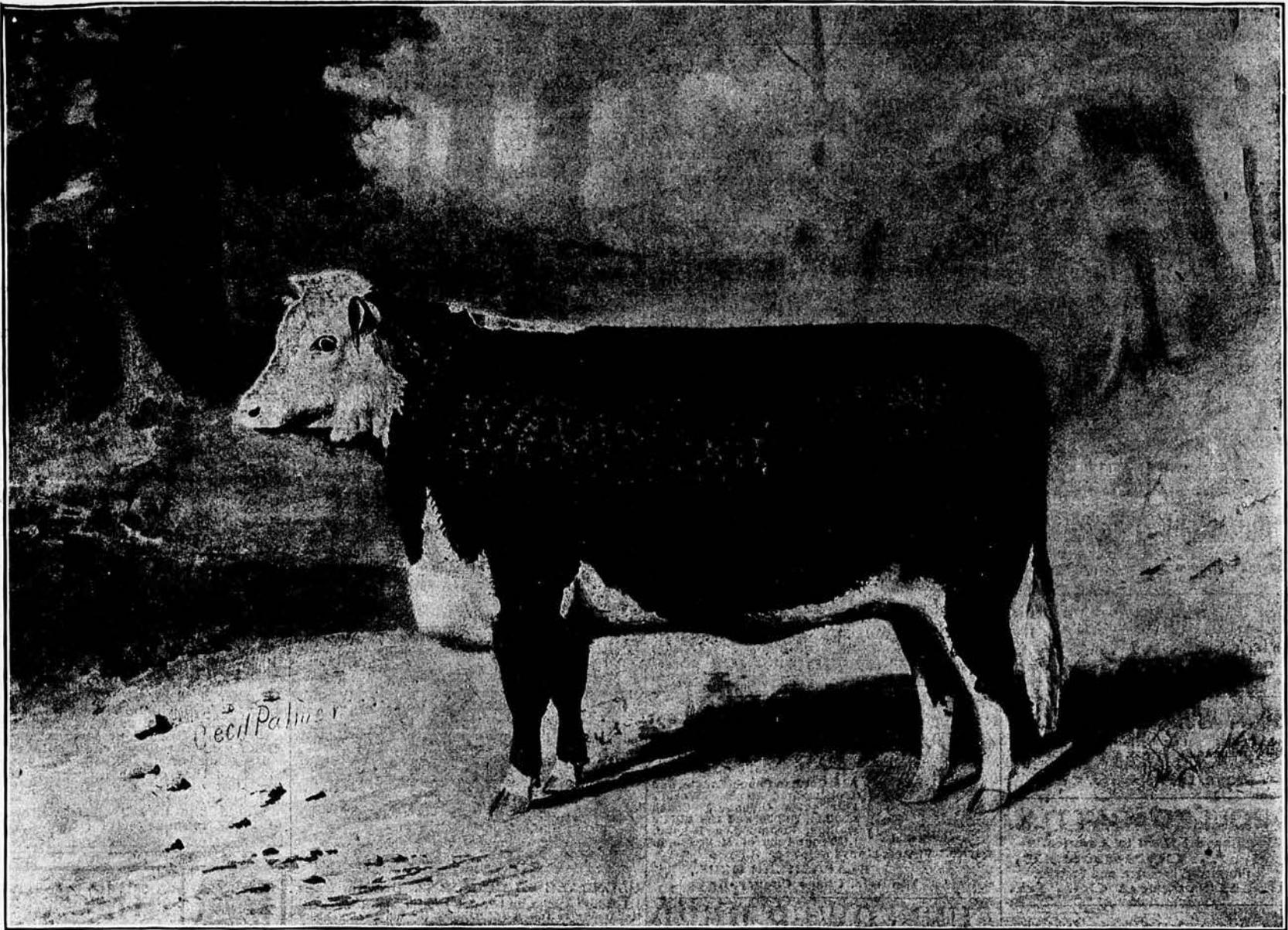


KANSAS FARMER

ESTABLISHED IN 1863.
VOL. XXXIX. NO. 12.

TOPEKA, KANSAS, THURSDAY, MARCH 21, 1901.

SIXTEEN TO TWENTY
PAGES—\$1.00 A YEAR.



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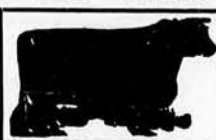
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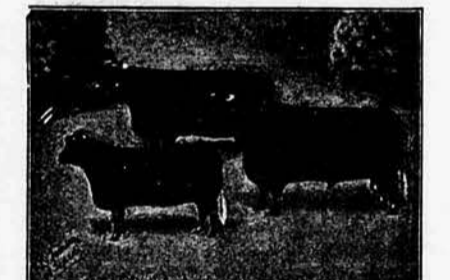
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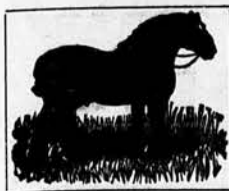
offers for sale a draft of 250 head from his herd of ABERDEEN-ANGUS CATTLE. This herd of Aberdeen-Angus cattle are the equal for practical purposes of any herd of its size in the state. 20 BULLS, about 19 months old, weighing 1,000 pounds or over. These bulls were sired by Heather Lad of Estill 2d, 17440, Second Laird of Estill 19532, and Hummel 23993. 25 HEIFERS, coming 3 years old. These heifers are large, will average over 1,100 pounds, are all sure in calf to Gardner Mine 32640. 45 HEIFERS, coming 2 years old. These heifers are bred to Emmet P 36788, and Regnal Doon 3d 32728. These heifers are exactly the same breeding as the twenty bulls described above. The dams of these 90 cattle were by Unit 13568, their granddams were by Kenochry Jock 12137, their great-granddams by Ben Butler 4601, their great-great-granddams were by Third Editor 4600. 80 BULLS about 10 months old, weighing over 600 pounds. They were sired by Heather Lad of Estill 2d 17440, Second Laird of Estill 19532, Hummel 23993, and Ebbitt 31509. 80 HEIFERS, about 10 months old, bred exactly as the 80 yearling bulls. Breeding of the 160 yearlings are the same as that of the larger cattle, excepting that part of the dams are from Estill bulls. Would like to sell these heifers in lots of 20 as foundations for new herds.

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 Our Percheron stallions are beautiful coal blacks.
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 Good bone, good back, good quarters, and **GOOD ALL OVER.**
 With moderate flesh, 2-year-olds weigh 1,675 to 1,800.
 They show action and style equal to an English Hackney.
 The exhibit made was at the Nebraska State Fair.
 They won first in their classes and sweepstakes over all ages.
 We boldly assert no better stallions in America.



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PERCHERONS, SHIRES, AND CLYDES.

Cheapest collection of imported Black Percherons west of the Mississippi River. All horses personally selected by a member of the firm with the aid of our own private interpreter, and a first choice from the oldest and leading breeders of France. All fresh, young stock. If you want a Good Stallion we can suit you. Barns are in town. For further information, address

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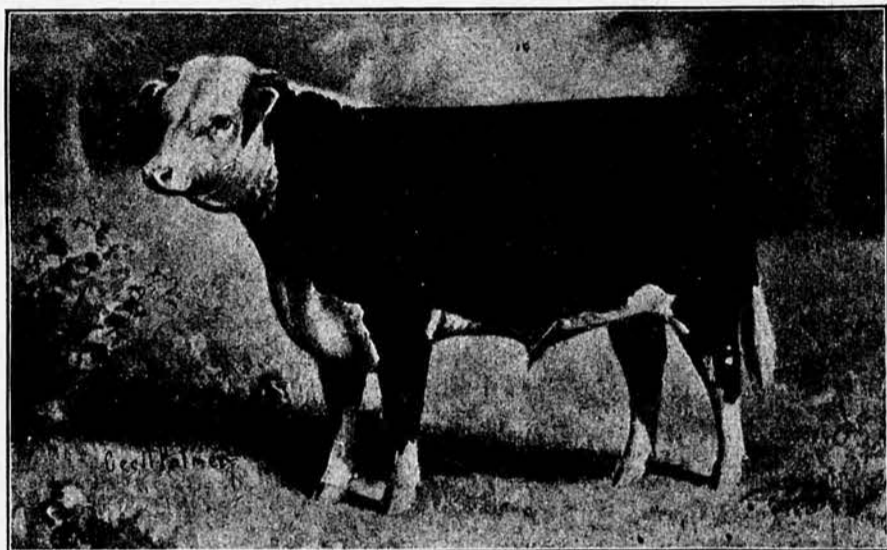
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MR. COLIN CAMERON, Lochiel, Arizona,

Will sell at the Fine Stock Pavilion, Stock Yards, Kansas City, Mo., 200 Head, 50 young cows, mostly with calves at foot, and 60 heifers, 70 young bulls, ready for service; excellent specimens of the Hereford breed selected from this old-established herd of 1,000 head.



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Attention is called to the sale of Ira Cottingham, Peoria, Ill., March 27, and W. B. Rigg, Mt. Sterling, Ill., March 28.

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— AT —
50 | Republican, Neb., Saturday, March 30, 1901, | 50

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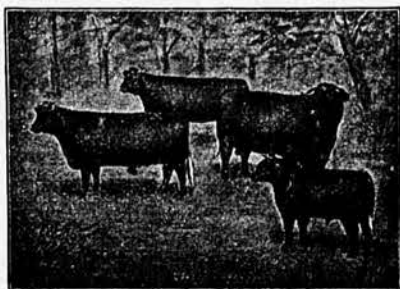
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Agricultural Matters.

Wheats.

PROF. M. A. CARLETON, IN OFFICIAL BULLETIN U. S. DEPARTMENT OF AGRICULTURE.

(Continued from last week.)

POLISH WHEATS (T. polonicum).

This group is considered by all writers to belong to a distinct species. Though there are several subspecies and varieties, apparently only one variety, White Polish, is very widely known. The plant is usually rather tall, with stems smooth and more or less pithy within. It does not stool extensively. The heads are extremely large and loosely formed, and before ripening are bluish-green in color. A special peculiarity of this species is the rather long, narrow, outer chaff, papery in structure, and standing out slightly from the head, instead of being rigid and closely applied to the spikelets, as in other wheats. The grains are of great size when normal, proportionately quite long, yellowish-white in color, and very hard. The name Polish wheat is universally applied to this species, though for what reason it is not clear. There is no evidence at all that it originated in Poland and in fact it has been very little grown in that region. It is more probable that its native home is some portion of the Mediterranean region. A

those of the durum group, and are as follows:

- (1) Quality of gluten content for making macaroni.
- (2) Resistance to drought.
- (3) Resistance to orange leaf rust.

SPELT (T. spelta).

This and the two following species are in several respects very different from any of the preceding groups. They are also not widely cultivated, although more commonly grown than Polish wheat, and are used only to a very limited extent for human food. Nevertheless, in the intercrossing of wheat groups for the improvement of our bread wheats some very valuable qualities may be obtained from varieties of these species.

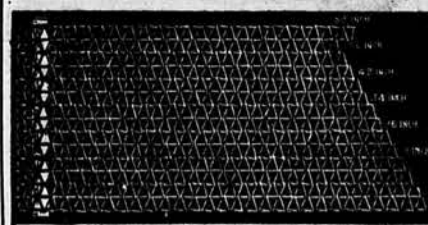
The varieties of this group are called spelt in English, spelz in German, and epeautre in French. In Germany the old name Dinkel is also sometimes applied. The varieties often called spelt in this country and Russia are not spelt, but emmer (T. dicoccum).

The spelt plant grows to the average height of wheat, or perhaps a little higher, and possesses a hollow stem. The leaves are of ordinary size, usually smooth, but sometimes with scattering hairs; heads loose, narrow, and rather long, bearded or bald, especially characterized by a very brittle rachis, allowing them to be easily broken in pieces in threshing. The spikelets are usually far apart in the head, arched on the inner side, and contain usually two grains; outer chaff oval,

producing "well-filled" heads, is greatly increased by the introduction of the spelt element. No doubt we very little realize the loss in yield that is simply the result of the inability of the variety to fill out its heads.

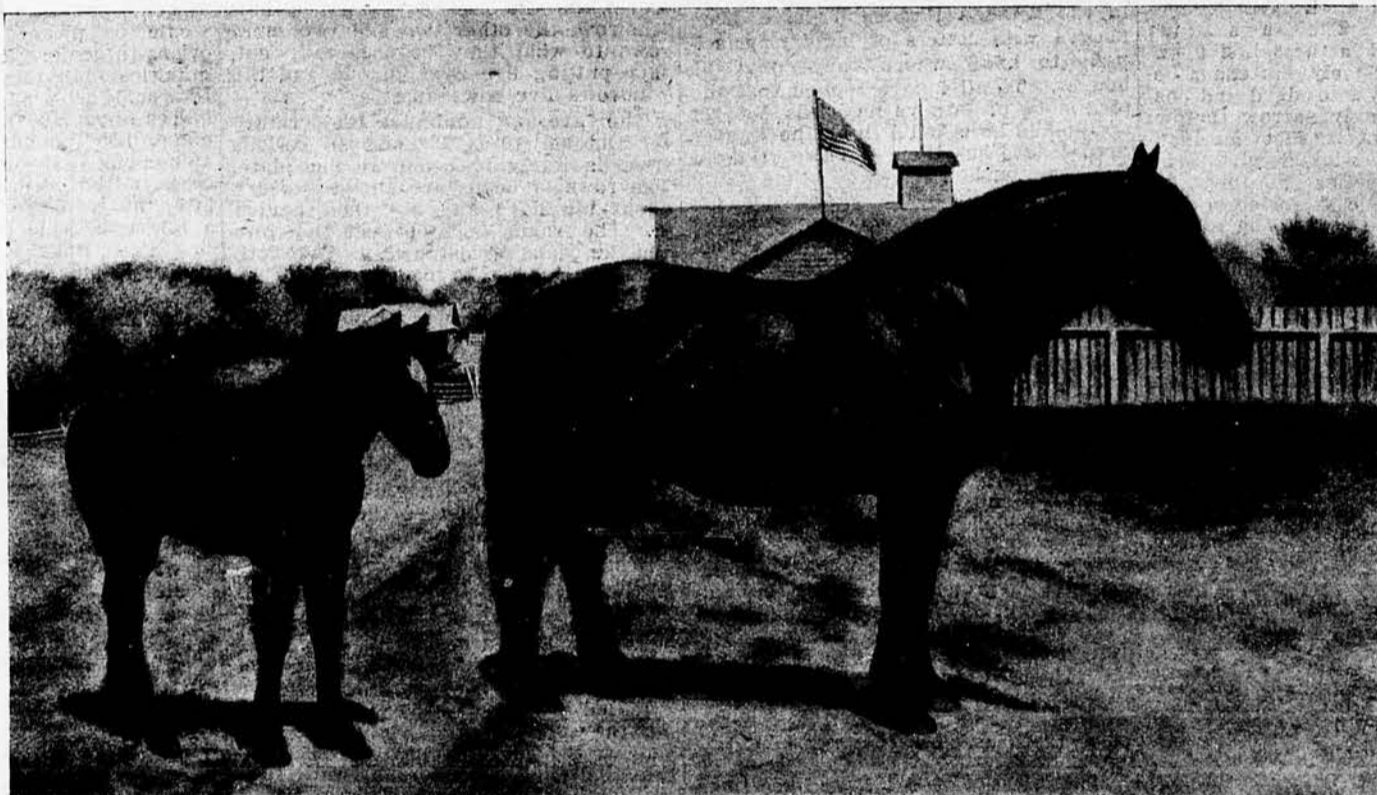
There are both winter and spring varieties of spelt, and some of the former are very hardy. Certain varieties are also rather drought resistant, but nearly all sorts are more or less susceptible to rust attacks. It is in just such cases as that of the use of spelt varieties in intercrossing with bread wheats that the greatest judgment must be exercised because of the presence of undesirable as well as desirable qualities. While the experimenter is endeavoring to secure the qualities of non-shattering, drought resistance, etc., it is equally important to select from the progeny of such crosses in such a way as to eliminate the characteristics of rust liability and brittleness of the head. Here also is shown emphatically the advantage of the practice of composite crossing (to be discussed further on), as in such case the variation induced is so great that there are almost certain to be individuals present among the sporting offspring which possess the desired qualities without having preserved the undesirable ones.

Spelt is chiefly grown in Germany, Italy, Spain, France, and Switzerland, and perhaps to a small extent in Brazil. It is not grown in this country except mainly in an experimental way. Summarized,



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ever, look considerably like those of spelt, but differ principally in the presence always of a short-pointed pedicel. This pedicel, which is really a portion of the rachis (stem) of the head, if attached at all to the spelt spikelets are flattened on the inner side, and not arched as in spelt, so that they do not stand out from the rachis as the spelt spikelets do, but lie close to it and to each other, forming a solidly compact head. The spikelets are usually two-grained, one grain being located a little higher than the other. The outer chaff is boat-shaped, keeled, and toothed at the apex. The grain is somewhat similar to that of spelt, but is usually harder, more compressed at the sides, and redder in color.



IMPORTED PERCHERON MARE, FINE 13085 (26998) AND FILLY COLT, ZAZA 24618.

Drawn from life by L. A. Webster. Property of J. W. & J. C. Robison, Towanda, Kans.

red winter wheat grown rather extensively in Poland and southwest Russia and also called Polish wheat, should not be confused with this group, as it is radically different, being one of the bread wheats. Other names have been given to this species, but they are quite local in their use; such are Giant rye, Astrakhan wheat, Perusalem rye, etc.

In almost all of the few cases where Polish wheat has been tried in this country it has proved a success from both the standpoint of yield and quality of the grain. But it seems never to have occurred to anyone to make use of the wheat for the production of American macaroni, though no doubt it would be excellent for that purpose, and a great demand for its increased production could thus be created. As it is, there is not sufficient incentive to the farmer for growing this wheat, since it is not well adapted for bread-making if used alone.

Though requiring considerable moisture at seed-time, Polish wheat is admirably adapted for cultivation in arid districts; in fact, it produces the best quality of grain when grown under arid conditions. It is also somewhat resistant to orange leaf rust, but not so valuable in this respect as the durum wheats. Varieties of this species are grown chiefly in Italy, Spain, and other portions of the Mediterranean region, and in southern Russia and Turkestan. They are also said to be cultivated to some extent in Brazil.

The special qualities of value belonging to Polish wheat are similar to

four-angled, boat-shaped, and only slightly keeled; grains light red in color, somewhat compressed at the sides, with a narrow furrow, the walls of the furrow flattened, and with sharp edges. The grain is always held tightly within the chaff, and can not be hulled in threshing.

Spelt is used very little for human food, but is generally fed to stock. It is very important, however, for certain portions of our country, at least, to obtain for the bread wheats the particular quality of this group of holding the grain tenaciously. This can readily be done, as the Garton Brothers have amply demonstrated in England, by intercrossing varieties of the two groups. For certain varieties that would otherwise be of great value in the Pacific and Rocky Mountain states such an improvement of preventing shattering at harvest is the most important that can be made. The few varieties possessing this quality that are now grown in these districts are sometimes not desirable in other respects. At the same time complaint is often made that certain introduced varieties which are most excellent from the standpoint of yielding capacity and hardiness are rendered worthless because of the great loss from shattering. It has also been observed by certain experimenters that the quality of constant fertility, or of

the desirable qualities found in the spelt group are:

- (1) Power of holding the grain in the head.
- (2) Constancy in fertility.
- (3) Hardiness of certain winter varieties.

The undesirable ones are:
 (1) Brittleness of the head.
 (2) Rust liability.

EMMER (T. dicoccum).

This species has no English name, but is often incorrectly called spelt in this country. The German name is Emmer and the French amidonnier. As the German name is best known and easily pronounced, it should be at once adopted with us, and the name spelt applied where it properly belongs. In Russia, where the group is well represented, it goes by the name of polba, which name is invariably translated spelt. But either the Russians wrongly apply the name polba or this is an incorrect translation. As a matter of fact, very little if any true spelt is grown in Russia, though a rather large quantity of emmer is produced each year.

