Plant-Food in the Soil and the Food Required by Crops.

D. H. GRIPTON.

Since all living beings are either directly or indirectly dependent upon the vegetable product of the soil, the subject of "Plant-Food in the Soil and the Food Required by Crops" is of great importance to man, and especially important to the man whose business it is to produce crops from the soil.

There are thirteen essential elements of plant-food. The three substances in the soil which are most essential to plant growth are nitrogen, phosphoric acid and potash.

These elements vary greatly in amount in different soils; a soil may be rich in potash and phosphoric acid but lacking in nitrogen, or it may be rich in nitrogen and lacking in the other elements. Most soils are lacking nitrogen, especially if they have been cropped for several years.

It has been observed to be a fact that soils giving a large per cent of plant-food by chemical analysis do not necessarily produce as large crops as other soils that have a very much lower per cent of plant-food. This is accounted for by the inability of plants to absorb or decompose the substances that contain the plant-food elements. Analysis has shown that even the poorest soil contains plant-food enough to produce numerous crops provided that all the plant-food could be used. The plant-food in pebbles, sand, rocks, etc., is practically valueless as long as it remains in such condition, but by tillage and exposure to the weather the particles are broken up and the plant-food becomes available for plant use. The largest per cent of plant-food is found in the first foot of soil, although there is a large per cent in the subsoil, which, however, is not as available as that in the surface foot.

At Cornell University in forty-nine analyses of the surface eight inches of soil gave an average per acre of 3,053 pounds of nitrogen, 4,219 pounds of phosphoric acid, and 16,317 pounds of potash. Ten analyses of the second eight inches of soil gave an average of 4,069 pounds of nitrogen, 1,816 pounds of phosphoric acid, and 6,843 pounds of potash. These analyses show a larger amount of nitrogen but very much less of phosphoric acid and potash in the second eight inches of soil than in the first eight inches.

The amounts of plant-foods required to produce a thirty-bushel crop of wheat are, nitrogen 50.4 pounds, phosphoric acid 20.2 pounds, and potash 26.4 pounds. The amounts of plant-foods in a crop of corn yielding fifty bushels

per acre was found to be nitrogen 70 pounds; phosphoric acid 36 pounds, and potash 95.6 pounds. From the above figures, we see that the average soil contains an abundance of plant-foods to produce more and much better crops than is proven to be possible by experience. Experiments have shown that plants which have the largest amount of nitrogen in them may not take the most from the soil, the general supposition being that they gather nitrogen from the air and perhaps do not waste so much as other crops. It is a well-established fact that the ordinary crop extracts much more nitrogen from the soil than it uses, but just where the waste occurs is not definitely known.

The sources of plant-food from which future crops must obtain their supply are, first, the potential plant-food in the soil which can be made available by the action of the weather, proper tillage, and the action of plants; second, rotation of crops, especially the growing of leguminous crops, as alfalfa, etc.; third, the plant-food deposited from the air by rainfall, settlement from the air, etc.; fourth, barnyard manures which may be scattered on the ground. It only requires a slight investigation into the subject to convince one that there are great possibilities before the young farmer who will make a study of his soil and the effect of different crops and methods of tillage on his soil.

The Evolution of the Plow.

E. A. MORGAN.

The plow is one of the principle implements of tillage. It became necessary that such an implement should be invented and used in the tillage of the soil for the many advantages of plant-life.

The plow was developed in the old world some 4,000 years ago as the ancient sculptures date it, which gives evidence that the plow was then in common use and it probably had been used for preparing the land for plants some centuries before. The plow is spoken of in the Old Testament. The earliest types of the plow were composed of a crooked branch of a tree with the exception of the brace and pins near the end of the beam, which were used for attaching the plow to the yoke. Such a plow is said to be in use in India at the present time.

The eleventh-century plow was the first plow in which the point was covered with iron. The plow that was used in ancient times in Egypt, Mexico, and France was arranged with some form of trucks placed under the end of the beam which was set at an acute angle.

The fundamental idea of our present plow seems to have been derived largely from Holland, the one that was used at the beginning of the eighteenth century. It was introduced into Yorkshire, England, and became popular among progressive farmers. From this time on, the improvement of the plow was rapid. The Berkshire plow used in England in 1730 was highly recommended by Jethro Tull. Mr. Tull had already made a careful study of the success of tillage. He saw the need of agricultural implements to divide the soil more perfectly not only before the seed was sown but afterwards. He also invented the drill and "horse-hoe" method of culture by which he claimed to have raised twelve wheat crops continuously on the same ground without any manuring and without any marked diminution in the yield per acre.

The use of the overhanging mold-boards and a single colter gave a great advantage to the plow as a pulverizer, and left the soil in better condition for crops.

In 1785 Robert Ransome of Ipswich, England, succeeded in making plow shares of cast iron.

The development of the plow has been very great in America, and although we first received the impression of those ancient styles, we have improved every day up to the present time.

In 1780 Thomas Jefferson, the American Ambassador to France, made a study of the plows used in France. The next man who interested himself in the plow was a farmer, Chas. Newbold, of Burlington, N. J. He made the first American plow and took out a patent for the same June 26, 1797.

In 1817 David Peacock, of New Jersey, took out a patent on an improved plow which came to be very valuable.

In 1837 Daniel Webster invented a plow capable of handling a furrow twelve to fourteen inches deep. It was twelve feet long from the bridle to the tip of the handles. The land-side was four feet long, and the mold-

board was made of wood and plated with strips of iron.

In 1843 T. D. Burrell, of Geneva, N. Y., endeavored to reduce the friction of the land-side by substituting for it a wheel. But it was not successful.

In 1860 trench plows were made, but they were little used for such deep tillage, and were found to be impractical on many soils. The next in order of development was a plow with a steel mold-board which was hardened by chilling the outer surface after heating in charcoal. Before purchasing, the farmer tested the mold-board with a sharp knife point and if a scratch could be made, the plow was condemned. For years the mold-boards were hardened in hot oil in order to overcome the difficulties that were met with when only the outer surface was hardened. This method was fairly successful, but it was very expensive because in the operation many would twist and crack. To overcome this difficulty a layer of steel and a layer of soft iron were welded together to form the mold-board and this preserved its shape during the hardening process. By a process lately invented mold-boards are made of three layers of steel welded together, the middle one being soft and the two outer ones hard. Afterwards they are shaped and heated and immersed in a preparation varying with different plow-makers and held firmly by clamps while cooling. By this means, a shape is preserved and the tension very largely overcome by the middle layer of soft steel. The practice of carbonizing or chilling the face of the mold-board of both steel and cast-iron has become common. To accomplish this, several methods are in use. One method is to form the lower part of matrix, which is to receive the melted material, of iron and the upper half of sand. The metal part of the mold into which the iron is run, causes the crystals to arrange themselves at right angles to the face of the mold, and also hardens the forming mold-board for the most part of its thickness, while the back of the mold remains soft. This process or a similar one is now in universal use and plows constructed in this manner scour better and are more durable than the old style.

The wages of farm help in 1861-1865 became so high that the gang plow was introduced and came into general use. This implement contained several plows fastened together to one or more beams. The next invention was the sulky plow. Both these plows have been much improved and are the popular plows at this date.

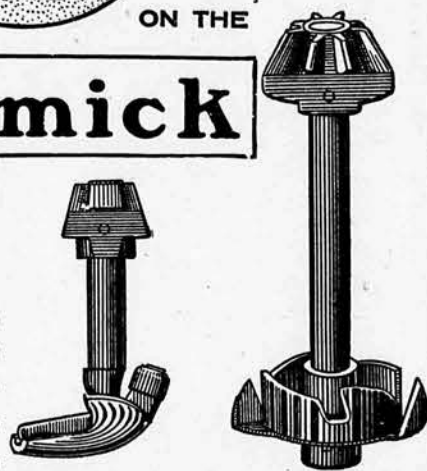
Between 1860 and 1870, a glass plow

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was invented. It failed to meet expectations, since it did not scour as well as those already in use. To stand the strain it was made heavy, was likely to break, therefore, it never advanced beyond the experimental stage. The ancient wooden mold-board possessed the quality of scouring beyond all other mold-boards except those made of hardened steel.

America exports large numbers of plows to many countries of the globe, and many new inventions are being attached daily as time advances. The latest invention is the disc-plow, but I will not discuss its advantages at this time.

E. A. MORGAN.

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The Stock Interest.

THOROUGHRED STOCK SALES.

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

September 3, 1903—Central Missouri Hereford Breeders' Association, Macon, Mo.
October 7 and 8, 1903—Combination sale of Poland-Chinas and Shorthorns. Poland-Chinas on the 7th, Shorthorns on the 8th. James P. Lehr, Sabetha, Kans., Manager.
October 12, 1903—C. O. Hoag, Centerville, Kans., Poland-China hogs.
October 15, 1903—Central Missouri Hereford Breeders' Association.
November 10-11, 1903—Marshall County Hereford breeders' annual sale at Blue Rapids, Kans.
November 12, 1903—Central Missouri Hereford Breeders' Association.

Pork Production.

COMPETING PAPER FOR \$100 PRIZE, WRITTEN BY J. CLARENCE NORTON, MORAN, KANS.

I am a farmer and have raised hogs on my farm for thirty-two years. I have raised all four of the principal breeds, and for my own use I prefer the Poland-China hog, although the other breeds of hogs are more useful in some respects.

INSURANCE.

Before selecting ten brood sows, one should take out an insurance, as no sane man would attempt to start in any business without a proper protection. The annual expense of insurance will be the subscription price to the KANSAS FARMER, American Swineherd, and Wallace's Farmer. If questions are asked of these papers and the answers thoroughly studied, one will have a total insurance against all loss through ignorance or neglect, provided the advice is acted upon.

FOUNDATION.

No builder would dream of putting up a factory without a suitable foundation to build it on. In selecting ten brood-sows, the first thing to look for is the foundation to build the pig- and pork-factory on, which consists of a good constitution with size, with ample power to transform corn into pork at a good profit and with a tendency to early maturity, all of which will go a long way towards making them immune from disease which is an important thing to consider.

SOW A FACTORY.

It should be understood from the start that a hog is a pork-factory with a view to making pork largely and speedily. As this is the object, the sows should be selected with special care in regard to their milking qualities. Fattening rapidly and giving milk are habits of constitution that are not always found highly developed in the same sow. The brood-sow is wanted for the purpose of raising good-sized litters of healthy pigs and suckling them well until weaning time. It is not the breed that gives this capacity, but the individuality, as out of a large herd of sows not more than forty per cent of them will prove able to give plenty of milk of a good quality so as to push the pigs along rapidly from birth to weaning time.

The good suckler will lose flesh while the poor suckler may gain flesh during the suckling period. Avoid this latter kind, and in selecting gilts, select them from sows of the former kind. I don't mean one is to drop form and early maturity for milking capacity, but try to get these qualities all combined in one sow.

DESCRIPTION OF SOW.

In selecting ten sows for breeding purposes I much prefer them that had successfully raised one good sized litter of pigs when about 14 months of age and had been fed well until they had assumed their more mature form, being Standard in color if possible, (but I would never pass by a good sow for any surplus white spot found on her), with rather coarse, thin hair lying close down to the body, instead of thick, fine hair standing straight out, as I think the straight, coarse, and thin, always indicate a vigorous and large hog. The sow should stand as tall forward as behind with a good arched back so that when her nose is on the ground her upper line will represent a uniform section of a circle, corresponding truly with the slope of the rump, which will give a rather long sow with a fine array of teats. Her legs should be short but not so short as to cause her udder to drag. Her hind legs should be set on at the corners, should be straight, devoid of any curb, and wide apart, so that a currycomb will pass between them, with short pastern joints to avoid breaking down, and with moderately heavy bone. I should not want

an extra large-boned sow, nor should I want a fine-boned sow, but if of the latter kind, I should be sure the male had large bone. Her front legs should also be wide apart with no tendency to being knock-kneed. While it is very rare to see a sow bow-legged in front, yet I would rather see her slightly so than to show any tendency to being knock-kneed. Her nose should be short, which would give a wide face, with small ears turning gracefully down and out, which latter they will almost always do when the face is wide. With good width between the fore legs there is sure to be great width and depth of chest, good width at top of shoulders, and great spring of ribs which also means large girth, as there should be no shrinkage just back of the shoulders.

A short nose means a heavy jaw and good width just before the shoulders, which helps to create a smooth-covered wide shoulder that gives the sow a square look, or makes her as wide at shoulders as at the hips, an improvement on the wedge-shape, which is so natural. The sow should be in good condition at breeding time and gaining steadily on a milk-producing diet, as the proper time to begin to feed pigs is just as soon as the sow is bred and not at weaning time, as most men think. Another important thing is to get sows of good disposition that are gentle and will allow one to handle them freely.

THE BOAR.

The boar to mate with ten brood sows should be a good one. If the sows are pure-bred then the influence of the boar on the pigs is great, supposing the boar to be pure-bred also. If the sows are not pure-bred and the boar is pure-bred then his influence on the pigs will be greater in proportion—it will be predominant.

The breeding of the boar should be of the very highest order; that is, his immediate ancestors should be good ones so as to insure his transmitting his good points to his pigs.

Different breeds of hogs demand different forms. With any breed, he should have strong limbs, be thoroughly masculine, but without coarseness; neck and body should be short with short legs which qualities denote vigor and easy feeding qualities.

The Poland-China breed should be represented with a boar with deep, strong shoulders, immense width of chest to insure a strong constitution, broad on the back and over the hips, with a large heart girth free from any crease or depression back of the shoulders, with perfect harmony of parts, free from any abnormal development of one part at the expense of another. He should be thoroughly masculine, with a great strong head, neck and shoulders, with good-sized bone and coarse, hair lying close down; straight on his feet, with short, stout legs not too coarse, smooth and free from creases all over, small ears well poised, wide, deep, and well let down at chest, loin and ham.

I like to see a good arched back with a pole or chest on top of neck and corresponding dewlap under the jaw giving the body an appearance of continuing forward to the ears without any offset, crease or wrinkle. Such a boar is worth as much money as twenty sows and should be well taken care of, being kept in the best of health and given exercise regularly. He should be in good flesh, kept on milk-producing foods and not on fattening foods such as corn. He should have a grass lot of at least half an acre with plenty of shade and a warm house. His home should be far away from the other hogs and it is well to have a double fence around his yard, especially where two boars are kept on the same farm. Every means should be used to keep him in perfect health and training, never forgetting that he is more than half the herd and that the future depends on his usefulness.

FEED FOR SOWS

After thirty-two years experience, I have concluded that after taking it all around in all times and conditions with all kinds and sizes of hogs, there is no general ration that will equal a ground mixture of equal parts oats, wheat, and corn fed in a greasy slop with a liberal proportion of salt and International stock food to give it a relish and insure a healthy digestion. Of course this food should be supplemented or added to as is convenient but this mixture should always be the last resort or basis for brood sows or growing pigs, instead of corn and water as we often see.

To get the greasy slop I buy every

dead hog our local shipper receives or any hog I can get and render it out, sometimes getting 100 pounds or more of lard from one hog. The cracklings are boiled and the liquor fed first, then the lard is melted and added to the slop as needed. I have 300 pounds of this grease on hand at present and it was made out of cholera hogs, too. I burned them over a small trench and caught the burning lard in a hole in the ground. When dead hogs are bought the lard costs about 2 cents per pound and one pound is equal to ten pounds of old-process oil-cake.

For winter pasture I would have two pastures, one of rye and the other of wheat and a good-sized clover pasture for summer, and in the two winter pastures put a mixture of cow-peas, rape, and sorghum for summer use.

I have about 600 bushels of small potatoes every winter that I feed to the sows raw to add variety, together with unthrashed soy-beans, cow-peas and unthrashed, bound sorghum.

Fresh water should be supplied to the hogs all the time and salt and International stock food should be fed all the time on the principle that man eats salt, pepper, ginger, mustard, and other spices at nearly every meal. If man's food should be free from all of these spices for a month, his digestion be in such a shape that he would want to root and eat dirt.

I do not consider pork fit to eat that has not been grown by a free use of the above spices or International stock food that contains the same elements in just the right proportion for the best results.

Another important thing is, where hogs are fed grain, the slop should always be given them before they have their grain. I cannot give any figures, but I know this to be of vital importance. When fed with slop first they seem to secrete a large amount of digestive fluid while squealing for their appetizing slop and this helps to digest their grain; then, being partly satisfied with the rich slop, they eat their grain more slowly and chew it much finer and will put on more fat per bushel of corn than in any other way. I have proved that boiled corn fed before slopping was a waste of time in boiling it, while with the slop first, the boiling of the corn is a good paying investment. As only one experiment station ever reported a success with cooked grains I have often thought that in that one experiment the hogs must have been fed with their slop first. So important is the result of slopping the hogs first that I want to impress everyone with its great value.

CARE OF THE SOWS.

Always use a good breeding crate and thus protect both the sow and the boar, if possible, always breed the sow or gilt in the morning and when through with the service always leave the sow in a close crate all day and the next night, not forgetting to feed and water her well. Especially is this desirable with gilts. It forces them to be quiet and keeps them away from all worry with other hogs. This is of such importance that I think every breeder should know of it.

All dates of breeding should be recorded carefully, and six days before a sow is due to farrow she should be put in comfortable quarters made on purpose for her and fed on shorts well seasoned with salt and International stock food and all the roots or grass she will eat, being fondled all the time. When the sow begins to get uneasy she will become wonderfully greedy and she should be filled as full with well-salted and greasy bran slop as possible. I have never known this stuffing of a sow at this time with greasy bran slop to do any harm; on the contrary, it is their own natural way, and it always quiets them; they never eat any pigs and there is no danger of milk fever which is so fatal to the pigs.

I have found that a good light in the farrowing pen at night pays well, as a sow rarely ever over-lays her pigs when she can see well; especially is this a help to a deaf sow. When the pigs are ten days old the light can be dispensed with.

I always offer my sows a feed at the next meal time after farrowing of greasy slop and bran, not forgetting the International stock food or its equivalent in spices; but they rarely accept it until the pigs are 12 hours old. Only this greasy bran slop and raw potatoes or green clover is given for two days when a little shorts is mixed with the bran, gradually increasing the shorts and lessening the bran to a mixture of half and half up to the sixth day, when equal parts by measure of oats, wheat and corn

(Continue on page 545.)

Horse Owners! Use

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"One Name, One Number, One Undivided Interest, One Expense and One Only."

EDITOR KANSAS FARMER:—It is proposed that this be the motto of the Poland-China breeders of the United States. The National committee appointed last fall to effect the consolidation of all the record companies prepared a concise plan and submitted it to the various associations at their annual meetings that were held during the months of January and February. They did not succeed in getting favorable action as a body of all these companies, but it became manifest that a very large percentage of the shareholders of all of them were in favor of any practical method of consolidation. So large was this percentage that it was estimated to represent from 75 to 90 per cent of the business of the several record companies. It was feared from the beginning, however, that the divergent interests of officers, the patriotism of the places in which are held the various local governments, the shareholders who are not actively engaged in breeding Poland-Chinas, and there are many of them who are not financially interested to exceed the amount of their dividends and possible dividends, and the friends of all these, together with a large number of shareholders who could not be reached with explanations sufficient to enable them to arrive at correct judgment in so short a time, would work together in defeating favorable action by the associations at their annual meetings. If you will take into account the fact that the divergent interests that I have enumerated are largely located at or near the places of meetings, and a much larger attendance is convenient for them, you will more readily see the difficulties the committee encountered and how to account for the slow progress of so large a majority. After considering the result and the causes, and the undiminished importance of and necessity for a consolidated interest of Poland-China breeders, and after consultation with all of the leading breeders that it has been possible to reach with limited time and no money for expenses, and finding them unanimous in favor of continuing the effort to consolidate the records, and considering, too, the fact that the agitation of consolidation has unfortunately engendered a strong party feeling in each of the record companies not conducive to unanimity of action or good fellowship, making the situation more deplorable than it was in the beginning, we are ready now to declare to you that we will go on to victory if it can be reached. For my own part, I can say that I care not "to put my hand to the plow and look back;" that I have a few scars on my body that give evidence that I did not retreat, that I would rather be whipped than to falter in well-doing, or to throw down a task half performed, no matter how reluctantly accepted.

To unify the sentiments of nearly 2,000 stockholders is no easy task. But the effect is to be made and along the lines of the committee's plans. Each shareholder will be asked to act for himself. As soon as a concise detailed plan of the whole proposition can be prepared and carefully revised by an able corporation lawyer, together with the name of the men who will have charge of your interests the first year, it will be submitted to you. At the same time an opportunity will be given to the many breeders of Poland-China hogs who have never affiliated with any of the record companies, but who contribute largely to the revenues of the now existing associations to obtain a share of stock in the consolidated company at a minimum cost, based on the assurance that unless the consolidated company is a success, their subscription to the stock is thereby void. It will be an opportunity that the many hundred breeders now outside of any of the associations will never again have to get in on the "ground floor" on a plan that in itself will be a guarantee that the commercial value of the stock will soon double, besides the advantages to be derived in their recording fees and their association with their kind, together with the approval of their conscience in helping to promote and maintain the interests of their fraternity.

H. W. KIRKPATRICK, Chairman.

Pasture for Hogs.

D. H. OTIS, PROFESSOR ANIMAL HUSBANDRY DEPARTMENT, KANSAS STATE AGRICULTURAL COLLEGE.

The Kansas Experiment Station has realized \$11.90 per acre from rape pasture and \$24.10 from alfalfa pasture in ninety-eight days. These results were

obtained from the following experiments, which were begun July 25 and concluded October 31, 1902:

Thirty shoats, averaging 52 pounds in weight, were divided as nearly equally as possible into three lots of ten each. Lot I was fed on a grain mixture of shorts one-half, corn-meal one-fourth, and kafir-corn-meal one-fourth, in a dry lot. The other two lots were fed the same grain ration, but one received rape pasture and the other alfalfa pasture in addition. Each lot was given what grain the hogs would eat up clean, and each had access to water and ashes. The weights of grain consumed and gains made are as follows:

	Grain consumed, in lbs.	Total gain, in lbs.	Grain consumed per 100 lbs. gain, in lbs.
1. No pasture.....	3,801	1,023	371
2. Rape pasture.....	3,244	1,076	301
3. Alfalfa pasture.....	3,244	1,078	300

The gains of the three lots are very nearly equal. The dry lot consumed 557 pounds, or 70 pounds for every 100 pounds of gain, more grain than the pasture lots. The lot on rape required one acre of pasture while the alfalfa lot used a trifle less than one-half acre.

The lot without pasture required 3.71 pounds of grain to produce one pound of gain. Assigning the same value to the grain fed the hogs on rape pasture, we have 377 pounds of pork credited to the grain and 199 pounds credited to the rape. At six cents per pound, the price at which hogs were selling at the close of the experiment, this would be a credit of \$11.90 per acre for the rape. In a similar manner the alfalfa is credited with 201 pounds of pork, equal to \$12.05, and as there was only a half-acre of alfalfa this makes a rate of \$24.10 per acre.

The cost of preparing the seed-bed and seeding the rape was \$1.80 per acre. It was seeded in the feed lots on soil that would otherwise have remained idle, or would have grown up to weeds.

The shoats on pasture enjoyed their diet and seemed satisfied. Those in the dry lots seemed to be hankering after something green, and their appetites seemed unsatisfied without some kind of roughness. They would even nibble at straw in a vain attempt to satisfy their craving.

The experiment emphasizes the superior value of alfalfa pasture. Where alfalfa is not available, or where variety is wanted or it is desired to utilize otherwise waste land, Dwarf Essex rape, seeded at the rate of six to eight pounds per acre any time from early spring to late summer, will furnish an excellent diet that is greatly relished by the hog. Succulence and variety will make healthier hogs that will return increased profits.

The Cameron Herefords.