The plants of this species are pithy or hollow, with an inner wall of pith; leaves sometimes rather broad, and usually velvety hairy; heads almost always bearded, very compact, and much flattened on the two-rowed sides. The appearance in the field is therefore quite different from that of spelt. The spikelets (that is, the unhulled grains as they come from the thresher), how-

For the production of new varieties by hybridization emmer has qualities similar to those of spelt, but still more valuable. At the same time emmer, besides possessing harder grain, is more resistant to drought, and usually rather resistant to orange leaf rust. It is well adapted for cultivation in the Northern States of the plains and has already proved very valuable as a hardy forage plant in that region; besides giving a good yield of grain per acre. Almost all varieties are spring grown. Of other countries emmer is chiefly cultivated in Russia, Germany, Spain, Italy, and Servia, and to some extent in France. The emmer of this country is descended from seed originally obtained chiefly from Russia, where a considerable portion of the food of the peasants of the Volga region is a sort of gruel ("kasha") made from hulled and cracked emmer.

The desirable qualities furnished by this group of wheats are:

- (1) Power of holding the grain in the head.
 - (2) Drought resistance.
 - (3) Resistance to orange leaf rust.
- The undesirable qualities are:
 (1) Brittleness of the head.
 (2) Adaptability only for spring sowing.

EINKORN (T. monococcum).

This species of wheat is very distinct

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from any of the others, though the heads resemble those of emmer somewhat. It has no English name, but is called Einkorn in German and engrain in French. The German name is adopted here.

Einkorn is a short, thin and narrow-leaved plant, which presents a peculiar appearance in the field. It seldom reaches a height of more than 3 feet. The stem is hollow, thin, and very stiff. The leaves are usually quite narrow, sometimes hairy. Those of the young plant are sometimes bluish-green, and after flowering the plant becomes yellowish-green. Portions of the stem may also be brown. The heads are slender, narrow, very compact, bearded, and much flattened on the two-rowed sides, and always stand erect, even when ripe, but break in pieces easily. The spikelets are flat on the inner side, or form a concave surface with the projecting edges of the outer chaff. They are arranged very compactly in the head and are usually one-grained, except in the variety Engrain double, where they possess two grains. The outer chaff is deeply boat-shaped and rather sharply keeled, the keel terminating in a stiff tooth. The grains, which are tightly enclosed in the spikelet, are light red and extremely flattened, becoming thus bluntly two-edged and possessing an exceedingly narrow furrow.

This species is at present but little improved over the original wild form, and only a few varieties have been developed. Nevertheless some of the most valuable qualities may be expected from these varieties if they can be successfully employed in hybridization experiments. They are among the hardest of all cereals and seem to be constant in fertility, and in the writer's experience are absolutely proof against orange leaf rust. Einkorn is entirely unknown in this country, except among a few experimenters, but is grown to a limited extent in Spain, France, Germany, Switzerland, and Italy. The two chief varieties are common Einkorn and Engrain double.

The valuable qualities to be obtained in this species may be summarized as follows:

- (1) Power of holding the grain in the head.
 - (2) Resistance to orange leaf rust.
 - (3) Hardiness.
 - (4) Resistance to drought.
 - (5) Stiffness of straw.
- An undesirable quality is:
- (1) Brittleness of the head.

GEOGRAPHIC GROUP OF WHEATS.

From the description of the different natural groups just given and the statements concerning their geographic distribution, it may be inferred that the localities as well as the natural groups might also be given from which particular qualities in wheat can be obtained. This can be done, but not with the completeness that could be desired, as it is not yet accurately known what kinds of wheat grow in all regions of the world. However, the matter may be stated approximately and briefly as follows: (1) White wheats containing much starch are grown in the Pacific Coast and Rocky Mountain States of this country, in Chile, in Turkestan, and to some extent in Australia and India. (2) Amber or reddish-grained wheats, also starchy, are to be found chiefly in the Eastern States of this country, in western and northern Europe, and to some extent in India, Japan and Australia. (3) Large proportions of gluten content of the quality considered to be necessary for making the best bread are found in the red wheats of Canada and our Northern and Middle States of the plains, in eastern and southern Russia, in Hungary and Roumania, and in southern Argentina. (4) Resistance to orange leaf rust is to be secured in the bread wheats of southern Russia (particularly in the Crimea and Stavropol government), in the poulards, emmers, and einkorn of the countries bordering the Mediterranean and Black seas, and in a few varieties in Australia. (5) Large gluten content of the quality necessary for making the best macaroni is furnished by the durums, poulards, and Polish wheat of Algeria, Italy, Spain, and especially of the northern shores of the Black and Azov seas in Russia, and to a limited extent in the state of Texas in this country. (6) Stiffness

of straw, preventing the lodging of the grain, is found in the einkorn and some of the spelts, durums, and poulards of the Mediterranean countries, and in the dwarf bread wheats of Japan, and some of the club wheats of our Pacific Coast States, Turkestan, and Australia. (7) Great yielding power, at least in proportion to the length of the head, is obtained in the club wheats of the Pacific Coast States of this country and Chile, and Turkestan. (8) The quality of holding the grain, or non-shattering, is found in the club wheats of the Pacific Coast States, Chile, and Turkestan, and in all the spelts, emmers, and einkorn of east Russia, Germany, and the Mediterranean countries, and to a limited extent in the emmers of our Northern States of the plains. (9) Constant fertility, so far as known at present, is probably best obtained in the spelts of Germany and southern Europe. (10) Early maturity is found to a limited extent in some of the bread wheat varieties of Australia and India, and in the dwarf wheats of Japan. (11) Resistance to drought and heat is best secured in the common red wheats and durums of south and east Russia, and the Kirghiz Steppes, the durums of the south Mediterranean shore, and both the bread wheats and durums of Turkestan. (12) Resistance to drought and cold is found to the greatest degree in the red winter wheats of east Russia.

The Planting, Cultivation, and Harvesting of Late Soy-Beans.

EDITOR KANSAS FARMER:—Since my short article on "Soy-Beans" appeared in the KANSAS FARMER I have been flooded with letters of inquiry, principally to know where they could be bought. To all I have replied that the mammoth or late variety was not yet acclimated here, but I think the Kansas Seed House has them for sale at about \$2.50 per bushel.

The beans of the late variety are considerably plumper and larger than the early sort, but they plant well in a good planter. As the season here is hardly long enough for them to fully mature, they should always be planted as early as the temperature will permit, say just after corn planting and at about the time Kaffir or cane is generally planted, for this latitude, about May 1 to 10, or when the young corn is large enough to harrow.

They should be drilled in rows far enough apart to be cultivated with a two-horse cultivator, the beans being about five inches apart in the row.

I shall put beans this year where I want to put potatoes next year. I shall not plow the ground until ready to plant, then I shall turn all trash and green stuff under, harrow while moist each day, thoroughly pulverize and compress the soil with the Imperial Pulverizer, and drill with two-horse planter in as straight rows as possible. Plant at the same depth as corn, that is, about two inches deep. Deep planting is to be avoided, as it is necessary to have them come up as rapidly as possible, so as to get an early start in growth as the season is scarcely long enough for them.

They should be cultivated as soon as the row shows from end to end and well tended all through the season.

I have never seen any cultivator so good for this work as a good disk cultivator, and a slight ridging seems to be beneficial.

After the beans are up and cultivated, I shall commence to haul on my season's manure, straddling the rows and spreading the manure without injuring the plants or interfering with the cultivator. The after cultivating will thoroughly work in the manure. These late beans will not bloom until the early variety is ready to harvest and they must be left until the date of the first frost, which comes about October 10 in this latitude.

Mine have never turned yellow as those of the early sort do, but the leaves, which are about twice the size of the early sort, remain a deep green until cut, when they dry out but retain their evergreen color. I don't believe any implement will harvest these beans as the early ones are harvested. The stalk is a hard wood and from three-fourths of an inch to an inch in diameter and can not be cut off under the soil with a cultivator-knife, as is advised with the early sort, nor do I think a mower would cut them. They are just as hard and solid as so much hickory would be and would be awful hard on a mower. It must be remembered that this late sort grows nearly four feet tall, or about twice the height of the early variety. Mine have never yet shelled out any in the field or in handling, while the loss of the early variety in this way is very great. To harvest them, I put three boys with corn-knives in the field October 10. The

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first boy takes the third row from the side of the field, walking to the right of the row, grasping each hill with his left hand, cutting it with his right and laying the cut plant directly on the row and just behind him. The other two boys take the two rows to the right of him and each in turn throws his cut plants on top of his row of cut plants. Then when through the field, they turn, and while the first boy starts a new windrow, the other two add two more rows to what they have already cut, thus putting five rows in one and the windrows five rows apart.

The average minimum temperature for October 10 is 53° and no serious frost is likely to occur at that date. The rows of beans are allowed to dry about ten days and are then hauled in. The wagon goes between the rows and the beans are pitched on from both sides, just as flax is loaded.

They are a very difficult crop to load with a fork, and when it comes to unloading, it is one of the most difficult things I ever tried.

I don't see why wheat, rye, oats, rape, or turnips could not be successfully sown among the beans and the field used as a pasture when they are hauled off.

Three boys will cut three acres of beans in a day, and as the cultivator has ridged them up some, the row will not suffer much if hard rains fall on them. There is not apt to be much rainfall between October 10 and October 20, the normal for the whole month being only 2.40 inches.

Now I want every one to understand that these late beans are not yet acclimated here and do not all fill out, but they will be well acclimated in a year or two more. I have no seed for sale, and shall not offer any until they are thoroughly acclimated here.

At present they yield about 10 bushels per acre, the same as the small beans, but they have twice as much foliage, of a much better quality, and will easily yield 20 to 40 bushels per acre when well acclimated. Where clover has failed, this is the substitute and it is a land-cleaner.

I have tried to cover all the points asked me in this letter, but if any brother farmer has any more questions on the subject, let him rise up and ask them, as that is just what I am here for.

It is my pleasure to be a sort of an experimental farmer for the KANSAS FARMER COMPANY, and I am under obligations to them to answer fully and give any information I may be able to. I am grinding these beans with corn, use 20 pounds beans to 100 pounds shelled corn, or the same per cent (20) with ear-corn.

Mr. Solisbury, one of my neighbors has experimented in feeding milch cows soy-bean-meal with corn-meal, as against an equal date without the soy-bean-meal, and the weighed results in milk greatly favored the soy-bean-meal. J. CLARENCE NORTON.

Moran, Kans.

Gypsum as a Fertilizer.

EDITOR KANSAS FARMER:—Since the publication in your paper, of Mr. Haworth's article on gypsum as a fertilizer, we have had numerous inquiries. Would like to state through the columns of your paper, that we will furnish one or two hundred pounds of land-plaster fertilizer to farmers who will use it judiciously, to ascertain its value on their lands and also as a disinfectant in their dairy barns, and report to us at the end of the season. All we ask is to be reimbursed for sacks

and drayage. Sacks, 100 pounds, 10 cents each, drayage 25 cents for one or two hundred pounds. The local freight rate to points in Kansas on the Union Pacific, is 23 cents per 100 pounds, and the same on the Missouri Pacific, west and north of Atchison and to Kansas City. All other points in Kansas it is about 46 cents per 100 pounds. Points in Missouri, 48 cents and Illinois about 68 cents per 100 pounds. We of course would be pleased to name delivered prices to dealers in car-lots, when communities club together for a quantity. It would be well to state that it requires about 100 pounds per acre, and about 500 pounds per acre of our chinch-bug exterminator to kill the bugs in the corn next to the stubble, after the grain is cut, that is, on a strip a few rods wide next to stubble.

BLUE RAPIDS PLASTER CO. Blue Rapids, Kans.

Call for a Grain-Growers' Meeting.
To the Grain-Growers of the State of Kansas, Greeting:

All the leading industries of this state but our own are organized. We are, by reason of our chaotic condition, at the mercy of the unscrupulous, and an easy prey to the organized greed known as the grain trust. Not only are the prices at which we must part with our products fixed, but the dealers to whom we shall sell are clearly indicated. We prepare the soil, sow the seed, and gather in the sheaves, but can not market the same without first gaining the consent of a band of organized highwaymen, known as "regular dealers," whose object is to destroy competition and compel us to do business with them on their own terms. Shall we submit to the methods of these brigands? Rather let us organize, not for the purpose of robbery, but for self-protection. Let the organization be thorough. Begin at once in every school district, and when fully perfected call mass-meetings at the various county-seats and there select delegates to represent you at a state meeting to be held at Salina, on Thursday, May 16, 1901, to then and there devise ways and means which will enable us to market the products of our labors without the aid or assistance of the so-called grain-combine, which is now robbing us at every turn, and which absolutely refuses to handle any grain which does not bear the earmarks of the trust.

Friends and neighbors, it is up to you. Will you tamely submit, or manfully fight for your rights? If you choose the latter, send your delegates to Salina as above indicated. All strictly cooperative elevator companies, and grain-shipping associations, not members of the trust, are cordially invited to cooperate with us at this meeting.

For further information, address: James Butler, Topeka, Kans., secretary of the Farmers' Federation.

Coburn Appreciated.

We have received a copy of the "Twelfth Biennial Report of the Kansas State Board of Agriculture." Those who know him will understand exactly what we mean when we say the report is just like Secretary Coburn, plain, practical, straightforward, and full of meat from start to finish. Somebody has said, "There is only one Coburn." Well, that may be true; if it is, it is because there is only one Kansas, and Coburn is her prophet, a genuine product of her soil. Kansas is unique, and she may be a little peculiar in some of her methods, possibly a little erratic,

Marshall County—The Herefordshire of Kansas.

If present conditions are continued in the future as in the past, Marshall County, Kansas, will eventually become quite famous as the Herefordshire of Kansas. The predominating influence in improved stock is favorable to the white-faces. Marshall County has more breeders than any other county in Kansas and while at present there are no very large and notable establishments, it is only a matter of a short time when there will be several, and this great live stock county will be the great Hereford center of the state and one of the leading headquarters of the West for representative Hereford cattle, a regular mecca for the ranchman, farmer, and breeder. There are fully 1,000 head of pure-bred Herefords owned in Marshall County. There are quite a number of small herds that are good ones and the cattle owned are so far as observed quite representative, well selected, and creditable to the breed. It seems eminently proper that Marshall County should be a Hereford stronghold, by reason of the fact that the first pioneer Hereford breeding establishments in Kansas were located in this county by one of the old pioneers of the breed in America, Mr. Walter M. Morgan, who still resides on his farm near Irving and it goes without saying that he still delights in breeding his favorite white-faces. He was one of the first men to advertise Hereford cattle in the Kansas Farmer, a score of years ago. His first acquaintance with the breed was at the fountain head in England, where he himself was raised, and all through life he has ever been a faithful advocate of the breed and has been familiar with the vicissitudes of the eventful and critical career of this popular beef breed of cattle and

establishment. The Cottrell Bros. certainly constitute the "Big Five" of Marshall County with their 1,100-acre farm at Irving and 400-acre farm at Hull. They now own 125 head of registered Herefords of the Anxiety, Beau Keal, Old Hesiod, and Boatman strains preeminating and headed by the Cornish & Patten bred bull, Governor 75903 sired by Boatman. He is assisted by a splendid young bull of their own breeding, Hercules 75906. The herd is a good producing one of a reliable type that sells well and they report a very satisfactory year's business and now have only a few head of young stock for sale. J. M. Winter & Son, of Irving, are near neighbors of Cottrell Bros. and have a fine farm of 240 acres and a very uniform herd of 100 head of pure-bred Herefords that were very attractive in appearance, owing to their fine condition. The producing cows may be said to be an exceptional lot. The herd bulls in use are Sheridan 65729, sired by Boatman, and the Wild Tom bull, Theodore 65921, a bull of fine individuality and scale, weighing 2,700 pounds. Mr. Winters' young stock have been sold each year by contract at satisfactory prices, and a number of animals bred here have been sold at Kansas City sales always bringing the averages of the sales or better. Miss Lou Goodwin, of Blue Rapids, has the distinction of being the "queen" lady breeder of Marshall County. Her associate breeders of improved stock refer to her affectionately and respectfully as the "Queen," and while she owns but a small herd of 40 pure-bred animals they are of the right sort of foundation stock, and the herd is now headed by May's Keep On—purchased at the Kansas City sale, one of the best Sunny Slope bulls ever sold at auction. An illustration of this new herd sire appeared in the

Blue Rapids the herds of F. A. Stocks and I. D. Yarrick, of which more details will be given later. Other breeders of pure-bred Hereford cattle in Marshall County not yet visited are as follows: Harry Furley, Ed Moore, A. Borck, C. Strance, Geo. S. Emmert, M. Patterson, Isaac Fitzgerald, and Mr. Gilpin, of Blue Rapids; J. M. Clark, H. C. Styles, Irving; R. W. Smith, W. W. Griffith and Henry M. Smith, of Bigelow; Chas. Scholz, J. M. Williams and Jas. Filley, of Frankfort; Parker McCullough and Frank Faulkner, Waterville; Will Acker E. E. Woodmen, of Vermilion; and William Bommer, of Marysville, all of Marshall County. There may be others but this list is complete so far as the writer was able to ascertain from a hasty flying visit.

An Ideal Poland-China Herd.

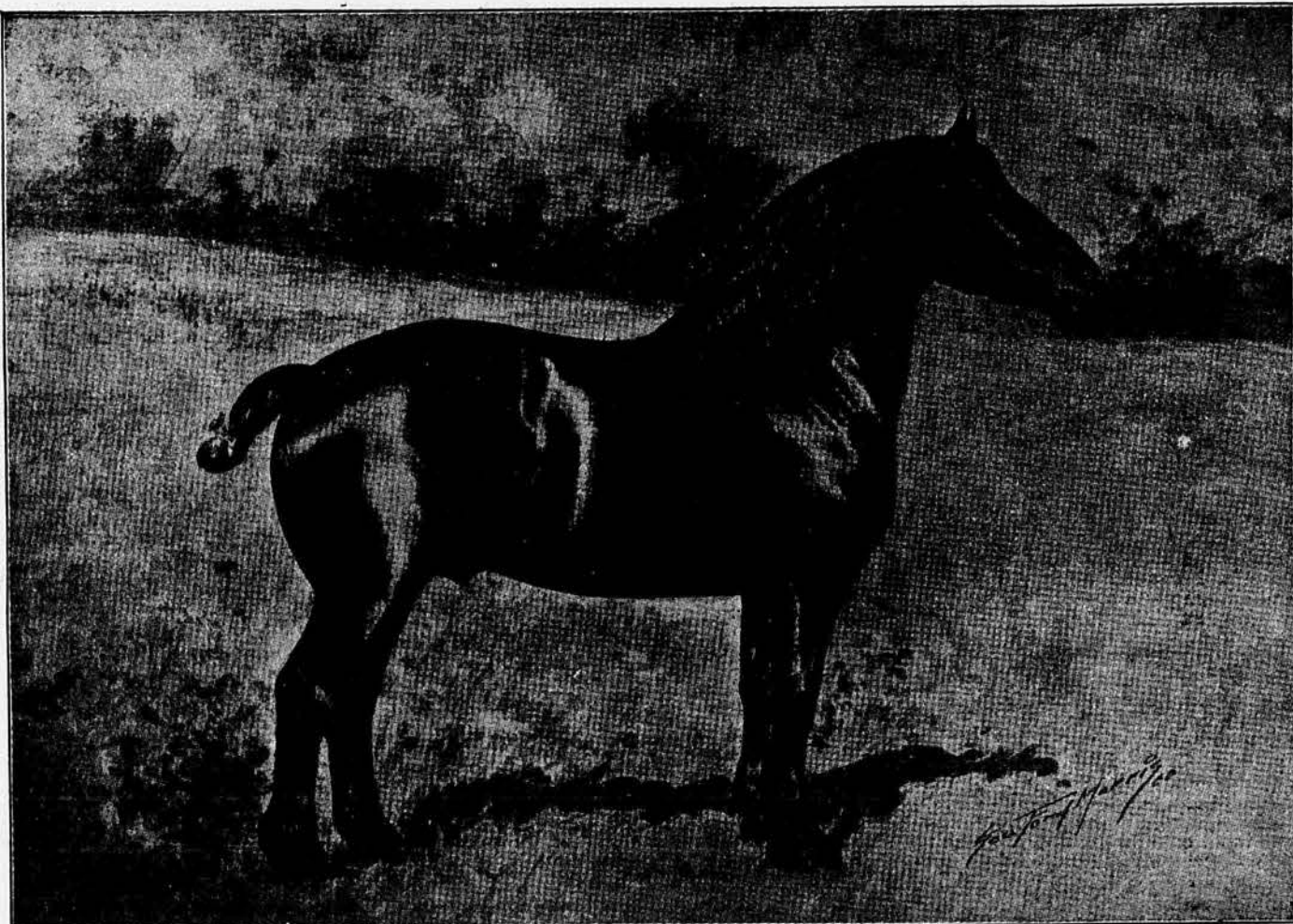
A recent visit was made to one of the ideal Poland-China breeding establishments of the West by a Kansas Farmer. It is the Maple Grove Herd owned by Hiram Smith, Colwich, Sedgwick County, Kansas. It is a rare thing to see such a grand lot of hogs of such mammoth size and at the same time possessing an even and smooth finish. For quality, size, and style and mathematical uniformity, it is quite doubtful if this herd has an equal in the West. Finding such was a most agreeable surprise to the writer, and to his mind the herd was an ideal one in almost every respect, and it certainly is an object lesson to swine-breeders generally. Everything about the pens and buildings, as well as the records of the animals, is under a perfect system. There is no chance taken regarding perfect identification. Mr. Smith was scored for this one weakness—modest publicity. The herd



How to Quit Tobacco.

A new discovery, odorless and tasteless, that Ladies can give in coffee or any kind of food, quickly curing the patient without his knowledge. Any one can have a free trial package by addressing Rogers Drug & Chemical Co., 1832 Fifth and Race Sts., Cincinnati, O., and easily drive foul tobacco smoke and dirty spittoons from the home.

\$1,100. At the second day's sale no sensational prices were paid. The cow, Lavender Princess, topped the day's sale at \$1,000, going to George E. Ward, Hawarden, Ia. C. C. Elgler, of Hartwick, Iowa, bought Princess Dagman for \$1,010. Three cows sold for \$905 each. The top bull was Gold n King 152918, going to Cronin Bros., O'Neill, Neb., at \$760. In the two days' sale eighty-one animals were sold, aggregating \$36,850, an average price of \$454.93. Sixty-four



IMPORTED PERCHERON STALLION, PERVENCHERES, 24780 (44671).

Prize winner at Government Show, Mortagne, France, 1900, and at International Live Stock Exposition, Chicago, December, 1900. Property of Dunham, Fletcher & Coleman, Oaklawn Farm, Wayne, Du Page County, Illinois.

consequently takes great pride in their present success and ascendancy.

The high character of the Hereford cattle in this county is due largely to the fact that the breeders started in a small way with the right sort of cattle and have been wise and judicious in their selection of herd sires. Readers of the Kansas Farmer during recent years have undoubtedly noted that from time to time purchases of Herefords at auction or private sale went to enterprising buyers in Marshall County at what was considered long or top-notch prices. The purchases were the foundation stock of some of the now numerous herds of Herefords in that county.

In view of the foregoing facts, the writer has been anxious to make a thorough inspection of the improved stock of Marshall County and consequently availed himself of the first opportunity to see a few of the herds by invitation of W. A. Morgan, manager of the Hubbard & Morgan Cattle & Loan Co., of Topeka, but formerly of the Hereford breeding firm of Walter M. Morgan & Son, of Irving, who offered to show the Farmer man, "A great Hereford prospect in my home county of Marshall." Mr. W. A. Morgan will be remembered as one of the expert judges of Hereford cattle at the national show, held at Kansas City last October, consequently it was a rare opportunity for comparison of which interesting details will appear in future announcements of the individual herds. In company with Mr. Morgan a hurried inspection was made of the few herds and from those already seen the writer is anxious to make a more thorough inspection at an early date.

The first place visited was the herd of Blue Valley Herefords, owned by Cottrell Bros., of Irving. Five brothers constitute this cattle breeding firm, of which Fred Cottrell is manager of the pure-bred cattle. The other brothers, John, William, Arthur, and Robert, each have their special line of work in connection with the

Kansas Farmer. Miss Goodwin seems to enjoy directing the affairs of this establishment, having already demonstrated her ability to successfully manage such an establishment. Miss Goodwin sells her surplus young stock each year on contract to other breeders, who already have an established trade consequently has not had to do any advertising.

John Drennan, of Blue Rapids, is another of the enterprising and progressive breeders of the county who has an unusually well-selected herd of 60 pure bred, headed by the Sunny Slope bred bull, Lomond Grove 71084 by Lomond and a grandson of the famous Cherry Boy. His dam was Nut Brown 9th by Pride of the Clan, combining Anxiety, Don Carlos, and Plutarch blood. Lomond Grove is assisted by Bright Light 81616, a young bull bred by Gudgell & Simpson and sired by the famous Lamplighter and out of the dam, Duchess 5th 87178. Mr. Drennan has been handling grades quite extensively but aims to close them out soon and make a specialty of high-class registered Herefords.

Walter M. Morgan, of Irving, is one of the pioneer breeders of Hereford cattle and has only a small herd of 25 pure bred and not an inoffensive animal in the herd, having sold off everything last year except a few of his best tops in the herd. His daughter, Grace, owns 5 head of very choice cattle. This herd is headed by Roy Wilkes 79035, a 3-year-old, sired by Sir Rodney of Burnside 47151, and he by the Earl of Shadeland, and out of Lady Wilton 23d, a double Sir Bartle Freere and Lord Wilton cross.

F. W. Puston, of Irving, has only fairly started with pure-bred Herefords and has now about 50 head of all ages on hand. This herd is headed by a son of the famous Lamplighter, Sydney 81697. The calves now on hand are by Morgan's herd sire, Roy Wilton.

Besides Miss Goodwin there is located at

boars are, Ideal U. S. 4829 O., an even 3-year-old bred by Vivion & Alexander, a grandson of Chief Tecumseh 2d, and Ideal Black U. S. The aged herd boar is Black Chief 42357 O., bred by R. S. Co. k, by Black Joe by Lawrence's Perfection; dam, Bethe Risk by Corwin U. S. The young herd boar is Perfect I Am, Vol. 23 O., bred by James Mains, sired by Anderson's Perfect 23772 S., by Perfect I Know 1972, and out of the famous Anderson's Model. All of these boars have proven very valuable sires. The youngsters are so even and uniform, just like so many peas in a pod.

The leading herd sows, all recorded in the Ohio Poland-China Record, are, Worldbeater Beauty 109484, Dolly P. 115021, Lady P. 106604, Black Bessie 104241, Banner's Pride 103706, Maud S. 107344, Darkness Model 104955, Native Ma d 107883, Susie Butler 50815, Bessie A. 114476, Bessie B. 114478, Faultless 115676, Black Beauty 114630, Dolly A. 115402, Graceful A. 115892, Graceful B. 115900, Graceful C. 115606.

Sweet Violet 2d Brings \$3,705.

At the dispersion sale of the T. R. West-rop herd of Shorthorns at Omaha last week the show cow, Sweet Violet 2d, was sold for \$3,705, Colonel G. M. Casey, of Shawnee Mound, Mo., being the purchaser. She is a deep red, was calv'd Oct. 13, 1895, being sired by Lavender King 3d. The bidding started at \$1,000, was rapidly put up to \$3,000, where the bidding narrowed down to George E. Ward, of Hawarden, Iowa, and Mr. Williams, who was bidding for Colonel Casey. Mr. Ward bid \$3,700, to which Mr. Williams added \$5 more and secured the animal. Mr. Williams also purchased the fine cow, Golden Abbottsburn, for Colonel Casey at the very good figure of \$1,400. The highest priced bull at the opening day's sale was Young Abbottsburn 2d, calv'd April 3, 1896, and sired by Young Abbottsburn. He was secured by T. J. Ryan & Son, of Irwin, Iowa, for

cows sold for a total of \$29,485, an average of \$460.70. The seventeen bulls brought \$7,365, an average of \$433.23.

Hereford Heifer Grace Beau Real 71062.

The pretty illustration of feminine character in Herefords appears on the front page in this paper. The subject is one of the favored products of the late C. S. Cross, of Emporia, Kans. Mr. Cross thought enough of her that he put what he thought to be a prohibitive price, when Mr. Colin Cameron, of Arizona, asked his figure. But the high price did not stand in the way and she became an honored member of the very extensive herd, numbering over a thousand head, of the San Rafael Hereford Cattle Company, of Lochiel, Ariz. Grace Beau Real is by Archibald V., well known in connection with the great Sunny Slope breeding establishment at Emporia, Kans., and her dam is Grace 36926 by the invincible Beau Real that defeated all competitors at the western shows three years in succession. Her grand dam is the imported Carwardine cow, Winnifrid, by Rothchild, he by the \$20,000 Lord Wilton and her grand dam, Winnie 2d, also by Lord Wilton. This gives her a very rare and valuable concentration of the blood of some of the greatest Herefords in history. This is but a sample of the pedigrees of the San Rafael Herefords. No one has been more careful in the selection of the best blood and of the best individuals for breeding than has Mr. Cameron and although he keeps a large herd, no one has been more accurate in keeping his record. After trying various systems of identification, he abandoned them all and brandeu his identification number on the animal's hide, making an identification complete for everybody. Two hundred head of the San Rafael Herefords will compose the offering of Mr. Cameron's second annual public auction. Sale will be held in

the new stock pavilion at Kansas City, April 2 and 3. Advertisement appears elsewhere in this issue. Catalogues may be had by addressing T. F. B. Sotham, Chillicothe, Mo.

Shorthorn Sale at Manhattan.

The seventeenth annual sale of Shorthorn cattle by Gifford Bros., of Milford was held at Manhattan, Kans., on March 12, and was a very successful sale. Twenty-two bulls sold for \$1,300, an average of \$59.09, and 11 cows and heifers brought \$1,455, an average of \$132.27. The total amount received for 33 head was \$4,800, a general average of \$147. The average of this sale as compared with last was \$1 per head less. The offering this year went to distant buyers as the local demand for bulls was supplied last year, otherwise the general result would have been better. A complete list of the sales is as follows:

FEMALES SOLD.

- Lady Mary 2d, sold to David Delaire, Oketo, Kans., \$50. Marian Bell, to D. L. Yeagley, Marion, Kans., \$140. Mollie D., J. F. Swinge, Manhattan, Kans., \$160. Mollie E., Chas. D. Knight, Oketo, Kans., \$80. Miss Mary, David Delaire, \$105. Margery, J. L. McCormick, Zeandale, Kans., \$110. Virgie Knight, Chas. D. Knight, \$100. Lady Mary 3d and calf, D. L. Yeagley, \$210. Mary B., John Samuels, Stockdale, Kans., \$135. Virgie Regent, J. L. McCormick, \$115. Musette, D. L. Yeagley, \$150.

BULLS SOLD.

- Cordelia's Knight, sold to Joseph L. McCormick, Zeandale, Kans., \$255. 9th Knight of Elmwood, N. J. Smith, Oketo, Kans., \$175. 8th Knight of Elmwood, Ben Lyon Mil-tonvale, Kans., \$160. Royal Knight, Francis Johnson, Linds-borg, Kans., \$175. Grand Knight, Geo. Caldwell, Glasco, Kans., \$265. Best Knight, Thos. Olson, Glasco, Kans., \$200. 10th Knight of Elmwood, C. H. Shult, \$185. Justus, Jno. Samuel, \$145. Rex, A. M. Story, Manhattan, Kans., \$145. Platt's Best, Geo. Walton, Harper, Kans., \$140. Juryman, Geo. Walton, \$140. True Knight, Frank Wilson, Glasco, Kans., \$160. Weston, Louis Walton, \$150. Baron Risk, Geo. Wetzel, Junction City, Kans., \$145. Knight Regent, C. A. Campbell, Wayne, Kans., \$125. Red Rose Knight 3d, David Delaire, \$155. Bell Knight, C. A. Streeter, Milford, Kans., \$120. Aldrie Knight, M. H. Bunker, Otego, Kans., \$145. Red Coat, C. E. Dodson, Idana, Kans., \$150. Barrington Knight, Louis Walton, \$110. Mokinga, C. J. Chambers, Milford, Kans., \$115. Alice's Knight, C. P. Hanson, Vining, Kans., \$135.

Iowa Shorthorn Sale.

The Clark County, Iowa, Combination Shorthorn sale, held at Osceola, Iowa, March 11 and 12, resulted in a fairly good sale considering the weather, and the condition of the offering. Col. F. M. Woods having to be absent the second day, the work of that day fell to Carew M. J. n's who with the assistance of his younger brother, Orval, as ringmaster succeeded in bringing the sale to a satisfactory termination. We predict that Orval, with the assistance of his father and brother, will, in the near future, make a successful auctioneer. From the following summaries it will be seen that the good stuff sold well; and, as is always the case, the poor in flesh and breeding brought correspondingly low prices. And as there were two herds closed out in toto many were quite young, in fact mere calves, which will account in part for the low general average. The total sales and averages of each consignment were as follows:

COOLEY & SONS, OSCEOLA, IOWA.

24 cows sold for \$2,700, average \$87.50; 5 bulls sold for \$490, average \$98; 29 head sold for \$2,490, average \$85.87.

M. HILL, WOODBURN, IOWA.

24 cows sold for \$1,440, average \$60; 7 bulls sold for \$340, average \$48.57; 31 head sold for \$1,780, average \$74.2.

J. L. BALDWIN, OSCEOLA, IOWA.

2 bulls sold for \$135, average \$67.50.

E. TOUET & SON.

6 cows sold for \$580, average \$96.67; 2 bulls sold for \$240, average \$120; 8 head sold for \$820, average \$102.50.

BALDWIN & TOUET, OSCEOLA, IOWA.

1 bull sold for \$520, average \$520. ERNEST FUNKE GREENFIELD, IOWA.

4 cows sold for \$920, average \$230; 2 bulls sold for \$345, average \$172.50; 6 head sold for \$1,265, average \$210.84.

J. B. HARDINGER OSCEOLA, IOWA.

3 cows sold for \$705, average \$235; 1 bull sold for \$120, average \$120; 4 head sold for \$425, average \$106.25.

W. J. HUGHES, LESLIE, IOWA.

3 bulls sold for \$160, average \$53.33. H. P. HALLING, WOODBURN, IOWA.

3 bulls sold for \$132.50, average \$44.13. G. K. REED, NEW VIRGINIA, IOWA.

2 bulls sold for \$120, average \$60. EMILY V. REED, TRURO, IOWA.

1 cow sold for \$75, average \$75; 2 bulls sold for \$175, average \$87.50; 3 head sold for \$250, average \$83.33.

SUMMARY.

62 cows sold for \$5,320, average \$85.81; 33 bulls sold for \$2,775.00, average \$83.78; 92 animals sold for \$8,095.00, average \$88.

The Enterprise of Hollyhock Poultry Farm.

It is gratifying to note that first-class poultry properly handled makes a splendid and lucrative business. One of the model establishments of the West is the Hollyhock Poultry Farm of Des Moines, Iowa, which is making a marked success along these lines, as is evidenced by the

letters received from their customers, a sample of which is herewith submitted. Colby, Kans., February 2, 1901. Hollyhock Poultry Farm, Des Moines, Ia. Gentlemen:—What can I get one or two sittings of your best Barred Plymouth Rock eggs for, say to be delivered between the 21st of March and the 1st of April, 1901? The cockerel you sent me last fall came through all right. He is a broad-backed, vigorous fellow. I am satisfied with him. I had him to the Plainville show in January. He had his comb frozen and for this was cut two points. His score was 90%. He took first prize. Yours respectfully, GEO. LINDAUER.

A Million Dollar Stock Ranch.

In another part of this paper will be found the announcement of the Three Million Acre Farwell Ranch (also known as the X. I. T. Ranch and the Capitol Syndicate Ranch) for sale in lots to suit the purchaser. It is well known that the state of Texas in making the selection of this land took great pains to provide land particularly adapted to agriculture and the stock-raising business. The grass grown in the panhandle of Texas, comprising buffalo, mesquite, grama, sedg, and other grasses, is the most nutritious, and cattle thrive and fatten on it without the addition of grain. Under careful experimental test at the different agricultural stations, these grasses show more fat producing qualities than either clover or timothy. Stock subsist on this grass the year round. The small ranchmen in the panhandle country have made more money in recent years for the capital and energy invested than farmers in any section of the country. The present opportunity of securing large or small stock farms on the Farwell Ranch is an opportunity no young stock farmer should miss, who wishes to quickly and successfully build up a splendid stock farming property. Melons, pears, peaches, plums, and other fruits, are very prolific and of exceptional flavor. Excellent water can be procured at an average depth of one hundred and twenty-five feet. The land is now traversed by the Ft. Worth & Denver Ry. on the north; the Pecos Valley & Northeastern Ry. through the south, and the Chicago, Rock Island & Pacific is now constructing a line from Liberal, Kans., to El Paso, Texas, which will traverse the middle of it. The land is largely chocolate or black sandy loam, very rich and capable of producing large crops of the grasses mentioned above. This is undoubtedly one of the finest stock sections in this or any other country. A car-load of steers bred on the Farwell Ranch was the reserved number for the grand champion car-load of fat steers, exhibited at the International Live Stock Exposition at Chicago, December, 1900. The altitude varies from 2,800 to 4,000 feet, and the climate is most delightful and healthful, being very similar to that of Colorado. This land is all in a bunch and can be sold in any quantity in solid blocks, thus avoiding the unpleasant feature in Texas of being compelled to purchase alternate sections, as every other section is held by the state for school lands. The land will be sold for cash or very liberal time payments. Those wishing to inspect the land may go to Channing, a station on the Fort Worth & Denver Ry., in Hartley County, Texas, where Mr. A. G. Boyce will be pleased to show the lands and furnish all particulars and necessary details. To those who can not pay the ranch a personal visit, a letter to Wm. Boyce, Amarillo, Texas; Geo. Findlay, 148 Market Street, Chicago; or A. G. Boyce, Channing, Texas, will bring full detailed information. This is a splendid opportunity for young men to purchase a quantity of land for stock farming and other purposes at a very nominal price. As the owners of the property are well known in the business world we have no hesitancy in recommending them to the prospective purchaser of the land.

The Kansas City Market.

"Bread cast on the waters, after many days will return." Such is being verified in favor of the Kansas City Stock Yards Company as a reward for their public-spirited enterprise. The erection of their handsome sale pavilion has put them into close touch with the improved stock breeding fraternity, and likewise the hospitality during the great shows last fall, to the Texans has borne fruit as shown by the recent action of a Texas stockmen's convention.

Panhandle stockmen were recently in session at Amarillo in their second annual meeting. The association has grown rapidly and is one of the most lusty and vigorous long yearlings in the country. As showing what the members think of Kansas City as a market, and as expressive of their appreciation of the city's hospitality, the following resolution was adopted. Whereas, The Kansas City live stock exchange recognized and extended to the Panhandle stockmen's association of Texas as a hearty invitation to be their guests on the 23d and 24th of October, 1900, during the exhibition and fat stock show of the American Shorthorn and American Hereford Breeders' Associations held at Kansas City;

Resolved, That this Panhandle association in convention assembled, recognizes Kansas City as the natural market for the Panhandle country and approves of all movements to further the amicable relations now existing; That the thanks of the association be tendered the above body; That the secretary be instructed to forward a copy of this resolution to G. M. Walden, chairman of the invitation committee on that occasion.

Gossip About Stock.

Sayles & Son, breeders of Poland-China swine, Norcatour, Kans., write that crops are promising here, winter grain never looked better for fifteen years than to-day for Decatur County. Also prospects for fruit are grand; farmers all feel good, as the largest area of wheat and rye ever put out is now to be seen fine and green. Plenty of moisture."