The sale of registered Hereford cattle by Colin Cameron, of Litchfield, Ariz., was held in the fine-stock pavilion at Kansas City on May 6 and 7. These cattle were bred and raised on the San Rafael in southern Arizona and were all branded except the young calves. Mr. Cameron has been holding annual sales of drafts from his range-bred Herefords for several years past and purchasers at these sales uniformly report large profits in the handling of them. The breeding is of the best and some of the best sires known to the breed are represented. The produce shows great development under the conditions found in the corn-belt, and while these cattle did not sell as high as was desired or expected, the purchasers will undoubtedly make money from them. The sales were as follows:

COWS.	
Beatrice Beauty 48859, D. R. Menke, Garden City, Mo.....	\$110
Peerless Dine 107458, D. R. Menke.....	85
Ababa 45469, B. R. Menke.....	65
Abandardo 45470, Oliver Cox, Weston, Mo.....	55
Abanico 45471, R. T. Thornton, Kansas City.....	65
Abihares 45479, D. R. Menke.....	50
Beulah 2nd 53967, Stottler Commission Co., Kansas City.....	85
Princess Charlotte 5th 50525, Wm. Halsey, Odessa, Mo.....	70
Monita 2nd 50522, Stottler Commission Co.....	40
Rachel Brown 60419, R. T. Thornton.....	50
Patience Brown 60415, G. W. Carmichael, Odessa, Mo.....	55
Lady Beau 60396, C. C. Strong, Blackwell, Okla.....	55
Maggie Brown 60406, J. V. Brooks, Bentonport, Iowa.....	100
Helen Brown 60392, D. R. Menke.....	80
Firenze 3rd 60382, H. R. Thornton.....	105
Pela 2nd 60431, R. T. Thornton.....	85
Dauby 11th 60385, W. S. Cowherd, Kansas City.....	45
Satin 3rd 60422, Geo. Hoag, Holton, Kans.....	100
Leonora 3d 60451, R. P. Simmons, Wellsville, Kans.....	80
Young Lady 2nd 60439, D. R. Menke.....	100
Raindrop 3rd 60420, D. R. Menke.....	65
Bonina 60377, D. R. Menke.....	85
Gertie 2nd 60387, J. W. Layton, Weston, Mo.....	45
Pela 3rd 70605, R. T. Thornton.....	85
Rosanita 70590, Wm. Halsey.....	55
Mandata 70533, W. S. Cowherd.....	45
Osa 70551, W. S. Cowherd.....	40
Wizzard 85628, De Vorek Bros., Medford, Okla.....	85
Bounty 85534, W. S. Cowherd.....	35
Dagmar 85549, Geo. Hoag.....	60
Redlove 107526, Geo. Hoag.....	160

Redtin 107533, John Hutson, Texas.....	145
Redotan 114096, D. R. Menke.....	155
Satin 2nd 48841, Jno. Sommer, Oregon, Mo.....	75
Lornada 140058, R. T. Thornton.....	75
Jemma 140084, De Vorek Bros.....	45
Zita 140072, R. T. Thornton.....	55
Arabella 140048, D. R. Menke.....	100
Neosha 140060, Chas. Strubin, Holden, Mo.....	75
Isabell 130696, John Huston.....	175
Zincalla 140071, J. W. Blackford, Hillsboro, Iowa.....	95
Vida 140068, Chas. Struben, Holden, Mo.....	55
Cerdita 140065, D. R. Menke.....	55
Abrana 140049, R. T. Thornton.....	45
Nicola 140061, De Vorek Bros.....	70
Arabe 156725, J. W. Brooks.....	60
Cafreia 156733, J. W. Blackford.....	130
Nydia 156773, De Vorek Bros.....	45
Bergona 156730, G. W. Carmichael.....	45
Bavara 156728, De Vorek Bros.....	25
Espira 156746, Rodger Jones, Arvonia.....	55
Frisia 156749, G. W. Carmichael.....	50
Madriena 156760, De Vorek Bros.....	45
Mosela 156770, J. W. Blackford.....	45
Scintilla 140067, J. D. Brook.....	95
Zenda 140070 (and calf), H. A. Hoehn, Lexington, Mo.....	125
Dorothy Brown 60380, Yates Bros., Agency, Mo.....	55
Monia 2nd 60410, D. R. Menke.....	50
Belasco 140052, J. D. Brooks.....	70
Abundia 70452 (and calf), S. E. Leinbach, Onaga, Kas.....	95
Prudence 156776, J. V. Brooks, Bentonport, Iowa.....	50
The Old Lady 4th 60429 (and calf), D. R. Menke.....	110
Ourfortune 70553, D. R. Menke.....	55
Lucerna 156766, J. D. Brook.....	50
Enid 70450, D. Shiner, Nebraska City, Neb.....	50
Innocent 55496, D. Shiner.....	75
Mosa 156769, J. W. Blackford, Hillsboro, Iowa.....	30
Wealthy 2nd 60435, D. R. Menke.....	60
Dinah 70449, D. R. Menke.....	85
Kirry 75550 (and calf), De Vorek Bros.....	110
Waspina 140069, C. W. Armour, Kansas City.....	40
Miss Gaudy 70538, C. W. Armour.....	35
Mamie 73151, D. R. Menke.....	70
Amelia 140051, Jno. Sommer.....	65
Frecia 156748, J. W. Blackford.....	60
Beulah 4th 60375, Jno. Sommer.....	65
Maydew 108497 (and calf), D. R. Menke.....	100
Agnes Brown 60387, Yates Bros., Agency, Mo.....	40
Beatrice 9th 60372, Yates Bros.....	55
Woodmaid 85631, Roger Jones, Arvonia, Kas.....	60
Nancy 70542, D. R. Menke.....	95
Bonina 2nd 70465, Yates Bros.....	55
Escania 156720, J. N. B. Miller, Prescott, Iowa.....	50
Ventura 40555, Yates Bros.....	40
Glyceria 140057, D. R. Menke.....	85
Catalina 156737, J. D. Brook.....	70
Waxy 85623, De Vorek Bros.....	60
Peerless Enid 107459, D. R. Menke.....	105
Rusia 156779, J. W. Blackford, Hillsboro, Iowa.....	65
Blanche 85527, D. Shiner, Nebraska City, Neb.....	65
Alfreda 140050, De Vorek Bros.....	65
Pandora 107505 (and calf), D. R. Menke.....	105
Belladonna 2nd 60374, William Halsey.....	60
BULLS.	
Sir Monas 130693, Geo. Gosling.....	85
Wizzard 146617, John Gosling.....	85
Fortunus 139960, G. L. Phillips, Fremont, Ia.....	95
Nitrate 146616, Oils Arth, Lexington, Mo.....	80

The Wichita Horse Sales.

On May 6 and 7 was held the first annual sale of standard-bred and registered horses under the management of J. H. Lehr, secretary of the Wichita Horse-Sale Company. This annual sale is now a fixed event and the success which attended the first one may be taken as an index of the appreciation in which good horses are held in this country. The sales are as follows:

Harfer, sm, A. C. Pancost, McPherson.....	\$130
Johnnie, bg, W. O. James, Eldorado.....	160
Loquette, bm, J. M. George, Jefferson, Okla.....	100
Steel Range, bg, D. P. Woods, Wichita.....	200
Young Joe, bgr, Cash Henderson, Wichita.....	300
Golden Slope 12437, vs, A. E. Ware, North Field, Minn.....	500
Braba, bm, Grant Connors, Fredonia.....	205
Midnight, bg, Sturgeon & Lyman, Wichita.....	160
Russell Silver, cg, O. L. Garrison, Mount Hope.....	175
Isocaro, bm, J. S. Lehr, Eldorado.....	100
We are Coming, cm, J. M. George.....	50
Fairy's Gem, bm, Thomas E. Arnold, Wichita.....	100
Iser, bs, J. H. Thayer, Colwich.....	240
Enrobrown 31443, vs, Ed Custer, Wichita.....	175
Pat, bg, Sturgeon & Lyman.....	130
Loco, bg, Sturgeon & Lyman.....	130
Tony McHenry, cs, Phil Cook, Wichita.....	160
Amboiler, bg, F. F. Hooper, Pueblo, Colo.....	155
Col. Grimes, bg, E. F. Fletcher, Wichita.....	125
Kirquolis, bs, Pat McKernan, Norwich.....	110
Bessie Toler, bf, Little River Stock Farm, Halstead.....	200
May Dun, cm, Little River Stock Farm.....	210
Maud Gilpin, bm, F. E. Chambers, Wichita.....	55
Junetta, bm, Little River Stock Farm.....	200
Audrey Wilkes, bm, H. L. Salsbury, Wichita.....	145
Patchie McGregor, bm, Little River Stock Farm.....	260
Liberty, bf, M. Dyer, Wichita.....	75
Royal Hal, 0531, Dr. Stevens, Wellington.....	105
Nina McKee, B. E. Prewitt, Goddard.....	120
Porter, Stag by Chipwood, M. G. Strickland, Chanute.....	160
Goldie Wilkes, bm, C. C. Gentry, Wichita.....	100
Louise Gardner, bm, Palace Stables, Wichita.....	105
Cecil, bg, M. McHenry, Cheney.....	205
Hunter, bg, M. G. Strickland.....	140
Buffalo, bg, H. C. Thomson, White Water.....	125
Jim Gardner, bg, S. L. Cosine, Wichita.....	100
Hooper Toler, bg, Thomas Gray, Cheney.....	75
May Day, bf, R. T. Chambers, Wichita.....	200

Milk Fever or Parturient Apoplexy



THIS is a disease peculiar to parturition or calving. It is not a fever, as is generally supposed; the rise of temperature to 101 or 102° F. is always favorable.

Symptoms.—The cow appears a little weak or unsteady in the hind quarters, has difficulty in rising, forgets her calf, the secretion of milk is suspended, she staggers and falls, and is unable to rise, her head is thrown to her side and she becomes unconscious of everything about her. Cows most subject to it are deep milkers fat animals, about the third calf, after an easy natural birth.

Treatment.—Nux vomica or strychnine has given us best results. Tincture of nux vomica in from 2 to 4 dram doses may be placed on the tongue every two hours. If twitching of the muscles is shown, decrease the dose. The urine should be drawn with the catheter. The rectum should be emptied by copious injections of warm water.

A physic is dangerous to administer and almost useless, as the animal will have died or recovered before a physic could operate.

The iodide of potash in parturient apoplexy is now being employed quite successfully. One hundred and fifty grains of iodide of potash should be dissolved in a quart of boiled water. Then one-fourth of this should be injected, at the temperature of the blood into each teat. Bag should be thoroughly kneaded immediately after injection. Injections should be repeated in twelve hours if the animal has not improved. Before using injections, the udder should be thoroughly cleansed with carbolic water or one to one-thousandth solution of bichloride of mercury. All the milk should be completely drawn.

If the temperature rises or the rectum fills with fecal matter, it is a very favorable indication. Prevention is better than cure in these cases, as the disease is extremely fatal. Light, laxative feed for two weeks before calving with plenty of exercise, wards off attacks.

All through this treatment give Dr. Hess' Stock Food, a powerful tonic and reconstructive, which gives additional value and nutriment to the food and steadily strengthens the animal's entire systemic condition. The improvement will be noticeable after the first three or four doses—and entire recovery will quickly follow. In every package of this food is enclosed a little yellow card entitling the purchaser free prescriptions from Dr. Hess. Dr. Hess' invaluable Stock Book—a medical treatise in practical form—will be sent free to anyone that will write Dr. Hess & Clark, Ashland, Ohio, mention this paper and state what stock he has and what stock food he has used.

Miss Barnard, b.f, A. B. Crawford, Garden Plain.....	85
Miss Junisfall, bm, A. L. Snodgrass, Jordan.....	80
Alcina, bm, A. L. Snodgrass.....	80
Brilliant, bf, A. C. Harrington, Valley Center.....	130
Joe Walworth, bg, M. G. Strickland.....	160
Colt by Son of Nutwood, C. H. Seigrist, St. Joseph, Mo.....	85
Bay Facer, Sturgeon & Lyman.....	160
Bay Mare, E. W. Evers, Whitman.....	65
Team of Yellow Horses, M. G. Strickland.....	220

Sutton's Daddies.

Members of the Kansas Stock Breeders' Association and others who receive its annual report will note the front-page illustration this year. This is the portrait of the handsome President; and we call it an illustration advisedly, because it shows a typical Kansas breeder, a typical Kansas man and a typical Kansas hustler all in one. Mr. Chas. E. Sutton, owner of the Rutger farm, Russell, Kans., is a young man in years but old in experience in breeding which makes for success. On his large ranch near Russell may be found hundreds of Aberdeen-Angus cattle scattered over its thousands of acres of rich Western grasses. These are long-pedigreed animals of typical Angus type. Mr. Sutton started his breeding operations with a few well-defined ideas well fixed in mind. Among these were the one that the Angus cattle are comparatively new in this country, and because an animal happens to be registered it does not follow that it is well-bred or a good individual. Another axiom is that any pedigree is worthless unless backed by a good individuality. Another is that no breeder can afford to misrepresent his animals to a purchaser, and the last one which we shall quote is "trying to produce market-topping or prize-winning calves with a scrub bull is like trying to raise a 2:20 trotter with a Shetland pony." While a would-be purchaser may find Angus herds from which he can buy bulls at \$75, he will find that it is mostly more to his interest to double or treble the price and get good ones with long pedigrees. The length of pedigree is assurance double sure that like will produce like, and no purchaser of Angus cattle should lay the foundation of a herd with a bull having less than ten known crosses. If the bull is a good one he may be considered half the herd; if a poor one he is mighty near all of it.

This herd is now headed by Expand 30634 by Blackbird Hero 14494 out of Rose Bonheur of Emmerson 3rd 24514 of the Blackbird Heather Bloom family, and the farm is liberally dotted with splendid calves of his get. He is now assisted by Imported Electrician 41376 by Marmon 9th 41379 out of Imp. Erica May 41288 of the Erica family, and we predict that the result of his use on the Expand heifers will be something of show quality. While Mr. Sutton has never appeared in the show-ring we think it is his duty to do so this fall. His herd bulls with very little fitting would do credit to their owner and to the breed, while the string of young bulls now in his pastures would be sure of a goodly collection of ribbons could they once pass under the hands of judges. Russell is a progressive little city located in the midst of the wheat belt and is closely adjacent to the Rutger farm. It is located on the main line of the Union Pacific Railway and is of easy access to would-be purchasers of Angus cattle, while the

cordial reception which awaits the visitor and the pleasant experiences which he will have in looking over this magnificent herd of Angus cattle will make the trip to Russell a very profitable one though he be so unfortunate as not to carry away with him any of these choice animals. Rutger farm, also breeds large, choice English Berkshire swine with Elma Windsor 55080 by Imp. Fitz Curzon at the head of the herd and we shall have a few remarks to make about these later on.

The Wayside Herd.

The Wayside Herd of pure-bred Hereford cattle had its beginning in 1882 in Henry county, Missouri. In that year Mr. W. W. Gray, the founder and present owner, began what was destined to be extensive breeding operations by the purchase of Lady Lorne 1455. She was bred to Sir Garnet 2480 who was sired by the Grove 3rd. From this small but choice beginning has sprung a herd which may be called great in several respects. Great in the fact that everything now on the farm is descended from Lady Lorne. Great in the fact that Mr. Gray has adopted a right principle in breeding, and great in the fact that he is now the owner of a herd bull which is pronounced by experts to be the best bull known to the Hereford herd-books. Mr. John Gosling is quoted as saying that this herd-bull is the best Hereford in the United States, with the possible exception of one. Mr. Chas. Smith, of Fayette, Mo., is quoted as saying that he is unquestionably the best bull in the State of Missouri, and the writer may be quoted as saying that he is the best bull he ever saw. This bull is Printer 66684, by Beau Brummel 51817, out of Pretty Lady 5th 41800. The reasons that are given for the complimentary remarks about this bull are his remarkable record as a sire together with his wonderful quality as an individual. It is difficult to describe such a bull without an illustration, but it is more difficult to find fault with him after an inspection. That he is a bull of splendid constitution is shown by his remarkable heart girth. His lines are ideal, his crop, loins and back perfect. His well-sprung ribs, deep body, large prominent eyes, short nose, firm mellow skin, thick furry coat, short neck, smooth shoulder, blunt brisket, and fine tail marks him as an animal who only needs to be seen by the judges to be given a good place in any show-ring. His owner finds it necessary to watch the feed boxes in order to keep him down in condition. He is an easy keeper, who takes on flesh very rapidly. Mr. Gray was mentioned last week as one of those who have been successful in following the lines of the breeding adopted by Gudgeon & Simpson. This will explain why he placed March On 14th 106676, by March On 76035, one of the greatest herd-bulls of the West, in his consignment to the Sioux City sale. March On is an excellent bull, a sure sire and one that would be well worth keeping in any herd where line-breeding is not the policy. Mr. Gray is now using at Fayette a young Printer bull named Good Sign, out of Lady Emile 31075, as his second herd bull. Good Sign is a very promising young bull and an excellent sire. Though he does not compare with Printer now, when he reaches his maturity he may be nearly as good. Wayside Farm is located adjacent to Fayette, Mo., and is easily accessible over the main line of the M. K. & T. Ry., Hannibal division. It is well worth a trip by any Hereford man to go to Fayette to see Printer and his get in the Wayside herd. Mr. Gray's advertising card appears on page 550 and we hope that our readers who are interested in Herefords will make a point of inquiring of him, or, better still, of visiting him when they want anything that is choicely bred in the Anxiety family. The visitor or prospective purchaser will be met with the hospitality which is so characteristic of breeders everywhere, and particularly of those who know they have good cattle to show.

Gossip About Stock.

Did you read the article by A. B. Mull, of Allen County, on page 515 of last week's Kansas Farmer? As Mr. Mull is one of the big Poland-China breeders of Kansas, his expressions on such subjects will have added weight.

A combination sale of Herefords was recently held at Wayne, Neb., in which forty-four head brought \$5,980, a general average of \$136. Scott & March, Belton, Mo., contributed two cows which averaged \$115, and fourteen bulls which averaged \$136.42.

The popular headquarters for stockmen who visit Kansas City is the Coates House. Direct car lines from the Union Depot and to the stock-yards. Whenever public sales of fine stock are held at Kansas City you can depend on meeting the crowd at the new Coates House. Special rates to stockmen.

A commission firm of Chicago has hung up a special prize of \$50 for range-bred Galloway cattle. Secretary Park, of the Galloway Breeders Association plans to divide these special prizes in half. One-half to go to the best car-load of Galloway steers or spayed heifers under 1 year old and the other half to go to the best load over 1 year.

J. M. Copeland, Glasco, Cloud County, Kansas, reports that he has had splendid results from his advertising and has sold all of his Shorthorn bulls, and is now after a few good Shorthorn cows and heifers and bull calves. His herd is headed by the Scotch bull, Minister 2d 150171. Mr. Copeland expects to have something quite fancy from his Lord Mayor and Laird of Linwood cows.

O. B. Smith & Sons, owners of the Republic County Herd of Poland-Chinas, Cuba, Kans., write that their hogs are now in splendid condition and their sales very satisfactory. They are having better success than usual, and report the recent sale of their choice young hogs to Stockton, Waterville, Manhattan and Richmond, Kans., the firm of Dietrich & Spaulding buying the latter one. They also say that they still have a few more that are good enough to ship anywhere and that are herd-headers, sired by Moonshine 26959. They lately bought Null's Chief 2d 25951, which gives them as strong a team of herd-headers as can

be found. Messrs. Smith are planning for one or more sales this fall in addition to the number of animals reserved for supplying their regular customers. Their advertising card appears on page 547.

The Guernsey heifer, Dolly Bloom 12770, has just completed a record under the supervision of the Massachusetts Experiment Station which gives her the championship of the world. She began the year in which the test was made at the age of 23 months and completed it with a record of 8,841½ pounds of milk which tested 5.13, which produced 453.86 pounds of butter-fat. The requirements for admission to this test are 6,000 pounds of milk and 250½ pounds of butter-fat as the minimum. Dolly Bloom has made the greatest record of any 2-year-old heifer ever recorded.

Swine-raisers are beginning to feel a special interest in that famous bacon breed of hogs, the Tamworths, which are unexcelled as a prolific and hardy breed. One of the largest and most representative herds of registered and pure-bred Tamworth swine in the West is the herd owned by C. W. Freelove, Clyde, Kans., who places his breeders' card in this issue of the Kansas Farmer. The writer has visited the herd and has no hesitation in recommending our readers who desire Tamworth swine to order of this breeding establishment.

Newton Bros., breeders of Duroc-Jersey swine, Whiting, Kans., are to be congratulated on their successful breeding operations this spring. They now have 100 choice spring pigs with fourteen sows yet to hear from and they are busy booking orders for spring pigs four months old of either sex. As they have the best families known to the breed and as they are skillful and experienced breeders, the busy farmer who can not visit their herd will be perfectly safe in sending his order by mail. Hogs will be hogs this year and the man who is early in the field will be the winner.

In the Sioux City, Iowa, Hereford Combination sale, which was made up from drafts from ten different herds, the general average for thirty-four cows is reported at \$136.47 and the general average of twenty-six bulls was \$118. The sixty head sold for \$7,730, average \$128.83. Mr. W. W. Gray of Fayette, Mo., owner of the Wayside Herd, sold five cows for \$740, an average of \$148, and four bulls for \$515, an average of \$128.75. It will be seen that Mr. Gray topped the sale with \$13 above the average on females and \$10 above the average on bulls. So much for the get of Printer 66684.

On Monday, May 4, at Herington, Kans., was held a sale of Standard-bred horses from the Diamond Creek Stock Farm of J. W. Creech, which resulted in the sale of thirty-eight head of trotting-bred stallions and mares for a total of \$5,030, average \$132.40. Ten of these were yearlings which averaged \$119. As the full report of the sale did not reach us in time for this issue we are unable to give the details. We may add, however, that since the sale Mr. H. L. Miller, who is the manager of the Diamond Creek Farm, reports the sale of a 2-year-old filly, Mable Hobbs, by Escobar, 2:13¾, dam Emma Hobbs, by Ashland Wilkes, to C. H. Thompson, Colorado Springs, Colo., for \$500. She was a prize-winner and trotted an eighth in twenty seconds last year as a yearling. She is now entered in all the futurities.

C. S. Nevius, owner of Glenwood Shorthorn Herd, Chiles, Kans., has been looking for a young bull for some time past and at last has secured him. He is a grand young individual, 1 year old, and a show calf. He weighs more than 1,000 pounds and has one of the looziest hides ever seen. He was sired by Prince of Orange 2nd 116886, out of Mysie 51st, by Duke of Oakland 118944; Mysie 46th, by Violet Knight 78287. With this youngster added to his herd we predict that Mr. Nevius will make some trouble in the show-ring this fall. Everything is doing nicely in this herd, and Victor of Wildwood 126054, is adding new laurels to his past record in the wonderful string of calves which are now arriving. These calves are even better than the owner expected, which emphasizes our statement that they are good ones.

J. A. Larson, Everest, Kans., is a young breeder of Herefords who has been making remarkable progress since he has taken up the business. With the prize winner Hesiod 54th \$1362 at the head of his herd and with as good a lot of cows as it is permitted the average breeder to bring together in one bunch, and with a good, thorough, working knowledge of the principles of breeding, it is a matter of no surprise to those who know him and his herd that his success has been great. Hesiod 54th is one of the great bulls of the breed and we think fully the equal of his sire. In fact we consider that the best stuff from Funkhouser's herd has found a home, in part at least, on the Larson farm at Everest. There are a few young bulls from ten to fourteen months old yet remaining on this farm that are still for sale and everyone is a dandy.

Last fall at the Kansas State Fair at Topeka, Mr. George M. Kellam, of Richland, Kans., showed a few head of Galloways which attracted general attention. The bull calf, Don of Clover Hill, was the first prize-winner in a good competition. He has since that time been sold to Harry Culver, Longmont, Colo. The heifer, Isabel, shown at Topeka, won first in class over a heifer which afterwards sold for \$500. Mr. Kellam's herd is now headed by the two great bulls Arnold The Great 15520, by King Hensol, and Decoy of Wavertree 17094, by Imp. Miro of Castlemilk. With such breeding as is represented in this herd, and a quality which wins first in every class shown in such keen competition, the Galloway buyer who secures an animal from this herd is indeed in luck. You will notice Mr. Kellam's advertising card on page 551.

Secretary Frank S. Springer of the American Berkshire Association, Springfield, Ill., writes as follows: "Volume 20, containing pedigree from 60001 to 65000, will be ready for distribution in about two weeks. Volume 21, containing 5,000 pedigrees will be closed by June 1. The

completion of this volume so soon after that of volume 20 speaks very forcibly as to the popularity of the Berkshire. Final arrangements have just been completed enlarging the scope of the association so that its object shall include the collection, preservation and publication of the pedigrees and records of Berkshire swine and the general improvement of the Berkshire breed. At the same time the capital stock has been changed from 100 shares at \$100 each to 400 shares at \$35 each. Since this arrangement has been made a number of prominent breeders have been added to the membership of the association."

Mr. Thomas Evans, of Hartford, Kans., who has an enviable reputation as a Hereford breeder, has proved himself an equally good feeder. He has a number of young animals of both sexes that are now for sale and which are in especially good condition. He has a number of bulls that range in age from 12 to 22 months, which are sired by Lynhale's Prince 76032, which was one of C. S. Cross' importations while he was managing Sunny Slope Farm at Emporia. The heifers which are old enough are bred to Diplomacy 120175. He is a descendant of Diplomat, and was sired by Horace Hardwick, his dam being a Lord Wilton cow. Mr. Evans has about a car-load of these young bulls that he could sell now, and they are especially worthy of attention on account of their breeding and quality, while the care with which they have been kept and their uniformity in size and quality adds to their value. Mr. Evans' advertising card is on page 550.

During the past week we had the pleasure of visiting the Walnut Hill Herd of pure-bred Hereford cattle at Fayette, Mo. This herd is owned by Judge H. B. Watts & Son, and has the famous Lord Erling 79452 at its head. This herd is made up of animals that have been brought together since the dispersal of the old herd, five or six years ago. The female side of the herd has averaged \$450 in cost to its present owners. The herd was formerly headed by Beau Donald 58996, who was bred by Gudgeon & Simpson, and who now stands at the head of the W. H. Curtice herd at Eminence, Ky. He is the sire of the present herd-bull, Lord Erling whose get have averaged over \$200 a head in all the years he has been used at Walnut Hill. It will be remembered that Lord Erling is the sire of the wonderfully promising calf, Lord Albert, out of Imp. Alberta 2nd now owned by the Vermillion Hereford Cattle Company, at Vermillion, Kans. While Lord Erling is not a show-bull, he has proved himself a wonderful sire, and the calf above mentioned will undoubtedly carry away with him a goodly string of ribbons if he is shown this fall. Judge Watts also has Beau Gallant 152152 as a second herd-bull and is well satisfied with the results obtained by him. We do not remember to have ever seen a herd of this size which had so many excellent females in it representing so many different families. Judge Watts is a typical Southern gentleman whose hospitality and cordiality are unbounded and it is a pleasure to visit the beautiful Walnut Hill Farm for acquaintance sake, and when to this is added the wonderful showing of Hereford cows, the appreciative visitor will have his satisfaction from such a visit more than doubled.

In the combination sale of Aberdeen-Angus cattle to be held at Des Moines, Iowa, on May 26, Allendale Herd, belonging to Anderson & Findlay, Iola, Kans., will be drawn upon for nineteen good useful breeding matrons. In this contribution will be three Violets of Brucehill, three Bloomers of Cardenston, two Miss Morrisons, two Jaquennettas and one each of the following females: Lazy, Regia, Beauty of Carlisle, Fyvie Flower, Duchess of Flowa, Old Lady Jean, Ariadne, Primrose of Craskins and Walnut. Four of these matrons contributed are by the Blackbird bull, Black Aristocrat, who was the sire of the highest-priced animals in the April, 1901, combination sale at Kansas City. Nine of the cows offered are by the fine breeding bull, Herculeo, bred by the late Alexander Geddis, who formerly maintained a herd on each side of the Atlantic. One of the cows offered is by Conqueror 2nd of Lake Forest, a home-bred bull by Black Aristocrat, and is a half-sister of Coquette's Pride, which sold last June at the Chicago combination sale for \$550. Three of the cows are by Jet 3rd of Lake Forest, which come from the best milking family ever owned in the herd. The remaining cow was sired by the large Erica bull, Exmoor, bred by H. W. Elliott, whose dam was considered one of the best Ericas on this side of the ocean. All of the cows in this contribution have been regular breeders to a remarkable degree, and some of them will have calves at foot at the time of the sale. The others are all safely bred. One of their herd-bulls is the splendid Pride bull, Pacific 34821, who won third in a class of eighty yearlings at Perth, Scotland, in 1899. He now weighs in good breeding condition, 2,300 pounds, and was the sire of the heifer before mentioned which brought \$550 at Chicago. Catalogues may be had by addressing Anderson & Findlay of Iola, Kans., or Lake Forest, Ill.

Publisher's Paragraphs.

Thos. D. Hubbard, Kimball, Kans., in advertising Roseland realty has an exceptionally unique and attractive lot of bargains that will interest anyone who desires reliable and productive farm-lands.

"We have been using Zenoleum as a disinfectant at the Kansas State Agricultural College with excellent results. We find that it will kill lice on either cattle or hogs. I can heartily recommend it to any one looking for an economical and effective disinfectant."—D. H. Otis, Professor of Animal Husbandry, Kansas Agricultural College, Manhattan, Kans.