Mr. C. A. Stannard of Emporia, Kans., has a new announcement regarding Sunny Slope Herefords this week. He has 200 bulls for sale from 8 months up to 4 years of age, also 90 heifers which he wishes to dispose of by May 1 and will

50-SHORTHORN-50 BULLS, COWS, AND HEIFERS Will be sold at PUBLIC AUCTION, at the Sears Farm, 3 1-2 miles northeast of LEON, IOWA, THURSDAY, APRIL 25. FROM THE HERDS OF A. D. SEARS & BROS., GEO. WADSWORTH, and W. H. COLTER. THEY ARE A FINE LOT. COL. F. M. WOODS, AUCTIONEER. Catalogues ready April 10, and can be had by addressing A. D. SEARS, LEON, IOWA. Bids may be sent to C. B. TUTTLE, care of A. D. Sears.

make prices on them that will result in quick sales. Write him for further particulars. J. M. Foster & Co., of Topeka, have concluded to sell their entire herd of registered Hereford cattle, headed by the imported bull True Briton, a great sire imported by C. S. Cross. The herd consists of 30 head in all, 13 cows, 7 heifers, 6 heifer calves, and 4 bulls, a splendid chance for some one wanting to get a good start in the Hereford business. M. H. Alberty, Cherokee, Kans., reports that he is sold out of bred Duroc-Jersey gilts, but has on hand quite a lot of fall and December pigs which he will sell cheap to make room for spring litters. The brood sows are the get of 12 different sires and 4 herd males are used in this herd. The pigs for sale this spring are of the sort that will please buyers. Newton Bros., Whiting, Kans., breeders of Duroc-Jersey swine, say: Our herd is in fine condition. July and August gilts all sold. We have a few September and October sow pigs left. Our spring pigs are coming on in fine shape. To those interested we wish to say that the Kansas Farmer is all and more than is claimed as an advertising medium. Notice our card on first page and get our low prices on first-class males. We want to close the out this month. M. L. Somers, Altoona, Kans., owner of the Sunny Side herd of Poland-Chinas, writes: "We have had a good trade. Our herd is in good health, and there is no disease among the hogs in this part of the state. Our best trade has been with parties to whom we sold one and two years ago. This is gratifying to us as it shows that we have the stock that pleases. Our last fall's litters are coming on in good shape—will have a fine lot of boars for the spring trade and a lot of open or bred gilts for the fall trade. Our aim is to produce the hog that will make money for the man who feeds for pork. The most pounds for the feed consumed is our motto."

Mich., writes: We have a letter from W. P. Burton of Marsland, Neb. He says that last spring they had what was known as Texas itch among their cattle, and they had used Zenoleum according to directions and in three weeks afterwards the cattle were well, and up to this time they have had no trouble with Texas itch. They also use it for lice on calves. Mr. E. D. McCrillis, secretary of the Colorado Board of Stock Inspection Commission, says: "I used Zenoleum upon my cattle and the mange is apparently and entirely cured. Zenoleum seems to brighten the cattle and they have gained since dipping. They look healthy and we have come to the conclusion that Zenoleum properly used is a sure cure for this disease."

Henry Avery & Son, the most extensive breeders of "Pure Percherons" in Kansas, write: "There is an old time ring" to the inquiries for "Pure Percherons" nowadays. And to show that the ring is genuine, and that there is something more than inquiring, we beg to report the following sales: Agate 12000 to J. A. Cole, of Esbon, Kans.; the pure-bred Percheron colt Sampson, to Hugh S. Maxwell, of Claflin, Kans.; the pure-bred colt Emperor, to Wm. J. Brittan, of Esbon, Jewell County, Kansas; and the pair of pure-bred colts El Captain 26031 and Algon 26351, to U. S. Handley, of Monument, Kans. We still have the herd stallion, Favorite 22937, which is without doubt the best living son of Brilliant III. He weighs 1,900 pounds, is coal black, and has quality enough to head any breeding establishment in the United States. We can show his get to the satisfaction of any one." See advertisement on another page.

The forthcoming "all Scotch sale" of Shorthorn cattle from the great herds of C. B. Dustin & Son, Sumner Hill Ill.; I. M. Forbes & Son, Henry Ill.; J. F. Prather, Williamsville, Ill.; C. C. Norton, C. ring, Iowa, and S. E. Prather & Son, Springfield, Ill., will be held at Chicago April 5, 1901. It is confidently expected that it will be the most notable sale of the season. Their exquisite illustrated catalogue is now out and the compiler, the Breeders' Ga-

The Zenner Disinfectant Co., of Detroit.

ANGORA GOAT SALE! • 2,000 HEAD. AT PUBLIC AUCTION 2,000 ANGORA GOATS WILL BE SOLD AT KANSAS CITY, MO., MARCH 27, 1901, consisting of Recorded, High Class, and Medium Does. Also 800 Angora Wethers will be sold for brush cleaning purposes. Also a few milk goats. Does bred to Recorded Bucks, and owned by one of the best breeders in this country for the past eighteen years. Address W. T. McINTIRE, Kansas City Stock Yards, Kansas City, Mo.



Sunny Slope Herefords. 290 HEAD FOR SALE Consisting of 200 bulls from 8 months to 4 years old, and 90 yearling heifers. I will make very low prices on bulls, as I desire to sell all of them before May 1. Write me or come at once if you want a bargain. C. A. STANNARD, Emporia, Kansas



NEW IMPORTATION Our new importation of FRENCH PERCHERON STALLIONS was landed at our barn, at Shenandoah, Iowa, September 16. Buyers will find at our establishment 60 head of first-class Percheron stallions from which to make their selections. Prices are made right. Come and see the horses. It will do you good. Mention Kansas Farmer when you write. M. L. AYRES, Shenandoah, Iowa.

The Home Circle.

YE BUILDERS-UP AND TEARERS-DOWN.

Ye Builders-up and Tearers-down,
Lo, here is work for you—
To level down the ignoble Old
And build the grander New.
There's music in the blow that frames
And in the blow that breaks;
There's virtue in the strength that builds
And in the strength that shakes.
Blest and thrice blest the hand that smites
And blest the hand that rears;
Blest be the hand that rears and reaps,
And blest the hand that smites and sweeps
And cleans the cluttered years.

Ye Builders-up and Tearers-down,
A long day's work is yours,
To clear the rubbish and the wreck
For the temple that endures.
Shake down the faiths that cringe and blink
And owl-like love the night,
And build cathedrals for the souls
That dare to front the light.
Shake down all thrones built on a lie
And bid their princes cease;
Drive forth the strife the world abhors,
And melt the canons of your wars
To build the shrines of peace.

The great years greaten; learn to grow,
Ye sons of faith and skill;
A plastic world is in your hands,
Go mold it to your will.
Go guide your rivers through the sands
And make your dead fens fair;
Four sunlight through your swamps of gloom;
Make deserts glad with apple-bloom,
And grow your harvests there.

Tear down the world; build up the world;
Thus shall ye live your day;
And music sweet as woodland brooks
The noisy year shall play.
There's many a city yet to build
Where forest rivers gleam,
And many a snow-choked waste must hear
The thunder-steed of steam.
There are towering mountains to be raised
On swamps of mist and murk;
Yet inland cities wed the seas,
The seas surge through the isthmuses—
Tear down! Build up! To work!

Ye Builders-up and Tearers-down,
The great years gaze on you,
And the work of thrice a thousand years
A hundred years must do.
Tear down the castes that make men hate
The castes of creed and clan;
Build up the universal church
That makes man kin to man.
Strength to the merless arm that smites,
The loving arm that rears;
Blest be the hand that rears and reaps,
And blest the hand that smites and sweeps
And cleans the cluttered years.
—Christian Endeavor World.

Written for Kansas Farmer.

The Use of Cheese.

At this season of the year the house-keeper is often puzzled for something new to cook. Canned fruit and stored vegetables are beginning to become tiresome in the extreme and the problem of what to cook that the household will relish is one difficult to solve. A pound of cheese costs little and will go a long way in cooking. Dishes made with the addition of cheese are very appetizing, and if made in a way to leave the cheese digestible, are excellent as food. Cheese should have very gentle cooking. Grated, it will cook at a low temperature and be readily digested. Macaroni and cheese, made by baking macaroni and cheese together until the cheese is browned and hard or tough and leathery is indigestible and harmful. Macaroni and cheese, made by cooking the macaroni and grating cheese over the top, just giving it time to melt in the cooking process, is a better tasting dish and is easy of digestion. Cheese is made more easily digestible by proper cooking than when in the "raw" state. Cooked properly a pound of cheese contains the food value of two pounds of selected meat or about three pounds of average meat with refuse. It is a very hearty food, taking the place of meat in the diet.

A recipe for macaroni and cheese was given in a recent number of the KANSAS FARMER. Following are some other recipes which contain cheese:

MOCK MACARONI.

Break up soda crackers into small pieces, place in a baking dish or granite pan, sprinkle with salt, pepper, and bits of butter and fill to the top of the crackers with milk. Bake until the milk is nearly absorbed. Grate some cheese and just before time to remove the dish from the oven sprinkle the grated cheese over the top. Set back and allow to melt. If much is to be made bake in a larger pan and dish into the serving dish, rather than to make in layers and thus bake the cheese as long as the crackers and milk are cooked.

CHEESE ON TOAST.

Have toasted six large or eight small slices of bread. Cook together in a sauce pan 1 tablespoonful flour, 1 tablespoonful butter and a pinch of salt till well blended, then add $\frac{1}{2}$ cup of sweet milk. Cook until the mixture has boiled four minutes. Then add 1 cup of grated cheese. Stir in the cheese

and allow it to melt and the mixture to come to the boiling point. Then quickly remove from the stove and spread over the toast. It should be served at once. Instead of toast, crackers which have been browned in the oven may be used.

EGGS AND CHEESE.

Beat six eggs together till creamy and turn into a buttered pan placed where the heat will not be very high. Stir while cooking and when nearly ready to take from the stove add salt and pepper and 2 tablespoonfuls grated cheese. Cook a moment longer, dish and serve at once.

CHEESE CROQUETTES (Mrs. Rorer).

"Place 4 ounces coarsely chopped cheese into a mortar with 3 ounces sifted bread crumbs, 1 ounce grated ham, 2 ounces butter, 1 tablespoonful minced onion, salt, pepper and mustard. Add sufficient egg to moisten the paste. Make up into tiny balls and fry in deep fat. Dry and serve hot."

MARY WAUGH SMITH.

Seattle, Wash., March 6, 1901.

Women as Duns.

"And this man," said the young woman, referring to the last name on the list, "will give me a check to-morrow without fail."

The manager shook his head doubtfully. "I don't take any stock in his promises," he said. "He is tight as the bark on a tree and slippery as an eel. He never pays anything till he has to. He's been giving us that same old gag about paying to-morrow for the last six months."

"And he will keep his word this time," said the young woman confidently.

And he did. The next evening when she reported at the office the young woman turned in a check for the full amount owed by the tight individual. The situation was so extraordinary that the manager scratched his head in perplexity. "Well," he said, "you certainly are a remarkably fine collector."

And after the young woman had eaten her dinner and had taken time to digest both the meal and the compliment she came to the conclusion that she was indeed pretty good at the business. "It took me a long time to find out what I was good for," she said. "I tried my hand at teaching, stenography, amateur gardening, dressmaking and photography successively, and was a failure in each. Then I turned my mind to collecting."

"My first employment was with a small publishing house uptown. The owners owed everybody and everybody owed them. They paid nobody and nobody paid them. It took me just about two days to demonstrate to my own satisfaction that I had at last struck the level of my abilities. I began straight off to take in money, and when, at the end of the first week, the manager footed up his receipts and found that I had collected subscription and advertising bills to the amount of \$1,000, which, considering the size of the individual accounts, was a sum as high as Pike's Peak, he fell on my neck and called me blessed. The firm was too deep in the mire, however, to be pulled out even by the hand of a heaven-born collector. Their liabilities so far exceeded their assets that their only salvation lay in bankruptcy, and this last refuge they finally sought when I had collected 99 cents on every dollar coming to them. I do not tell this in a spirit of vanity but simply to refute the statement that a woman couldn't earn her salt at collecting. I know a dozen women in this town who are so employed and each is considered a gem of great price by her employers."

A west side furniture dealer who has employed a woman collector for several years said that if there was any one thing he could take time to talk about even in his busiest moments it was the merits of the woman collector. "There was a time," he said, "when I vowed I wouldn't have a petticoat around my store in any capacity. My attention was first attracted to the subject by the quick way one woman collector made me pay a bill. Physically, the work of this store is hard. There is much walking to be done and many stairs to be climbed. Moreover, many of the people who buy our goods on the installment plan are disagreeable to deal with when it comes to collecting. But that is where I find the woman collector invaluable. Her fund of patience is inexhaustible, and she is inventive and resourceful to a degree. If she can not get around a creditor one way she will another, and, what is best of all, she never gives up."

It is a curious thing that it is not in the field of distinctly feminine labor, such as dressmaking, millinery and the

like, that the woman collector seeks to win her laurels. When asked why this was so, one successful collector replied that it was a case of the refutation of the theory that like cures like. "It may take a thief to catch a thief, but it doesn't take a woman to make another woman pay her debts," she said. "I am the manager of a large collecting agency. I have both men and women in my employ, and when I have a bill against a woman I invariably send a man to collect it. Women who owe money know well enough that another woman sent to collect a bill can see right through their subterfuges, no matter how flimsy or how plausible. They do not care a straw for her opinion, however, but they don't want to be found out by the men."

A Nassau street lawyer employs a woman collector whom he regards as an honor to her sex and the calling. "I don't always collect the money I set out to get," she said, when complimented on her achievements and consequent reputation. "A year ago I set out to collect \$1,250 from a client of my employer. 'Go up to his office every day,' were my employer's instructions. 'Don't give him a minute's peace. Hound the very life out of him till he pays. Just walk right in, no matter who is there, and demand that \$1,250. He can't turn you out, because I did for him what no other lawyer in New York could have done, and it behooves him to be humble.'

"For three months I obeyed those instructions literally. I traveled up and down the elevator so often that everybody in the building came to know me as '—s dun,' and the man hated the very sight of me. One day I was sick and couldn't go down town. A second day I stayed away, and still a third. About 2 o'clock on the afternoon of the third day, as my employer sat in his private office talking to a client, the door was opened suddenly, and a tow-headed little boy stepped audaciously into the room.

"Say," he said, "I'm —s boy, and my boss wants to know why that woman ain't been over for that \$1,250 he owes you."

"I positively refused to call after that, and we never got the money. But you don't come across many people like that."—New York Sun.


City and Country Reading.

A controversy has lately been carried on in print over the question whether a city or country residence best contributes to right reading. The consensus of opinion is largely in favor of a country residence. The distractions of city life, from which it is impossible to escape, even if one be only an on-looker, are, it is claimed, not at all conducive to the quiet hours in which right reading can best be followed. The leisure for any reading, indeed, in the city life is most difficult to attain. Some assert that the long rides in trolley or elevated cars afford enforced leisure in which much reading may be accomplished; but others refute this with the statement that this leisure is practically useless for any but detached skimming of books or newspapers. The poor light, the jolting motion and the consciousness of need for a certain amount of watchfulness are not the influences that one likes to surround himself with when reading. The friction of living in a literary center and of having easy access to many books, which is considered a stimulus to reading and the literary life, are outweighed by the difficulty in finding the quiet hour. In the country, however, at least nowadays, one gets both the uninvaded leisure and the necessary amount of inspiration.

It is a small town, indeed, that today has not its woman's reading circle, or literary club and its free library, while even the isolated country house can be kept in touch with the world of literature easily and inexpensively. It is often noticeable that the knowledge of metropolitan doings possessed by some country dweller will be far in excess of the city resident, though that of the latter is supposedly obtained with the advantage of contact. In further proof it is cited that many of the writing gentry seek the country for their work. Hamilton Mabie buries himself in his out-of-town study when he attempts one of those exquisite critical dissertations that we in the city have only half time to read; Amelia Barr goes off to her highland nook; Mary E. Wilkins hurries from town to her village home; Octave Thanet turns her back on cities—when the muse is kind. The list might be indefinitely extended of authors who hasten to quiet scenes for literary composition.

For any amount of reading or writing that is helpful to the individual and

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may be had,
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to others, the weight of argument is certainly in favor of a country home as against one in the city.—Harper's Bazar.

The Awful Dilemma of Percy Vers Good.

Young Percy Good, be it understood, was a lasting foe to sham, but his good intent was severely bent when he went to Amsterdam.

It is nice to say that he had a way of avoiding words profane, yet it is sad to tell of just what befell, when he went to take the train.

The town's queer name was to him the same as a swear-word of bad rank, so he murmured low: "I would like to go to the town of Amster—blank." Then the ticket man—as they often can—gave a hoarse and angry hoot; and severely growled as at Good he scowled: "No such town on this route."

Young Good turned red—then he hung his head and away began to turn; but a happy thought came to him unsought, and he said: "To Amster—durn."

"Umph! No such place." And the agent's face was fierce, as he said: "Such bosh!" Then our Percy smiled like a gentle child, and suggested "Amster—gosh!" "What's wrong with you?" yelled the agent through his window. "Slipped your trolley?" "No, sir," said Good: "but, indeed, I should like to go to Amster—golly."

"Get out of here," with a scornful sneer, the ticket man said "Scat!" Then Percy moaned in a voice that groaned: "Do you know of Amster—drat?"

Then the ticket man understood his plan, and suggested with a wink: "I believe that you want a ticket to Amster—blankety-blank-dash-blink!"

"Yes, yes," said Good, "you have understood," and he hurried to the train. But the agent's face as he left the place, was that of a man in pain.
—Josh Wink in Baltimore American.

Sweet Things.

"What sweet dears they are," said Blanche to Mildred, referring to a squad of West Point cadets.

"No doubt they have all qualified at mess hall by eating a gollon of molasses," added Mildred, who had been reading the proceedings of the hazing investigation.—Detroit Free Press.

First Inference.

First Politician—Did you see that Weisaker has been announced to discuss a few public questions from a high moral plane?"

Second Politician—Yes. I wonder what the old geezer is sore about.—Indianapolis Press.

A Credit to His Alma Mater.

"Here's your health, young man! Where did you learn to play poker, anyhow?"

"At college."

"At college, eh? Well, I'll never say another word ag'in a college education as long as I live!"—Puck.

Health for 10c. Cascarets make the bowels and kidneys act naturally, destroy microbes, cure headache, biliousness, and constipation. All druggists.

Mothers! Mothers!! Mothers!!!
Mrs. WINSLOW'S SOOTHING SYRUP has been used for over FIFTY YEARS BY MILLIONS OF MOTHERS for their CHILDREN while TEETHING, with PERFECT SUCCESS. IT SOOTHES THE CHILD, SOFTENS THE GUMS, ALLAYS ALL PAIN, CURES WIND COLIC, and is the best remedy for DIARRHEA. Sold by Druggists in every part of the world. Be sure and ask for "Mrs. Winslow's Soothing Syrup," and take no other kind. Twenty-five cents a bottle.

The Young Folks.

THE BLIND SPINNER.

Like a blind spinner in the sun,
I tread my days;
I know that all the threads will run
Appointed ways;
I know each day will bring its task,
And being blind, no more I ask.

I do not know the use or name
Of that I spin;
I only know that some one came
And laid within
My hand the thread, and said, "Since you
Are blind, but one thing you can do."

Sometimes the threads so rough and fast
And tangled fly,
I know wild storms are flying past,
And fear that I
Shall fall, but dare not try to find
A safer place, since I am blind.

I know not why, but I am sure
That tint and place
In some great fabric to endure
Past time and race
My threads will have, so from the first,
Though blind, I never felt accursed.

I think, perhaps, this trust has sprung
From one short word
Said over me when I was young—
So young I heard
It, knowing not that God's name signed
My brow, and sealed me His, though blind.

But whether this be seal or sign
Within, without
It matters not. The bond divine
I never doubt.

I know He set me here, and still
And glad, and blind, I wait His will.

But listen, listen, day by day,
To hear their tread,
Who bear the finished web away,
And cut the thread,
And bring God's message in the sun,
"Thou poor, blind spinner—work is done."
—Helen Hunt Jackson.

The New Star.

From a popular point of view the new star that suddenly made its appearance on February 22 in the constellation Perseus has not been so great a success on this coast as in the East. It has received here a handsome but passing notice from the press, and that has been about all. In the East, however, it appears to be a bigger attraction than anything at the theaters, the presidential inauguration or city politics. Journalists write about it, society talks about it, science studies it, and young men and maidens go forth in the evening to gaze at it.

From the reports that come to us it seems the star makes its appearance in the skies of our Eastern States at a time propitious to popular entertainment. Boston reports seeing it almost directly overhead at sunset and high up in the northwest at 9 o'clock. Those are hours well fitted for star-gazing, and even Mrs. Grundy can hardly complain of young folks who start on their strolls for astronomic study as early as twilight and get home before 10.

With the social aspect of the matter, however, we have little concern and hardly any interest. The slightest words of astronomers are worth more to the people of this coast than the enthusiastic babbling of forty lovers on a subject of this kind. When we turn to the talk of the astronomers, however, we find them engaged in a dispute in which they fling around references to a hundred years, more or less, as if time were no object. Even worse do they treat space. They put on or take off some billions of miles from the estimates of one another as if space were a mere matter of speculation.