A recent letter from Frank B. White, who presented the very interesting paper on "Class Advertising" at the recent meeting of the Kansas Improved Live Stock Breeders' Association, and who has been known for the past sixteen years as one of the brightest and most progressive advertising men in the West, announces that his new company, which he has named "White's Class Advertising

Co.," is now fairly launched. They have secured quarters in the Caxton Building, Chicago, and invite their friends to receive the warm welcome which awaits them when in the city. This company will devote special attention to live-stock advertising in continuation of Mr. White's previous remarkable success along that line.

One of the handsomest calendars of the year has been issued by the Zenner Disinfectant Company, makers of Zenoleum Dip, 61 Bates Street, Detroit, Mich., and they will be glad to send the readers of the Kansas Farmer a copy post-paid. The picture is a reproduction in many colors of the famous painting, "Christmas Morn at Plymouth," by L. J. Ferris, and is a little gem worthy of framing.

Should any of our subscribers discover that their names or addresses are incorrect in any way, either through the use of wrong initials or improper spelling it would afford us great pleasure to make the corrections promptly if we were notified at once. Should any of our subscribers be receiving more than one paper we would be glad of a notice of this fact as it will aid us materially in our annual house-cleaning of subscription lists which takes place at this time of the year.

Did It Ever Occur to You

to note the rapid development of East Texas as a truck and fruit-growing country? No? Then write for the pamphlet "Timely Topics No. 2" and become convinced that the resources of Texas are illimitable. Address "Katy," 500 Wainwright, St. Louis.

Best Family Medicine.

Chrisman, Ill., Feb. 24, 1902. My husband and I are both bothered with asthma. We find Watkins' Vegetable Anodyne Liniment will give immediate relief. Rub the chest and take internally. We wouldn't be without it. It is the best family medicine we ever had in the house.—Mrs. Ettie Gilbert.

Gambling On Crops.

It is poor policy to run any chances with harvesting machines that are altogether not as good as they should be—such as are not in proper condition to do the work required of them for successful harvesting. The farmer will be in a position to show up a good profit from his crops if his grain and grass-cutting machines can always be depended upon being reliable and true in working qualities. The elements necessary to successful machines are found well represented in "Milwaukee" machines, which are as perfect as the best mechanical skill can produce them. They are noted for ease of operation—perfect and positive in action. By calling on the local agents of the Milwaukee Division International Harvester Company of America in your vicinity they will be pleased to show you "Milwaukee" Binders, Mowers, Reapers, Corn Harvesters, Rakes and Sickle Grinders. Call or write for catalogue.

The "Thinginess" of Things.

Before one can accomplish much in any field of endeavor he must understand his particular line of business "from the ground up"—he must be able to go to the core of his work and get at the "thinginess" of the thing, as it were. Precision in statement, for example, is a very essential accomplishment, and yet how few ever attain it? Were you requested to define the simple word "thing," would you not be embarrassed? Webster defines "thing" thus: "Whatever exists or is conceived to exist, as a separate being, whether animate or inanimate." Simple enough, isn't it? and yet not one person in a thousand could clearly define the word. When it comes to harvesting machines, however, accurate information seems to have been more generally disseminated. The majority of agriculturalists have a favorite binder with which to harvest their crops, and they can explain why they prefer that particular machine. Among the many exclusive features of the McCormick Binder there are two things that specially appeal to every practical farmer—the improved needle and the simple knoter; and these two features materially assist in making the McCormick the favorite machine of the farmer.

A BLESSING TO DAIRYMEN.

Childs' So-Bos-So Kilfly Proves a Most Profitable Invention.

There are a number of things invented and placed on the market which, although they may have the elements of novelty and possibly prove of some value along certain lines, yet fail to be of really intrinsic value to those for whom they were originally designed. The exception, however, proves the rule, and this has been most prominently shown in the case of Childs' So-Bos-So Kilfly, a preparation for killing flies and insects upon cattle. Ever since its first introduction, it has been steadily growing in favor among dairymen and farmers, who have found that under its benign influence, cows protected from the annoyance of flies have actually given about 20 per cent more milk than before. Nor is this all: The comfort and safety of those employed in milking and the saving of time thus effected are prominent among the virtues of So-Bos-So. Its perfect and antiseptic qualities are absolute harmlessness have commended it for general use in stables, chicken-houses and pig-pens, while for scours in calves, hog cholera or foul in calves' feet, it has been found to be an unequalled preventative. The easy and rapidity with which it may be applied and the generous terms under which it is sold have also proved important factors in establishing its popularity. Many and hearty have been the endorsements given So-Bos-So by leading dairymen all over the country, and Messrs. Chas. H. Childs & Co., of Utica, N. Y., who are the sole manufacturers, are to be congratulated upon having given the dairy industry such a valuable product. They gladly mail full particulars upon request.

The Young Folks.

Conducted by Ruth Cowgill.

JOHN JANKIN'S SERMON.

The minister said last night, says he,
"Don't be afraid of givin'.
If your life ain't nothin' to other folks,
Why, what's the use of livin'?"
And that's what I say to my wife, says I,
"There's Brown, that mis'erable sinner,
He'd sooner a beggar would starve, than
give
A cent towards buyin' a dinner."

I tell you our minister's prime, he is,
But I couldn't quite determine,
When I heard him givin' it right and left,
Just who was hit by the sermon.
Of course, there could be no mistake,
When he talked of long-winded prayin'.
For Peters and Johnson they say and
scowled
At every word he was sayin'.

And the minister he went on to say,
"There's various kinds of cheatin',
And religion's as good for every day.
As it is to bring to mettin'.
I don't think much of a man that gives
The loud Amen at my preachin'.
And spends his time the followin' week
In cheatin' and overreachin'."

I guess that dose was bitter
For a man like Jones to swallow;
But I noticed he didn't open his mouth,
Not once, after that, to holler.
Hurrah, says I, for the minister—
Of course, there could be no mistake,
Give us some more of this open talk;
It's very refreshin' diet.

The minister hit 'em every time;
And when he spoke of fashion,
And a-riggin' out in bows and things,
As woman's rulin' passion,
And a comin' to church to see the styles,
I couldn't help a-winkin'.
And a-nudgin' my wife, and, says I,
"That's you,"
And I guess it sot her thinkin'.

Says I to myself, that sermon's pat;
But man is a queer creation;
And I'm much afraid that most o' the
folks
Wouldn't take the application.

Now, if he had said a word about
My personal mode o' shinin'
I'd have gone to work to right myself,
And not set there a-grinnin'.

Just then the minister says, says he,
"And now I've come to the fellers
Who've lost this shower by usin' their
friends

As a sort o' moral umbrellers.
Go home," says he, "and find your faults,
Instead of huntin' your brother's;
Go home," he says, "and wear the coats
You've tried to fit on others."

My wife, she nudged, and Brown he
winked,
And there was lots of smilin'.
And lots o' lookin' at our pew;
It sot my blood a-blazin'.
Says I to myself, our minister
Is gettin' a little bitter;
I'll tell him, when mettin's out that I
Ain't at all that kind of a critter.
—Anonymous.

A Visit to Tennesseetown.

(Concluded from last week.)

Many attempts have been made to solve the problems presented by such settlements as Tennesseetown; and while others have been talking wisely but to no effect, and indulging in theories and hobbies innumerable, one man has gone to work in a quiet, practical way, and is already seeing sure, though gradual, improvement in the place, and is already reaping his reward in the grateful adoration of a proverbially thankless people.

Dr. Sheldon has carried on the slow task of bettering a downtrodden race in the spirit of the Master whom he serves. He has planted a kindergarten for colored babies, and has procured a library and reading-room for older children. He is the inspiration and guardian of a mission Sunday school there, and his thoughtfulness it was which arranged for a social settlement.

Of all these good influences, the kindergarten holds first place. Mr. Sheldon says, "The children are the hope of the Nation. Save a man and half his life is already wasted; save a child, and you have a whole life of service." "More and more I think the work of redemption must be among the children. It is much more difficult for a man to forsake his evil way, than for a child to avoid it."

Such are the utterances of this great and good man, and he practices in accordance with this idea both in his own church and parish, and in his mission work.

The Tennesseetown kindergarten has been in operation for seven years, the last three under the present teacher, a sweet little woman peculiarly fitted for just this work. She loves her little black charges without pretence. She has the sweetest charity for their faults, and infinite patience. There have been this year about twenty children under her care, between the ages of three and nine. The older ones, of which there are three or four, are welcomed only because they are thus kept off the streets and out of mischief, not for the help they may give, for besides being as full of mischief as the babies, their added years make them more dif-

ficult to interest in the things the younger ones care for.

The children who attend the kindergarten show plainly its influence. They are neat, they have some politeness and regard for others. The public school-teachers bear witness of the



good of this work; for they say it is very easy to distinguish a kindergarten child among the others who come to them.

I spent a very interesting morning in this dark "child-garden." The little tots sat at two low tables, making a certain object under the direction of the teacher. They are taught to do many things during this quiet quarter of an hour. Sometimes it is drawing a simple object, or coloring with crayon or water-colors, or painting a picture artistically upon a card, or cutting papers into certain shapes, or weaving different-colored papers together.

Sometimes they study the carpenter's trade, and make pieces of doll's furniture, more or less neatly; or the



painter's trade, and paint the said furniture; or the decorator's trade, and beautify it by pounding brass-headed tacks into it, in various designs. They learn of birds and insects, of flowers and grass and trees. In the window a glass jar was standing, which contained among some snowy cotton, a little black cocoon, which they were watching day by day, until it should emerge a beautiful butterfly.

The children are kept at quiet work only a short time, for the kindergarten idea is not repression, nor unnatural development in any one direction, rather a protection from that very thing, and a wise direction of thought and activity toward the good and beautiful in the world. In a few moments, a chord is struck, the children rise, take their chairs, and, to the music of the piano, march to places on a large circle which has been painted upon the floor. A very, very small boy is sent for a very, very large Bible, from which a tiny verse about the water is read, with much discussion and many explanatory asides. Then the holy book is restored to its place by the same important, tiny boy, and it is time for a song. The kindergarten songs are beautiful little gems, with simple words and childish music, and accompanied by illustrative motions by the children. One is the shoe-maker's song, something like this:

"Rap-a-tap-tap;
Tip-a-top-too,
This is the way to make a shoe,"

The children making the old shoe-maker's motions with their tiny fists. After the songs, there are games—not the rough games they learn upon the streets, but sweet little jolly games, with a lesson of love and gentleness generally hidden within them somewhere. Then, after the short happy three hours, they are wrapped in their out-of-door clothes, and sent home.

Some of them are dear little ones, with shiny teeth and sparkling black eyes, comical little braids sticking out all over their heads. They are simply running over with mischief. Some of them are running over, also, with—well, the Old Scratch. They will strike and screech out a cross word or two, then subside, at a look—or more strenuous measure—from the teacher, who then will find two or three more in a squabble. They are more restless than white children and more droll. What is it that makes a black 4-year-old so very comical, where a white one would be merely cunning? There was one small boy, who could not sit still a

moment, but talked incessantly and evidently found life very funny, for frequently he would fairly double up with laughter. Another, a top-heavy youngster, with a face preternaturally solemn, fidgeted until he fell over backward in his chair. Two little girls were in the throes of a feverish friendship, and walked or sat with arms about each other all the time. There was a boy there whose hair was straight, eyes blue and skin as fair as my own, yet his place is among the dark people through life. There was a beautiful child, skin black as walnuts, but with regular, fine features, and the most beautiful, dark, long-lashed, sparkling eyes in the world.

Some of the children never "forget," as the gentle teacher charitably puts it, by which she means that the always are kind and considerate, in distinction from others who do "forget," meaning, I took it, that while their behavior is sometimes fair, they have frequent lapses, when it is atrocious.

There is a small plot of ground at the rear of the building which the kindergarteners use for a garden, watching the life of the plants from seed-time to harvest. One interesting crop is the cotton, which they sow in the fall and gather in the spring. They raise peanuts, also, and a few radishes and lettuce, besides some flowers. This is a practical lesson in nature which tends to instruct and to train the little minds to observation of the world about them.



The old woman, whose picture faces you, is Mrs. Ransom, the janitress of the church, which is also the kindergarten-room. She is beloved of both black and white, an ex-slave, intelligent and faithful, kind, and, above all, honest. She is sitting in front of her mite of a cabin, just returned from her garden. She has children, step-children, grand-children, step-grandchildren, and great grand-children, and many a good word have I heard of this one and that one of her numerous brood. When she learned that I was going to print her picture, she was quite impressed, and sat down beside me to ask a favor of me, which was to say for her what she can not say for herself, yet what she wishes the whole world to hear, that "Mr. Sheldon is the grandest man in the world. The colored people loves Mistah Sheld'n. He's done a lot fo' this town and the colored folks ain't gwine to forgit it. We all loves that man; yes, suh." And then she said, if I could think of anything good to say of him, to say it, for it would all be true, and more. I can think of many things, to say, both of the man personally, and of his work, good and noble in the extreme, almost more than hu-

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Philadelphia.

man he seems to those who see him and his work in their inner meanings, but I, too, shall leave it to you to conjecture, for words fail me even as they do my humble friend in Tennesseetown.

Mrs. Ransom has an unpretentious philosophy of her own. Patience, and hope, and trust, she says, are the most of life that is lived aright. Then she observed, impressively, "Now, I brung up two fam'lies, a white one, an' my own, but I ain't nevah know what patience is 'till I see these kinduhgahten teachuhs. They ain't nevah fret nor worry, an' they always got hope. I can't tell you how much good I learn from this ye're kinduhgahten."

In connection with the kindergarten is the "Sheldon League of American Mothers," which is an organization of mothers who are interested through the kindergarten in the good of their children. Mrs. Chapman, the kindergarten teacher, is at the head of it, and directs its energies. They meet once in two weeks, and discuss the kindergarten work, child-training, etc., and Mrs. Chapman tries to show them in what ways they may supplement the work of the kindergarten. Once in three months, they have a parents' meeting to which the fathers come. They feel great interest in the work and show it by the liberal contribution they make toward the kindergarten fund.

The library is kept open every night in the week and is used by an average of about fourteen boys, about fifteen years of age, and of the class which generally roams the street, hunting mischief. The room is equipped with a moderate supply of good books, papers and magazines, some good pictures, reading tables and chairs. A young man from Mr. Sheldon's church is in charge. There have been times when the keeping of the library was an exciting occupation; when fights occurred and a general uproar disgraced the quiet and a policeman was called to quell the disturbance; but wisdom comes with experience and now there is no attempt to control the users of it as in other public libraries. The boys are free to talk, to sing and to have a general good time whenever they feel so disposed. Once in a while they bring their mandolins and have a musical evening. The room is used as a parlor where every one can do as he pleases, so long as he does not please to do wrong.

The mission Sunday school has been in existence for ten or twelve years. Here on Sunday afternoons the children come and are taught the regular Sunday school lessons. It keeps them off the street at least, which is a "consummation devoutly to be wished."

There is a parsonage next the church, for the habitation of a good, white family whose duty it is to conduct the Sunday school and to help in the working out of the general plan wherever they are able. It is thought that the example of this one family, living among them in decent, Christian fashion, can not but impress them by reason of its constant presence, and its direct contrast to their ways of life.

Last, but by no means least, among the agencies for good among this people, is the industrial training, which has been made a part of the common school work. Here boys and girls are taught trades, which enable them to grow into useful men and women, rather than the menace to the community which their surroundings would naturally make of them.

This has been a very brief and hurried sketch of a large subject. The effects of the work done there, by noble men and women, will never be fully

known in this world. The influences are deep and far-reaching, and while much good is visible upon the surface, yet, the major part of the result is in the unseen currents of their lives, which eternity only can reveal.

How Polly Cured the Cat.

"Did I ever tell you how our cat Sizer was cured of his habit of catching birds? No? Well, I must tell you, for I think it was the most effective object lesson Sizer ever had. He was a great pet, and had learned to do some pretty tricks, but had one propensity which was as wicked as could be—no bird was safe if Sizer could reach it.

He had eaten two of mother's canaries, and the neighbors had threatened to kill him if he came into their houses. At last, however, Sizer met his equal.

Aunt Clara wrote to mother that she would spend the summer with us, and would bring her big parrot. Mother was perfectly willing to have Polly come, and we children were wild with delight. We had never had an opportunity of knowing a parrot—neither had Sizer! One day mother was busy preparing Aunt Clara's room, and John and I were helping her. Suddenly mother dropped down on the nearest chair, saying, "Oh, dear, I have forgotten Sizer!" In a minute she was able to explain that in her joy that Aunt Clara was coming, she had forgotten Sizer's love of birds. "What if anything should happen to the parrot!"

We thought we could give Sizer away. It is easy to give a cat away, but he will not always stay given. So we presented him to the man who brought vegetables from his farm four miles from the city, and mother felt relieved.

At last Aunt Clara came with trunks and boxes and a big cage containing her pet. Polly was a handsome bird, green and gold, with a few beautiful red feathers, a wise, solemn expression and an accomplished tongue. She was very tired after her journey, and began to say, "Polly's sleepy! Good night, Polly! Hello, boys!" and stretched her legs and neck to get rested.

We young people felt as if we could stand by and listen to her all night; but Aunt Clara said she would be cross if she was kept awake too long, and John carried the cage to Aunt Clara's room. In the morning we heard cries and squeaks that startled us at first, but very soon a jolly "Ha, ha, boys! Good day, Polly! Good day!" assured us that Miss Polly was the author of the strange sounds.

Aunt Clara said at breakfast that she had put Polly's cage on the porch upstairs, so that her ladyship might enjoy the fresh air. She was very noisy, she added, because she could see a big gray cat on the fence. We all knew that Sizer was four miles from the fence and only laughed at Polly's vehemence. After breakfast John was allowed to bring the cage down to the dining-room and there it stayed during the entire visit. The cage door stood open, and Polly walked out or in at her own sweet will.

When John set the cage down Aunt Clara opened the door and Polly came out, with slow and stately step, saying in an injured tone, "Polly wants her breakfast! Polly wants a bath! Hello, boys!" Her reckless words were so ill-suited to her dignified appearance that one could not help laughing, which seemed to entertain Polly very much. When the bird was sitting near her cage, holding a bit of bread in her claw, she stretched her neck, dropped the bread, and called out, "Poor pussy! Come pussy! Hello, boys!" looking intently at something that had appeared at the window.

That "something" was Sizer! He had come home again, and we were filled with alarm. Aunt Clara looked on quietly and said, "You need not be afraid; Polly is a match for any cat I ever saw." So we thought it would be fun to see an encounter between bird and cat, for we knew Sizer to be no coward. He only looked at the bird, this time, and sprang out of the window while Polly screamed after him, "Goodby, pussy! Who's afraid? Who's afraid? Polly wants a bath!"

This final remark, which was such a favorite with Polly, seemed to be merely a reflection, as she generally said it in a very low tone, and busied herself in recovering her perch or her food. For two or three days Sizer did not come into the room, and even mother began to lose her fears for Polly's safety. Then he began to sit quietly near a window or open door, so that he could run if danger menaced, and looked at the parrot with longing eyes.

Her conversational powers had

abashed him, but he finally thought, "She's only a bird after all," and to long for a meal of his own providing. The sequel is easily foreseen. One day we heard the greatest commotion in the dining-room. Father ran in with his glasses in one hand and newspaper in the other; mother came, dismay on every feature; we children ran to the scene, of course, and in a minute Aunt Clara came.

Such a sight as we beheld! We all stood transfixed for an instant, and then burst into loud laughter. Polly had evidently been dozing on the broad window-sill when Sizer had made an attack. When we saw them Polly was holding Sizer with her strong claws and had his ear in her sharp, cutting bill. Sizer was fairly howling and trying his best to use his claws on Polly.

The parrot made some inarticulate noise all the time, and then they rolled off onto the floor. There was a mixture of feathers and fur for a second, and Sizer dashed madly past us, and we could hear his "spit" as he fled the scene. Polly began to smooth her ruffled plumage, and was evidently none the worse for the conflict. She was still very angry, and screamed after Sizer, "Poor pussy! Poor pussy! Polly's mad! Polly's mad! Hello, boys!"

She would hardly allow Aunt Clara to soothe her, and was quarrelsome for two or three days. No one dared say "Poor pussy," in Polly's hearing. It is needless to say Sizer was cured. He returned to the house after a few days, with a much-injured ear, but nothing could induce him to enter the dining-room, and the sound of Polly's voice seemed to terrify him. From that day the sight of a cage seemed to recall the encounter, and as far as he was concerned a caged bird could hang in safety.—J. M. H., in Our Dumb Animals.

For the Little Ones

THE HOME OF THE DOLLIES.

I will tell you how Miss Polly Made a playhouse for her dolly If you really and truly wish to know. For this little room so cosy, Which she made for Jack and Rosa, And their mamma—paper dolls of long ago.

Was a box for crackers only, Sitting in the store room lonely. Till the bright eyes of Miss Polly spied it out. And she said it would be jolly, Now to have a home for dolly. And this is how the doll house came about. And she thought it would be dreary In this little room so cheery Not to have a tiny window made of glass. So with hammer, saw and hatchet, Glass and curtains neat to match it, Soon that marvel of a window came to pass.

Next, thought she, the proper caper, Would be now to paint and paper, This, with worthy care and patience soon was done. And a carpet tacked down neatly, Finished up the room completely, All ready for the furniture, begun.

A piano, couch, and dresser, And all the many lesser Fine articles of furniture you see Were with knife and fingers nimble With needle, thread and thimble, Carved, and glued, and sewed, most cleverly.

When at last it all was finished, With a pleasure undiminished, She moved the dollies in their little home so new. Happy children; happy mother; Now sit smiling at each other, For these dolls have really nothing else to do.

—Mrs. A. M. Marriott.

Grandma's Tumble.

"Why can't I, mama?" "I do not think it suitable for such an occasion; besides, it is you best and only nice dress for the winter, and you would be sure to ruin it at the skating party. Your blue flannel is more appropriate in every way, and—" "I won't hurt it, mama, indeed I—" "That will do, Doris. Say no more about it, for mother knows best. Now run up to grandma's room and see if she has the tape-measure."

With tears in her eyes and rebellion in her heart, Doris rose to obey.

"I've a good mind to wear it anyway," she thought. "Mama'll be over to Aunt Annie's all that day, and will never know. I wouldn't hurt it the least bit, for I'd be ever so careful. I'll do it, I just will," she decided, as she slowly mounted the stairs.

"Has Doris come to help grandma sort her pieces of patchwork?" inquired grandma, smiling over her spectacles.

"No; mama wants the tape-measure. But I'd like to help you, and I'll come back soon's ever I can, for I just love to see all those old-fashioned pieces."

Doris was back again in a few minutes, and her blue eyes sparkled with

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pleasure as she saw the large pile of pieces on the bed.

They worked busily for a long time, and it was hard to tell which was happier, Doris or grandma.

"Who had a dress like this?" asked Doris, presently, holding up a scrap of pretty red merino.

"That, dear, is a piece of the first short dress your father ever had."

"How funny, that papa was once a little baby! It doesn't seem's if he ever could have been so little, does it, grandma?"

There was a tender, far-away look in grandma's eyes, and the little girl received no answer.

"And this piece! O, isn't it pretty? Those darling little forget-me-nots! Who did have a dress like that?"

Grandma took the dimity from the eager little fingers, and smoothed it lovingly, while a look half-sad, half-amused, flitted across her face.

"There is a story connected with that dress, Doris. Let me see—'twas just fifty-five years ago to-morrow that Honor Rollins gave her party. It was her twelfth birthday, and twelve little girls, I among the number, were invited. It was my first party, and, of course, I wished to look my best. My new dress—that dimity is a piece—had just been finished and hung in the best-room closet, and until the day of the party, I had expected to wear it. But when I went down stairs that morning, mother said: 'The Fenderson baby is very sick, and they've sent for me. I can't tell how soon I'll be back. You may wear your orandy and pink ribbons to the party. I think you can dress yourself alone without any trouble, can you not?'"

"I felt a choking in my throat, and could not answer. I thought I couldn't wear the old dress. It was clean and whole, to be sure, but made over from one of my Aunt Delight's. It was white, and covered with bright-green polka-dots that I had always thought hideous."

"Poor grandma," said Doris, sympathetically, thinking to herself, "Her mother was lots like mine, and I wonder if grandma was ever bad like me."

"We children," grandma continued, "were brought up to obey without question; but this once I broke the rule, and begged to be allowed to wear my new frock."

"No, Prudence," said mother, "the old one is plenty good enough. Be a good girl, and remember that pretty is that pretty does."

"Doris, I did a very naughty thing. After mother had gone, and my stint was done, I went to the best room, got the dress, and put it on. I had not meant to wear it, but it was so pretty I hadn't the heart to take it off. So, stifling my conscience with the thought that I'd get home early and mother'd never know, I slipped quietly out of the house, and sped away to the party."

"I was very unhappy, and only once forgot my misery all that long day."

"Poor, dear grandma," whispered Doris, patting her grandmother's hand lovingly.

"After we had played all we cared to in the house, we went to the barn to play hide-and-seek."

"What a funny game to play at a party, grandma!"

"Not in those days, dear. Every-



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thing has changed since I was a little girl, you must remember."

"Course they have. I didn't think; but go on, grandma, I won't interrupt again."

"We were having such a good time that I had forgotten all about my dress, when, running across the hay-strewn floor, I felt something give way, and I fell down, down—"

"Where, grandma?" cried Doris, quickly, forgetting her promise not to interrupt.

"Into the pig-pen under the barn. The four big pigs ran up and began to root around me and chew my dress. I screamed with fright, and Mr. Rollins, who was working near by, ran to my rescue."

"Well, if you ain't a sight," he said, as he picked me up."

"Kind Mrs. Robbins wanted to wash me and change my dress, but I begged to go home at once just as I was, so they let me have my way. Mother met me at the door with a look of surprise and dismay on her face."

"Prudence—Delight—Armstrong!" was all she said.

"I sprung into her arms and sobbed out all my misery and penitence, and was forgiven. My pretty dress was ruined, though, and I was obliged to wear the despised orandy all that summer. Mother said that was punishment enough."

"I think so too, grandma," said Doris, looking very red. "And I've decided to obey mama always. May I have this little piece of cloth to keep to help me to remember?"

And grandma never knew of the lesson she had unconsciously taught, nor did mama know, until long years after, why Doris so willingly wore the blue woolen gown to the skating party.—Minnie B. Caldwell, in Chicago Record.

When writing advertisers please mention Kansas Farmer.

The Home Circle.

Conducted by Ruth Cowgill.

THE ROAD TO YESTERDAY.

There is a road to yesterday—
A wondrous thoroughfare,
Where wanton breezes idly play
And blossoms scent the air.
It stretches long and far and straight;
It wanders up and down;
It passes many an open gate
And many a little town.

There is a road to yesterday;
The grasses grow beside,
And trees that spread and swing and sway
And shade the pathway wide.
Its flowers are a goodly sight,
And it goes on and on
And many a cloudless dawn.

There is a road to yesterday,
And we may trace its gleam
In flecking shade or dancing ray
Upon some little stream;
Or we may see it, when, with eyes
Half closed, we hear a song
That calls up many a glad sunrise
And many a twilight long.

There is a road to yesterday,
And each one knows its start—
The portal to this wondrous way
Is held within the heart:
From there the pleasant courses lead
As far as one can see—
It rests on many a golden deed
And many a memory.
—W. B. Nesbit, in Chicago Tribune

Physical Development of Women on the Farm.

ELIZABETH LASLETT, M. D., READ BEFORE THE SIBLEY FARMERS' INSTITUTE.

When your representative asked me to prepare a paper for this occasion, and I asked him how long it was to be, he replied, "Oh, fifteen or twenty minutes." I gasped for breath. I am sure he did not intend to be so unkind to you. It reminded me of what Pope once said: "Words are like leaves, and where they most abound, much fruit of sense beneath is seldom found." So you see for me to speak so long would be disastrous for all of us. When we consider that many of our most eminent ministers now preach only twenty-minute sermons it would be impossible for me to consume that amount of time.

The topic interests me very much. The physical development of women on the farm or any other place, is of vital importance to this as well as to the coming generations. With strong, well-developed wives and mothers, posterity is sure to receive a blessing.

There is a certain tribe in southern Africa noted for its strength and hardihood of both men and women. Some authorities claim it is maintained by the early destruction of all malformed and delicate children, particularly females. Such treatment may rightly be considered barbarous, and the end to hardly justify the means; but it results in a people peculiarly free from diseases and infirmities whether physical or mental, and who have a superlative power of resistance against either acquired or inherited weaknesses.

Who of us does not enjoy reading a book where the hero or heroine is described as having rugged health, with bright eyes, rosy cheeks, and best of all, a clear, active mind governing a perfect body?

There is also a subtle magnetism in symmetrical physical proportions. The easy step of unpinched feet, the even breathing of unhampered lungs, the graceful swing of body, the poise of head, unconfined by ill-made garments, or high, uncomfortable collars, all speak for themselves in the entire makeup of a woman. There are many little touches that make the "smart girl smart" without the extreme of fashion, the high-heeled shoe, and the too slender waist.

It is not difficult to prove that a sound constitution usually accompanies a healthy brain, and that the cerebral and muscular forces are directly correlated. No one who has ever walked observingly through an asylum for the insane or feeble-minded, and beheld the dwarfed, misshapen, immature, or stunted forms which surround him, can doubt the truth of this statement. The poor creatures grow physiologically old as indicated by the gray hair, premature baldness, dim vision, dull hearing, wrinkled skin, tottering step, and wasted limb.

Conversely the same is true. A hundred great geniuses chosen by chance will be taller, broader, and weightier than a hundred imbeciles anywhere; and in all lands, savage or civilized, the ruling orders, chiefs, sheiks, princes by might and mind, authors, scientists, or great merchants, weigh more on the average than the persons whom they rule or employ.

During early childhood, boys and girls are very much alike. They walk,

talk, romp and play with an innocent abandon of sex. Until the age of nine or ten is reached, girls, as a rule, are allowed to exercise and mix on equal terms with their brothers, whom they often excel both in spirit and skill. She will enjoy sliding down a haystack just as much as her brother, while he will not turn up his nose at occasionally playing with dolls. They share the same books and games, can eat about the same quantity of food, and accomplish pretty much the same amount of work or mischief.

From this time on, the decrees of fashion impose a bondage upon the girl's movements and she is kept indoors, told to walk instead of skipping and dancing along the road to school; it is no longer permissible to climb trees or fences, or ride both sides of the horse. Instead, she is taught needlework and the beautiful art of house-keeping, interspersed with reading, church work, and social duties. To be sure, all these are necessary; but let her not neglect her body upon which all these other accomplishments depend. A pale-faced, listless, bloodless woman (or man either) is a menace to the community. She is an easy prey to disease, hence becoming a source of infection to those around her; besides dragging out years of a miserable existence for herself. Many times she is not altogether responsible for her condition. Several months ago I took a patient to a hospital in Kansas City. When the physician in charge saw her, he said, "You should have begun treating this woman before her grandmother was born." She had no reserve vitality or constitution upon which to build.

The farmer's busy wife and daughter often say to me, they have all the exercise they need and more to accomplish their work. The washing and ironing, milk and butter, chickens and children to care for, with three meals to prepare each day, and probably only one pair of hands to do it all. When the daughter grows large enough to help, the mother is either worn out and no longer able to carry the household burden, and it falls upon younger shoulders, or she seeks to save the girl as much as possible and lets her lead a life of inactivity, without sufficient exercise to keep up a healthy circulation of the blood. However, in the great majority of families, I have been gratified to observe the daughter lightens the cares of the mother to the mutual benefit and helpfulness of both. Overwork kills more people in the country than in the city, excepting in factory districts, for the simple reason that there is more work to do.

In some localities, the men take Saturday afternoon to play baseball or hold shooting-matches. Once in a great while we hear of the ladies forming a literary club or sewing circle. Why not let our girls and young women form a club for physical training? It would be a rest from their work. Let them be examined and measured by a qualified person and a course of exercise mapped out for them to overcome curvatures, weakness of lungs, mild deformities and muddy complexions.

While the beneficial effects of exercise are so important and so great, the fact must not be overlooked that it is also capable of much abuse, and instead of beneficial results accruing, serious and often permanent injury frequently follows. Much good can be accomplished by hygiene, diet, sunshine, and fresh air. Avail late hours, use an abundance of pure water internally and externally, discard high pillows with the high heels, and study good books. Dress has had its share in producing many changes. The gifted authoress of "Gates Ajar" in her new-



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clothes philosophy has done much to emancipate women from "garments that embrace the waist with a tighter and steadier grip than any lover's arm, and skirts that weight the hips with heavier than maternal burdens."

There is a standard of measurements for given heights to be carefully followed, the relative proportions of a perfect female form as deducted by modern sculptors from Greek statues. With a height of 5 feet 5 inches, 138 pounds is the proper weight, which, however, may be increased ten pounds without greatly destroying the symmetry. When her arms are extended she should measure from tip to tip of the middle fingers just 5 feet 5 inches, exactly her own height.

The length of her hand should be one-tenth, or 6½ inches, her foot one-seventh, or 9½ inches, and the diameter of her chest one-fifth, or 13 inches; with this height she should measure 24 inches around the waist; and 34 inches about the chest. The other measurements are calculated proportionately.

The popular games, golf, tennis, rowing, swimming, ping pong, etc., are all beneficial. They cultivate mind and muscle to coordinate, and as stated before, a well-balanced, healthy body usually supports an equally well-balanced, healthy brain, and woman's first duty is her own self-preservation, thereby becoming best qualified to make life pleasant for others around her.

Send Us Your Favorite Recipes.

We have asked for recipes for warm weather dishes. The spring is advancing, and that season is fast approaching when the cry is for something new and good to eat. We grow so tired of the same dishes, day after day, at this time of the year. If you will tell how to make something that is good, and some one else does the same, there will be an exchange of ideas that will help ever so much toward a variation in the bill of fare at each home. We hope to hear from you at once.

Club Department.

The Highland Park Chalitso Club.

ANNA S. WILKIE, HIGHLAND PARK.

The Highland Park Chalitso Club is the outcome of what was once a flourishing and useful "Mite Society." In casting about for a new name the committee, following the example of "Wimodausis," coined a new word, from parts of the three objects of the organization, viz., charitable, literary, and social, presenting at the same time three other names; Chalitso, with accent on second syllable, was chosen. I might as well confess in the outset that this is a case where the first shall be last and where the last is first.

The club aims to and does do some local charity work, has helped with district Christmas entertainments at the schoolhouse, given some for paid entertainments assisted by the public school pupils, also one or two free socials with light refreshments to which all citizens of the Park and district were invited with the especial object of getting acquainted with each other and the new people who had moved into the neighborhood.

Opportunities to do good are easily found and at the Crittenden Home and the Orphans' Home for Colored Children. They are very appreciative of the small help we have rendered them.

From being altogether a charitable organization the club gradually took up literary work. Last year it made a specialty of days. Meeting on the sec-



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ond and fourth Thursdays of each month at the homes of the members, the program committee would select some author or prominent person, the anniversary of whose birth occurred on or near one of the meeting days, choose some one to have a sketch of the life of the person selected, others to read extracts from writings or review a book. In this way we had no difficulty in securing two easily prepared, interesting and instructive programs a month.

In January of this year the club was entertained on Kansas Day by one of its members whose natal day was the same, and celebrated Kansas and McKinley Days together. Lincoln Day was especially inspiring.

Now we have regularly taken up Kansas history, having a map always before us. We use it, being in no hurry and having set no time at which to complete the studies. We take turns reading aloud, and are going to give special days to John Brown, James Lane, and others who figured prominently in the history of our State.

We are regularly organized with constitution and by-laws, president, vice-president, secretary, and treasurer, and several standing committees; the business of one committee being to call on new women and invite them to join us. New members pay 25 cents and 10 cents annually thereafter, and a fine of 5 cents for non-attendance, which gives a small sum for necessary expenses.

Getting away from our daily home work, for we are all busy women, meeting pleasant friends, extending a welcome to each other and being assured that each and the family of each are well or better, we count no small part of our pleasure.

Indeed, as was admitted in the beginning, social, friendly intercourse is the main object sought and attained, and incidentally leads us to intellec-

tual hunger and a desire to extend the blessings we enjoy to others.

This gives you an account, not of great achievements by laborious study and much time given to an elaborate program, but of profit and enjoyments and rest gained, and the glad hand extended; some little good done and no home duties neglected.

What has been the benefit to the community? you ask. This I would not like to state as the community might not agree with me.

One bright and intelligent visitor who has not time to join was heard to remark, during a conversation regarding the cramming process now in vogue in the public schools, that "she had done more reading this winter than in a long time before, and was obliged to in order to keep up with her children who were yet in the primary department." Her nearest neighbor has been her nearest neighbor for twenty-one months, and yet so far apart are they that neither has been in the other's house. Her neighbor has found a welcome and a broadening influence in the club. Had they both been there, might they not have helped each other?

One member who was wont to stay at home and work, and work, to have everything the pink of perfection and the essence of comfort for other members of the family, has been heard to tell a woman of a neighboring township that "she felt ten years younger every time she got out."

Her house looks just as neat, her cooking is just as perfect, a number of newcomers have been cheered by her smiling face and gracious presence in their homes, and her husband has expressed a desire to be invited to the club.

Grant the possibility or even the probability that some who have attended our club meetings, or the families of some, feel that their time might have been more profitably spent; if a majority, or even a "respectable minority," have been rejuvenated and share their new life with others, who can foretell the influence on the home or on the community of women's country clubs?

Do Country Clubs Pay?

Do country clubs pay? This question is being triumphantly answered in the affirmative by the splendid letters which are being written to the FARMER by country club women.

The Highland Park Club is a fair example of the way in which clubs take root and grow. As soon as the women taste of its pleasures and its benefits, they learn its value, and become earnest workers for its continuance. As our correspondent says so forcibly, if only a part of the community is benefited, who can foretell its influence? Great, indeed, and gracious is the work of the country club!

We Want to Know.

We hope to hear from new clubs from time to time. We want to know that others are springing up, and we want to let others know of the whole work. We want even to hear the other side of the question. We know that there are some women—and even some men—who do not believe in such organizations, who consider them harmful and useless. We want to hear about that, also, we wish that every one who has an opinion upon the subject would write to us about it. For it is not an unimportant matter. The country club movement is growing. There are country clubs in many different parts of the State, from the eastern border to the western line, and we hear again and again of new clubs arising and drawing members from miles around. So that it is evident that the movement is destined to make itself widely felt.

And we want to keep in constant touch with you in your work. Let us know what you are accomplishing, and what you are enjoying. Make the KANSAS FARMER your club newspaper, and whenever there is anything of interest to you, send it to us, and be sure it will be interesting to others also.

\$19.00 to Boston and Return \$19.00 with membership fee of \$2.00 added, account of annual meeting of National Educational Association. Tickets will be on sale via the Nickel Plate Road July 2d to 5th, inclusive, good returning from July 8th to 12th inclusive, without being deposited with Joint Agent. Additional limit to return not later than September 1st can be obtained by depositing return portion of ticket with Joint Agent and payment of 50c for execution. Superior train service and excellent dining-car meals, on American Club Plan, ranging in price from 35c to \$1.00; also a la carte service. Write John Y. Calahan, General Agent, 113 Adams St., room 298, Chicago, for time of departure of trains from Chicago and other detailed information. (8)

Miscellany.

Grasshoppers—Their Habits and Remedies.

C. P. GILLET, COLORADO EXPERIMENT STATION.

The several injurious species of grasshoppers occurring in Colorado undoubtedly occasion heavier annual loss than any other single insect pest, not excepting the codlin-moth. It is the object of this brief paper to give the most important information as to the habits of these destructive insects and the remedies that may be used against them.

LIFE HABITS.

All our specially destructive grasshoppers spend the winter in the egg state in the ground. The eggs are from about three to four-sixteenths of an inch in length, cylindrical in form, yellowish white to yellowish brown in color, and are deposited in compact masses of from about twenty to as many as seventy-five together. The females dig small holes to the depth of an inch or a little more with the stout ovipositor at the tip of the abdomen. The abdomen is then thrust in as far as it will reach and a gluey material is exuded and smeared over the inner wall of the little cavity making it firm. Then the egg mass is deposited and it is also covered with the gluey material which also hardens and protects the eggs from excessive moisture and from being easily crushed. Egg-laying of some of the species begins about the first of August and continues until hard freezing late in the fall kills all the old females. As a rule, a single female deposits two packets of eggs.

The places most chosen by the females for the purpose of egg-laying are ditch-banks, the borders of field and road-sides. The egg-packets are also most often found about the roots of plants, as alfalfa, clover or weeds. If the eggs are at all abundant, a little digging about such plants where the grasshoppers were numerous in the fall will usually reveal them.

The eggs begin to hatch about as soon as vegetation starts in the spring and continue for several weeks but the eggs of a single pod all hatch together. The young hoppers begin at once to feed upon such tender growing plants as are at hand, various common weeds entering largely into their diet. When young and wingless, they are inclined to remain rather close to their place of hatching, but as they grow they scatter about more and may become quite evenly distributed through a large field. The tendency to remain together in large flocks is more or less marked however, and particularly is this noticed late in the afternoon when they congregate along the borders of the fields and upon the fences to spend the night. So marked is this habit that where grasshoppers are abundant it is a common sight to see a strip from ten to thirty or more feet wide about the borders of an alfalfa field that is almost denuded of vegetation. Sometimes the grasshoppers do great damage by ascending trees and eating fruit and foliage and gnawing the tender bark from the twigs. Such injuries usually occur alongside an alfalfa or pasture-field from which the grasshoppers have migrated.

REMEDIES.

There are many remedies that may be used to advantage against grasshoppers. Which is the best to use in a given case depends upon circumstances. It may be best often to use a combination of remedial or preventive measures.

The best of all artificial remedies, where it can be used, is plowing deeply late in the fall or early in the spring, all the ground where the eggs are abundant. Even the young hoppers, when very small, may be turned under quite successfully in this manner and destroyed.

Where plowing can not be resorted to, a thorough harrowing, especially with a disk harrow, will do much to destroy the eggs. Some will be crushed, others will be eaten by birds and still others will succumb to the freezing and thawing and drying when separated from the egg-mass. These remedies must be applied before the young hoppers hatch.

DESTRUCTION OF GRASSHOPPERS.

Burning.—When the grasshoppers are quite small and travel slowly, they may be killed along ditch banks and in other places where they are abund-

Griswold Square Mesh Field Fence.



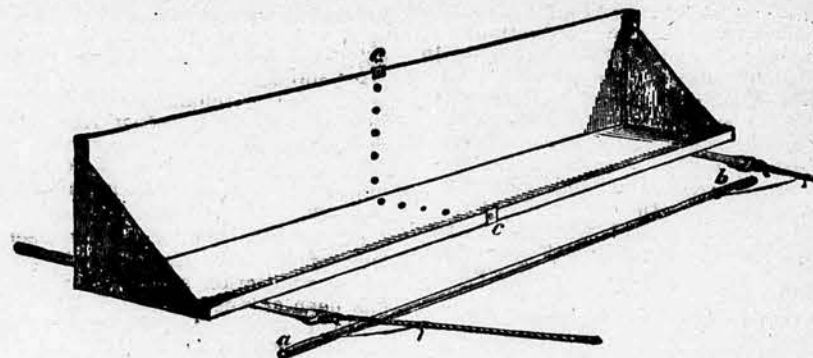
The best of all Lawn and Field Fences. Is hog proof. Manufactured in 18, 24, 33, 39, 50 and 56 inch heights; in 20 and 40 rod rolls. The narrow widths can be supplemented to any height desired by Barbed or Plain wire, or two strand twisted Cable wire. Manufacturers of Diamond Mesh Fence, Plain, Galvanized, Barbed or Telephone Wire. Wire Nails and Hay Bale Ties. Write for illustrated catalogues and price lists. **Dillon-Griswold Wire Co., Sterling, Ill.**

ant by covering the ground with straw and then burning it.

Poisoning.—Young hoppers may also be poisoned in large numbers by thoroughly spraying the young weeds and other vegetation on the waste land where they are hatching in large numbers with any of the arsenical poisons, as Paris green, arsenite of lime, arsenate of lead, etc. The poisons should be used rather strong. Later, when the hoppers get into the crops, they may be poisoned quite successfully by the use of arsenic-bran mash. Mix a pound of Paris green or white arsenic with about twenty pounds of bran, moisten enough with water so that the particles will adhere together in a crumbly mass, and then sow broadcast where the hoppers are most abundant. Do not use this where chickens feed.

Bandages.—To keep grasshoppers out of trees, bandage the trunks with cotton batting or printer's ink or axle grease. If either of the last two named substances is used do not put it upon the bark of the tree but upon heavy paper which is first wrapped about the trunk. If the hoppers jump or fly into the trees, using poisonous sprays or driving with whips will have to be resorted to.

Hopper-dozer.—For open fields, the hopper-dozer, or catchers, are probably our best remedy after the grasshoppers have hatched. A cheap and simple form of hopper-dozer, which is probably as effectual as any, is shown



Hopper-dozer (after Riley).

in the illustration. The pan is made of sheet iron and the back is extended by means of upright stakes and a strip of muslin. In the pan is placed a quantity of kerosene or crude petroleum, or a small amount of water with oil upon the surface, and the pan or dozer is then drawn over the field by hand or by means of a couple of horses kept well apart so as to collect the hoppers. If the horses are in front of the middle of the pan, many of the hoppers will jump out at the sides and escape the pan. Every hopper that gets wet with the oil dies. Many will jump into the oil and jump out to die. When they become abundant in the pan, they should be thrown out.

Another type of hopper-dozer which is much liked by many who have used it catches the grasshoppers alive in a box. It is manufactured by a Mr. J. H. Behrens, Evans, Colorado, and costs about \$12.00.

Grasshopper Diseases.—The African grasshopper fungus was experimented with quite extensively last summer in Colorado, nearly 400 tubes of the fungus being sent out to those requesting a quantity for trial. The station also

PIANO

Do You Want a Genuine Bargain

Hundreds of Upright Pianos returned from renting to be disposed of at once. They include Steinways, Knabes, Fishers, Stearings and other well known makes. Many cannot be distinguished from new. All are offered at a great discount. Uprights as low as \$100. Also beautiful New Uprights at \$125, \$135, \$150 and \$165. A fine instrument at \$250, \$450 pianos. Monthly payments accepted. Freight only about \$5. Write for list and particulars. You make a great saving. Pianos warranted as represented. Illustrated Piano Book Free.

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Twenty-five Cents a Bottle.

used a number of tubes endeavoring to spread the disease among the grasshoppers about Fort Collins. There is very little evidence that the disease became destructive to the grasshoppers in any case where it was used. There is a native grasshopper disease that is generally distributed over the country which did kill great numbers of grasshoppers in nearly all parts of the State last year. It is a peculiarity of this disease that it causes its victims to crawl to the tops of plants to

How the Times Are.

Anxiety to know how prosperity progresses and how long it will continue is occasionally expressed. The future may be hard to foretell, but present conditions are ably reviewed each week for the financial and commercial world by R. G. Dun & Co. Following is an abstract of their Review for the week ending May 9:

"Unrest in the ranks of labor has increased rather than abated since May 1, when difficulties of this sort usually culminate. No single struggle of great magnitude is in progress, but the frequency of small strikes is disturbing, and in the aggregate a large force is idle, while important industrial undertakings are checked. Good reports are received from footwear factories, shipments from Boston for the year thus

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JOSEPH BEROLZHEIM, G. P. A.,
Chicago.

far surpassing all records, and clothing makers receive duplications of spring orders, in addition to getting out fall samples. Prices of commodities declined slightly during April. Dun's index number falling from \$99.267 to \$98.561. A year ago the highest point of recent years was touched at \$102.289. Railway earnings in April were 13.4 per cent larger than in April last year, and 28.7 above 1901.

"Cancellation of orders where delivery failed to be made according to contract and new business at lower quotations indicate a tendency toward more normal conditions in pig iron. This is highly desirable, and gives assurance that present activity in iron and steel may be maintained. Pending contracts for about 50,000 tons of structural material have been closed, and other orders are only postponed by uncertainty regarding the labor situation. Railway requirements appear to have no limit, and the proposed extensions will consume large quantities of steel. Billets are one of the scarce articles at present, even imports being arranged with difficulty. Implement manufacturers are surpassing all records in their purchases of merchant steel, machine shops are working at full capacity, and there is a brisk demand for plates, pipes and tubes. All leading machinery markets report satisfactory conditions. Trade in hardware is of good volume, orders assuring activity for some time, and new business still coming forward freely, especially at the South.

"Textile manufacturers at the East have not improved their position during the past week. Jobbers are buying only small quantities, exercising a discrimination that indicates dull markets elsewhere, and salesmen are being withdrawn from the road. With large print mills closed, there is no activity in print cloths, nor is the movement of brown sheetings and drills of any account.

Abnormal prices for raw cotton might be expected to stimulate inquiry for goods, but the only effect is to prevent sellers from making concessions. Higher figures are expected next week at the official opening of the season in carpets. More woolen mills have closed, and the market is featureless, but the new wool clip is firmly held. A steadier tone is noted in silks, owing to reports that production will be curtailed. Trade is rather quiet in leather, both as to sole and upper, with prices steady, although heavyweight stocks have accumulated. Chicago packer hides are dull at recent advanced prices, which were only on latest salting. Foreign dry hides are easier, buyers reducing their bids slightly.

"Failures this week were 175 in the United States, against 218 last year, and 22 in Canada, compared with 24 a year ago."

PLANT BREEDING GOING INTO PRIVATE HANDS.

(Continued from page 529.)

Experiment Station, expects to cooperate in a large number of field experiments.

Professor Marshall has resigned his position at the Iowa Agricultural College and will go to Odebolt June 1 as manager of the live-stock work. At present the farm has 3,500 hogs, 1,000 cattle and 175 horses. Professor Marshall expects to feed 2,500 steers annually.

On such a farm, with such talent as Mr. Cook is gathering around him, there will be valuable developments. The man who can organize such work will take care of the ledger and the balance sheet. Kansas people will guarantee the efficiency of the seed department.

But the results will belong to Mr. Cook. He can name the price at which he will share them with other Hawkeyes. They will doubtless be valuable also in other States and will be bought at a price by farmers throughout those parts of the country which produce the staple crops.

SOIL INOCULATION.

EDITOR KANSAS FARMER:—In your issue of April 16, you speak of alfalfa bacteria and of trying to inoculate the soil with them. Will you please explain the object? H. W. GIDDEON, Pawnee County.

Many soils contain microscopic plants which attach themselves to the roots of larger plants when such grow in these soils. Leguminous plants, such as alfalfa and all other clovers, peas, beans, the locust-tree—indeed, all plants, shrubs, and trees, whose seeds are formed in pods resembling bean-pods or pea-pods—are thought to have corresponding bacteria. When these

bacteria become attached to the roots of a plant, small tubercles, having somewhat the appearance of diminutive potatoes, are formed. These do no harm to the host plant; on the contrary, they are believed to be always beneficial. This union is by the scientists "symbiosis." It results in the conversion of the inert nitrogen of the air—possibly only that portion of the air which is dissolved in the soil-water—into nitrates of some of the common bases. Most legumes thus render available for plant-food considerably greater quantities of nitrogen than they themselves use in their own growth. They thus enrich the soil by the addition of the most costly element of fertility.

Of late years, many legumes not native to this country have been introduced. In some cases the bacteria peculiar to a particular legume have not been found in the soil of a locality. There was found to be a lack of the alfalfa bacteria at the Illinois Experiment Station farm. Some dried soil from an old alfalfa field in Kansas was shipped to Illinois and sown on a portion of a field seeded to alfalfa. This was called "inoculating" the soil. It resulted in the production of the characteristic tubercles on the roots of the alfalfa in the inoculated portion, while they were still absent in the uninoculated portion of the field. It was found, subsequently, however, that in raking the hay, and perhaps by other means, the bacteria were distributed to the entire field.

Another case of the introduction of bacteria into soil which had been barren of them was reported several years ago by Mr. D. H. Otis—now Professor Otis—of the Kansas Agricultural College. The soy-bean had been introduced to this country from Japan. It grew well in Kansas soil but produced no tubercles. In Massachusetts, the soy-bean produced tubercles showing the presence of the bacteria which could form a symbiosis with the soy-bean. Mr. Otis had shipped from Massachusetts a quantity of dried soil from a soy-bean field. This was applied in various ways to plantings of soy-beans at the Kansas station. It resulted in the abundant production of tubercles and better growth of beans. Mr. Otis's report was illustrated with photographs showing the diminutive "potatoes" in abundance on roots of soy-beans which had grown in inoculated soil, and their absence from those which had no chance to profit by the introduction of the dust from Massachusetts. Mr. Otis's report was widely copied and extensively commented upon. It was published in the KANSAS FARMER.

Since that time, there has been no lack of soy-bean bacteria at the Experiment Station and much dried soil has been shipped to other parts of the State, carrying the bacteria to other soy-bean fields.

In sections of Kansas where alfalfa fails to grow well it has been suspected that the alfalfa bacteria may be lacking in the soil. If this be the only deficiency, it may be readily remedied by inoculation. Some experiments are now in progress with this method. Reports of results have been promised to the KANSAS FARMER.

SOME KANSAS HORSES.