One authority says the star is about six million times as far from the earth as the sun, or "about 560 trillions of miles," and he estimates that the illumination we now see must have occurred in 1803. In other words, it has taken this light something like ninety-eight years to travel to our eyes. The same expert adds that if the explosion which caused the light also gave rise distance to this globe, it will be heard distance to this globe it will be heard here somewhere about 70,000,000 years from now, and will no doubt greatly astonish the natives who happen to be here at that time.

Such figures are large, but they are not the largest that have been estimated. Another astronomer is quoted as having said: "What are we witnessing? A phenomenon that occurred on the 22d of February, 1901? No. We are perhaps looking upon that which took place in the dawn of the history of man upon earth. That which we see now is no more in existence; we are witnessing that which occurred in the long distant past. Is it the burning up of a world? The spectroscope shows all such conflagrations, if such it be, to be caused by the brilliant incandescence of hydrogen gas. May it have been caused by the falling of a planet into a sun, or a star colliding with a star in its course through the heavens? Science reaches out to solve the mystery. Some day we will know more about it."

Of all the speculations on the subject that which is of most interest to us is the suggestion that the new star may be some huge burning and blazing mass traveling in our direction from the far-off regions of space. If such be the case the fiery wonder will yet be a menace and make things warm for this planet, so that Alaska will be the pleasantest place of residence within the wide territories of the United States. Fortunately we need not be alarmed for the present. Those who believe the star to be coming our way have made calculations of its speed and have arrived at the conclusion that if it be journeying in our direction it will not get as near to us as the sun in less than 30,000 years.

Finally, it is to be noted that this is not the first nor the brightest unexpected star that has blazed out in the heavens within the records of history. Such a star made its appearance in 1572 and grew to such brightness it was visible in full daylight. Perhaps the visitor now flaming in Perseus will give us a similar exhibition and prove a record-breaker.—San Francisco Call.

The Bluebeard Legend.

If we buy the Danish West Indies we will get in fee simple one of the oldest and most widely known of legends—that of Bluebeard. It is not an Asiatic story, as most of the tellers make it, nor a French one, as the rest do, but belongs to St. Thomas and the town of Charlotte Amalie, as the principal city on the island is officially named. The real story is quite different from the one in the highly colored picture books, and makes out Bluebeard to be a better sort of man. In reality he and his brother-in-law, Blackbeard, were pirates who had discovered the possibilities of St. Thomas as a base of operations against the Spanish treasure galleons, and settled there, dividing the dominion of the island between them and each building a strong castle for the protection of his ships and followers. Each fellow ran his business independently, only joining together when some job came up too big for one. Mrs. Bluebeard was the sister of Blackbeard and a lady of very jealous disposition. Any lady in the settlement whom she suspected of attracting Bluebeard's attention was sure to succumb in some mysterious way to the climate and be fitted with a headstone in the neighboring cemetery. As there were none too many women on the island at best Bluebeard had to restrain his wife, and he started in to do so by cutting off her own head. It was then that she sent Sister Ann up into the tower to signal her brother Blackbeard, who arrived just in the nick of time. Probably he only wanted some excuse for getting rid of his brother-in-law and grabbing his estate. The moral in the commonly received story seems to be that ladies should restrain their curiosity about their husband's previous love affairs and that husbands should repress their tendency to snap off their wives' heads to a reasonable number, say seven or eight. If Bluebeard had been content with decapitating eight wives no one would have interfered with his family affairs, though the neighborhood might have thought he was getting more than his share of the marriageable girls. But there does not seem to be any moral at all to the St. Thomas story.—National Tribune.

Took Centuries to Build.

While the first stone of Cologne Cathedral was laid on August 15, 1248, and the body of the edifice was not opened until August 15, 1848, 600 years later to the very day, it was not, however, until August 15, 1880, that the splendid structure was finally reported completed, having thus occupied in building the record time of exactly 632 years.

The castle of Kingsoberg, which stands at the southern extremity of Jutland, took 204 years from the laying of the foundation stone to the rigging of its master's banner on its highest flag-staff. Its foundation stone was the skull of its builder's bitterest enemy. Three months after its laying Count Jhorsing, the builder of the castle, was killed. His son was then in swaddling clothes. He did not continue his father's work until aged 24.

On his twenty-fifth birthday he was thrown into prison by the son of the man whose skull lay in the earth as Kingsoberg's foundation stone. In this manner master after master of Kingsoberg was stopped putting another stone toward the completion of the founder's work till civilization intervened.

Between Perth and Kingussie, in Scotland, on the direct John o' Groats to Land's End road, stands Murthley Castle, a magnificent Elizabethan struc-

ture, designed in the early part of the past century. It is not likely to be finished, however, building experts declare, for at least another decade.

Only a few miles distant, on the same main road, is the vast, unfinished palace of the Dukes of Athol. It was begun by the fourth duke, who died in 1830, who planned it on the most sumptuous style. When completed it will be one of the finest private residences in the kingdom.

For over 20 years Lord Bute has been busily building a great mansion on the island of that name. It is not yet completed, not likely to be for another 10 years. At the end of that period Mount Stewart, as the place is to be called, will be one of the most gorgeous establishments in the world.

Restormel Castle, in Cornwall, took 90 years to build, of which period exactly one-third was occupied in excavating the foundations. The solid rock upon which it stands is almost as hard as iron. Indeed, "Restormel" means in Cornish, "the palace of the iron rock."

Milan Cathedral was begun in 1386 and finished under Napoleon in 1805—419 years.

The Duomo, at Florence, was commenced by Arnulfo in the year 1294, the last block of marble being placed in position in the facade in presence of the King on May 12, 1887, a period of 593 years.—Stray Stories.

Gen. Sedgwick's Experience.

During the Maryland campaign of September, 1862, strict orders had been issued against foraging along the line of march. The peach crop was ripe, and the sight of the wayside orchards heavily laden with delicious fruit proved a great temptation to the weary soldiers. But orders were orders, and must be obeyed.

One stifling hot day, while the troops of the division were halted for their noonday meal, General Sedgwick, unattended by his staff, came riding along the line. His clothes were dusty and travel-stained, bearing no insignia of rank, and he looked more like a wagon master than a major-general. In an orchard beside the road he espied a private of artillery, comfortably seated on a high branch, eating peaches. Leaving the turnpike, Sedgwick rode to the foot of the tree and called out, gently but firmly:

"My man, come down from there."

The artilleryman looked down, and seeing only what he took to be an officious wagon master, laughed and continued his meal.

"My man, come down from there, I say!" repeated Sedgwick. At this the artilleryman became angry.

"Well, I will come down," he shouted, beginning to scramble from his perch, "but you'll be sorry for it, you cheap mule driver!"

Although the artilleryman was not of Sedgwick's command, 500 soldiers of his division out on the road were interested spectators of the scene. The General was a large man, but as the culprit dropped to the ground it became apparent that he was the taller of the two by several inches, and a man of tremendous physique.

Sedgwick gave him time to recover his feet, and then, as he rushed forward, swearing volubly, the General's arm shot out and the soldier fell over in a heap. He was up again in an instant, angrier than ever, but only to receive another blow, which sent him down once more. After this operation had been repeated several times, he grew weary of the struggle and lay quiet on the ground.

"Now, my man," remarked Sedgwick, mildly, "go back to your command, and don't let me find you disobeying orders again."

So saying, he mounted his horse and rode away, followed by the cheers and laughter of his troops. After he had gone the artilleryman slowly rose and limped over to the road.

"Who is that chap?" he demanded.

"That is Major-General John Sedgwick," replied some one.

"Well," you fellows are lucky!" said the vanquished forager. "I wish I belonged to your division. There's a man that's fit to go into action with."
—From the Youth's Companion.

What She Did.

"Please state to the court exactly what you did between eight and nine o'clock on Wednesday morning," said the lawyer to a delicate-looking little woman on the witness stand. "Well," she said, after a moment's reflection, "I washed my two children and got them ready for school, and sewed a button on Johnny's coat, and mended a rent in Nellie's dress. Then I tidied up my sitting room, and watered my house plants, and glanced over the

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morning paper. Then I dusted my parlor and set things to rights in it, and washed my lamp chimneys, and combed my baby's hair, and sewed a button on one of her little shoes; and then I swept out the front entry, and brushed and put away the children's Sunday clothes, and wrote a note to Johnny's teacher asking her to excuse him for not being at school on Friday. Then I fed my canary bird and gave the groceryman an order, and swept off the back porch, and then I sat down and rested a few minutes before the clock struck nine. That's all."—Philadelphia "Times."



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The board of directors of the American Angus Breeders' Association held a meeting at the Palmer House in Chicago recently and appropriated \$4,000 for premiums at the coming International Live Stock Exposition next December. They also gave \$2,000 for the show at Kansas City, and \$300 to the Pittsburg show. Besides these amounts this association has set aside \$3,200 for premiums at the various state fairs.

A few weeks ago the KANSAS FARMER contained an account of a new fruit called the Mammoth Blackberry. This account was taken from the columns of the Rural Californian, Los Angeles, but by mistake credit to that excellent paper was omitted. A flood of letters inquiring about the Mammoth Blackberry rolled in upon the desk of the editor of the KANSAS FARMER. In desperation the editor wrote to the Rural Californian for information and has just received the following characteristic reply from the editor of the California paper:

"We forgive you from the bottom of our hearts, as we have been caught in the same trap ourselves, and therefore can fully sympathize with you in your distress regarding the Mammoth Blackberry. If others should ask you about the raiser of this berry, refer them to James Waters, Watsonville, California. Hoping that you will bloom and blossom as a farmers' paper should do, and hoping that we can be of service to you in the future, we remain, Yours most truly,

C. M. HEINTZ, Editor."

PRESIDENT FAIRCHILD PASSES OVER.

George T. Fairchild, who was for eighteen years at the head of the Kansas State Agricultural College, died in a hospital at Richmond, Ky., last Saturday. A letter received by the writer from his oldest son, under date March 13, conveyed the information that the son had come from New York to take his father to Columbus, Ohio, for a serious operation, the outcome of which was in doubt. It is presumed therefore that President Fairchild was not able to survive the shock of the operation.

At the time of his death President Fairchild was connected with Berea College, at Berea, Ky. He had become as absorbed in his work as he had once been in building up the Kansas college to be the largest institution of its kind in the world.

President Fairchild was one of the strong men of his generation. He was a tireless worker and his impress upon the educational work of Kansas was of the pronounced and enduring kind which can not but survive the permutations of time and change. He will be remembered and respected as long as there lives one of the thousands of students who came under his care at Manhattan.

CATTLE GROWERS.

The first annual meeting of the American Cattle Growers' Association was held at Denver last week. About 350 delegates were present.

Denver was made headquarters of the association, and annual conventions will be held there on the first Tuesday in March. The basis of representation is by individual memberships in per-

son or by proxy. Each member pays an initiation fee of \$5. There may also be levied a tax of 1 cent a head on all cattle owned by each member of the association. Officers were elected as follows: President, F. C. Lusk, of California; first vice president, F. C. Coudy of Colorado; second vice president, M. K. Parsons, Utah; treasurer, F. A. Keener, Colorado.

At the conclusion of the meeting the executive committee held a meeting at which J. W. Leary of Salt Lake was chosen secretary and traffic manager of the association. The following working board was named: A. J. Nisbit, Arizona; W. H. Howery, New Mexico; E. J. Simonson, Nebraska; Alex. Bowie, Wyoming; H. H. Robinson, Colorado; J. J. Gilmore, Texas; Conrad Shafer, Colorado.

CHARCOAL AS A PREVENTIVE OF HOG-CHOLERA.

EDITOR KANSAS FARMER:—If good clean charcoal is given hogs all the time all they want, will it prevent their having hog-cholera? I have a large number of hogs fattening, and have plenty of timber. Will it pay me to burn a pit of charcoal for them?

A. J. HOUGHTON.

Cottonwood Falls, Kans. Charcoal is undoubtedly good for hogs. They eat considerable quantities of it when they can get it, even though well fed with a balanced ration. Charcoal is believed by many practical pork-producers to be nearly a sure preventive of hog-cholera. A convenient way to make charcoal is to heap up the cobs in the hog pen, burn them to a char, and then smother the fire with earth. Cob charcoal is thought by many to be superior as a medicine for hogs to that made from wood.

TO REPAIR A BROKEN WATER PIPE.

EDITOR KANSAS FARMER:—I have some 3 1/2-inch pipe from my irrigation pump that has been burst by frost. Some of the breaks are mere cracks, others are large enough to admit one's hand. Can you suggest some way of mending them? I have thought of putting a thick coat of cement around the pipe, say two or three inches thick, made of Portland cement and sand. Do you think that would answer? There is twenty or twenty-five feet pressure on "head" above the lowest break. The pipe is in a shallow ditch on the side hill. Any suggestions you can give through the FARMER will be very acceptable.

W. V. JACKSON.

Coldwater, Kans. The pipes can probably be mended successfully with hydraulic cement, provided the pressure is steady. If the pump delivers directly into this pipe under pressure so as to produce pulsations, it will be difficult to maintain the cement patches. A good way to apply the cement is to first place a sleeve of galvanized iron around the pipe where it is to be repaired. Have the tinner curve the galvanized iron as for stovepipe, making it large enough to give a space of two inches between the sleeve and the pipe. After placing this sleeve around the pipe it may be riveted as the tinner rivets stovepipe. It may be well also to wrap it with galvanized wire to give it additional strength, though this latter precaution will be unnecessary if fairly heavy galvanized iron is used. Adjust the sleeve in place; close one end with boards fitted around the pipe, and fill with Portland cement from the other end. It will be well to have the cement made into a stiff mortar, and ram it to place with sufficient force to insure the complete filling of the sleeve. If the hole in the pipe is so large that the cement will fall into the pipe, cover it with a small piece of sheet iron, fastening the iron in place with string or wire. Be sure that the sleeve is long enough to cover the pipe for several inches on either side of the break.

This in effect makes a cement pipe around the broken pipe. Such an iron-bound cement pipe is good for excellent service if the interior broken pipe were dispensed with.

PURE FOOD LAWS OF FOREIGN COUNTRIES.

The fact that American manufactured food products have met with some legal obstacles against their entry into foreign countries has called attention to the fact that unwholesome ingredients may be added in the course of manufacture. The commercial side of the question is perhaps less important than the side which has to do with the health of American consumers, but the former has elicited investigations of foreign regulations as to the purity of articles offered for sale for food. The results of a carefully conducted inquiry along

these lines by Dr. H. W. Wiley, chief chemist of the U. S. Department of Agriculture, has just been published.

A general summary of the results of Dr. Wiley's investigations is as follows:

With the exceptions noted below, almost any food product which is in a good state of preservation and is labeled plainly and distinctly in such a manner as to give a true idea of its character, may be sold in any country.

MEAT PRODUCTS.

The new German law prohibits the importation of canned meat, sausage, and macerated meat of all descriptions. Fresh meat may be imported under restrictions. The addition to meat of preservatives and coloring matter is usually prohibited.

DAIRY PRODUCTS.

The requirements of various countries regarding dairy products are very similar to those affecting meat. Butter and cheese substitutes are required to be branded according to carefully prescribed directions, and the amount of butter fat which these substitutes may contain is limited. Belgium requires that oleomargarine shall be sold uncolored, while in Holland and Denmark a maximum depth of color is prescribed.

WINE AND BEER.

Only the fermented juice of the fresh grape, subjected to the usual cellar manipulation, whose limits are carefully defined in the various countries, may be sold as wine. If any other saccharine matter or any foreign material be employed, the product must be so designated as to indicate the fact. Prohibition of the use of chemical preservatives and aniline dyes is almost universal, while the employment of all foreign coloring matter is often prohibited.

The use of chemical preservatives and foreign coloring matter with beer is usually prohibited.

CEREAL PRODUCTS.

Almost all countries require that cereal products shall be prepared from grain that is free from dirt and fungi, mineral matter, and other impurities. The mixture of the ground product of various cereals or of cereal flour with pea flour, etc., is permitted only when properly labeled.

SUGAR, GLUCOSE, AND CONFECTIONS.

Sugar, glucose, etc., must be commercially pure and must be free from admixture with any foreign substance. Confections may be colored by harmless coloring materials (a list is usually specified), but must be prepared from pure ingredients and must be free from adulteration of any description.

ARTIFICIAL SWEETENING MATERIALS.

The sale of foods containing saccharin, sucrol, and similar preparations is prohibited in Belgium, France, Germany, Italy, and Roumania. The importation of saccharin except for medicinal use and under prescribed conditions is prohibited by Belgium and Greece.

COLORING MATTER.

All countries permit the dyeing of confections and similar articles which are themselves colorless, but are customarily colored artificially. Lists of permissible and of prohibited colors have been adopted by Austria, Belgium, France, Germany, Roumania, and Switzerland. Belgium permits mustard to be colored artificially when properly labeled. Belgium and Holland require that wine to which coloring matter has been added shall be so marked as to indicate that fact. The addition of injurious coloring matter to wine is prohibited in Denmark, France, and Tunis.

CHEMICAL PRESERVATIVES.

The sale of foods containing these substances is usually prohibited. Salicylic acid and boric acid have been used so much more commonly than others that legislation is usually directed against them, though boards of health and similar bodies which have discretion in the matter usually extend the prohibitions to benzoic acid and other preservatives as they come into use.

The sale of foods containing preservatives is prohibited in Austria, France, Hungary, and Roumania. The sale of beverages containing preservatives is prohibited in Belgium, Germany, Tunis, and Switzerland. The addition of salicylic acid to food is prohibited in Buenos Ayres and France. Holland does not permit the sale of beer containing salicylic acid, and Spain forbids its addition to wine. Italy permits the addition of 0.2 per cent of boric acid to butter, but forbids the use of other preservatives.

CONTAMINATION WITH METALS.

Strict regulations regarding the content of poisonous metals of foods re-

ceptacles and utensils used in the preparation of foods have been adopted by Austria, Belgium, France, Germany, and some of the cantons of Switzerland.

ENGLAND.

The most important foreign customer for American food stuffs is England. The regulations of that country are less restrictive than those of almost any other country. The following is a more specific showing as to England's regulations:

All adulterated or impoverished articles of food must be in packages conspicuously marked with the true description of the contents of the package. The addition to foods of coloring materials and preservatives which are harmless in the quantity employed is permitted.

It is required that margarine, filled cheese, etc., be conspicuously marked on the top and sides of each package with the words "margarine" or "margarine cheese," as the case may require. Margarine must not contain more than ten per cent of butter fat. Adulterated or impoverished butter, other than margarine, must be in packages so marked as to indicate the exact nature of the contents of the package.

Every can of condensed, skimmed milk must have a label clearly visible to the purchaser, or which the words "machine-skimmed milk" or "skimmed milk," as the case may require, are printed in large, legible type.

GERMANY.

More friction has resulted from the regulations of Germany than from those of any other country. Following is a summary of Germany's regulations:

MEAT.

A new law regulating the preparation, importation, and sale of meat and meat products was passed by the Bundesrath and the Reichstag in June 19, 1900, to take effect in April, 1901. Regulations for its enforcement have not yet been promulgated. The importation, except in "free ports," of meat in hermetically sealed cans and similar receptacles, and of sausage and macerated meat of all descriptions, is un- equivocally prohibited.

It is provided that fresh meat must be imported in the entire body or in halves. The meat must be so dressed that the breast, diaphragm, lungs, heart, and kidneys, and, in the case of cows, also the udder, retain their natural position in connection with the body.

Prepared and preserved meat can be imported only when the method of preparation or preservation to which it has been subjected is such as to add to or produce in the meat no injurious substances.

The above requirements do not apply to corned beef, ham, bacon, or casings provided that the corned beef is not imported in pieces weighing less than 4 kilograms (8.8 pounds). Meat which has been preserved by processes which will enable it to retain all of the characteristics of fresh meat (refrigeration) is subjected to the restrictions applied to fresh meat.

The foregoing regulations are to remain in force until December 31, 1903, or until other regulations are provided.

Horse flesh can be imported only when so designated in the German language that its true nature will be understood by the purchaser.