"While the United States Department of Agriculture ranks Kansas as fifth in the number of horses, if there were any comparison made in excellence, those of the Sunflower State would in all probability stand among the first. Some of the horses most noted for speed, endurance, and striking excellence, marvels of the equine world and matchless, have been foaled or reared beneath the skies of Kansas." The above is quoted from Secretary F. D. Coburn, who follows these remarks in the same article with a list of the famous trotting, pacing and running horses whose home was Kansas and who have won fame in their several spheres of action. In the list of notable horses, however, is included no mention of the draft breeds, some of which have won fame equal or exceeding that of the speed classes. The secretary adds, "Perhaps, however, wider attention is given to the breeding of the types especially adapted to drafts and similar purposes, and in the past few years renewed and added interest in this particular industry has been apparent."

These remarks are quoted because they suggest the thought that while the brilliant records made by Kansas horses on the turf may serve to attract more widespread attention, is it not true as well that the draft breeds have won equal honors and been of more real value to the State than have all the

fast horses ever within her boundary? As an illustration we may name Brilliant 3d 11116 (2919), who was acknowledged by all Percheron horse breeders to be the greatest sire of prize-winners ever used in France or America. This horse was imported by Mr. Dunham, of the present firm of Dunham, Fletcher & Coleman, who paid \$4,000 cash for him in France. This is the highest price ever paid for a French Percheron and he was unquestionably the greatest sire that ever reached the United States. He stood at the head of Henry Avery & Son's herd at Wakefield for a number of years, and it is a matter of record that within ten years after his importation every noted sire in the United States belonging to the Percheron breed was descended either directly or indirectly from him. Henry Avery & Son are the oldest Percheron breeders and the largest in the West and they have always used the best sires that money could buy. The record of Brilliant 3d is only quoted as an illustration of this statement. They began years ago by the purchase of Quimper 400, who was the first registered Percheron in the State of Kansas, and their claim to have owned and used a better class of herd sires than any other breeder in the United States is well founded. Quimper was followed by Nyanza 869, who was a winner wherever shown and whose dam was Mignonette 584, the greatest prize-winning mare in France and America. Voltaire 3d 4320 (2963) was sired by the \$5,000 Voltaire 3540 (2963), and was selected by Rosa Bonheur as a typical Percheron. Fier A Bras 15746 (13555) was a winner in the 4-year-old class at the World's Fair in Chicago. Brilliant 3d was followed in this herd by his son, Favorite 22937, and he in turn by Dublin 44533 (24680) whose sire was a prize-winner in France and America and whose half-brothers have won all the important prizes at the International for several years past. Favorite is the sire of one 3-year-old and a number of black 2-year-olds that are now on the farm, while Dublin is sire of all the yearling and sucking colts to be found there. These youngsters are a wonderful lot, and the degree of perfection which has been maintained by the Messrs. Avery in their breeding operations have been possible only by the use of the highest type of sires and the judicious culling of their herd which has gone on continuously during the past 30 years. After the death of Dublin the owners of this great herd purchased Illustre 20489 who now heads the herd. He was sired by Introuvable 16875 (24146) who won the grand sweepstakes at the World's Fair at Chicago and out of Bertha 5340 (7008) who also won first in class and sweepstakes at the same exposition. Illustre is a line-bred Brilliant of such quality and breeding as to make him a worthy successor of the renowned sires whom he succeeds. The Averys have also purchased a colt of the same general breeding who is a wonderfully promising youngster. This is Banshee 28947 by Sandow 2144 out of Madge 19367 and tracing to Brilliant on both sides. A portrait of Illustre was published in the KANSAS FARMER on page 461 in the issue of April 23, but it needs a personal inspection of this animal to enable one to appreciate his action, bone and substance, to the full. After an experience of more than 30 years as breeders and with a line of such sires as has been named, what wonder is it then that the young stock on the farm are of the highest type and best quality known to the Percheron breed? Our only wish is that horsemen generally knew of the quality of animals to be found at this breeding establishment, and that the praises of these animals might be sounded throughout the world as have been those of John R. Gentry, Joe Patchen, and Smuggler. They are worthy of as much fame and are certainly more generally useful than their more speedy brothers, and they have a worthy home on the greatest and oldest breeding farm in the West.

THE STOCK-BREEDERS' ANNUAL FOR 1903.

The thirteenth annual meeting of the Kansas Improved Stock Breeders' Association was the largest and most enthusiastic in its history. It was characterized by a large attendance, a very high quality of papers presented and the genuine Kansas enthusiasm. This is now the largest breeding organization in the United States, and the Breeders' Annual contains a full transcript of the proceedings, including the reports of officers, all of the papers presented and their discussion, and the Breeders' Directory, to which a large accession of names has been had

since the last meeting. The meeting of 1903 devoted one entire session to the dairy interests with the result that this innovation proved particularly valuable and we predict that every dairy and creamery patron in the State will be anxious to procure a copy of the proceedings which contains the valuable papers presented at this session. Papers were presented upon the following subjects at the general sessions: The Cattle Abortion Problem Solved; Fitting Cattle for the Show Ring; Honors Won by Kansas Breeders in the Show Season of 1902; English Blue-Grass Culture; The Sheep Industry in Kansas; Plants Injurious to Animals; Alfalfa as a Bone-Producer; Swine Feeding at the Agricultural College; The Ft. Hays Experiment Station; Railroad Transportation of Live Stock; The By-products of Corn; Live-Stock Pedigrees. At the dairy session the papers presented were: The Stock Breeders' Duty to the Kansas Farmers; Kansas Feeds and Kansas Cows; Dairying in Kansas From a Stock Breeders' Standpoint; The Cream of the Business. The most valuable portion of this Annual, aside from the papers read, will be found in the report of the committee on the new stock classification and in the Kansas Breeders' Directory, which no farmer needs 1,000 names of breeders who are members of this association. The names are arranged alphabetically, by counties, and by breeds, and constitute what will undoubtedly be a text book for every man whose name appears therein for the ensuing year. Until the supply is exhausted the Breeders' Annual will be mailed to our subscribers on receipt of 5 cents sent to Sec. H. A. Heath, to pay postage. As the Legislature failed to make provision for the publication and distribution of this valuable report, and as the association has no funds of its own upon which it can draw for postage, the charge of 5 cents is necessary in its distribution. Address, H. A. Heath, Secretary, Topeka, Kans.

BUNKER HILL DAIRY MEETING.

On Saturday, May 9, was held a creamery patrons' institute that was of much interest and that will undoubtedly prove of future value to the farming community in the vicinity of Bunker Hill, Kans. This little city is in the midst of the great wheat belt of Kansas and the neighboring farmers, realizing that the cow is a profitable source of income, have taken hold of the dairy business to such an extent that the Continental Creamery Company, the largest institution of its kind in the world, has established a regular station there for their accommodation. The institute was characterized by a goodly attendance of farmers and their wives who manifested a marked interest in the papers and discussions presented. The institute was organized by the election of Mr. Joseph Menzies as chairman and the choice proved a happy one. Mr. J. M. Graft, of Topeka, was the first speaker. As the idea seemed to prevail among the people of Bunker Hill and vicinity that they were among the earliest in the State to take concerted action along dairy lines, Mr. Graft devoted some time to the history of the creamery business and of the hand-separator in Kansas. Also to show the wonderful development that had been made recently and especially since the Continental Creamery Company came into existence. He then proceeded to show the magnitude of its present operations. With about 325 different stations in Kansas, with a daily output of about 75,000 pounds of butter and with the fact before them that this company paid in cash last year to the citizens of Thomas County alone enough money to give every man, woman and child in that county a \$10.00 bill, what wonder that the Continental should be given the recent government contract to furnish in one shipment 400,000 pounds of butter and should be recognized as the greatest creamery company in the world. This paper was listened to with close attention.

The chairman then introduced Hon. Geo. Morgan, of Luray, who was one of the founders of the State Dairy Association, and who is one of the oldest dairymen in Kansas. Mr. Morgan began by saying that "a man's pocket-book was the center of his nervous system," and with this as a text he discussed the dairy business from a money-making standpoint. The advantages to be gained by the use of a hand-separator, which simply means the difference between profit and loss to any owner of a half dozen or more cows were very clearly brought out. The proper feeding and care of calves was dwelt upon at some length and was illustrated by the exhibition of a

cheap home-made stanchion, the total cost of which was 50 cents, and which had a capacity of feeding five calves at one time. Mr. Morgan showed that the future of the dairy business depends upon the calves, also that many dairy farmers fail in their feeding of separator-milk to the calves by reason of lack of knowledge, which results in overfeeding and consequent stomach disturbance. This stanchion is so constructed that it may be built into any fence and will hold a common milk crock for each calf, containing his exact amount of feed. Mr. Morgan has promised to give the KANSAS FARMER an illustrated article showing the construction and operation of this stanchion, which is not patented and is given freely to the dairymen of the State.

A good deal of interest was excited by Mr. Morgan's talk and many questions were asked him in regard to his past experiences and present knowledge of the dairy and creamery business.

He was followed by Mr. I. D. Graham who gave a resume of the magnitude of the dairy interests of the State and statistical facts in regard to its wonderful growth in the past ten years. After considerable discussion of various matters of interest, the meeting adjourned to inspect the new plant which has just been installed by the Continental Creamery Company for the skimming and pasteurization of the milk from the surrounding country. It was shown very clearly that it was impossible to ship cream, even so far as Topeka, without pasteurization, hence the necessity for the added expense incurred by the Continental Creamery Company in putting in a complete pasteurizing apparatus in connection with this plant. Bunker Hill happens to be a town which possesses but one well and this is 270 feet deep and is operated by a specially constructed steam pump for the use of this skimming station. The plant was installed by Mr. A. A. Nicholson, the Continental Creamery Company's expert, who received his preliminary training in the mechanical department of the State Agricultural College. With the wonderful wheat and alfalfa fields which characterize central and western Kansas, it is no longer a matter of surprise that the sixth and seventh Congressional districts should prove themselves the best producing dairy sections of the State, and with the increased information and better methods which will come to these Western farmers through their personal experience there is little doubt that the milk cow will prove as profitable as will her beef brother.

KANSAS FARMER'S NEW WALL ATLAS.

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

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

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

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

\$2.50 Value for Only \$1.00.

The Western Swine Breeders' Journal, of Lincoln, Neb., is a very valuable publication for Western swine-raisers. The price is 50 cents a year. The Kansas Farmer is \$1 a year. For a limited time we make this great offer: To any of our subscribers who will send us two new subscriptions for one year and enclose a dollar bill, we will make them a present of the Western Swine Breeders' Journal one year free, thus giving \$2.50 in value for only \$1. Address Kansas Farmer, Topeka, Kans.

The world owes no man a living, but will pay him a good one if he earns it. To earn it easily study your business. Read that "Blocks of Two" proposition again.

German Agriculturists at Kansas City.

A number of German agriculturists are doing this country for the purpose of learning what they can of American ways as related to agriculture. Kansas City, her stock yards and packing houses were visited last Saturday, Sunday, and Monday.

On Monday these forty-three German landed proprietors and managers of landed estates viewed the Kansas City stock yards and some of the packing houses. They were quite unprepared for either the attentions showered upon them or the display of industries. Entirely opposed to the packing industry of Kansas City, since they themselves are competitors in a way, taking Baron Von Fluegge as the spokesman, they conceded that anything better than the American way of packing could not well be conceived.

"How many pigs you kill? Five thousand a day? A month, you mean? No? A day? A day? It is not to believe; it is not to believe!"

But it was to believe, for the Germans saw it done.

"And you kill so many cattle? I don't understand. Tell it to Mr. Newgass, so he can put it in Duetscher. Ach, 50,000 you killed in ten days? It is not to believe; it is not to believe."

Coming West with no more authority than the thousands of American homeseekers carry with them each fall on their own excursions, the impression got ahead of the visitors that they were the accredited representatives of the German government. Just before they arrived at Kansas City their real standing was discovered and then the mistake shifted to the other party. The Kansas City Commercial Club's most excellent arrangements were taken by the visitors to be of municipal importance. The great railroad promoter, A. E. Stilwell, presented to the people of Kansas City two free concerts in the Auditorium. It took a long time to convince some of the visitors that the Stilwell concert and audience of 15,000 on Sunday night was not a sort of public reception accorded them. All of them were not enlightened, the mistake being permitted to run on.

HARD TO BELIEVE.

"Such attentions we never had. The consairt, the pig killing. Ach, this is a wunnorful city!"

So declared Dr. Lindemann, of Dresden. Dr. Lindemann was a picturesque gentleman with the Kaiser Wilhelm mustache and the Kaiser Wilhelm forest hat. He was a serious charge to the reception committee, was this Dr. Lindemann. The killing beds, and the pretty girls in the sewing room at Swift's, and those in the sausage department and the cannig room at Armour's were almost too much for him. He ran the gamut from Theodore Thomas' orchestra to the hog killing department, and enjoyed everything.

The visitors were the guests of the Commercial Club during the day. At 8 o'clock they were put into carriages and tallyhos at the Midland hotel and taken to the Live Stock exchange. They viewed the yards from the roof of the exchange building, and then went to the S. & S. Packing Company's plant, through which they were piloted. The next port of call was Swift's, and then came Cudahy's establishment. After exploring these the party drove to the Stock Yards exchange, this time for an address of welcome and a reply. Mr. Staubenrauch delivered the former in German, and Baron Von Fluegge replied in English. These ceremonies being over the party, augmented by this time to the number of about 100, mounted horses and took a trot through the yards. By the time this was done the visitors were ready for a most excellent broiled steak luncheon served at the Transit house, the hotel at the stock yards. The afternoon of a most eventful day was spent by going through the Armour packing house. When it was all over, Baron Von Fluegge gave out the following statement:

ALL AMAZED.

"We are amazed. We expected nothing of this kind. We have never witnessed such magnitude of operation. To commence with Convention hall we can scarcely credit that it was built in ninety days. With us it would have taken two years. Such a hall without pillars would not have been dreamed of in Germany. It is an architectural achievement.

"As for these packing houses, I must proclaim that we are undeceived. Their cleanliness is not to be questioned, though in Germany always the cry is

being raised against them that they are not so. They are cleaned in Germany by laws. They are cleaned in Kansas City by custom. Laws, laws, laws in Germany, and still no order. Customs only in America, and you have entire uniformity. I learn here today for the first time you sell all your cattle alive, on the hoof, and you do that merely because it is the custom. In our country we are all at war over a way to sell. Some sell live weight, some dead weight, and some 'after a look,' which is guess work. Nothing governs us; everything governs Americans. For instance, we make farming machinery, and so does America. We buy American machinery because we can get parts, all being standard; in Germany every make of machine demands its own make of parts. We never work together. Americans always do so.

LAWS AGAINST AMERICAN MEATS.

"My government has stringent laws against American meats. Of that I will say nothing. I may say, however, that the government inspection here is sufficient and is thorough. We have seen it. The way the meats are handled is as near sanitary as can be in view of the great volume of meat handled. The artificial butter making is an entire revelation to us; its cleanliness is not to be questioned after this. To tell our people at home that one slaughter house has 4,000 men at work, that it kills 10,000 hogs a day, 4,000 cattle a day and 5,000 sheep a day, is to presume on their unbounded credence. Still, we have seen it. We are merely private gentlemen members of an agricultural society. Each year our society makes up a party as this, and that party makes such a tour as this. At the ends of the tour, taken generally through our own country, England, Denmark or elsewhere, each member makes out his own report and that report is printed. We shall follow the custom and treat of Kansas City. The reports from here will be amazing. Just at this moment we are unable to comprehend. Eight million pounds of bacon we saw in one place, and in another they showed us fifteen acres of it piled up four feet. Forty thousand cases of eggs were in one, meaning 5,700,000, and somewhere or other we were told they carried 11,000,000 pounds of dressed fowls against the season. We saw them making 70,000 cans for meats a day. Of course that must compel an expression of wonder even in Kansas City—though you are phlegmatic—while in our country it will meet with doubt.

"We work more industriously though not so rapidly as you. We raise twice as much per acre as you, yet you make more money off your acre than we do. In addition to that in America you have two acres to our one—ten acres, I am told, would be nearer the mark."

Such a report as that published in Germany over the signature of Baron von Fluegge, government official that he is, may be of some value one way or another.

THEY ENTERTAINED, TOO.

If Kansas City entertained the visitors, says the Journal, the visitors entertained Kansas City. Nothing like their morning greeting of each other and the Commercial Club escort was ever seen. No two of them wore hats, coats or trousers alike, and each had his own particular way of raising his hat. He raised it to the hotel clerk, he raised it to the telephone girl, he raised it the moment he caught sight of the telegraph girls and off it went if a wayfarer asked him the time of day. One man held his hat at arm's length straight up, another straight ahead and still another tried to flag a train with his. It was something fierce to see Dr. Lindemann, who was promptly dubbed "the kaiser," because of his fancied resemblance to that illustrious monarch. The "kaiser's" hat was shaped like that worn by actors who do Mephisto. A greeting to the "kaiser" sent the fingers of the right hand to the peak of the hat with a jerk, carried them to the summit with another jerk, and then off went the cady and it looked for all the world as though the delighted visitor was making a present of the thing to the newcomer. The "kaiser" was the comedian of the party. At Schwarzschild & Sulzberger's, all were provided with linen coats to protect their own clothing. The coats were immaculate when put on. The "kaiser" spoiled his by doing a stunt on the floor of the killing beds. He stepped on a piece of fat meat and down he went. As two burly Deutchers stood by to join the roar of laughter at the "kaiser's" plight, their own heels

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slipped from under them and away they went. For the next two hours the "kaiser" was explaining to his quondam acquaintances. Speaking English indifferently, he sought to improve his method of communication by reaching around and grabbing his skirt after the fashion of the day as affected by some women. The girls in the packing houses violated all rules of the service the moment they caught sight of the "kaiser." He insisted on talking to them and excused the splotches where he sat down by pantomime. He enjoyed it quite as much as the girls did.

AT THE PACKING HOUSES.

At Schwarzschild & Sulzberger's and at Armour's the entire party went through the plants in a single body. At Swift's it was broken up into sections of eight, and a guide sent with each detachment. It was a revelation to the visitors to hold watches and find hogs being slaughtered at the rate of 500 an hour. Count Kinski, an Austrian, not yet of age, but standing six feet four inches, asked to be permitted to accompany one hog on its journey. From the time the hog left the ground alive until it was pushed over to be sold, exactly thirty-one minutes had lapsed. Behind that hog the count then found 248. Count Kinski's explanation of the various meats was a surprise for the local packers. "We do not like it so fat," he declared. "In this country and in England we find you run to fat. We want but little fat—just around the outside. We are amazed to see such fat cattle here. We did not know yours were so well bred up. We have been misinformed. By no other means than this inspection could we have obtained such information as we have gathered. You kill an ox here by a single blow of the hammer and raise that hammer 200 times an hour in a single packing house. We have no such celerity, an immense amount of fuss and no end of government inspection. Yours is all business; ours is all formality. You clean your floors by scalding water, which we all agree is a purifier; we hamper our industry by demanding a cement floor, a tiled wall and scientific cleaning until it is next to impossible to go on with the work. The consequence is delay, and the public pays for it."

DELIGHTED BY ALL.

The visitors could not understand the reception accorded them. They were sent to the seventh heaven of delight at being made much of by the commission men, and carried to the pits of torment at being laughed at by the stock yards cattle "rustlers." Their appearance on foot was amusing and on horseback ludicrous. One little, fat, pudgy baron wore a single-barrel eyeglass. He embarrassed his cow pony by wabbling with his umbrella on the ride through the yards. The stock yards attendants enjoyed the appearance of the cavalcade, and for the most part the cavalcade enjoyed the appearance of the stock-yards attendants, but the eyeglass man and one or two others were glad when they trotted out of earshot. On their return from luncheon some of them got tangled up with two carriage drivers, maintaining that their umbrellas had been stolen. A policeman was called and the drivers were furious at being even suspected. After no end of talk the umbrellas were found just where the visitors had left them, though in the dispute the boot and box seats of the tallyhos had been ordered searched.

Before bidding goodbye to their hosts the visitors formally thanked Secretary Clendenning, of the Commercial Club; Manager Rust, of the stock yards; Mr. Newgass, of the Schwarzschild & Sulzberger plant, and Editor Joe Speyer, whose twenty-page special edition of Die Reform was especially pleasing to the Germans, containing, as it did, in their own tongue, data concerning Kansas City and the trade in meats and agricultural implements. The luncheon at the Transit house was also mentioned as being most pleasing, and some of the visitors maintained their astonishment at the immensity of the crowd which turned out to meet them on Sunday night at Convention hall. Nobody had the courage to tell the visitors that the Convention hall affair was Mr. Stilwell's testimonial to the people of Kansas City, and the Germans there merely as visitors.

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In the Dairy.

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

Dairy Conditions and Suggestions for Their Improvement.

The above is the title of Bulletin 84 of the Illinois Agricultural Experiment Station, written by Wilber J. Frazer, assistant professor in dairy husbandry in the Illinois College of Agriculture. It is profusely illustrated with all the appliances required for the most sanitary production of milk and milk products, and contains much practical instruction for those engaged in the dairy business. The following extract gives the main points in the bulletin.

G. C. W.

SUMMARY.

Investigation shows that from a sanitary standpoint there is need of improvement in many dairy conditions.

No other food will absorb bad odors so quickly as will dairy products, or deteriorate more rapidly under adverse conditions.

Milk being an excellent medium for the growth of bacteria, it is of special importance that it be kept as free from germs as possible.

No other food is produced under conditions where it is so difficult to prevent contamination.

Since the largest amount of contamination comes from the udder during milking it is important that all udders be washed before milking. In the production of milk for direct consumption this is imperative.

The average weight of dirt which falls from muddy udders during milking is ninety times greater than that which falls from the same udders after washing, and when the udders are slightly soiled it averages twenty-two times greater.

It is essential to the production of clean milk that the cows be kept out of the mud. The barnyard should have natural surface drainage and should be covered with a coat of gravel or cinders sufficiently deep to form a hard surface at all seasons of the year.

Stables of costly construction are not necessary, but they should be provided with numerous windows and an efficient system of ventilation which will furnish a good supply of fresh air without creating a draft on the cows.

Whitewash being one of the best disinfectants, the stable should be whitewashed at least once a year. In order to accomplish this successfully, the sides and ceiling must have a firm, tight surface to which the whitewash can be applied.

The floor of the milking stable should be smooth and solid. The platform on which the cows stand should be of such length that all droppings will fall into the gutter, thus preventing the cows from becoming soiled when lying down. The stables should be cleaned regularly each day.

As soon as drawn, the milk should be removed from stable to a clean room provided for the purpose and aerated and cooled at once to 60° F. or below.

All dairy utensils and everything with which the milk comes in contact should be rinsed, thoroughly washed, and sterilized after each using.

Bottles used in delivering milk for direct consumption must be thoroughly washed and sterilized after each using to avoid the danger of carrying disease from one house to another.

Every creamery, cheese factory, dairy, and milk depot should have a solid impervious floor. The floor should be well drained by being pitched to a gutter which is connect-

ed with a good system of well-trapped sewerage.

The walls for at least three feet above the floor should be of some smooth, impervious material; if of wood above this, they should be kept well painted to facilitate cleaning.

Milk should be conveyed through open conductors whenever possible. When a pump and closed pipes are used they should be so constructed as to be easily taken down and cleaned each day.

Milk cans should be washed, and sterilized with steam at the factory, and some other receptacle should be used to return the whey and skim-milk to the farm. If the cans are used for this purpose they should, by all means, be emptied as soon as they reach the farm, thoroughly washed and scalded, and placed on a rack in an inverted position with the covers off.

Dairy markets should be developed by selling products of known standards put up in such forms that the consumer will get the original package and know its grade or quality.

Shall We Use Thoroughbred Sires?

D. H. GRIFFIN.

Colonel Robison said, in his talks to the students, that the object of breeding is to create a better animal, or in other words, to get the animal that would best serve our purpose. The question is, in what way can we breed a type that will best serve our purpose? Is it by taking whatever animals we have and breeding to sires that happen to be at hand regardless of their pedigrees? by selecting the best we have and breeding to the sires of the type we desire? by cross-breeding? or by securing a thoroughbred dam and breeding to a thoroughbred sire of the same breed? Let us see what a few prominent breeders say on the subject.

Rev. J. D. Drech, a Pennsylvania dairyman, says: "A good sire should be selected. The man who mixes thoroughbreds is not wise. Pure water or pure milk is good, by putting them together you have swill. In selecting a bull get a long liver, a good breeder, and a prize-winner."

Mr. J. F. Schlappi, feeder of the model dairy herd at the Buffalo Exposition, says he does not recommend cross-breeding thoroughbred animals but does advocate breeding thoroughbred sires to scrub or grade cows. Neither does he think it best to breed dual-purpose cattle. He says that through the use of thoroughbred, special-purpose animals you will get cows that will make you so much more than the dual-purpose cow that you can afford to kill the steer calves. He says, "In purchasing a bull look up his record and then take into account his form, and above all, his get."

In reply to a young man asking advice in regard to how to build up a herd of cattle with a capital of \$500 to start with, the Wallace's Farmer says: "Start with two or three thoroughbred animals, use nothing but thoroughbred sires which are strong, thrifty, and regular breeders."

An Illinois farmer writes to the Wallace's Farmer as follows: "I have had twenty years' experience, have spent \$500 each year for cattle, each animal has been from good pedigreed stock. I have tried cross-breeding in many ways, and with few exceptions have obtained nothing but scrubs, and in no case have I improved on the original stock. It has been five years since I quit this foolishness and now nothing but good stock in its own breed for me. I can see where limited means would result in sure financial failure together with the degenerated scrub stock generally as a result."

Colonel Robison, when speaking to the dairy class, said: "When you young men start out for yourselves it is of great importance what the first cow or team is. Get thoroughbred animals of the type you want. The difference between using a thoroughbred sire and using a scrub, is the difference between success and failure. * * * If you young men start out with a thoroughbred team of mares, a thoroughbred cow, a couple of thoroughbred sows, and use thoroughbred sires, it will make you rich."

F. H. Scribner, an extensive breeder of Jersey cattle at Rosindale, Mich., in a personal letter says: "It is a fact that any improvement we are to make in stock-breeding, whether for beef or dairy, must come from the thoroughbred, because of the fact that they have been bred for generations, selected for a special purpose, and consequently are able to stamp upon their offspring their good qualities. The idea that many have of mixing up things, a little of every breed, is very

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That every big and experienced user of cream separators knows this and uses De Laval machines exclusively—both in factory and farm sizes.

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An Army Invades Kansas.

A year ago a few modest, delicate, unobtrusive Empire Separators went into Kansas with glad tidings of joy to the patient dairymen who had waited for years to receive the reward promised them, but which reward has never come. This little group of silent workers met some "bullies" and were told to go back from whence they came. When this noisy bluff failed, they were laughed at and made all kinds of fun of. They were told they were too little, too insignificant, too weak, and every now and then some great big duffer, who imagined himself proof against any kind of exposure would douse this little visitor with ice milk. But this little band of crusaders (who soon won favor with that element in whom everybody is interested—the women and children) continued to carry their silent message of a better way to handle milk, and they sent back to their old home for more help to tell this beautiful story of less work, less expense, better calves and above all a market from 25 to 50 per cent better than the old one. Each silent appeal brought a helper until at the expiration of the first year. There are 3000 of these little simple, silent workers preparing (in their easy way) the cream from 100,000 cows to be shipped to the Blue Valley Creamery Co., of St. Joseph, Mo where the highest price is paid. Do you want to know more? If you are interested write us.