In Prussia a regulation is in force relating to the amount of flour that may be added to the several varieties of sausage. "Fleischwurst" shall receive at the most 4 per cent. "Blutwurst" and "Leberwurst" selling for not more than 0.70 marks per half kilogram shall not contain more than 5 per cent of flour. "Plockwurst," "Cevelatwurst," "Salamwurst," "Bratwurst," "Mettwurst," "Blutwurst" and "Leberwurst" which sell for more than 0.70 marks per half kilogram must not receive the addition of flour. Sausages which are treated with flour must be so marked as to indicate that fact ("Wurst mit Mehlsatz").

BUTTER AND EDIBLE FATS.

All packages of butter substitutes, filled cheese, and compound lards must be branded "Margarine," "Margarine-kase," and "Kunstspeseifett," respectively. Each package must also be marked in a conspicuous place with a red stripe at least 2 cm. wide for packages 35 cm high or less and 5 cm wide for higher packages. The same articles, when sold at retail, must be in wrappers marked "Margarine," etc., and also with the name of the dealer. All prints must be cubical in form and stamped "Margarine," etc., in sunken letters.

To facilitate the examination of samples, the Bundesrath has decided that all fats used in the preparation of butterine shall receive an addition of 10

per cent of their weight of sesame oil, and all fats used in the preparation of filled cheese shall receive an addition of 5 per cent of their weight of sesame oil. The sesame oil employed must be such that when a mixture of 0.5 part of sesame oil with 99.5 parts peanut or cottonseed-oil be shaken with an equal volume of hydrochloric acid (specific gravity 1.19) and a few drops of a 2 per cent alcoholic solution of furfural a marked red color is imparted to the acid layer.

Patterns of labels to be employed with butter substitutes, etc., have been adopted by the Bundesrath thus: The space within the line inclosing the label must not be more than 7 times as long as high, and must not be less than 30 nor more than 50 cm high, except that with round or oval packages whose greatest diameter does not exceed 15 cm the space may be decreased to 15 cm. Directly above this label a red strip at least 2 cm wide on packages up to 35 cm high, and at least 5 cm wide on higher ones, must extend around the package, but shall not interfere with the mark "Margarine," etc. The name of the manufacturer and the brand must be near the word "Margarine," but must not be in contact with it nor with the encircling line or red band. The designation, name of manufacturer, and brand must either be burned in or painted on white or bright yellow ground in black letters, and must be on two opposite sides of package and also on the top, if there be a top, and on both ends of casks. In prints, the pattern described above must be followed, but the limitation of size is removed, and the word "Margarine" may be divided in two and the word "Margarine" in three positions connected by hyphens.

In Prussia the terms "Smalz," "Bratensmalz," "raffinirtes Smalz," etc., can be applied only to pure lard. Mixtures containing other fats or oils must be called by such name as "Speisefett."

COFFEE.

Coffee substitutes must be inclosed in packages which bear a label stating the chief ingredients in combination with the word "Kaffee." The name of the manufacturer must also be stated on the package. Mixtures of coffee and coffee substitutes can be sold only in packages which are plainly marked so as to give the purchaser a true idea of the nature of the contents, for instance, "Coffee and coffee-substitute mixture" (Kaffee-surrogat-mischung). The name and location of the manufacturer must also be stated on the package, as well as the materials from which the product is prepared.

It is forbidden to manufacture, sell, or hold for sale machines for the preparation of artificial coffee beans.

SACCHARIN.

The manufacture and sale of foods and beverages containing artificial sweetening material (saccharin, dulcin, etc.), are prohibited.

WINE.

The law prohibits the addition to wine, wine-like, or wine-containing beverages of soluble aluminum salts, barium compounds, boric acid, glycerine, kermes, magnesium compounds, salicylic acid, impure alcohol, glucose (not commercially pure), strontium compounds, and aniline dyes; or the addition of more than 0.2 gram per 100 cc. of potassium sulphate, except in dessert wines (southern sweet wines) of foreign origin. The use of "sugar water" and "pressed" grapes; of sugar and wine yeast; of raisins, currants, and other sweetening materials than cane sugar or dextrose; of acids and flavors; of gums and other substances which influence the extract, except as hereafter provided, is prohibited unless the goods are so labeled as to indicate such additions. Raisins may be added to dessert wines (southern sweet wines). The addition of saccharin is forbidden for all wines and similar beverages. More liberty is given in sparkling wines.

The following additions are permitted:

Alcohol, not over 1 per cent by volume; small amount of clarifying agents (albumen, gelatin, isinglass, etc., sodium chlorid, carbon dioxide, and sulphur dioxide); the blending of wines; neutralization with pure precipitated calcium carbonate; addition of such amounts of technically pure sucrose, invert sugar, and dextrose as will not bring the ratio of ash to extract below that of unsugared wines of the vicinity. The extract content must not be below 1.5 grams per 100 cc; the extract content less total acids must not be below 1 gram per 100 cc; the extract content less fixed acids must not be below 1.1 grams per 100 cc. The ash must not be below 0.14 gram per 100 cc.

UTENSILS, TOYS, ETC.

Cooking utensils and receptacles for foods and vessels used for preparation of beverages and fruit juices must not contain over 10 per cent of lead in any part. The inside must not be coated with an alloy which contains over 1 per cent lead, and the solder exposed to contents must not contain over 10 per cent of lead (except solder with lead-free Britannia metal). Enamels and glazes must not yield lead on boiling one-half hour with a 4 per cent solution of acetic acid. Alloys containing over 1 per cent of lead must not be used in siphons for carbonated beverages or for metal parts of nursing bottles. Rubber containing lead or zinc must not be used for mouthpieces, nursing bottles, nipple shields, etc. Rubber containing lead must not be used for drinking cups or toys (except large balls), or for tubes for beer, wine, or vinegar. Containers must not be cleaned with shot. Snuff, chewing tobacco, and cheese must not be wrapped in foil containing over 1 per cent lead. Cans must not sides or have exposed solder containing lead or have exposed solder containing over 10 per cent of lead.

COLORING MATERIALS.

The following are provisions relating to the addition of coloring matter to foods, beverages, toys, cosmetics, and vessels, wrappers, and covers for foods.

The addition of the following to articles of food and drink are prohibited: Colors which contain antimony, arsenic, barium, lead, cadmium, chromium, copper, mercury, uranium, zinc, tin, gamboge, corallin, and picric acid.

Vessels, wrappers, or covers dyed with the above-mentioned colors must not be used for holding or protecting articles of food or drink. This regulation does not apply to the use of the following: Barium sulphate (heavy spar, permanent white), barium colors free from barium carbonate, chrome green, copper, zinc, tin, and their alloys, when applied as metallic colors, cinnabar, tin oxid, tin sulphid in the form of gold-bronze (musivgold) all vitrified colors in glass, glazes or enamels, and colors on the outside of water-tight vessels.

In the manufacture of toys (including picture cards, picture books, and water colors, flowerpot covers, and artificial Christmas trees) the materials mentioned above as forbidden are not to be used. This regulation does not apply to the articles enumerated above as exceptions, not to antimony sulphid and cadmium sulphid applied as color in gum; lead oxid in varnish; white lead as a component of the so-called molded wax, if the same does not amount to more than 1 part in 100; lead chromate by itself or in association with lead sulphate, in oil or lacquer, covered by lacquer or varnish; zinc colors insoluble in water, in rubber toys, if used in the coloring of the rubber, or as lacquer or oil color applied with lacquer or varnish, and all vitrified colors applied with enamel.

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that can not be cured by Hall's Catarrh Cure. F. J. CHENEY & CO., Props., Toledo, O. We the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm. WEST & TRUAX, Wholesale Druggists, Toledo, O. WARDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price, 75c per bottle. Sold by all druggists. Testimonials free. Hall's Family Pills are the best.

\$25 for a Name.

This striking offer is found in the catalogue of the Jansen Nursery, Geo. B. Galbraith, Prop. It appears that because of a recently established rural mail delivery route their post-office address has been changed to Fairbury, Neb. Mr. Galbraith desires a new name and will pay the above sum for it. The only condition is that the contestant be a customer this spring. The man who buys only a dollar's worth has just as good a chance as the one who spends a hundred. The catalogue is neat and well printed and contains about everything found in a complete up-to-date nursery stock. Mr. Galbraith has rendered an almost incalculable service to the West through his speciality of forest trees. This season he is pushing ash, catalpa, Russian mulberry, and box elder. He also advises us that his line of apple-trees was never so complete. Nebraska stock is proverbially hardy and is naturally free from disease, but to secure every precaution the entire premises were carefully inspected by Professor Bruner, of University of Nebraska, the state entomologist, who certified to the remarkably healthy condition of the stock. This will give confidence to those who have never dealt with Mr. Galbraith that they run no risk in ordering from him. Those who have been served by him in the past need no further encouragement. Write at once for his catalogue. Address Jansen Nursery, Fairbury, Neb. We hope some reader of this paper will win the \$25 prize.

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 postoffice, should be signed with his full name, and should be addressed to the Veterinary Department, Kansas Farmer, Topeka, Kans.

Apoplexy.—I have had two grade Shorthorn calves in a small, dry, and warm pen in a shed. They were calved about the first of last November, one bull and one heifer. On February 18, I watered them at 11 o'clock, both drank, and at 2 o'clock I found the bull calf lying on side and struggling as if trying to get up. I helped him up and he staggered against opposite wall as if he could not see. Did this several times. His eyes looked inflamed. After a few moments he seemed to become easier. I went away then and returned shortly before 4 o'clock and found calf skinned him but as far as I could tell, found nothing wrong with carcass or inwards. I gave no treatment. These calves have had no milk for some time. Have been watered regularly from a well. The daily feed of these two calves has been two pounds of bran mixed with ten pounds of shelled corn and all the bright corn fodder they would eat. About five times in the last eight days, I have mixed with the bran and corn about three ounces of cottonseed meal. The calves were fat and doing as well as I could expect. Is cottonseed meal injurious to calves and hogs? Could it be that my calf had black leg?

Answer.—It was probably caused by the feed and meal. Flaxseed meal is best for what you want, as cottonseed meal has more of a tendency to cause such diseases. Do not think it could have been black leg.

Stomatitis.—I have a brown jack coming three years old that is shedding his center nippers. His mouth and tongue have white looking blisters and sharp headed pimples and he has eaten and drank but very little for about a week. Would like to know a remedy that will not injure him for breeding purposes the coming season. What is the best feed or the best way to feed a jack or horse a while before and when in service? I would also like some information in regard to impregnators. Are they a success and if so at about what price are they sold, and what is the address of some firm that handles them? I will regard information through the KANSAS FARMER as a great favor. JOHN EDWARDS, Clifton, Kans.

Answer.—Take borax 3 ounces, chlorate of potash 2 ounces in 2 quarts of water, and apply back in the mouth with a sponge three times a day after feeding. This will not injure him for breeding purposes. Jacks require a different feed from horses and will not all eat what you give them; oats and bran twice a day and corn once with all the good prairie (bottom) hay they will eat make a good feed. Give them a good lot to run in all you can. Sharp & Smith, Chicago, Ill., make impregnators and they are used successfully especially with draft stallions.

Stifle Lameness.—I have a mule nine years old. About a year ago he became lame and has continued so ever since. A puffy enlargement appeared about the size of the palm of my hand on the front part of the stifle joint. There seems to be a formation of pus next to the bone, at the joint. I have blistered it several times with biniodide of mercury, but it remains the same. What can I do for it, if anything? AVERILL AIKINS, Valley Falls, Kans.

Answer.—The enlargement in front of the joint is not pus as you think but synovial fluid of the joint and it would not do to open it. The treatment would be the same as A. M. Mason's case in this issue.

Stifle Lameness.—I have a large mule that is stifed in the left hind leg. If it lies down on that side it can not get up until it is turned over and then it seems lame for a day or so. I traded for the mule but I hear it has been that way for two years. Please tell me in your paper if it can be cured or helped. The mule is twelve years old. Your calf-feeding experiment as told in the last paper was splendid. Please

Cures Rheumatism

A New and Simple Remedy That You May Try Without Spending a Cent —Cured Many Cases of 30 and 40 Years' Standing.

TRIAL PACKAGE FREE TO ALL.



82 Years Old, Cured of Rheumatism After Suffering 42 Years.

If any reader suffering from rheumatism will write to me I will send them free of cost, a trial package of a simple and harmless remedy which cured me and thousands of others, among them cases of over 40 years' standing. This is a grand remedy, and want every afflicted reader to learn by actual test, what marvelous power it has, and therefore will gladly send a sample free, even though thousands of invalids should apply. Distressing cases of rheumatism, among them bed-ridden and crippled persons, were completely cured, of which I mention a few: A lady in Denham, Ind., writes that this remedy cured her, and she then cured 15 of her neighbors. In Lyons, Mo., it cured an old gentleman at the age of 82, who had been a sufferer for 40 years. In Seguin, Tex., it cured a case of 41 years' standing. Hon. Jacob Sexauer of Fountain City, Wis., was cured after suffering for 33 years and after having employed seven physicians. Miss Emma Callender at 30 Oak St., Vincennes, Ind., was cured after she was given up to die. Mr. Jas. C. Atchison, Justice of the Peace of Cape Island, N. S., states that this remedy cured his son who was to be taken to the hospital for an operation. Thousands of similar instances could be mentioned showing that here is a remedy that can be relied upon. Write at once for a trial package, for it is an honest remedy which you can test without costing one penny. Address JOHN A. SMITH, 1712 Germania Bldg., Milwaukee, Wis.

tell in your next issue how to take a young calf and raise from the start by hand. A. M. MASON.

Pittsburg, Kans.
Answer.—Have your mule placed in a good sling in a good stall. Just have the sling up as tight as one man can pull it with double blocks. Take powdered cantharides, one ounce, hog's lard two and a half ounces, mix and boil a few minutes. When cool stir it up well and apply with the hand to the joint, rub in well, especially on the inside of joint. Apply about one-third, leave on thirty hours and then wash off and grease; repeat every ten days. Keep her in the sling until well.

Where can you invest money more profitably than by buying a bottle of Prickly Ash Bitters—you get four for one. A kidney medicine, a liver tonic, stomach strengthener and bowel cleanser. Four medicines for one dollar.

Publishers' Paragraphs.

\$25 a day saved! You may not be able to do this every day, but you can do it one day at least, if when you are ready to buy a farm scale you buy it of Beckman Bros., Des Moines, Iowa. They will sell you a five-ton scale so that you can save this amount on the first order. They make all kinds, and sell them right. They also make B. B. pumps, windmills and tanks, both wood and galvanized iron. Any of our readers needing any of these articles can get as good as is made of these people, and be assured of fair treatment. Better look up their advertisement and write them to-day, mentioning this paper.

Dollar Bargains.

This is one special feature of the business-like catalogue issued by the Fairbury (Neb.) Nurseries, C. M. Hurlburt, Mgr. The attention of the reader is claimed at the outset by the state entomologist's certificate to the health of the stock and its freedom from disease. There are 50 separate combination offers of trees, small fruit, etc., at \$1, which seem to us very liberal, while the standard varieties for which there is a constant demand are well represented. There is a striking illustration of the Bismark apple which bears at 2 years and can be grown in a tub for decorative effects. The catalogue is printed in both English and German which increases its interest and efficiency for western readers. Write for a copy to-day and mention seeing their advertisement in this paper. Address Fairbury Nurseries, Fairbury, Neb.

Send at once for agent's terms and sample copies.

ZENOLEUM kills lice, ticks, mites, fleas, etc., on all kinds of animals and poultry. Given internally it drives out worms. Cures all cuts, wounds, sores, etc. Non-poisonous. Endorsed by leading veterinarians "Veterinary Adviser" tree. Zenner Disinfectant Co., Box 51, Detroit, Mich.

Horticulture.

What Grafting is Done For.

SAMUEL B. GREEN, IN FARM AND FIRESIDE.

Grafting is employed for a variety of purposes, which may be divided under the following heads:

1. To perpetuate most of the named varieties of fruits and many varieties of ornamental shrubs and trees. It is seldom employed to propagate species; but in the case of some sorts that are difficult and uncertain about growing from seeds or cuttings it is so employed, as with some of the firs and spruces, which under cultivation seldom produce germinable seeds.

2. It is performed to reduce stature, as when pears are grafted on quince or almanchier, or on mountain-ash; the apple on the Paradise, which is a dwarf apple stock, or the plum on the sand-cherry.

3. It is done to adapt trees to diverse soils, as the grafting of the peach on plum for clayey soils; the plum on peach for light, gravelly soils; pear on mountain-ash for chalky soils, as is practiced in Sweden; peach on the almond in some chalky districts of England.

4. To correct poor habit. Same varieties that are naturally crooked, sprawling growers are grafted on straight stocks, as when the bushy, sprawling New Ulm plum is grafted on the cherry or other vigorous grower. The crooked Winter Nellis pear is grafted on some strong-growing variety for the same reason.

5. To adapt to diverse climates, as when the Wealthy apple and similar somewhat tender sorts are grafted onto Virginia to make them hardier or to overcome weakness in their trunks or elsewhere.

6. To accelerate fruitfulness. Grafting increases the tendency to early bearing. Even when trees are grafted with their own scions the tendency to early bearing is increased. In this case the flow of sap is somewhat restricted, which results in the forming of fruit-buds in the same way that girdling acts. It is also the case when pears are grafted on quinces that the pears bear very young.

7. To prevent running out of varieties. Some varieties do better on the roots of other plants than on their own, as in the case of many ornamental shrubs and trees.

8. To modify the season of ripening of the fruit. This is brought about by different habits of maturity of stock and scion. An experiment with Winter Nellis pears showed that the fruit kept longer when grown on the Bloodgood than when grown on Flemish Beauty pear stocks. The Early Harvest apple advanced the period of ripening of the Twenty-Ounce when the latter was grafted on it.

9. Grafting sometimes modifies the form of the fruit, as in some cases where the Duchess has been grafted on the Transcendent crab, where the fruit has been much modified in form and in stem.

10. Grafting on some kinds of stocks is said to sometimes affect the color of the foliage. The purple-leaved plum, known as Prunus pissardi, has been seen to give a higher color on Prunus Americana than upon Prunus domestica.

11. Grafting may influence the flavor of fruit. Apples grafted on crab frequently show a certain increased sprightliness, or at times even acidity, which is evidently the effect of the stock, although this is seldom very apparent. The Angouleme pear is improved in size and quality when grafted on the quince. Downing mentions other varieties that are improved by grafting.

The scion affects the stock as well as the stock the scion. Every nurseryman knows that some varieties have roots that go especially deep, as the Hibernal, and others roots that are shallow. And Darwin says that the common jasmine when worked on the variegated kind sometimes so affects the stock that it produces variegated foliage; and the same thing occurs in the oleander and the European ash and hazel.

Graft-hybrid is a term used to denote the blending of the characters of the stock and scion, and some of the instances cited as the results of grafting may be due to this cause; but very

marked blending is so seldom observed and so inconstant that in only a very few cases has it been used for commercial purposes, and then only in a small way. Among the most interesting facts in this connection is in the case of the potato. Here many records can be found where the eyes of white and red potatoes, when halved and grown together, have produced mottled tubers. The same has been done by inserting the eyes of one potato into the tuber of another, after destroying all eyes but the one inserted. Similar blending has been noticed with hyacinths when bulbs of different kinds have been inserted.

The limits of grafting can only be determined by experiment. As a rule plants of close botanical relationship, especially those of the same genus, graft upon each other with more or less ease. Yet this relationship is by no means a safe guide. A plant will often thrive better upon the species of another genus than upon some of the species of the genus to which it belongs, and species of the same genus often refuse to unite. The pear, for instance, does better upon many thorns than upon the apple. Sometimes plants of very distinct genera unite readily. Thus, among cacti the leafless Epiphyllum grows well on the Pereskia, and the lilac on the privet or the ash. It should be borne in mind that union of tissues is not a proof of affinity. Affinity can only be measured by thrift, healthfulness and longevity of scion.

A Review of Burpee's Quarter Century Farm Annual Catalogue.