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erroneous and simply makes hash out of the business. Whatever line you start-out with stick right to it. Get the best that breed affords and my

word for it you will far outstrip the man who mixes up too much. I have been through the mill, starting from scrubs to high grades, and then to



CHILD'S SO-BOS-SO KILFLY.

MORE MILK MORE MONEY!

Cows will give 15 to 20 per cent more milk if protected from the torture of flies with

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Kills flies and all insects; protects horses as well as cows. Perfectly harmless to man and beast. Rapidly applied with Child's Electric Sprayer. 30 to 50 cows sprayed in a few minutes. A true antiseptic; keeps stables, chicken houses, pig pens in a perfectly sanitary condition.

Ask for Child's SO-BOS-SO or send \$2 for 1-gal. can and Sprayer complete, Ex. pd. any point east of the Mississippi.

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18 Lafayette Street, Utica, N. Y.

pure bloods and I never reached that high excellence in production till I got to the thoroughbred. I say, for the dairyman, the special dairy animal is the one we get the most profit from."

The McKay Bros., breeders of Holstein-Friesian cattle at Buckingham, Iowa, in reply to the question, "What do you think of raising dairy animals by selection from scrub herds?" said: "As to commencing with a real scrub herd to grade up profitable dairy animals, we do not advise such a course unless it is absolutely impossible to get it in any other way. It can be done, of course, by years of patient effort in selection and waiting, but life is too short to undertake to do over what has already been done (and done well) for us. The one who has the ability to develop anything from a scrub will find plenty of better opportunities for his abilities in taking up the work at the farthest point of advancement already attained, and should not waste his time trying to reach the point from which he might have started."

There are a great many people who have been using dairy sires in order to increase the milk yield of their beef cattle. The following is the reply of the Breeders' Gazette made to a Kansas farmer who has a beef herd, but thinks each cow must give him more than a calf each year in order to pay her way: "If you want to increase your dairy products and still want to carry on a beef business do not use a dairy sire, but select pure-bred bulls from good milch cows of your beef breed. Thus you will get cows that will give a good quantity of milk and yet produce good beef calves. Do not mix breeds. Notwithstanding the fact that the large majority of breeders advocate the use of thoroughbred sires and dams of the same breed there are a few men who are still holding to the idea of cross-breeding. I know of no stronger argument against this idea than that those who have had years of experience and are the most enterprising breeders of the country are opposed to such methods. We find prominent men differing as to what breeds are the best for special purposes and as to whether the dual-purpose or special-purpose breeds are the best; but all prominent breeders agree that the thoroughbred sire of the breed you desire is the sire to use and the nearer thoroughbred dam the better."

The use of thoroughbred sires is not only recognized as the best policy among Eastern breeders but also among the Western ranchmen. Mr. John Gosling says he has placed hundreds of thoroughbred bulls on ranches in the Western country every year. This shows us that it is not only profitable to use thoroughbred sires on thoroughbred cows but also it is best to use them on any kind of cows.

In consideration of the foregoing, we conclude it is safe to say that the thoroughbred sire is the sire to use under any consideration and in this we feel sure of the sanction of all the prominent breeders.

The Dual-Purpose Cow.

M. R. SHULER.

There are perhaps no subjects to-day that attract the attention of the dairyman of the United States more than those pertaining to the special and dual-purpose cows. One can hardly read a dairy paper through without finding an item about one or the other, and which will bring them the most profit is a hard problem for many dairy farmers to decide.

As generally conceded, the dual-purpose cow is one which will give a reasonably large amount of butter-fat and

at the same time produce a calf that will have fairly good beef qualities; so the heifer calf can be sold for beef if she does not give as much milk as her owner thinks she should. A good cow of this type should produce at least 250 pounds of butter-fat each year and at the same time raise a calf that will bring nearly the top price per pound if sold for beef.

The advantage, then, of the dual-over the special-purpose cow is in the calf which she will raise, providing she will give as much butter-fat, which is generally not the case. In many instances, however, the excess of yield of butter-fat in the latter over the former will not be worth as much as a good calf.

Of course the female calves of the special type are worth as much as those of the other kind, but the males are not unless they are extra good stock and can be sold as bulls, at a high price.

Probably the best breeds of cattle which are used for producing both milk and beef are the Red Polled, the Polled Durham, and the Bates family of the Shorthorn breed, and there are some good Angus. The ordinary cow, however, that answers this purpose is a cross between two or more of any of the breeds of cattle. Many farmers raise this class of cows with good results, selling the male calves for from \$15 to \$20 per head when 1 year old, and it is not impossible to get a cow that will yield from 300 to 400 pounds of butter-fat per year and at the same time raise this kind of a calf. We all know that there are some good dual-purpose cows; but while this is true there are many which will not come up to even the average special dairy type.

It is thought in many parts of Iowa, which is one of the best dairy States in the country, that the dual-purpose cow is more profitable for the average farmer than the special type. This is also true in England, where they have Shorthorn cattle, and they even claim that their dual-purpose animals are better than the special-purpose for butter-fat production alone.

The ordinary farmer in this part of the country will probably handle a small herd of ordinary stock cows with greater success and profit than one, the main object of which is the production of butter-fat and milk, but he should have the best there are of the breed he chooses.

The average yield per cow in Kansas to-day (and the cows are mostly dual-purpose) does not exceed over 100 pounds of butter-fat per year. It is plain to see that there is something wrong with the farmers, or the cows, or perhaps both.

There is no reason why the dual-purpose cows in Kansas could not be made to average at least 200 pounds of butter-fat per year, per head, if the farmer would use judgment in the selection of the best there are.

Even a gain of 100 pounds of butter-fat for each cow would mean a great deal to the farmers, and it will be the result if the farmers keep their best dual-purpose cows and never allow a poor one to stay in their herds.

If a child cries in the night, the cause of its distress must first be discovered before relief can be administered, and so it is with the suffering adult.

The brain-worker seeks sleep and rest in vain; tossing and tumbling from dark till dawn he arises with little energy, no ambition; he is weak, nervous, irritable; has no appetite for breakfast and only when stimulated by the incidents of his business or profession can he approach in any way his normal condition of either mind or body. This stimulation is but temporary and as the days go by ceases to appear under any circumstances.

Thousands who read this have undoubtedly experienced similar symptoms. The difficulty in most cases lies with the patient himself. He is prone to mistake the most prominent symptom for the disease and, consequently, commence a wrong course of treatment.

Do not say, "My stomach is out of order" and straightway offend it with artificial digestors, which, though harmless in themselves, perhaps, will ruin the stomach by doing its work and keeping it in an enforced state of idleness.

Your trouble lies deeper. It is a case of weakened or disordered nerves and may have arisen from a variety of causes. Overwork, worry, mental anxiety, la grippe, exposure, mental or physical strain—anyone or all of these things will, unless properly and promptly treated, develop into nervous prostration, or the chronic derangement of some vital organ, as the lungs, stomach, liver, kidneys, heart, eyes, etc. Dr. Miles' Restorative Nervine has cured thousands of cases of nervous disorder, of every degree of severity. It is unequalled as a tonic for the rebuilding of weakened nerves and wasted tissue. It will bring sweet sleep by soothing the brain; by the tonic effect on the nerves of the digestive organs it will restore to them their normal activity, bringing back appetite, flesh, color and strength.

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Indications point to an unprecedented rush to the marvelous agricultural regions of the Northwest, and thousands of homeseekers from all parts of the East are already on their way to take up Government lands, or purchase them outright.

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This wonderful region has been aptly termed "A land of gold and golden grain," where crops never fail and the rewards of intelligent industry are certain. The climate for mildness and equability is unrivalled anywhere.

No other part of the United States or of the world has greater or more valuable opportunities to offer to intelligent and industrious seekers for homes and competence than the Pacific Northwest, Oregon, Washington, or Idaho.

To enable persons to reach these localities at a minimum expense, the Union Pacific has arranged, beginning with the third Tuesday of March and the first and third Tuesdays of every month until July 18, 1908, a round trip rate of one fare plus \$2 to the West, northwest Idaho, Oregon, and Washington. Information cheerfully given by Union Pacific agent.

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A Valuable Cow

You can add value to any cow with a

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The Poultry Yard.

The Care of Chickens in Summer.

T. CELESTINE CUMMINGS, AUBURN, WIS.,
IN FARMERS' TRIBUNE.

When I began my exceedingly interesting experiment of raising chickens, I started in with the assistance of every one on the farm, with the result that my poultry had first-class quarters, and attention in every respect, and "my" undivided attention almost, meals and everything else being of secondary importance, until the fine edge of our enthusiasm began to wear off, and we settled down to be every-day people again.

Somebody made the statement, that if chickens were well fed they would never molest the "kitchen garden." I think that "somebody" would have opened wide their eyes, could they have seen my well-fed little rose-combs rollicking around my garden, sampling first one tomato and then another in their eagerness for a toothsome morsel, and the young cabbages and early peas shared a like fate. Those little mischiefs had to be fenced in for a while.

Later on when the corn ripened, the chickens and turkeys all had the busiest kind of a husking bee every day in the cornfield near the house, with the result, that in the fall when we killed a few heavy hens, they were so fat it was like putting the hand in a mess of soft soap to "draw" them, but in the eating line I never tasted chicken flesh more tender or delicious, either roasted, or prepared in pot-pie style.

After studying up the subject, before investing in our poultry, we concluded to build a hatching house, with three sides, dimensions 8 by 20 feet, 4 feet high in the rear and 6 in front, making a nice slope to shed rain. Those dimension would allow sufficient space for twenty setting hens—ten coops on either side of the aisle. The coops were 2 by 3 feet in size, giving plenty of space for a roomy nest and the hens' necessary supplies—the dust box in one corner of the coop and the pan of water and grit close by. The coops were made of thin laths, placed as wide apart as they could be, without allowing the hen to slip through.

We fed the hens three times a day, sitting up a couple of laths in front to allow her exit. The hens need never be watched, for as soon as their hunger is appeased, and they have all had a little gossiping time and a stroll around, they seem well content to return to their comfortable quarters, never making a mistake in their nests.

For the nests, I had low, shallow boxes set on the ground, in which was placed a layer of unleached wood ashes to the depth of an inch; tobacco stems were strewn over this, and then the nesting material of fine soft hay.

An ounce of precaution is better any day than a pound of cure, so when my "grown up chicks" first came, as a safeguard, we treated them all to a bath of disinfectant, sprayed a few drops on the head, feathers, comb, face and legs. It was the simple remedy of sassafras oil and sweet oil in equal quantities. If there are any lice lurking in the feathers, the third application will cure the worst case; always be careful, however, not to get too much in one spot, as grease is bad for chickens, and may kill them.

Charcoal is another fine disinfectant, both externally and internally, for chickens, especially in the summer time in extremely hot weather. Break it up in small bits and give it to chickens that are affected with roup, or any other putrid affections; it helps greatly to purify the blood and to tone up the system in general. Place the charcoal among grit heaps, or near their dusting place, and they will be sure to help themselves liberally.

Our summer poultry house is cool and airy, made of thin boarding for sides, rain-proof roof—slanting—and windows and doors opposite, to produce good circulation of air; and back, entirely out of the draft, are arranged rows of perches made from small saplings. The flooring is cemented stone and thickly strewn with sawdust. The droppings are swept out every day and scattered to advantage on vegetation.

Poultry appreciate light, cheerful quarters; so the walls are white-washed twice a year. Our farm is a fine range for chickens. They find bugs, worms, seeds, grit, clover, grasses, berries—everything, in fact, dear to the heart of chickens, and do not seem to need much "feed." They are liberally supplied with pure, fresh water, and milk, which they are very

fond of—either sweet or lopped. They get a full meal at night—all they will eat—of buckwheat and oats. Their diet being so varied during the day, they always seem to relish this plain fare for supper.

Trouble With Chicks.

The world is full of young chicks; and, as usual, the mortality will be large; for when it is dry and hot they die from the ravages of lice; and when it is cold or damp, or both, they die of cold, or its kindred ailment, diarrhea, which often follows a cold, damp day or two in the spring. Gapes, pip, chicken-pox, and like ailments that come, may all be avoided to a certain extent if reasonable care and attention is given the flock. For example, one who purchased a nice, new brooder last season had a splendid lot of seventy chicks within its care; they were doing beautifully; some young chicks that did not belong to this lot got into the brooder and planted that most dangerous of all enemies, lice, within the warm brooder; they grew and multiplied, and utterly destroyed the brood before the owner knew what was going on.

THE REMEDY FOR LICE IS NO LICE.

To prevent lice troubles, be absolutely certain that no chicks hatched by hens, or that have lice about them, can get into your incubators or brooders; nor should they come in contact with an artificially hatched or brooded chick. Every fowl or chick hatched in the natural way, or that has been with those that live in hen-coops or houses, are quite likely to have some hen lice about them. Incubator-hatched chicks should not have them, nor should brooder-raised chicks have them. When they do have them they must come from those that have them; and when they do get into the incubator or brooder they spread very fast and do untold harm.

DON'T BREED GAPE WORMS.

When milk was fed to the fowls or young chicks last season, and the same was scattered about and the ground smeared with it, that will be a fine place to have the gape worms this spring. To avoid this danger, it is well to sprinkle some lime, as soon as the frost is out of the ground, over such places; and, after a day or two, take a hoe and scrape up the lime and about one-half inch of the soil, and bury this a foot or two underground away from where the young chicks will be grown. If your chicks are troubled with the gapes, mix some naphtha in their mash—about one tablespoonful to a dozen chicks, and try that to cure them. Go slow with this remedy, and see how it will do. Don't give it to too many at first; try it cautiously and study the results, as it is a severe remedy. In some cases it may kill the chicks; in some instances it is said to have cured the gapes and saved the chicks. Although dangerous, it is worth trying on a few at a time; for the gapes, when bad, is apt to kill all that get it.

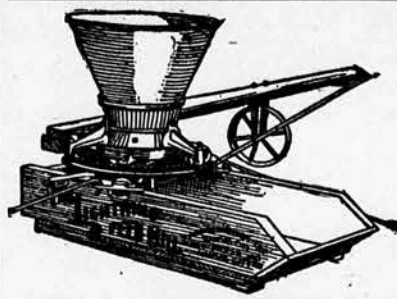
AVOID CAUSES OF BOWEL TROUBLE.

Bowel trouble comes from many causes, among them, cold, damp, indigestion, and lice are the most usual causes of the trouble. All may be avoided to a certain extent through care and cleanliness. When the young chicks have dry, warm, well-ventilated coops to go into, the wet and cold have the least bad effect on them. Cleanliness is the best way to be free from lice, and proper feeding will insure against indigestion. Prepared dry chick foods are so popular because they are a properly balanced ration for growing chicks, and are fed in their national condition. Cooked foods—like johnny cake or corn bread—are good for like reasons. Rich mash foods are at times injurious, because they are so strong in substance; and at times, fed in a wet condition, they sour in the crop. When mash is fed, it should be mixed with scalding hot water or milk, mixed almost dry, allowed to cool before being fed. Sour food of any kind is apt to cause indigestion.

GOOD DIGESTION.

Small, or broken charcoal is a good remedy, or preventive, for indigestion. It sweetens the crop and gizzard; for this reason it is good for both old and young fowls at all times. For the same reason it is mixed with the chick foods. Small grit is also good, as it hastens the grinding of their foods. You can make a splendid food from equal parts of small, broken corn, cracked wheat, oatmeal, and millet seed—one-fourth of each; mix with this some very fine grit and broken charcoal, and feed this as they will

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eat it up. Later, add some meat scraps and broken peas to the mixture. As the chicks grow older, whole wheat, hulled oats, broken corn, millet seed, broken peas, and meat scraps, with the grit and charcoal, will do.

MILK.

There is nothing better for growing chicks than milk; but this should be used in the way that avoids the troubles that come from its use. When the young chicks run into it and smear themselves, it clings to the down and sticks it together and makes a breeding place for hurtful germs. If they get large quantities of it, it clogs up the crop and bowels; for this reason, it is best to use it as a mixture for mash food, as mentioned above. When given them to drink, have some kind of a dish or vessel into which they can not get. A float made of thin board or shingle, with an oblong-shaped hole for them to put their beaks into, keeps them out of the milk. Sour milk made into cottage cheese, or dry curd, seasoned with a little salt and pepper, is good for them; but always remember that fowls and chicks should not be fed on slops or sloppy foods. Dry grains, seeds, grasses, and bugs are their natural food—in their care imitate nature as closely as possible.—Country Gentleman.

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BARRED PLYMOUTH ROCKS—Special summer prices. 15 eggs, 60 cents; 30, \$1. E. J. Evans, Box 21, Fort Scott, Kans.

BLACK MINORCAS—World's greatest laying strain, beautiful in shape, color, and comb, grand winter layers. Eggs \$1.50 per 15, \$6 per 100. George Kern, 817 Osage st., Leavenworth, Kans.

FORTY Barred Plymouth Rock hens for sale at a bargain; the kind that wins the ribbons. Extra heavy boned, deeply barred, good layers. \$1.25 a piece. W. P. Rock eggs reduced to \$2 per 15; B. P. Rock eggs, \$2 per 17. Mr. & Mrs. Chris. Bearman, Ottawa, Kans.

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POULTRY FARM—Breeders of Light Brahmas, Plymouth Rocks and Partridge Cochins, took first second and third on Light Brahmas; first, second, and third on Partridge Cochins at Fort Scott show. A few good cockerels for sale. Eggs in season. \$1.25 per 15. G. W. Shuman, Fort Scott, Kans. Rural Route No. 1.

COCKEREIS—Indian Games and Black Langshans, farm-raised, price \$1 each, if taken soon. H. Baughman, Wymore, Neb.

SILVER LACED WYANDOTTES—Exclusively the American Beauties. Choice birds. Sixteen years a breeder. Eggs \$1.50 to \$1 per 15. D. Tennyson, Frankfort, Kans.

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SNOWFLAKE POULTRY FARM—R. C. W. Leghorns, W. Wyandottes, W. Guineas. Eggs \$1.50 per 15. Mrs. Winnie Chambers, Onaga, Kans.

EGGS FROM GEM POULTRY FARM are sure to hatch high-scoring Buff Plymouth Rocks. No other kind kept on the farm. 15 for \$2; 30 for \$3.50. Satisfaction guaranteed. M. B. Turkey eggs, 11 for \$2. C. W. Peckham, Haven, Kans.

WHITE WYANDOTTES EXCLUSIVELY—Eggs—15, \$1.50; 25, \$2.50; 100, \$5. MRS. E. F. NEY, Bonner Springs, Kans.

WINNERS—White and Barred Rocks. Send for circular. Burton's Poultry Yards, Fort Scott, Kans.

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

Sunny Summit Farm Pure-Bred Poultry.

Silver Spangled Hamburgs, American Dominiques, S. C. and R. C. Brown Leghorns, Barred and Buff Rocks, S. C. Black Minorcas, Mammoth Bronze Turkeys. Eggs \$1 per 15; turkeys \$2 per 9.

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Biggest Layers of Biggest Eggs. Eggs for hatching, \$1.50 per 15. Also at same price eggs from choice matings of Light Brahmas, Dark Brahmas, Black Langshans, White, Silver and Golden Wyandottes, Barred and Buff Plymouth Rocks, S. C. White and Brown Leghorns, Rose Comb American Dominiques, Houdans, White Crested Black Polish, Buff Laced Polish. JAS. C. JONES, Leavenworth, Kans.

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hatch 2,183 chicks; one woman

716; one man over 2,000. New

System again beats incubators.

Booklet Free. F. GRUNDY, Morrisville, Ill.

Pork Production.

(Continued from page 538.)

ground fine is fed in greasy slop, not forgetting the salt, potatoes and international stock food.

If I could not get the latter I would use pepper, mustard and wormwood, with oil-cake, if no grease is in the slop.

When the pigs are about two weeks old they will begin to eat with their mother and they should have a pig "creep" in one corner of the pen, and soaked corn with milk and shorts slop should be given them gradually getting them onto the oats, wheat and corn mixture with milk and greasy slop well-seasoned, as for the sow. Do not forget the seasoning as it is of great importance as well as daily exercise for them. When the pigs are a month old the sow and pigs should have access to the pasture after breakfast and they will return for supper to their own pen. I have found it best to thus confine the sow and pigs until the latter are a month old, to prevent older pigs from sucking the sows and thus robbing the younger pigs and making runts of them; but the confined sow is always fed green grass or roots and the pigs made to exercise freely. With the pigs on full feed in their "creep" at a month old, they are not likely to rob other pigs.

WEANING THE PIGS.

If the pigs are an even lot, I generally remove the sow from them when they are eight weeks old; but if there is a runt or two, I remove them with the sow and continue to feed as before for two weeks longer, when these runts will do to put with the rest of the litter, the sow being put on bran slop for a few days until all milk has disappeared. Then commence a liberal food and in a few days she can be bred again for the second litter, which is always advisable in this climate, but not so in a colder one. While building the sow up after her milk has dried up, the liberal use of international stock food is of great value as it will cause nature to respond liberally and the sow to conceive a large litter. When two or more litters are weaned at the same time the sows can usually be bred at the same time; and where several herd boars are used at the same time, it can be so arranged that fifty or more pigs will come at the same time which is one of the tricks of the trade.

When the sow is removed from her pigs to wean them (always remove the sow and never the pigs), the pigs should be shut up in their farrowing pen every night and well fed on milk-producing or flesh-producing food. More than one litter together will cause them to pile up and some of them will not do well.

FEEDING THE PIGS.

The real time to commence feeding for the growth of the pig, is about two weeks before the sow is bred or the pig is conceived, but most writers always date it at weaning time when half the battle should be already won. It is easy to stunt the pigs before they are born, and probably the excessive use of fattening feed given the sow while she is carrying the pigs actually dwarfs the largest per cent of our pigs, and no amount of feed and care after weaning time will be of as much avail as it would if it was begun when it should be.

A writer in the Breeder's Gazette, who complained of the small size of his Poland-China hogs, has been advised by many to cross-breed and has been told how to feed his pigs from and after weaning time, when his own story shows that he had dwarfed his pigs even before they were born. They may be just as large at birth, or just as sleek and fat while sucking, but if they have not been fed properly, even before they were born, they lack the stamina and vigor and capacity to rapidly continue in development to large hogs. When pigs are fed well before they are born and always well fed afterward they ought to grow to a large size of 600 to 800 pounds at 2 years old.

While forcing the growth of the pigs after weaning they should be fed three times a day. In every way one should strive to promote the rapid growth of the frame of the pig without making them over-fat, as it is well known that to push the pigs to early maturity is by far the cheapest way in the end.

In market hogs the males should be changed at about 4 weeks old and in hogs reserved for breeding the sexes should be separated at an early age and the males kept in a pasture far away so that there is no possible danger of their even getting with the gilts again.

WEIGHT ON HER HEAD**MRS. EGGLESTON FEARED HER REASON WOULD GIVE WAY.**

Solicitude of Her Neighbors Resulted in the Relief of the Unfortunate Woman. Mrs. Eggleston Interviewed.

"There seemed to be a heavy weight crushing down on the top of my head," said Mrs. Kate Eggleston, of No. 126 Ohio Street, Indianapolis, Ind., "and for days and days at a time I was obliged to stay in bed. Every attack of this trouble would leave me weak and worn out. So many excellent doctors treated me without success that I just resigned myself to my fate—I lost hope. There were many times when I feared my reason would give way.

"A nervous affliction developed which affected my muscles and at times I could not control them. I could not sleep soundly, I lost flesh and appetite and was miserable.

"A neighbor called one day and told me of some of the cures that had been made by Dr. Williams' Pink Pills for Pale People and I promised her to try them. Relief came with the first box and I improved steadily until, by the time four boxes were taken, I was perfectly cured and I have had no return of the trouble since."

The pills which cured Mrs. Eggleston are not a patent medicine, but a prescription used for many years by an eminent practitioner who produced the most wonderful results with them, curing all kinds of weakness arising from a watery condition of the blood or shattered nerves, two fruitful causes of almost every ill to which flesh is heir. Acting directly on the blood and nerves these pills have proved a boon to women, invigorating the body and regulating the functions of the exhausted patient.

Dr. Williams' Pink Pills for Pale People have been proven to be a certain remedy for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after-effects of the grip, palpitation of the heart, pale and sallow complexions and all forms of weakness either in male or female. Dr. Williams' Pink Pills for Pale People are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box; six boxes for \$2.50, by addressing Dr. Williams Medicine Company, Schenectady, N. Y. Look for the full name on every package you buy.

WEIGHT OF PIGS AND WHY.

With the best of care to the sow and pigs the latter ought to average 200 pounds at 6 months old, at a cost of about 2½ cents per pound and in many cases many more pounds. The sows ought to successfully raise seventy pigs twice a year. Three hundred and sixty-five pounds at a year old has been beaten many times but many fail to even reach it. The reason I should expect such results is because I have often accomplished it and have seen others do it, and, barring disease, any one who thoroughly reads our farm papers ought to do it. Always bear in mind that a hog is a pork factory and the proper growing of pork is a trade and is not all luck, and that exercise is an important factor—not forgetting to exercise the herd boar.

YARDS AND BUILDINGS.

For ten sows, the main hog-yard should contain about an acre of ground with two three-acre pastures opening out of one end, and from six to nine acres of clover on another side. The two small pastures should be in wheat and rye in winter and rape, cow-peas, soy-beans and millet combined in the summer time and all three pastures should be as well fed with manure of the best quality to promote rapid growth, as the pigs are with a growth ration. There is just as much forcing rapid growth in the pasture as in the pigs, as the more rapid the growth of the pasture the more succulent and aromatic is the growth made. The proper feeding of the pasture with fertility and the frequent changes made from one pasture to another and the constant mowing down of all old growth to be replaced with young, tender growth will make a very superior growth of pork that is not to be compared with the porks made on old, dry and neglected pasture.

In addition to clipping the clover pasture with the horse-mower, clover seed should be sown every spring so the clover will never run out.

Woven wire, well put up, makes the best fence, and peach and walnut pits

should be planted at and between every post to furnish shade and future posts.

I would have the farrowing sheds 8 by 8 feet for each sow with board floor one foot above the level with some good absorbant material packed tight under the floor. The roof should be one-sided and the house face the south with a door and drop window on the south side. The rear side should be six feet tall and front side eight feet, so a man can clean them out with fork and shovel without doubling up in a knot.