EDITOR KANSAS FARMER:—It is now coming time to make our gardens and prepare to keep the inner man in a state of exalted gratitude toward the originator and founder of vegetable gardens. We always endeavor to have a succession of vegetables, from the earliest to the latest, that we can grow, and of course good seed is the first of two necessities, the second being good soil. For seven years we have bought our seed of W. Atlee Burpee, of Philadelphia. If one has ever been troubled with poor, unreliable seeds, I am sure that it never came from there, for we have always met with good success with every variety, from Burpee's earliest button radish to the large common field pumpkin gathered late in the fall. We make our selection of seed from the latest catalogue which comes to us generally in February. This year in addition to the regular spring catalogue, Mr. Burpee sent out a "Quarter Century Farm Annual" in celebration of the twenty-fifth birthday of his business. It is well worth sending for. It will only cost you ten cents even though you are not a customer. It is well worth a description also. Mr. Burpee began business in 1876 in a modest building, of which there is a picture on the back of the catalogue. There is also a picture of the frontage of the warehouse which is used to-day, and throughout the book there are good clews of the seed rooms, post-office, freight, and distributing departments, and several fine views of fields, greenhouses and other buildings at "Fordhook Farms." There are several excellent colored plates. One is of his new tomato, true to life, and another that will make your "mouth water" is a tempting slice of "Burpee's new musk melon." What a relish for breakfast it would be! There is a large number of special lists this year. Surely every up-to-date farmer should send for this catalogue. The free leaflets and booklet on special work among flowers mentioned on page 153 of the catalogue will be well worth the trouble of sending for them. One of the late novelties advertised is a new stringless, wax, bean. At present it is without a name, but it won't be so long, for many people will be sure to take advantage of the generous offer of large money prizes for the suggestion of a suitable name. There is a new tomato offered free which if it is any better than the Matchless, Ponderosa, or Golden Queen, must be near perfection. For 25 cents you can obtain eight new tomatoes. And the catalogue is full of just such offers.

If one wants flowers here again is the very place to send for them—either for seeds, bulbs, or plants. The nasturtium and sweet pea mixtures are perfect, and the seeds of special kinds always come true. The asters, verbenias, and phloxes leave little to be desired. On page 208 is found an offer of 10 beautiful dahlias for \$1, all of them choice. What joy can be derived from a large collection of feathery "mums," such as are described on page 211! If you have never tried petunias, try them now. They are always bright, cheerful, and ready to bloom outdoors or indoors,

summer or winter. They don't really mind a slight "nip 'o frost." I have tried Giant California, from Burpee's, and four inches in diameter is common size. The pansies, the German Imperials, with their pert, queer little faces, some of them almost curl up their mustaches like Emperor William. But the most of them look like little dear, demure girl faces. One needs to have pansies. The catalogue advertises such quantities of roses, and such varieties, and all of them so reasonable in price that I hardly like to say much more. Such sweetness and beauty for years may be yours for just \$1. Wear a last season's hat, clean your old gloves, do without a spike belt—or something—and put a little money into the loveliest of all things, a flower garden. Send 10 cents to Mr. Burpee, Philadelphia, and by return mail you will receive a "Farm Annual" catalogue; pick out a list of the seeds you want, then of the seeds you need, then the ones that you must have, and after a happy summer you will say, "Well done, dear and faithful garden. Rest now—till next year." Topeka, Kans. MRS. SIMS.

A So-Called Blight Cure.

CARL H. POTTER, ASSISTANT HORTICULTURIST, COLORADO EXPERIMENT STATION, IN PRESS BULLETIN.

The "Woodbury Blight Cure," as its name implies, is a proprietary article that has recently been placed on the market. This "cure" is guaranteed to be a certain remedy for the blight of apple and pear-trees if used as directed, and a destroyer of insect pests as well. Two mixtures are sold by the company controlling the cure, a body wash and a summer spray. The claims for their remedies and the directions for their use as set forth by the company, are as follows:*

"The body wash should be used at least once during the season, preferably early in the spring on account of sunscald, but of immense benefit any time in the year.

"The summer spray should be used at least three times during the season for the cure of blight and the destruction of insect pests. It should be used after, or during, every severe electrical storm for an insurance against the twig-blight.

"Spray the first time when the trees begin to leaf, again from the middle to the last of July. Follow these directions carefully, and we will guarantee a cure for blight and the practical destruction of the codling moth and other injurious insects. The spray is beneficial and will promote a strong, healthy growth in all plant life, more especially on roses and vines. It will destroy slugs and green flies in the greenhouse."

On account of the fact that a large sale of such cure had been made, and that many inquiries had come to the station, it seemed proper for a trial to be made.

June 29, 1898, a number of bearing apple-trees in the station orchards were selected and prepared for trial. Four distinct series or lots of trees were treated, while the others, as similar as it was possible to select them, were wholly untreated. These entered the test merely as checks with which to compare the trees that were treated. All of the trees to which the remedies were applied were recorded as class "A," while the untreated, or check trees, were class "C."

The different series of trees comprised summer, fall, and winter apples, and varied from very slight affection of the twigs to quite severe cases of blight, in which many of the smaller limbs were entirely diseased, the blight even forming large and more or less concentric patches on the larger limbs about the bases of the smaller ones. The trunks were not very badly affected by blight, yet there was plenty

*From printed directions provided by the company.

STARK TREES SUCCEED WHERE OTHERS FAIL.
Largest Nursery. Result of 18 years' experience.
STARK BROS., Louisville, Mo.; Danville, N.Y.

Fruit and Ornamental TREES
Grapes, Small Fruits, Flowering Shrubs, Lowest prices, best quality. Budded Peach \$1.50 each, Plum \$1.00, Apple \$1.50; R. Mulberry, Black Locust, Ash, from \$1 per 1000 up. We pay freight. Send for catalogue, English or German. German Nurseries, (Carl Sonderegger, Prop.) Box F, Beatrice, Neb.

HONEST TREES—honest in quality, honest in price. Wagon freight. Apple, 3 to 4 ft. \$1.00; cherry, 2 to 3 ft. \$1.00; freestone peach, \$1.00; Concord grape, \$1 per 100. 1000 Ash, \$1; Catalpa, Locust, R. Mulberry, S. Elder and Osage Hedge, low prices. Catalog free. JENSEN NURSERIES, Box 22, Fairbury, Neb.

BERRY PLANTS. Smith's Nineteenth Annual Catalogue, in a nutshell of conciseness, treats of berry land, berry plants, berry planting, berries large and berries small; in fact, berry-growing made plain for farmers, bankers, lawyers, doctors. If you want to buy plants, Catalog is free for asking. Otherwise, 5 2-cent stamps. B. F. SMITH, Postoffice Drawer C, Lawrence, Kans.

Plants, Bulbs and Evergreens

Strawberries, 12 leading kinds, 30c per 100, \$3 per 1,000. Evergreens, Norway Spruce and Arbor Vitae, 2 to 2 1/2 feet high, 25c each. Scotch Pine, 12 inches, 15c. BULBS—Cannas and Dahlias, 5c each; Gladiolus, mixed, 2c each; Tuberoses, 3c; Lillies, 5c to 15c each. Greenhouse Plants, 5c to 50c each. H. W. KERN, Bonner Springs, Kans.

BLACK DIAMOND SEED OATS

Will test 40 and over pounds per bushel. We have a select lot of these extra fine heavy oats, which are the greatest producers known. Price \$2.00 per 100 pounds, including sack. These oats are EARLY CROP AND RUST PROOF. Circular free.

HENRY BROS., Wholesale Grain Dealers, FAIRFIELD, IOWA.

STRAWBERRY PLANTS

Ten Millions of Them. 100 Varieties. All the Old and Best New Varieties.

The New Cardinal Raspberry, the only red raspberry that is perfectly hardy in Kansas and the west. All other kinds of small fruit plants. Write for our new 28-page Catalogue. It is free. Address F. W. DIXON, Holton, Kans.



I Am Fishing...

For orders for Western Grown Evergreen Trees that are acclimated in Kansas; from 1 to 5 feet in height; price, 10 to 30 cents each. Send for price list.

A. W. THEMANSON, Wathens, Kansas.

GOT A DOLLAR?

Invest it in our choice **FRUIT TREES, SHRUBS or VINES.**
35 Grafted Apple Trees for \$1. Ours will grow. They are well rooted, healthy and true to name. Send a trial order to-day. Don't bill good for 50c and Catalogue in German or English free. We pay freight on \$10 orders. Fairbury Nurseries, Box 16, Fairbury, Neb.

IT'S GOOD & CHEAP
Best of all & TESTED.
1c to 3c per package & lots of EXTRAS with every order. My Great Big Catalogue FREE. Send address for largest, prettiest Garden Guide, and Seed-Book, ever printed. R. SHUMWAY, Rockford, Ill.

For 14 Cents
We mail the following rare seed novelties:
1 pk. Blue Blood Tomato Seed, \$.15
1 " Northern Lemon Seed, .15
1 " Mama's Favorite Onion Seed, .15
1 " Emerald Green Cucumber Seed, .15
1 " City Garden Beet Seed, .15
1 " 18-Day Radish Seed, .15
1 " La X. Market Lettuce Seed, .15
1 " Brilliant Flower Seed, .15
Worth \$1.00 for 14 Cents. Above 10 packages rare novelties we will mail you free, together with our illustrated Seed Catalog, telling all about Salzer's Million Dollar Grass. Also Choice Onion Seed, 60c. a lb. Together with thousands of earliest vegetables and farm seeds, upon receipt of 15c. and this notice. When once you plant Salzer's Seeds you will never do without. JOHN A. SALZER SEED CO., LaCrosse, Wis.

SEED CORN 215 Bush. per Acre.

Do you realize what that means? It is as large a crop as the average farmer grows on six acres. It is a big crop, an immense crop, an enormous crop, a prodigious crop. It was grown in 1896, by an enterprising farmer in Scott County, Iowa, the only variety in the world which will produce such a yield under ordinary conditions. It has won fully

---\$10,000.00 IN PRIZES---

At corn shows, state fairs, etc. It has yielded crops of 205, 196, 176 and 154 bushels per acre in the great state corn contests in Illinois; 211 bushels per acre in Indiana; 201 in Arkansas; 145 in Nebraska; 144 in Ohio; 137 in Texas, and immense crops everywhere. How does it do it? Simply that every stalk produces one or two large ears. No nibbles and no barren stalks. You can grow a big crop if you try. Thousands of bushels of common white corn have been sold by unscrupulous dealers under the name of Iowa Silver Mine, and farmers have, of course, been disappointed with it. Don't run any risks this year but buy direct from headquarters. We named and introduced it. We have kept it bred up to a high standard. Our stock is unequalled in purity and productiveness. Each ear is carefully examined by two seed corn experts before shelling and it is thoroughly tested and of high vitality. It will cost you less than 20 cents per acre to use our seed and one bushel added to your crop pays the expense.

FREE Our Special Seed Corn Catalogue is full of valuable information about this and 20 other varieties of yellow, white and red corn. Instructions how to grow 200 bushels of corn per acre sent to each customer. Mention this paper when writing. Address, Iowa Seed Co., Des Moines, Iowa.



present for a test. Those trunks that were rough, whether in class "A" or class "C," were thoroughly scraped before treatment.

On the afternoon of June 29, the trunks and the lower portions of the limbs, to a height of about 4 feet from the ground, of the trees of class "A" were treated to an application of Woodbury's "wash," the material being applied with a stiff paint brush. About 1 quart of the mixture was used for each tree.

The following afternoon, June 30, the same trees were thoroughly sprayed with the "spray mixture." The mixture was used double strength, as the directions recommended where an early spraying had not been given. The material was thoroughly stirred and then diluted to the strength of 4-5 of a quart of "wash" to 4-5 gallons of water. Five gallons of this diluted mixture were used on each tree, the services of one man being constantly required to agitate the liquid in the box of the spraying pump. Blighted parts received especial attention.

August 13, all of the trees in class "A" were sprayed as before, except that the spray or "cure" was used as diluted in the proportion of 1 part of spray to 49 parts of water. November 15, the trunks of all the trees in class "A" were washed as before.

April 18, 1899, the trunks were again painted with the wash, a very thorough job being done. The trees were entirely dormant.

April 21. Trees sprayed as per directions. Still dormant.

July 19. Trees again sprayed as per directions.

This completed the application of the remedies to the trees. They had been used nearly two seasons, and we carefully and conscientiously applied. Frequent and careful observations of the trees were made, not only during the two seasons named, but extending through the season just closed. We have not been able to detect, in any way, the slightest benefit to the trees as a result of the use of these materials.

Concerning the value of the spray as an insecticide, Prof. Gillette makes the following statement:

"I have tested the 'Woodbury Blight Cure, summer spray, upon both leaf-eating and sap-sucking insects, and in no case did it seem to have any injurious effect upon the insects treated. Leaves thoroughly wet with the solution were eaten by insects which afterward matured in perfect condition."

Send at once for agents' terms and sample copies.

AN EARLY TABLE LUXURY



N. K. & Co.'s "STERLING" Cucumber is

- 1st. The earliest white spine cucumber, suitable for table, market or shipping purposes, under all conditions of culture, whether under glass or in open ground.
- 2d. It is one of the greatest producers of all varieties; and at all stages of growth in the handsomest and most attractive of all sorts.
- 3d. It is of a very deep green color, which it retains during a much longer period of growth than any other variety, while in symmetry of form it is so regular, so uniformly one like the other, as to create comment wherever they are seen.
- 4th. The quality is superb, being exceedingly brittle and crisp. The flavor is delicate and entirely devoid of the bitter taste so frequently noticeable in other varieties.
- 5th. As a shipping cucumber the "Sterling" cannot be surpassed, as it holds up in color and quality better than any other variety.

FOR ONLY 10 CENTS

We will mail a packet containing sufficient seed of this superb cucumber to abundantly supply the average family. Also a copy of our catalogue of Northern Grown tested seeds, and our new booklet, "Seed Truth," which tells how to buy seeds right, no matter where you get them. Send now, as this offer will not appear again.

NORTHRUP, KING & CO.
Seed Growers
MINNEAPOLIS, MINN.

Seeds Within

Look for what you need in seed inside the Gregory Catalogue. It gives honest advice. That's why it has been popular for over 40 years.

Gregory Seeds

are sold under three guarantees and are sure to please you. 1901 catalogue free.

J. J. H. GREGORY & SON
Marblehead, Mass.

The Hardy Catalpa as a Post Timber.

GEO. L. CLOTHIER, WASHINGTON, D. C.

Few farmers appreciate the value of hardy catalpa when used in exposed situations. There are many facts which prove the catalpa to be exceedingly durable in contact with the soil. We need not repeat these statements here but will confine ourselves to instances with which we are familiar.

Twelve years ago, Andrew Thronson, manager of the Farlington Plantation (located in the southeastern part of Kansas) was ordered to thin out the poor trees. A man was sent through the plantation with an axe to "slash" out the crooked and ill-formed trees. These were dropped where they stood with the sharp ends in the loose soil. The saplings that were cut have not been disturbed until the present day. The effects of the weather on the soil have caused these poles to settle down into the ground until the lower ends are buried about six inches deep. The writer had occasion a few days ago to examine this plantation, and it was observed that these poles were very little decayed. In fact the majority of the specimens examined were absolutely sound. It must be remembered that these poles were exposed to the worst possible conditions, being buried in the depths of a dense forest where shade and moisture were the predominating conditions.

The quality of the catalpa wood adapts it peculiarly for use as a post timber. It is light, flexible and of a spongy texture. It is this latter quality which causes it to hold staples, nails or other metallic fastenings. The heartwood constitutes the larger percentage of the tree. The "alburnum," or white-wood, usually includes only the outer annual ring. Chemical analysis of the wood reveals the fact that its qualities are such as to enable it very effectually to resist decay. The sap contains a substance which is very offensive to insects or animal life. This insures the dead wood, and green as well, against attacks from insects and fungi and is probably one of the reasons for the great durability of the wood. A catalpa post three inches in diameter ought to last in the soil twenty-five years at the lowest estimate. The wood when exposed to the sun does not "check" and for this reason staples do not readily become loosened. Red cedar is very durable in contact with the soil, but the portion above the ground splits very easily and is not very durable for fencing purposes. The catalpa is durable both below and above the ground. Farmers in middle and western Kansas are paying sixteen to twenty cents apiece for cedar posts that will probably last twelve or fifteen years. The catalpa post of the same size is worth two cedar posts.

Fibrous Growth in Potatoes.

EDITOR KANSAS FARMER:—Can you tell me the cause of the black fibrous growth in the stem end of the potato? Also is there any way of preventing the disease? An answer in the FARMER will greatly oblige. H. V. KELLEY, Moonlight, Kans.

Castor-Beans.

EDITOR KANSAS FARMER:—What information can you give in regard to the cultivation, harvesting, and value of castor-beans? JACOB BISSING, Hays City, Kans.

Shawnee County Horticultural Society.

The March meeting of the Shawnee County Horticultural Society was held in the rooms of the state horticultural society.

Judge F. Wellhouse gave his ideas on "Winter—Its Advantages to Orchards." Mr. Wellhouse showed that the cold weather of winter destroys very many noxious insects. The action of frost pulverizes the soil as nothing else can and makes it capable of absorbing large quantities of moisture from the atmosphere. A large apple-tree absorbs daily from the soil 250 gallons of water, which is considerably more than the rainfall. All moisture not supplied by the rainfall must be supplied by the air. The soil, when in a finely pulverized condition absorbs more moisture from the air than when in a baked condition.

Discussed by Messrs. Peacock, Smith, Dickinson, and Smyth.

A paper on gardening was read by F. P. Rude. He advocated planting early and often, a little every few days. If a frost kill the first that comes up, more will come up in a few days and may escape frost. He saved a patch of radishes and lettuce one frosty night by a liberal sprinkling with the hose all night. By so doing he had lettuce

and radishes on the market two weeks before other gardeners.

A. H. Buckman gave his ideas concerning the work of the vineyardist for the coming month. He recommended trimming early so as to avoid bleeding the vines, also burning up the trash under the vines so as to destroy insects and fungi.

J. S. Jordan related his experience in caring for an orchard. His Grimes' Golden and Missouri Pippin trees had dead branches and limbs. These he cut away and burned. Ben Davis trees had no dead branches.

Next meeting occurs Thursday afternoon, April 4, at the state house.

Titles of Cornwall and Wales.

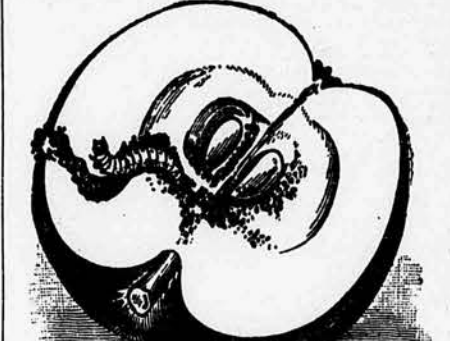
The Duke of York becomes Duke of Cornwall by the accession to the throne of his father, that title (the first English dukedom) having been conferred on the Black Prince "and his heirs, the first-born sons of the Kings of England," and "first born" having in the case of Henry VIII been decided to mean "eldest surviving." Attached to the title are estates that bring in some £60,000 a year.

His Royal Highness will probably shortly be created Prince of Wales, though there has been much variation in the time after accession or birth of a son at which our sovereigns have bestowed the title. His Majesty and King George IV received it almost at birth. The King bore it longer and ascended the throne at a later age than any other Prince of Wales, and George IV was second to him in both respects. George II had been two years on the throne before he gave the title to his eldest son, who was then 23 years old.

The record of the 18 Princes of Wales, including Richard of York, father of Edward IV, has been by no means cheerful. Only 11 ascended the throne, and only six have reached the age of 60. Five died before they were 20, and six—Edward II, Richard II, Richard of York, Edward, son of Henry VI, Edward V and Charles I—died a death of violence.—London Chronicle.

Spraying Fruit Trees.

The question of spraying fruit trees to prevent the depredations of insect pests and fungus diseases is no longer an experiment but a necessity.



Our readers will do well to write Wm. Stahl, Quincy, Ill., and get his catalogue describing twenty-one styles of spraying outfits and full treatise on spraying the different fruits and vegetable crops, which contain much valuable information, and may be had for the asking.

Publishers' Paragraphs.

The Wyoming Legislature has passed a bill authorizing the payment of \$3 per head for wolves and \$1 for coyotes. The sum of \$40,000 is appropriated. Stockmen of Laramie plains have formed an association and will pay \$20 each for wolves killed in addition to the State bounty.

The new spring and summer catalogue No. 39, of the Marvin Smitn Company of Chicago is now ready for mailing. Our readers will do well to send at once for this new catalogue as it takes the place of all others previously issued. It also contains many new lines of goods, and the prices are greatly reduced.