All around the sides a plank should be spiked eight inches above the floor to afford protection to the pigs when the dam lies down. Each house should have a yard at least thirty-two feet long with an eight-foot board floor next the house that is elevated a foot above the rest of the yard. Several of these houses can be built into one continuous house with the several yards facing the south. Outside the yards an alley-way should extend along opening into the hog-yard. Shredded corn-fodder makes the best bedding and absorbant ever used, as the corn-stalk pith is the best absorbant known. Wet, fomenting bedding makes pigs lose their tails and I have no use for a man who has a lot of bob-tailed pigs running around.

LICE AND DIPPING.

A breeder is not worthy of the name of a breeder if he has hog-lice around his herd in large numbers. A galvanized steel tank 10 by 2½ by 4 feet containing kerosene emulsion should be in every man's lot and the hogs dipped twice a year. Ten gallons of oil at 18 cents a gallon and ten pounds best laundry soap at 5 cents a pound with 100 gallons of water is all the dip needed, and when fresh it will kill every louse and every egg and the fumes of the dip will destroy all lice in the bedding so that twice a year is all that is necessary to dip. The time should be just before the sows are bred.

While dipping will free the outside from vermin, the steady use of international stock food will keep the inside of the hog free from vermin. Patent dips cost \$1.50 per gallon and six gallons to start on, and none of them will destroy any eggs, and in nine days after dipping there will be as many lice as ever.

The careful reading of the papers before mentioned will be one of the greatest factors towards success in the hog business and I am free to confess that I have got most of the things I have successfully practiced out of their columns. They are the salt, so

to speak, that gives everything else a relish and chance to do good. The hog man's motto should be: "Good hogs;" which would be in the selection; "Well-bred," which would refer to the pedigrees and the handling of them; "Properly fed," which would mean the best of feed instead of the refuse that nothing else will thrive on as is usually done.

Oats, wheat and corn ground together and fed with milk and greasy, well-seasoned slop, together with an abundance of pure water and young, succulent clover is about the acme of good feeding.

Only blood, bone, sugar and oil-cake needs to be added to fit for the showing.

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WEEKLY WEATHER CROP BULLETIN.

Weekly weather-crop bulletin for the Kansas Weather Service for the week ending May 12, 1903, prepared by T. B. Jennings, Station Director.

GENERAL CONDITIONS.

The week began with very cold weather and a severe frost but moderated rapidly and was quite reasonable at close of the week. Good rains have fallen in all portions of the State, except in the north-eastern counties and in Morris, with heavy rains from Norton and Phillips across the State to Barber and Harper.

RESULTS.

EASTERN DIVISION.

Wheat, with few exceptions, has improved and is growing but it needs sunshine in most of the counties; it has not improved in Doniphan, and some has turned yellow in Montgomery; some has begun to head in Montgomery. Corn planting is nearing completion in many counties, while in others the wet weather has delayed it; corn is coming up in all parts of the division but growth is slow. Oats are doing well generally with good growth and color. Potatoes that were frozen to the ground are growing again. Alfalfa is making a very good growth. Late apples promise a fair crop. Rye is headed in Anderson. Grass is growing fairly well.

Anderson.—A portion of the apple bloom seems to have escaped the freeze; rye headed out; pastures improving; corn planting delayed by showers.

Brown.—Crops in fair condition; fruit all damaged to some extent.

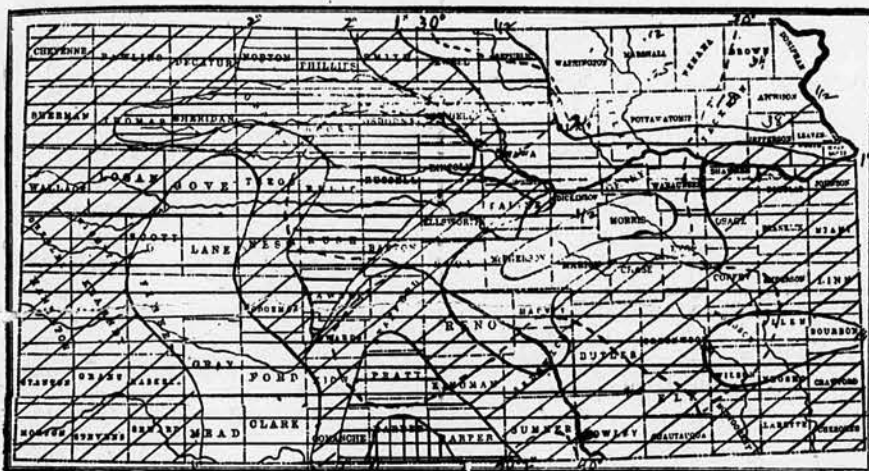
Bourbon.—Wheat, oats, and grass making rapid growth; what corn is up looks yellow and sickly; corn planting retarded by rain during the past week.

Chase.—Farm work still retarded by rain; pastures greatly benefited; alfalfa fine; corn coming up slowly; potatoes coming up again; home-grown garden truck in market.

Chautauqua.—Corn not doing well, much to be replanted; good prospects for strawberries; small fruits will be a fair crop; there may be a few grapes; wheat is in fair condition.

Cherokee.—Farm work retarded by

Rainfall for Week Ending May 9, 1903.



Minimum temperature shown by broken lines.

SCALE IN INCHES.

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

rains; wheat improving; oats looking well; too cold for corn, it comes up slowly and looks yellow; strawberry crop badly damaged by frost.

Coffey.—Corn planting well advanced, but some low ground is too wet; wheat in fine condition; fruit about all killed, but there are fair prospects for apples in some localities.

Crawford.—Too wet for farm work; warm showers have greatly improved crop conditions; good prospects for fruit generally, but apples are falling badly in some localities; corn about half up, some yet to plant.

Doniphan.—Very dry; wheat has deteriorated since the freeze and looks badly; rain is needed; corn about a third planted.

Douglas.—Corn planting much delayed by wet, cold weather.

Elk.—The recent rains were needed; some corn will have to be replanted; fruit about all killed in some places, but not badly injured in others.

Franklin.—Ground in fine order since the rains; farm work advancing rapidly; vegetation growing nicely.

Greenwood.—Little farm work done on account of rain; crop conditions have improved during the week; the berry crop is not badly damaged, but nearly all fruit is killed.

Jackson.—Corn planting progressing rapidly; rain is needed, especially by the wheat.

Jefferson.—Rain is needed; corn planting not finished; fruit, except peaches, badly damaged by frost; canker worms numerous.

Johnson.—Most all stock on pasture; wheat looking well; oats looking well, but late; much corn planted this week; the freeze was not so destructive as was feared.

Leavenworth.—Latter part of week improved crop conditions; wheat looks well; corn planting begun; stock in fairly good condition; not so much damage from frost as was anticipated.

Linn.—Corn planting still retarded by wet weather; wheat has bad color in some places; oats and grass doing well.

Marshall.—All crops doing well; corn planting progressing nicely; some corn up with a good stand; cherries and grapes nearly all killed; late varieties of apples and peaches promise at least a half crop.

Miami.—A fine week for planting and for growing crops.

Montgomery.—All kinds of fruit damaged; apples and peaches not very badly, strawberries nearly one-half, grapes three-fourths; tender vegetation killed; but little damage to field crops; crop conditions improved by the recent rains; much

wheat is damaged by rust and fly a few fields beginning to head out.

Morris.—Potatoes that were frozen are coming up again; early planted corn coming up with a good stand; old alfalfa doing well but new seeding not so good; wheat and oats making good growth; prospect for fair crop of apples.

Osage.—Corn planting retarded by wet weather; grass good and plenty of water in pastures; most garden truck killed and nearly all small fruit badly damaged.

Pottawatomie.—Fruit prospect better than last week; early wheat damaged by frost; but the late is all right; corn planting is retarded by wet weather; alfalfa looks well; pastures are good.

Riley.—Corn planting progressing well except where it is too wet to work; corn is germinating well; wheat, oats, and rye look fine.

Shawnee.—Crop conditions excellent; corn planting progressing rapidly; some corn up with a good stand; pastures fair; stock doing well; fruit buds set well.

Wabaunsee.—Cool and wet; farm work progressing slowly; some corn coming up; pastures doing well; apple crop not badly injured.

Wilson.—Crop conditions very much improved by recent rains; corn planting about two-thirds done.

Woodson.—Larger part of corn crop planted; some replanting being done; wheat and oats looking well; early potatoes cut down by frost; alfalfa fine; apples, cherries and plums not injured by frosts.

MIDDLE DIVISION.

Wheat is growing well, though some has been damaged by the Hessian fly in Cowley. Corn planting has progressed where possible and most of it is done; it is coming up but growth is slow owing to cool weather. Oats are growing well except in the northern part of Jewell where the crop is backward. Barley is in good condition. Rye is doing very well and in Edwards is heading. Alfalfa is growing rapidly; the prospect for a fair apple crop has improved. Grass is improving, and in the south is growing rapidly. Gardens were not hurt as badly as many believed and are now improving.

Barber.—Ground too wet to work; wheat, rye, oats and alfalfa growing rapidly; corn not injured by late frost; cut worms plentiful; weeds making headway; pastures improving; cattle doing fairly well.

Barton.—Wheat, oats and barley in good

alfalfa making rapid growth; considerable corn ground will have to be relisted on account of washing.

Republic.—Good week for planting; corn about half planted; early corn growing slowly; alfalfa and wheat making rapid growth; oats doing well; prospects for about a half crop of apples and peaches.

Rush.—A damp, rainy week; wheat in fine condition; spring crops recovering from the freeze and looking fine.

Russell.—Wheat making vigorous growth; corn planting retarded by rainy weather; all crops and pastures growing well.

Saline.—Wheat in fine condition; oats growing well; corn planting delayed by wet weather; prospects for a good half crop of apples.

Sedgwick.—Wheat looks fine; gentle showers with high temperature has caused a rapid growth of all crops.

Smith.—Vegetation making slow growth; too wet for field work most of the week; some fears of early planted corn rotting; small grain doing well; all fruit killed except possibly some apples.

Stafford.—A good week for all growing crops.

Sumner.—Ground too wet to cultivate; corn and other seeds very slow in coming up; the rains have helped the wheat.

Washington.—A good week for work; considerable corn to plant yet, early planting coming up; some potatoes rotting in the ground; wheat, rye, and alfalfa good; oats and barley growing slowly; stock doing fairly well on grass.

WESTERN DIVISION.

Wheat is improving and in Thomas is growing rapidly; some injury is reported in the east part of Ford due to a "peculiar green bug." Corn planting is being retarded by the wet weather. Rye is in fine condition and in Ness is jointing. Barley is improving. Grass needs warmer weather. Potatoes are doing well. Late gardens are growing nicely. Cattle are recovering from the effects of the late storm.

Clark.—All vegetation is growing well. Decatur.—Small grain still in fine condition; alfalfa growing rapidly; native grass very backward; corn planting retarded by wet weather; stock looking fairly well, but some are rather thin owing to scarcity of feed.

Ford.—Too cool and cloudy for rapid growth; corn has begun to grow up again; wheat in good condition but a peculiar green bug is turning it yellow in spots in east part of county; barley and oats recovering where damaged; alfalfa damaged more than was thought at first; grass short and range cattle not in very good condition.

Gove.—Cool and cloudy week; pastures and cattle doing well; oats, barley, and wheat looking better.

Grant.—Ground in good condition for planting; weather too cool for growth of vegetation; early planted corn will have to be replanted.

Hodgeman.—Wheat looking fine; corn coming up; Kaffir-corn is being planted; barley up and looking well.

Lane.—The rains have put the ground in fine condition; potatoes coming up; corn planting delayed by wet weather.

Ness.—Too wet for farm work; grass making good growth; live stock improving; wheat, rye, oats, and barley looking fine; trees coming out in leaf; rye is jointing; alfalfa fine; gardens and potatoes doing well.

Norton.—Much damage by hail; too wet for listing corn.

Thomas.—Cool, cloudy, rainy week; wheat making rapid growth; oats frozen to the ground; barley badly damaged but coming out; ground too wet for corn planting; range grass starting; still some loss in cattle.

Trego.—Corn not coming up well; too cold and wet; alfalfa growing rapidly; a few cherries left; some apple bloom, but the outcome is uncertain.

Wallace.—Ground in fine condition; wheat, rye, alfalfa, and fruit trees recovering from the freeze; corn planting in progress; considerable barley sown and coming up nicely; range grass doing fairly well; cattle looking better; prospects for some fruit.

The Apiary.

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

Pertinent Questions.

BEE DEPARTMENT, KANSAS FARMER:—I read your bee articles, and would be pleased if you would kindly reply to the following questions: Is glucose syrup good for bees? The National Academy of Science certified that glucose is good for men. Do bees sometimes store honey from poisonous plants, which honey is dangerous to man, though not to the bees? Do bees, when fed glucose, store unchanged glucose in genuine comb? It is reported that a bee-keepers' association offered a large sum for proof that comb-honey is not adulterated.

Barber County. A. A. DENTON.

Glucose syrup will do no injury to bees, but it is not a profitable food to feed them. Bees will not accept of glucose to the extent that any one could succeed in getting them to store large quantities of it in the hive. Glucose contains such a small per cent of sweetness that bees do not care for it, and it would have to be made about one-half sugar sirup of a good quality to induce the bees to take it in paying quantities. No beekeeper of note at the present time thinks of using glucose as a food for bees for any purpose, but feeds the best quality of sugar for winter food to colonies that lack honey sufficient to carry them over the winter, and for stimulating brood-rearing in spring. No beekeeper thinks of feeding bees for the purpose of having them store surplus honey in the hive, for there are no kinds of syrups, good or bad, that could be used for this purpose except at a heavy loss to the operator; hence no one who buys comb-honey upon any market should have the least hesitancy in his mind that he is eating anything but pure honey. Adulteration is practiced to some extent in extracted honey, but the mixture is made after the honey is taken

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from the hive, and not fed to the bees for the purpose of having it stored in the hive. Every beekeeper and honey-producer of the present time is constantly on the alert to check adulteration of honey in every form, and the progresser is bound to meet trouble in a very short time after he puts his goods upon the market.

When bees are fed any kind of food, either sugar or glucose, and at the same time prevented from gathering honey from natural sources to intermingle with the same, the produce stored is simply nothing but that which is fed them, hence it would not be honey.

It has been reported time and again through the daily and weekly newspapers of this country that there existed plants of scientific machinery in the different large cities of this country that manufacture comb-honey that bees never saw; but that the comb was made, filled with glucose, and sealed over to such perfection that it could not be told from the product made by the bees. This first appeared some fifteen years ago, and at that time Mr. A. I. Root, one of the leading beekeepers of this country, offered a reward of \$1,000 for a single pound of such comb-honey. This reward I believe stands good to-day, but no taker has yet been found. It was simply false, and no such thing existed.

In rare instances bees have been known to store honey from poisonous plants. This honey is in no way detrimental to the bees, but produces ill effects to man. Two principal plants we have on record are mountain laurel and yellow jessamine. The latter is mostly confined to the Southern States.

What to Plant for the Bees.

EDITOR KANSAS FARMER:—Will you kindly let me say a few words through the KANSAS FARMER in answer to Mr. Landsmann, of Mitchell County? Do not plant linden unless you expect to live from 25 to 75 years yet. Do not sow sweet clover or Bokhara if you do not want to be cursed long after you are dead by your neighbors. Do not try catnip or hoarhound. I have spent considerable money and time on these. They are not what you as a beekeeper need to get for the best results. What to sow, and what to plant is white clover, red clover, and alfalfa, also alsike. These are excellent fertilizers and the best of stock food. In the tree line nothing is better than fruit-trees. The honey-louse is a very good honey tree, and catalpa is fair. Blackberries are very good sometimes, but if you have a good mellow piece of ground this spring, get it in real good shape and sow it in alsike. For a trial, put a little red clover with it to help hold it up, for it is a sort of creeping or vining clover, and it is a wonderful honey plant where it will grow. Add to this a small patch of cane in rows and cultivate it, say about June 20, just so it will head out before frost comes. It is an excellent pollen-producer and the bees will attend to getting it if they need it. Then at frost time cut it up for your hogs, horses and cattle.

Franklin County. PHILLIP SMITH.

Luck may be followed to ruin but never to success. Don't trust to luck. Read our "Blocks of Two" and be sure.

To Please the Farmer.

Everybody appreciates good things—the rich, the poor, the business man, the laborer, the mechanic and—the farmer as well. Time may be figured by the farmer as well spent, when visiting town, by availing himself of the opportunity presented to look over a "Milwaukee" Corn Harvester and Binder. This machine is built to please him, and it does, because its effective mechanism in construction is such that it successfully handles all kinds of corn grown; cuts, bundles and binds it whether standing or lodged. It is marvelous how well it performs its duties. By calling on the local agents of the Milwaukee Division, International Harvester Company of America, they will be pleased to show you all details connected with the sample machine on exhibition. Write or call for catalogue.

Pasturing Alfalfa.

EDITOR KANSAS FARMER:—I have been pasturing alfalfa for ten years. I have had three or four "bloats" at same time. It is no especial trick to "unbloat" them, though they may be drum-tight. Some are more inclined in this respect than others. Where one can work in sight of pasture there need be no loss.

Bloating is caused by gorging an empty stomach, under the following conditions: Plants young, tender and rank; wet with dew; after frost, spring or autumn, and especially wet with dew.

I conceived the idea that cattle would not of their own instinct eat sufficient alfalfa to bloat them if there was plenty of other grass at hand to allow a variety. Then sowed English blue-grass with alfalfa. I turned on hungry cattle, while grass was laden with dew; followed them by the hour (at different times), saw them eat first one and then the other, with no case of bloat, except when frosted, or wet with dew.

Alfalfa alone isn't fit for pasture. Sow orchard, blue- or English-grass—the milk and butter is far better. The shade of the alfalfa stimulates these grasses, and they even make good hay. Foxtail comes on later and prevents bloat. Tame grasses are preferable as they make early and late pasture. Pastures should be divided into at least three fields—week about. They will last much longer and pasture one-third more stock. JOHN E. HINSHAW, Lyon County.

Wool's Wool.

"Wool is wool" is the way the average sheep grower looks at the fleece. Such is not the case. The manufacturer needs an even, strong-fibered wool. He also needs a wool fiber of a certain size. The Australian wools won their great name because they were alive, and hence strong. They were also fine in thread and long in straw. The farmer who cares nothing for the health of his sheep or how he dips or takes off the wool misses the point for profit. The manufacturer degrades the wool to the broker and he puts it up to the seller in lower prices. The average wool sheep will yield 4½ pounds of good wool. At 30 cents per pound that means \$1.35 per sheep. If the sheep weighs standing, 110 pounds, it means nearly 1½ cents per pound on the sheep. If the ill-advised conditions prevail, the market value of that wool is reduced fully 20 per cent. The wool-puller is sometimes as careless as the grower in his shearing, scouring or pulling process. The fact that some plants get from ¼ to 1 cent per pound more for the same class of wool is evidence of this. On a pull of 250,000 sheep a year the loss is considerable. The silken bleach looks nice, but the fiber test finds out the article and lowers the price.—National Provisioner.

The Nickel Plate Road

Is the short line to the East and the service equal to the best. You will save time and money by traveling over this line. It has three through daily express trains, with through vestibuled sleeping-cars, and American Club Meals, ranging in price from 35c to \$1.00, are served in Nickel Plate dining-cars; also a la carte service. Try a trip over the Nickel Plate Road and you will find the service equal to any between Chicago and the East. Chicago depot: Harrison St. and Fifth Ave., City Ticket Offices 111 Adams St. and Auditorium Annex, John Y. Calahan, General Agent, 113 Adams St., Room 298, Chicago.

THE MARKETS.

Kansas City Live-Stock and Grain Markets.

Kansas City, Mo., May 11, 1903. Chicago has 26,000 cattle to-day and prices there were 10 cents lower, but the small local run, only 4,500 head, enabled sellers to dispose of all stock at prices firm to 10 cents higher. The bulk of fat steers brought \$4.65@5.00, while tops commanded \$5.20. Hog receipts at the chief markets aggregated 70,500 head. This was too much for the trade to handle and the market declined 5 to 10 cents, tops selling at \$6.70, and the bulk at \$6.50@6.62½. The sheep market showed supplies amounting to 12,000 head, largely Texans and Arizonas. Trade ruled active and values held strong to 10 cents higher. A. A. Porder, the Arkansas Valley feeder, sold a band of lambs at \$7.50. These were the last of his feed-lots. He has averaged over \$7 for the 3,400 lambs he has marketed this year. Heavy cattle receipts at the chief markets resulted in a 10 to 15-cent decline last week. Arrivals were nearly 100 per cent greater than a year ago. Not only is the supply of natives continuing remarkably heavy, but grass stock from South Texas, where the range is said to be the best in over 10 years, is being rushed to market and is helping to overload the killers. The outlook is for liberal runs in the future and few traders have any hopes of a material advance in cattle prices within the next few months. Shippers should beware of

grassy heifers, for packers are discriminating sharply in favor of corn-fed stock. Best finished native steers are now worth \$4.75@5.15; corn-fed heifers, \$4.00@4.75; cows, \$3.25@4.25; stockers, \$4.50@5.00 and feeders \$4.50@5.10. Among those bringing in the best cattle during the week were: W. R. Gibson, Winchester, Kans., steers and heifers at \$5.15; Pat Byrne, Nemaha County, Kans., steers at \$5.10; Jarvis Kershaw, Stockdale, Kans., \$5.10; Henry Crider, Waldron, Kans., \$5.00; James Goodacre, Derby, Kans., \$5.06; W. H. Wiggins, Eureka, Kans., \$5.06; Geo. Taylor, Osborne, Kans., \$5.00; Joe Killvoda, Cuba, Kans., \$5.05; Bolce Cattle Co., heifers, \$4.80 and W. T. Dietrich, Carbondale, Kans., Angus stockers at \$5.00.

The hog market set a merry downward pace all week, and closed 10 to 15 cents lower. Receipts at Kansas City were liberal at 57,000 head, a gain of 12,000 over the same period last year. Other points got lots of hogs and the buyers took the market in their own hands. Everybody now talks lower hogs and if the market ceases its downward course before hot weather, the trade will be greatly surprised. Kaler & Rader, of Piedmont, Kans., topped the week's market with a drove of \$6.90 hogs. Samuelson Bros., of Cleburne, Kans., topped the market later in the week. Swine are averaging 25 to 30 pounds heavier than they did a year ago.

Lambs are undoubtedly scarce in both the East and the West, judging from the way the buyers are booming the market. Prices advanced 25 to 50 cents last week, light-weight lambs selling at the highest point of the year. The talent thinks the outlook for lambs is bright and prices will hold relatively high until Arizonas and grass stock begin to move to market along in July. The mutton market eased off 10 to 15 cents although the finish was a little stronger than the middle of the week. Heavy supplies of Texas sheep continue to arrive and the coming few weeks promise to see the big runs repeated. It will be a marvel if the present high prices of grass sheep are sustained throughout the month of May, if receipts are as heavy as predicted. V. V. Aiken, of Zeandale, Kans., marketed a band of shorn lambs here last week for \$6.50.

Probably the heaviest bunch of steers that has come out of the State of Kansas this year arrived at the yards on Tuesday last. They were 3 to 5-year-old Shorthorns fed by William Shirley, of Milo, Kans. The two loads averaged 1,964 pounds, the lightest steer weighing 1,830 and the heaviest 2,360 pounds. Speculators bought the cattle and shipped them to Chicago where they sold on Thursday for \$5.05, just 5 cents more than they brought at Kansas City. The speculators lost \$200 on the venture.

About half as many horses came in during the week as were needed. The market was active and prices averaged the highest of the winter if not the best on record. Those who have fat horses for sale will make no mistake shipping them in right now before the hot weather sets in.

The butter market has struck its summer gait, and prices are around 5 cents per pound lower than during the last months of the winter. Creamery grades are quoted at 17 cents to 20 cents; eggs are firm at 12 to 13 cents; poultry in request. Hens are worth 10 cents; turkeys 11 to 12 cents; geese 5 cents and ducks 10 cents; Strawberries \$1.25@2.50 per crate.

There was no material change in the wheat market, but corn and oats went up a cent or better. No. 2 cash wheat at Kansas City is worth 68¢@70¢; No. 4, 61¢@64¢; No. 2 corn, 40¢@41¢; No. 4, 38½¢@39¢; No. 2 oats, 33½¢@36¢; No. 4, 29½¢@32¢; rye, 44¢@46¢; flaxseed, \$1.02; bran, 62¢@64¢; tame hay, \$7@12.50; prairie, \$4@10; alfalfa, \$5@11.

A sale of range-bred and branded Herefords from the herd of Colin Cameron, Lochiel, Ariz., took place here on Tuesday and Wednesday of last week. In all 100 head were sold at an average of \$71.85, which, considering the present depression in the beef cattle market and the fact that the pure-breds were branded, was a fair price. Ninety-three cows averaged \$70.54 and seven bulls \$89.28. Missouri and Kansas buyers took about three-fourths of the offerings. Other states buying were Iowa, Nebraska, Oklahoma Territory and Texas. John Hutson, of Canyon City, Texas, bought the top animal, a cow, for \$175.

H. A. POWELL.

South St. Joseph Live Stock Markets.

South St. Joseph, Mo., May 11. Receipts of cattle last week, 8,924; previous week, 8,447; year ago, 3,020. There was a lower trend to the cattle market earlier in the week because of the adverse conditions at other points, but under reduced supplies part of the decline was regained, the week closing with heavy and plainish beefs 10 to 15 cents lower and other kinds steady to 10 cents off. Cows and heifers suffered a loss of 10 to 35 cents, but the demand was good at the lower range of values. Stock cattle having good quality sold readily on a firm basis right along, but the common and medium grades were of somewhat slow sale and values broke 10 to 15 cents.

Supplies of hogs last week, 33,629; preceding week, 29,832; year ago, 34,300. The trend of values was lower on about every day last week, in sympathy with the lower markets at other points. The quality was of good average and weights ran strong. The tops to-day were at \$6.67½ with the bulk of sales at \$6.52½@6.65.

Arrivals in the sheep division last week, 16,208; former week, 15,359; year ago 16,327. Colorado lambs and Texas sheep made up a heavy proportion of the weeks receipts, the general quality of which averaged good. The good, fat grades sold readily on a firm basis each day, with prices at the close showing an advance of 10 to 15 cents, but the common kinds met with a discriminating demand although values showed no change. Colorado lambs topped the market, \$7.40; and Colorado ewes, clipped, at \$5.00; grass Texas ewes and wethers, mixed, sold at \$4.75.

New York Butter Market.

New York, May 4, 1903. Creamery firsts..... 22c

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Special Want Column

"Wanted," "For Sale," "For Exchange," and small 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. Initials or a number counted as one word. Cash with the order. It will pay. Try it.

CATTLE.

FOR SALE—Hereford bull, Curley Boy, No. 96867, three years old. Sire Healed 14th, Dam Louis 70292. Price \$150. Samuel T. Ware, Burlington Junction, Nodaway Co., Mo.

FOR SALE—Registered Aberdeen-Angus cattle. Fifteen bulls of serviceable age, 8 from 18 to 24 months old, also my herd bull for sale or exchange, and a number of young cows with calves at side. I am making special prices to reduce herd on account of shortage in pasture. A. L. Wynkoop, Bendena, Kans.

WANTED—A registered Galloway bull over two years old. J. E. Moore, Maple City, Kans.

RED POLLED BULL for sale, 4 years old, dark red, good individual, gentle, sure breeder, weight 1800 pounds, price \$125. A bargain for some dairyman. Charles Morrison, Phillipsburg, Kans.

FOR SALE—Five good 1-year-old registered Hereford bulls. Will be sold low if taken soon. Come and see them; they will suit. H. B. Clark, Geneseo, Kans.

FOR SALE—Two Scotch-topped bulls, from 10 to 18 months old, and a few cows with calves by their side. J. P. Engle, Alden, Rice County, Kans.

FOR SALE—Red Poll bull, 3 years old, gentle, good all around, weight 1,650. Young stock at all times. D. F. Van Buskirk, Blue Mound, Kans.

FOR SALE—2 good red Shorthorn herd bulls. Ebb Turner, Faucett, Mo.

FOR SALE—10 head of registered Hereford bulls, 6 to 20 months old, good individuals, and in good condition. Visitors met at trains if notified. Farm 20 miles southwest of Wichita. A. Johnson, R. F. D. 2, Clearwater, Kans.

FOR SALE—A few choice Shorthorn heifers and young bulls. M. C. Hemenway, Hope, Kans.

FOR SALE—A few young Hereford bulls from the Evergreen Farm herd, headed by Lee 12122. Address Pearl I. Gill, Great Bend, Kans.

FOR SALE—Guernsey bulls from best registered stock. J. W. Perkins, 423 Altman Building, Kansas City, Mo.

SWINE.

FOR SALE—Duroc Jerseys, November males, good color, low build; also sow pigs. M. H. Alberty, Cherokee, Kans.

FOR SALE—Four Berkshire boar pigs, farrowed October 10, 1902; grandsons of imported Lustra's Bachelor 52282. G. D. Willems, Inman, Kans.

FOR SALE—Choice Poland-China males and gilts of fall farrow; first class breeding, some show pigs. Wm. Maguire, Haven, Kans.

FOR SALE—A few nice young boars of October farrow, sired by Kansas Chief, a son of Chief Tecumseh 3d. C. M. Garver & Son, Abilene, Kansas.

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SUBURBAN HOME FOR SALE—Forty acres adjoining city limits. Beautiful grounds, fine orchard, large brick house in good condition. Olin Tempin, Lawrence, Kans.

SNAP No. 12—1,000-acre ranch, 200 acre fine bottom. Improvements cost \$7,000. Good orchard, vineyard, natural timber, price \$21,000, your own terms, any sized ranch cheap. Garrison & Studebaker, Florence, Kans.

FOR SALE—130 acre ranch, mile of river front, 1½ mile from Syracuse; 140 head of stock, 28 mares. Will sell altogether or separately. Address F. W. Duval, Syracuse, Kans.

FOR SALE—Wheat and stock farm, well improved, 460 deeded and leased, to 1,560 acres. Address J. D. Hayes, Colby, Kans.

FREE—State map, farm descriptions, reliable information about eastern Kansas. Buckeye Agency, Agricola, Kans.

RANCH FOR SALE—1360 acres, 1120 acres of creek bottom, with model improvements, 140 acres alfalfa, 600 acres pasture, balance number one farm land. For further information address G. L. Gregg, Real Estate Dealer and Auctioneer, Clyde, Kans.

SOME BARGAINS in farm lands in Anderson County, Kansas, in farms ranging from 80 acres up. S. B. Hamilton, Welda, Kans.

FOR SALE—Farms and ranches in central and western Kansas. We have some great bargains in western ranches. Write us. R. F. Meek, Hutchinson, Kans.

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WANTED—To buy or trade, a Clydesdale stallion for a span of good mules. H. W. McAfee, Topeka, Kans.

PROSPECT FARM—CLYDESDALE STALLIONS, SHORTHORN CATTLE AND POLAND-CHINA HOGS. Write for prices of finest animals in Kansas. H. W. McAfee, Topeka, Kans.

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SOY-BEANS and medium early yellow. \$1.40 per bushel. F. E. Uhl, Gardner, Kans.

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MILLET SEED—500 bushels Big German, extra heavy and clean. Elijah McCaul, Elk City, Kans.

YELLOW JERSEY sweet potato plants at \$1.25 per 1,000 by A. G. Landis, Lawrence, Kans.

FOR SALE—Siberian millet seed, 50 cents per bushel, new sacks 15 cents extra. L. A. Abbott, Wamego, Kans.

FOR SALE—50 cents per bushel, 1000 bushels first class Siberian millet. Sacks 15 cents. E. D. King, Burlington, Kans.

TOMATO plants 4 to 10 inches at \$2 per 1,000 by express, 50 cents per hundred by mail prepaid. Reduction to dealers. A. G. Landis, Lawrence, Kans.

ANY ONE wishing cedar-trees, please write Murray Weaver, Centerville, Linn Co., Kans.

FOR SALE—Golden Yellow popcorn, very productive, excellent for popping, very tender. Packet 6 cents; 7 pounds 50 cents. J. P. Overlander, Highland, Kans.

200,000 FRUIT TREES! Wholesale prices; new catalogue. Baldwin, Nurseryman, Seneca, Kans.

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TWO more litters of those high-bred Scotch Collie pups, only one week old, but you will have to book your order quick if you want one. Walnut Grove Farm, H. D. Nutting, Propr., Emporia, Kans.

WANTED, FARMER—Practical farmer to take charge of a farm of 640 acres situated between Carbondale and Overbrook in Osage Co., Kans. Must be familiar with stock raising and feeding, and be able to give the best of references. Address for further particulars, Archibald Colter, Builders and Traders Exchange, Cincinnati Ohio.

WANTED WOOL—Send us samples of your wool clip, we will pay market price. Topeka Woolen Mills, Topeka, Kans.

500,000 POUNDS WOOL WANTED—Write us for prices; send sample and we will offer you the highest market price by return mail. Western Woolen Mill Co., North Topeka, Kans.

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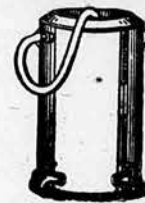
J. A. ROSEN, PATENT ATTORNEY. 418 Kansas Avenue, Topeka, Kansas.

The Stray List.

Week Ending April 30.

Cherokee County—W. H. Shaffer, Clerk.

MARE—Taken up by F. M. Gust, in Shawnee tp. (P. O. Messer), April 6, 1903, one red-roan mare, five feet high, letter F on left thigh; valued at \$25.



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gets you more Cream, better Butter, Milk fine, NO MIX, a separator that will last for 10 years, and no labor, what more could you ask. You are doing yourself an injustice in not buying a SMITH. Write us at once for Catalog. Mention Kansas Farmer. Smith Cream Separator Co. East 8th and Court Ave., Des Moines, Ia.

Republic County Herd

Poland - Chinas.

For Sale—A number of select boars of September farrow, with perfect markings, good bone and coat of hair, sired by Moonshine 29699, the best breeding boar in northern Kansas. Also Rose Comb Brown Leghorn eggs, \$1 per 15. For further particulars, inquire of O. B. SMITH & SONS, (Mention Kansas Farmer.) Cuba, Kansas.

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FOR SALE.

GENERAL LAWTON 148466

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POLAND-CHINA SWINE.

Choice Registered Stock of both sexes for sale R. J. SIMONSON, M'gr, Cunningham, Kingman Co., Kans

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Five gallons \$6.25, freight prepaid.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color, and sex of animal, stating symptoms accurately, of 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 post office, should be signed with his full name, and should be addressed to Dr. Geo. O. Prichard, V. S., 110 East Tenth Street, Topeka, Kans. Telephone No. 319, either phone.

Hysteria.—I have a gray mare 9 years old that is acting strangely. Four months ago she began shaking herself when the harness was put on her, twitching and jerking all over. Hair rises all over her; switches her tail up and down, will rear and fall, is almost unmanageable when harness is on, and gradually growing worse; acts as though bees were on her. There is no eruption on her skin; she does not rub till harness is on, but takes a spell when it comes in sight and before it touches her, and when being curried will shake and get nervous. Have washed her skin with soap and water and applied vinegar and salt. Have applied crude petroleum, but no benefit. She is in reasonable flesh and reasonable appetite. Does not eat hay very well. Have owned her one year. She was good and quiet—nice to use—up to the time mentioned, but can scarcely do anything with her now.

Please give your reply as soon as possible, telling what the disease is and what to do for her. W. B. MAY.

Allen County.

Answer.—Your mare has hysteria. Would advise a good dose of physic and a turn at grass for one month. Believe she will recover by that time.

Laminitis.—I have a fine draft mare 3 years old that had her first colt 9 days ago and was taken with stiffness or colt-founder and had to be helped up. Is better now but very stiff. What can I give her? W. R. V.

Butler County.

Answer.—Your mare has parturient laminitis. Perhaps a better explanation would be, inflammation of the mucous membranes of the feet. Treatment indicated is, moderate abstraction of blood from coronary bone of each foot affected. Reduce inflammation by hot and cold water—would prefer hot. Give internally as a drench one and a half pints of raw linseed oil; keep animal standing continuously in hot or cold water until soreness is gone. If any soreness remains after a thorough treatment, a good smart blister applied to the coronary bone is very beneficial.

Colic in Horse.—I have a valuable French draft stallion 10 years old, coal black and weighs 1,800 pounds. He has spells once or twice a week when he will back up against the stall and stay there with all of his weight; then he will stretch out as far forward as he can and will paw, and lie down and get up, walk all around the stall, and will take spells of breathing very rapidly. His bowels and kidneys act right along, yet he is in a great deal of misery. We have fed shorts, corn and oats; have fed and watered regularly with plenty of exercise daily. I doctored him for colic, giving one ounce of ginger, peppermint and sulfuric ether, and aconite, and gave him vitos. This morning I gave him one half pound of salts. If possible, give me the cause and treatment of this trouble. S. S. SHOFFNER.

Greenwood County.

Answer.—Your horse has attacks of colic, due no doubt to some derangements of the digestive organs. Give internally as drench, raw linseed oil, one quart; spirits of turpentine, one ounce; mix. Give after 12 hours fasting from hay. After 24 hours, give tablespoonful of Fowler's solution of arsenic in feed night and morning, for two or three weeks.

Lump Jaw.—A friend has a cow with a lump under her jaw, or better, between the curve of the jaw-bone and neck, but free from the jaw-bone. It seems to have a core about two or three inches long on the opposite side, and is discharging some. By pushing the skin back, the core will project out about half an inch. I have not done

much for her. Please give me your opinion. F. LALOGUE.

Chase County.

Answer.—Your cow has what is called lump jaw. From your description would judge it could be removed by the knife. Employ a competent veterinarian and have it removed.

Ophthalmia.—I have a horse whose eye became diseased last fall. The eyelids became swollen and water from the eye ran down the side of his head. It was badly inflamed, and I thought he had gotten something in it. He has since gone blind in that eye, and the other eye is acting the same way. What is the matter, and what can I do for it? W. W. WICKS.

Sumner County.

Answer.—Your horse has periodic ophthalmia, which is a constitutional disease and is hereditary and incurable. Fomentations with hot water, cooling, laxative diet, would perhaps lessen severity of attack, but usually it terminates in blindness.

Cancerous Mouth.—I have a male calf two months old that has something the matter with its mouth. The lower part of its lower lip is eaten away. It has been afflicted six weeks. Eats well but its hair looks rough. Smith County. P. H. SHINELY.

Answer.—The description of your case is so incomplete and symptoms so meager, it will be almost impossible to give a proper diagnosis, although from what little we know of the case we would diagnose the trouble of a cancerous nature. If so, but little could be done.

How a Balky Horse Was Started.

Recently a St. Louis paper related this method of starting a balky horse from actual observation of an incident, as it occurred on the street. Neither the driver nor others could start the horse, and then the following took place: In the crowd was an elderly man in a silk hat and a natty overcoat. He watched the unavailing efforts of the teamsters, car conductors, and policemen to start the horse. Then he stepped out and said: "Here, let me start the brute."

The crowd gave him plenty of room and likewise the laugh. "Yes, watch him start it—nit," exclaimed the small boy. The man drew off a pair of new tan gloves, handed his cane to a car conductor, and, turning to the crowd said: "Give me a piece of string and a short stick." The crowd grew interested and closed in, still grinning. The man tied one end of the string to the stick, and then began to wind the other end around the horse's ear, as a boy winds his top.

The crowd continued to jeer, but the man paid no attention to it, and as he proceeded to wind the string around the horse's ear the beast woke up and tried to pull away. Then he snorted and tried to rear. The further the string went the uneasier the horse became. After the last wind had been taken the man thrust the stick through the brow band of the bridle, gave the

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12 inch.....\$0.45 per bale.
18 inch.....0.65 per bale.
20 inch.....1.10 per bale.
24 inch.....1.35 per bale.
42 inch.....1.50 per bale.
Other grades at correspondingly low prices.

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1 inch at 4/4 cents per foot.
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horse a slap on the belly and shouted: "Geddap, you slab-sided hunk o' crow-bait." The horse snorted, shook his head disgustedly, and moved off willingly enough.

"That's the way we used to start our balky mules when I was freighting on the Santa Fe trail," the man exclaimed. "A horse can think of but one thing at a time. When he's thinking about the string on his ear he forgets all about balking."

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The Grange is not a beggar. You do not hear it crying "Give" without offering an equivalent. Neither is the Grange a fool. It does not offer you something for nothing. It does not appeal to your greed, your vanity, or your sordid ambition. It assumes that you are a man of sense and intelligence, willing to use the readiest and best means to secure desirable and worthy ends; that you are open-minded, ready to give an attentive ear to a plan which appeals at once to your self-interest, your interest in the welfare of your neighbors, and your best judgment; and, finally, that you will decide wisely after hearing the arguments.

The Grange is a merchant. It trades with you. Like the wise merchant, it prospers most truly when it gives you fair returns for your investment, whether of money or time or effort. Fair dealing means gain to the buyer and to the seller. The Grange, in its financial dealings with you and for you, means to be fair, means to gain advantage and honor for itself by securing the advantage of savings and gains for you. That it may help you, it asks you to put yourself where it can reach you and benefit you.

The Grange is a school. It sends out its announcement of courses of instruction and invites willing and ambitious students to take advantage of the training it is prepared to give. But it is not a charity school—does not offer free tuition and other benefits without cost. It expects to give you good opportunities and a good training; but it expects you to bear your share of the expenses and do your share of the work. It is a school in which the workers make the only progress worth considering; while the idlers continue to be useless.

Specifically, the Grange school teaches the willing student to face his neighbors in the Grange hall, to think on his feet, and to express his thoughts in a manly fashion. It gives him opportunity to write, to read, and to speak for the instruction of his fellows and for his own training. It helps him to become a master of himself, to know and develop his own powers, to become familiar with the methods of parliamentary bodies. In short, it gives him a valuable training for citizenship, while not neglecting to furnish information essential to the farmer as a farmer.

The Grange is a social force. Man is more than a money-making animal, more than a trained intellect. The mere money-getter is not a very valuable member of the community. The men whose mind is a storehouse of facts may be a very disagreeable neighbor; his very knowledge and keenness of intellect may be a disturbing force unless he has acquired the disposition and the skill to be agreeable. In the Grange man and women learn the graces that make social intercourse pleasant. The awkward man loses his awkwardness. His manners become easy and attractive. He loses the distressing self-consciousness which characterizes so many young men of the country when they are in the presence of men and women who have profited by larger opportunities for social culture. The Grange trains in good conduct, cultivates thoughtfulness and kindness, and emphasizes the importance of the little courtesies that contribute so largely to the pleasures of life.

Being what it is and doing what it does, the Grange is not satisfied; its ambition is to be a more wholesome

influence in country life, to be a greater power for the uplift of the farmer and his business. To increase its power and its opportunity for service, it is reaching out for more members. It wants the best and the strongest men and women in every farming community, it wants them for their experience and their powers of leadership. It wants the young men and the young women who have little experience, but who are ambitious to become useful members of society. It wants regiment after regiment of recruits who are not ashamed of the farm.

The Grange frankly admits that it needs you—needs your name on its roll of members, your membership fee and your quarterly dues in its treasury, your business experience and knowledge to aid it in its business affairs, your trained intelligence to help make its exercises more interesting and profitable, your character and culture and all your social, intellectual and spiritual gifts and graces to make it a more effective force for good in the community. But the Grange is not a beggar. It does not need your money because its treasury is empty, and it does not need you because its membership is declining. The Grange is growing and increasing in power. For this reason you need the Grange more than it needs you. It wants you because it can do you good. It wants you because your community needs the uplift which the Grange can give with greater effect, the larger its membership of good men and women.

Talks With Lecturers.

The most popular of modern historians was the late John Fiske. Mr. Fiske, in his books and his lectures, made history pleasing as well as instructive. Those who read his books feel that history has life and movement and meaning; they do not think of it as a mere record of past events, most of which were better forgotten than remembered. Then, too, Mr. Fiske was loyal; he believed in the country in which he was born and in which he lived, in the people by whom he was surrounded and to whom he gave his message. He felt that he could be honest with his audience.

What was the secret of Mr. Fiske's power while he lived? What is the secret of his continuing power, now that he is gone? Part of it has been indicated. In a penetrating and sympathetic study, Prof. H. Morse Stephens gives this key to Mr. Fiske's success: "He knew his public thoroughly and they responded generously. He brought out what was best in them by giving to them what was best in himself."

Here the mystery is explained. By reason of his character and attainments he occupied the position of teacher. But he put on no airs of superiority. He was a man among men, keeping himself always at his best; by his very presence, manner, and speech inviting others to be at their best. Those who sat in his presence when he lectured and those who felt the power of his personality as they read his books were inspired, even compelled, to pull themselves up to higher levels. They could not go back.

Those who climb high mountains feel a new thrill of joy and power as they breathe the pure, bracing air and look out over the wide expanse of hills, valleys, and plains at their feet. By patient toil they have gained a new elevation and a new outlook, and the world will always be different because of this new and larger view of the little earth they daily tread under their feet. Those who reach new heights of thought and feeling because they have been inspired to think and to work will never willingly go back to the lower levels.

If a little preachment is to be tolerated after these disconnected sayings, it can have for its purpose only to emphasize the thought that the teacher brings out what is best in others by giving them what is best in himself. We have no good reason to expect to receive generously when we give stingily. The Grange lecturer who gets the best out of those who work under his leadership is the one who gives most. Those who have faith in us are the ones who will get most from us. And they deserve what they get; for it is their discovery, their appreciation, of what others have neither seen nor understood. Every man or woman who has been led to use unrealized powers becomes lasting debtor of the discoverer of those powers. The teacher, the Grange lecturer, who puts a young man into possession of a new power over his own resources has started an influence for good that can not be measured.—Grange Bulletin.

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Large-boned and Long-bodied Duroc-Jerseys

I have some choice fall pigs for sale. If you are looking for something good, write for prices. E. S. COWEE, R. F. D. No. 1, CARBONDALE, KANS.

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HEADED BY OUR FINE HERD BOAR

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Have on hand some extra fine pigs of this spring's farrow, for which we are booking orders. Write for what you want.

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Combines the best strains of blood in the breed. 24 spring litters. Royal Blue 2742 by Big Chief Tecumseh 2d, first boar in service. Write for list of sires and dams in herd. W. H. BARR, ELLIOTT, IOWA.

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With Black Tecumseh 25116 at head, he by Big Tecumseh 24429, a grand individual and sire of large, strong, growthy fellows, nearly perfect in color, coat, and markings. Large M. B. turkeys and B. P. chickens for sale. Correspond with me at Wamego, Pottawatomie County, Kansas. C. J. HUGGINS.

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Poland-China Hogs.

I am cleaned up on boars and bred gilts. I have some nice open June gilts and can spare a few yearling bred sows. Orders booked for spring pigs by Keep On 61015, Imperial Chief 2d 28078, Black Perfection 27133, and Corwin Improver 27768. On Missouri Pacific R. R., one mile west of Kickapoo, Kans.

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Correct by Corrector, Perfection Chief 2d by Chief Perfection 2d, Jewell's Silver Chief, and Kron Pring Wilhelm, head boars. Up-to-date breeding, feeding qualities, and large, even litters in this herd. Young stock for sale.

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A Fancy Lot of Spring Pigs.

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Our herd won the Kansas State prize at the American Royal Show at Kansas City in 1902.

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Imported and American-bred stock for sale. A few choice sows bred, at prices that will move them. Inspection invited six days in the week.

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FOR SALE, QUICK, AT A REASONABLE PRICE

We have for sale a few choice yearlings, sired by Baron Duke 30th 50017, he by Baron Lee 4th 33446, and out of Duchess C 35th 33683. The dams of these boars are of the most desirable strains

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Large English Berkshires

Sold out of bred gilts; only a few fall pigs. Orders booked for spring farrow.

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

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Boatman 56011 and Lord Albert 131557 head of herd. Choice young stock of both sexes for sale.

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One car-load of Bulls, 1 and 2 years old; one car-load of Heifers, 1 and 2 years old; a few Cows with calves by side for sale.

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

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200 Head in Herd. Herd Bulls now in use are sons of Don Carlos 83734. Twenty-four Young Bulls ready for service for sale.

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Five Yearling Registered Bulls For Sale. Best of breeding. Prices reasonable. Correspondence solicited. Address Ira D. Brougher, Great Bend, Kansas

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HEREFORD CATTLE

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BULLS in Ser-

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A car-load of Heifers bred to our best bulls, and a car-load of choice Bulls, 18 to 24 months old at private treaty.

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MEADOW BROOK SHORTHORNS—Ten fine young bulls for sale—all red. Red Laird, by Laird of Linwood, at head of herd.

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Sempstress Valentine 15771 and Mayor 129229 head of herd. Larkin's Duluth and Kansas King at head of Saddle Horse Herd

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For immediate sale, 12 bulls ready for service, and 12 bull calves. Also 20 cows and heifers, 1 to 7 years old. Give me a call, or Address

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20-SHORTHORN BULLS FOR SALE-20

I have for sale 20 Shorthorn bulls, 8 to 12 months old, sired by Rosemond Victor 12th 136313. They are a good lot of bulls and I will sell very cheap, as I have no pasture for them, and desire to close out my entire herd of 200 Shorthorn cattle. Address GEO. CHANNON, HOPE, KANSAS.

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Imported Scottish Knight 136371 heads the herd.

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Herd Bull, IOWA SCOTCHMAN 2d 136687. Write for what you want. Address

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Breeder of Pure-bred SHORTHORN CATTLE.
Herd bull, Imported British Lion 133692.
Young stock for sale.

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Farm is 2 miles south of Rock Island depot.
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From the Valley Grove Herd.
An extra good lot, reds and roans, sired by Lord
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Glitspur's Knight 171591, at head of herd. Young
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Young stock by the roan champion bull John Ward
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Having used my herd bull on my small
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offer him for sale or trade. He is out of a pure
Duchess cow and by a pure-bred Cruickshank
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I have a few good Shorthorn cows and heifer calves
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old, the best lot I ever bred. Herd headed by my fine
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choice bulls for sale; also females.
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Great constitution and lung capacity gained in high
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TOPPED
Shorthorn
Cattle,
Poland-China
Swine.

Two Scotch bulls in
service. Representa-
tive stock for sale.
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The Scotch bull, Gwendoline's Prince
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**ABERDEEN-ANGUS CATTLE
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FOR SALE. All stock recorded.
GARRET HURST, PECK, KANSAS.

Sutton's Doddies.

40 Bulls For Sale.

Every one a good one and at farmers' prices.
Elegant breeding and quality. The
kind that sire my champion steers.

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The Oldest and Largest in the United States.
Splendid recently imported bulls at head of herd.
Registered animals on hand for sale at reasonable
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Angus Cattle



Herd headed by HALE LAD
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Reginal Doon 32728 and Gardner Mine 32240 at
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Prime condition, not registered. Guaranteed breed-
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CLOVER CLIFF FARM
Registered Galloway Cattle

Also German Coach, Saddle,
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A Specialty.

A Few Choice Females and
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Inspection or Correspondence
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Breeders of CHOICE REGISTERED

Galloway Cattle.

Arnold the Great 15520 by King Hensol and Decoy
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Great for sale. **Geo. M. KELLAM & SON,**
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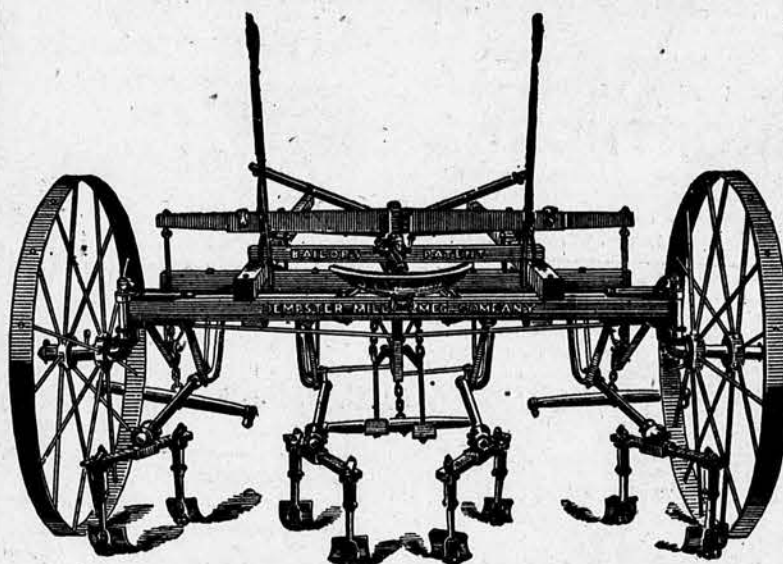
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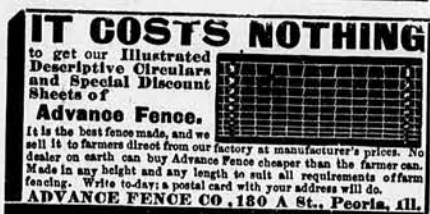
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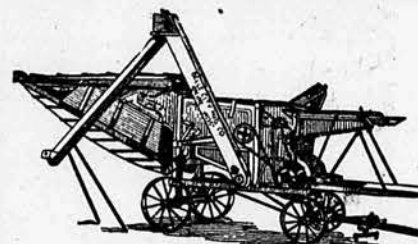


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