Lady—Most of your trouble, I suppose, is due to drink.

Tramp—Well, yes, lady; it is a good deal of trouble to get a drink sometimes.—Philadelphia Record.

SEED CORN

EVERY FRUIT GROWER SHOULD READ R. M. KELLOGG'S NEW BOOK ENTITLED

GREAT CROPS OF SMALL FRUIT

AND HOW TO GROW THEM. The author has grown the largest crops of fancy fruit ever produced on an acre. In his experimental grounds are single plants which yield over FOUR QUARTS each of fine large berries. His customers have done a well. This has been accomplished by SCIENTIFICALLY BREEDING up plants to a high fruiting vigor so they throw their energies to the development of fruit instead of useless runners. The profit comes from a big crop of big berries that sells at eight to regular customers. This book tells you all about how it is done. THE CHEAPEST PLANT is the one that will give you the best fruit and most of it. You can't afford to play second fiddle on the market by using scrub plants. The only stock of scientifically grown thoroughbred plants in the country for spring planting. Send your address at once and get a copy of this book and a revised edition for three years FREE.

Address R. M. KELLOGG, Three Rivers, Michigan.

STEEL WHEELS
for your **FARM WAGONS**

any size wanted, any width of tire. Hubs to fit any axle. No blacksmith's bills to pay. No tires to reset. Fit your old wagon with low steel wheels with wide tires at low price. Our catalogue tells you how to do it. Address **EMPIRE MFG. CO., Quincy, Ill.**

I Can Sell Your Farm
Residence or Business Property for Cash no matter where located. Send description and selling price and learn my successful plan of selling property. **W. M. OSTRANDER, 1215 Filbert St., Philadelphia, Pa.**

Geo. S. Josselyn
FREDONIA, N. Y.
INTRODUCER OF
Campbell's Early The best Grape.
Josselyn The best Gooseberry.
Fay The best Currant.
Large list of Grape Vines and Small Fruit Plants. Catalogue Free.

GREEN RAPE Costs **25 cents per TON!**

Greatest, Cheapest Food on Earth for Sheep, Swine, Cattle, Poultry, etc.

Will be worth \$100 to you to read what Salesman's catalog says about rape.

Billion Dollar Grass will positively make you rich; 12 tons of hay and lots of pasture per acre, 10 also Bromus, Poa, Speltz (400 bu. corn, 250 bu. oats per a.) etc., etc.

For this Notice and 10c. we mail big catalog and 10 Farm Seed Novelties, fully worth \$10 to get a start. For 14c. 7 splendid vegetable and 3 brilliant flower seed packages and catalog.

JOHN A. SALZER SEED CO., LA CROSSE, WIS.

SEED POTATOES
\$1.50 a Barrel and up.

Michigan Northern Grown are always the best. 20 best varieties. Blight proof, enormous yielders, highest quality, lowest prices. Sold in any quantity, one pound to a car load. Catalogue free on request.

Harry N. Hammond Seed Co
Box 74, Bay City, Mich.
Formerly of Fifelet.
Largest growers of seed potatoes in America.

Awaiting Settlers

Thousands of FREE Grant Homesteads (160 acres) in the Hard Wheat Belt of Manitoba, Saskatchewan, Alberta and Saskatchewan (Western Canada.)

Experience shows that the lands of Western Canada are unexcelled for Grain Growing, Mixed Farming and Dairying.

Railroads exist and are projected wherever settlement extends. Schools and churches convenient.

Taxes merely nominal, Climate the Healthiest in the World.

Crops always good, Wheat varying from 25 to 40 bushels to the acre. Oats 60 to 100 bushels, other grains in proportion.

CATTLE RAISING

more profitable than elsewhere on the Continent. Marketing produce at highest prices is particularly easy. Low Figures asked for lands adjoining Free Homestead Lands.

Write for pamphlets and copies of letters from settlers and delegates. Address F. Pedley, Superintendent of Immigration, Ottawa, Canada, or to

J. S. CRAWFORD,
214 W. Ninth St., Kansas City, Mo.
Special low excursion rates during February, March and April.

All the leading and best varieties of choice selected, thoroughly tested seed corn, 75c per bu. and upwards. Ask for large descriptive catalogue of Corn and all kinds of Farm Seeds. Most valuable book ever published for western farmers. Free if you mention this paper. **IOWA SEED CO., Des Moines, Iowa.**

Gossip About Stock.

(Continued from page 385.)
 zette, in the opening announcement says. First, every animal included in this sale belongs to a Scotch family; second, every animal has been selected because of its excellent individual merit. Each contributor was pledged to select nothing but strictly high-class animals, and the writer hereof, having seen the various lots, is prepared to say that this engagement has been faithfully kept. The contributing herds are so well known that the simple statement that this offering represents a fair "cut" from the very cream of each will suffice to satisfy all well informed persons as to the extraordinary character of this offering.

All Kansas Shorthorn breeders wanting foundation and show animals would like to be present at the twenty-second annual sale of the Brownvale herd, to be held at Minneapolis, Minn., on Tuesday, March 25, 1901, by H. F. Brown. This offering will be the best chance of the year to secure straight "Cruickshank" blood, a line of breeding much sought by Kansas breeders. To such as can not be present, bids can be intrusted to Col. F. M. Woods or H. A. Heath, care of H. F. Brown, Minneapolis, Minn. He is putting into this sale a number of animals that he would prefer to retain as breeders, but desiring to make the sale an attractive one, he has included such magnificent animals as the imported Lily of the Valley 4th, Beauty of the 5th, the show heifer Ury, and the 2-year-old bull, Brownvale 147498, a duplicate of his sire and grand sire, Viscount of Anoka and Lavender Lad—a regular herd header, Scottish Victor 146429 is another grand yearling bull. These are some of the best selections out of the 50 grand animals included in this Brownvale sale on March 25.

W. E. Nichols, Sedgwick, Kans., writes: "I have just made another valuable addition to my herd of Poland Chinas in the purchase of a young boar by one of the Chief Perfection 48021, he by Chief Perfection 2d 45391 and out of Miss I Know 10,604, her sire Chief We Know 39953. This superb yearling was bred by T. B. Hart, Edinburg, Ill., and was sired by the sensational Chief Perfection 2d; he is out of the highest priced litter sold by Mr. Hart in 1899; in fact, of the United States; one of his litter sisters was bought by Gilbert & Cox, of Ohio, for \$186, the highest priced gilt of the year. His litter brother, Proud Perfection, now owned by Winn & Son, and Oviatt Bros., of Kansas City, Mo., was shown at the Iowa State Fair of 1900 where he won the hard fought honors of first in class and sweepstakes in what was conceded by all as the hottest competition since 1892, and three weeks later he proudly and gracefully won the same high honors at the Illinois State Fair—an outstanding record. He has made a remarkable growth, so characteristic of the Chief Perfection family. He is active as a pig, and a producer of remarkable quality and prospectiveness. He has a good head and ear, regular bull neck, strong back and rib, his hams are remarkable, a soft seal skin black coat of hair. The white points just right, standing right straight up on a set of feet and legs. To be placed to this young boar's credit is the fact that L. Gossick has bred him to Lady U. S. 2d, the dam of Chief Perfection 2d."

You should have an Improved Dewey Stock Waterer at the reduced price early in the spring, to give your pigs a head start. Do not allow them to drink filthy water, full of disease germs, emanating from troughs, manure piles, cess pools, and many other sources that have been freezing and thawing during the winter. Young pigs and brood sows are made unhealthy by drinking impure water early in the spring, thereby weakening their constitution, which predisposes them to hog-cholera later in the season, which, if contracted, means the loss of a number of the entire herd. The best and only choicest preventive is pure water at all times. Why, then, neglect to furnish water—cool, pure, and sparkling—that your pigs may thrive and grow perfect. It is demonstrated by chemistry that 90 per cent of fat and muscle is water. Pigs supplied with pure water by our fountain will fatten one-third faster. Saves its cost every week in a bunch of 5 or 10 hogs, and also saves a great deal of work, that can be used to good advantage elsewhere. This saving, from a hired man's wages, would buy many stock waterers in a year. To be convinced you have only to separate a bunch of pigs from the rest and experiment. One-third less food is required with pure water. Pigs squeal of hunger from thirst than from hunger. Do you ever think that when you water your pigs from a trough many of them can not obtain enough to drink, and if so, not until the stronger hogs have been supplied, lain in the trough, and otherwise made the water unfit to drink? Can you expect the weaker hogs to gain if they do not have sufficient water and when they wish it? Food should rather be neglected than water. Note the new announcement of the B. B. Manufacturing Company this week.

Attention is called to the announcement in another column, of the coming in of the Shorthorn sale to be held at Leon, Iowa, April 25, by Messrs. A. D. Sears & Bros., Geo. W. Wadsworth and W. H. Coter. The Sears' consignment will consist of 31 head, 15 young bulls ranging from 6 to 16 months old, and 24 cows and heifers, coming yearlings and twos. Such families as Young Marys, Pomonas, Amelias and Western Ladys will be represented, quite a number being Bates and Scotch topped. Their herd bull is 2d Grand Duke of Hazelhurst 150091, bred by Elbert & Fall, Albia, Iowa, sired by Aldrie Duke of Hazelhurst, out of Waterloo Duchess 28th, a bull of good proportions and an excellent feeder. Many of the cows and heifers will be sold bred to him. Some of the young heifers and bulls are sired by Wild Eye, a straight Bates, and the sire of Bigl's \$500 Aldrie Duke of Hazelhurst; but the larger number of the young bulls will be by Red Scotchman, a pure Scotch bull whose grand dam was an imported cow. These cattle will not be in show condition, but in good thrifty breeding order, and in shape to go to their new homes and make the purchaser good money. Mr. Wadsworth will consign three cows, two of them Amelias and the third Florence, all bred to Baron Garmont, bred by W. B. Wilson and sired by Linwood 127768, a bull of Harris' breeding. The Coter consignment will consist of eight

cows, Amelias, Panseys and Mrs. Mottas. These cows will be bred to Democrat, an Amelia bull sired by Damon 118604, and out of Aurora Boon by Kirklevington Duke 13th. These cows will be nearer in show flesh than any other offering in the sale. Catalogues will be ready about April 10 and may be had by addressing A. D. Sears, Leon, Iowa. Better send for one, and arrange to attend the sale.

The horse importers, McLaughlin Bros., Columbus, Ohio, write: "With us the past year has been more than usually busy. We imported more horses from France last year than any other three concerns combined. In order to procure such a large number of horses and to be certain that they were the very best to be found in France, it was necessary for one of the members of our firm to spend the larger part of the year across the water, where he gave his whole attention to inspecting and selecting our stallions. His long stay in France has given Mr. McLaughlin the opportunity to learn to speak the language fluently, although he learned French at the Ohio State University. We have received more inquiries for Percheron and French Coach stallions during the past twelve months than we have received in the half dozen years previous. Since the arrival of our last importation we have been extremely busy in preparing a catalogue of our horses imported last year, which we finally have placed in the hands of our printer and will have ready for distribution in a very short time. When through with the work of preparing this catalogue we find that there will not be a let up for us because the last lot of horses is now in the best of condition, and every one of them is ready to offer for sale. Since their arrival in Columbus we have not had one of them sick. From the day they landed here they have been in the best of health and have hardly missed a feed—not one of them, and as a result our horses look fine, and in fact are the best lot that were ever imported from France. There is probably no other establishment in existence in the world save the single exception of the National Stud stables of France, where so many stallions can be found as in our numerous stables."

As an evidence of the inter-dependence of one state or section of the United States upon another, the occupation of the feed lots of the corn states by range raised cattle is an example. The product of the western herds has come to occupy the feed lots of the eastern farmer. A larger factor in bringing about this situation is the more general use by range men of improved blood, and the fact that range men have such large herds that they are enabled to give their eastern customers uniform bunches of cattle, uniform in quality and age, in car load lots, hundreds or thousands. Buyers of farm raised feeding cattle are compelled to buy the entire product of the farm; they may want only steers of a certain age, yet are obliged to buy heifers and steers of other ages in order to get what they do want. The western steers in eastern feed lots is a familiar object, and a factor that has come to stay, because he is raised on grass at a minimum cost, and when well bred, can be made into a quality of beef the equal of the best native. For some years the best class of range raised females have been in demand for breeding purposes by eastern farmers. It remained, however, for Mr. Colin Cameron of Lochiel, Arizona, to place before the stock growers in the farming states a range raised registered cattle. Mr. Cameron's sale of the San Rafael Herefords in Kansas City last May he sold about 100 head of Arizona bred Herefords that surprised eastern breeders by their quality. They were hardly as large as eastern bred cattle, for the short grasses of Arizona do not develop cattle as large as the car grasses of the East and North. Mr. Cameron's Herefords, though raised on the scant fare, retained all of their natural Hereford thrift and quality. Calves ought at that sale have developed in most instances equal to eastern bred stock, and many have changed hands at eastern prices. All purchases at Mr. Cameron's sale have been thoroughly satisfactory. It is possible that Mr. Cameron will establish this sale of San Rafael Herefords at Kansas City annually. The second annual sale will occur in the new fine stock pavilion April 2 and 3. He will offer 200 head, 50 young cows with calves by their side; 70 heifers bred, and 60 young bulls. It is reported by Mr. Cameron's purchasers last year that these Arizona cows are invariably good milkers, and that their calves raised under farm conditions develop as well as eastern bred calves. The sale of these Arizona bred Herefords is certainly a very interesting factor in the live stock trade, going to illustrate the force of a couplet by a herdsman poet who said:
 "In the West we'll breed 'em,
 In the East we'll feed 'em."

It goes without saying that farmers who desire a start in registered cattle will take advantage of this opportunity to secure it at moderate prices. The advertisement appears elsewhere in this paper.

The public sale of high class registered Shorthorn cattle at Kansas City on March 29, in which Mr. E. O. Cowan's large offering is the chief factor, is certain to bring a class of cattle before buyers that will command a hearty appreciation on up all hands. Mr. Cowan is joined in this sale by Mr. T. B. Rankin of Tarkio, Mo., who consigns something like a dozen head, and Mr. Geo. T. Haggard of Western, Neb., who consigns also a few good young things. A representative of the Kansas Farmer who saw the Cowan cattle writes that in a general way the offering is to be characterized as first class from first to last. They are a class of cattle that Mr. Cowan is proud to own and to be able to present on this occasion for the favor of the buying public. One of the select things in this sale is the fine 8-year-old Scotch matron, Princess Royal 9th, by Royal Duke of Pleasant Ridge. She is a regular and persistent breeder and is due in April to drop a calf by the Scotch bull, Lavender Prince. Forest Daisy 2d is a very handsome heifer just turning 2 years old. In beauty of head and ham, and nicely cut throat latch, this fine heifer may be had up as a fair sample of Mr. Cowan's way of moulding these good things. She is bred to Lavender Prince. Flossie May 2d is a granddaughter of Gay Monarch that will drop a Lavender Prince calf about sale day. Christmas Gift is one of those nice Young Marys by that great sire, Norfolk, whose value to the Cowan herd can not be over-estimated. She is sold with heifer calf at foot. Among the Rose of Sharon is the 3-year-old Victoria Sharon 9th, sired

OUR SEED CORN LEADS
NEW EARLY IMPERIAL AND EXPANSION.
 Will expand your pocketbooks. If it is perfection in corn you want we just about have it. It beats all previous records for yield, quality and early maturity. Sample of these two kinds upon receipt of two-cent stamp.
 We raise and handle for seed all the leading varieties of Corn, Wheat, Oats, Barley, Spelts, Millet, Cane, Garden and Flower Seeds, Blue Grass, Bromus Grass, Timothy, Clover and
ALL KINDS OF SEEDS.
GARDEN SEEDS ONLY 3c PER PACKAGE From Farmer to Farmer! At Wholesale Prices! Catalogue tells all about it. It is free only ask on postal.
Box 50 A. A. BERRY SEED COMPANY, CLARINDA, IOWA.

by the noted Bothwell bull, Grand Victor. She also has heifer calf and is re-bred. Another daughter of Grand Victor is the red cow, Victoria Princess 2d, well along in calf to Norfolk. May Day is a Young Mary bred by W. A. Harris, and she is sold with one of those finest of Norfolk heifers at foot, a nice rich roan. Butterfly 2d is a 4-year-old straight Cruickshank cow right at her calving on sale day to service of a Cruickshank bull, Phyllisia Cowan 2d is by Baron Ury 118024, on dam's side tracing to both Lord Constable and Imp. Scottish Lord; she has Norfolk heifer calf and is now bred to Lavender Prince by Imp. Salamis. Queen of Beauty 12th is a roan daughter of the Scotch bull, Velveteen Prince, that did good service in the Cowan herd; her dam is Queen of Beauty 5th by Imp. Red Emperor, and she is 8 months in calf to Lavender Prince. Forest Poppy 3d is one of the good daughters of Norfolk, dam Poppy Cruickshank by Golden Knight, and has a Lavender Prince bull calf at side. One fine large all-red heifer is Mysie 52d, by Velveteen Prince, dam Mysie 50th by Imp. Prince President. Mysie 53d is full sister to above, just turning 2 years old; both are bred to Lavender Prince. There are 9 of these fine young heifers just at breeding age. Some strictly choice ones are the get of Norfolk. There are 8 choice young bulls that deserve attention, and it is to be hoped that the catalogue will be asked for even yet, if not at hand. The bulls are of some high breeding as the heifers and of some high character. There will be some genuine surprises at this Kansas City sale. See the advertisement for further particulars.

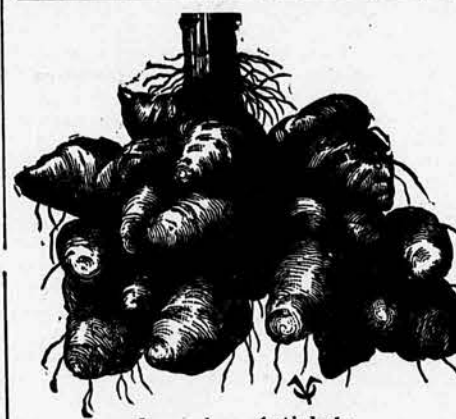
- Transfers of Pedigreed Stock.**
POLAND-CHINA SWINE.
 Boar, by Lawrence Perfection 3d 48519, to B. L. Groves, Burdett, Kans.
 Boar by Kansas One Price 46115, to F. J. Oaks, Fall River, Kans.
 Boar by Look Over 26478, to R. T. Howe, Red Rock, Okla.
 Boar by Kansas One Price 46115, to Warren, Sunny Dale, Kans.
 Boar by Lawrence Perfection, to Edgar Miller, Sedgwick, Kans.
 Boar by Kansas One Price, to J. B. Taylor, Bentley, Kans.
 Boar by Look Over, to J. W. Stewart, Halstead, Kans.
 Boar by Kansas One Price, to W. M. Shore, Halstead, Kans.
 Two gilts by Business 3d, to W. M. Shore, Halstead, Kans.
 Gilt by Lawrence Perfection and gilt by Business 3d, to same party.
 Boar by I Know Perfect, to Tom Phillips, Sedgwick, Kans.
 Boar by Business 3d, to J. B. Tunnel, McPherson, Kans.
 Gilt by Lawrence Perfection 3d, to R. H. Knott, Hesston, Kans.
 Boar by Lawrence Perfection 3d, to A. B. Williams, Halstead, Kans.
 Gilt by same, to J. C. Lawson, Filsan, O. T.
 Gilt by Business 3d, to Wm. Pocock, Bentley, Kans.
 Boar by Foster's Chief Perfection #8021, T. B. Hart, Edinburg, Ill., to W. E. Nichols, Sedgwick, Kans.

SHORTHORN CATTLE.
 Bull Polphar 124995 by N. F. Shaw, Plainville, to C. J. Early and Wm. McKenna of Falco, Kans.

- DUROC-JERSEY SWINE.**
 Boar Robert by Jumbo Braker, M. H. Alberty, to Robert N. St. Pitsburg, Kans.
 Gilt Annie by Young America, same to same.
 Boar Red Boy by Jumbo Braker, same, to Sam Hilde, Cherokee, Kans.
 Fair pigs, Jane and Tom, by Jumbo Braker, also Jumbo Braker, and Virginia Girl, all by same, to G. W. Bennett, Cherokee, Kans.
 Ladore by Jumbo Braker, same, to E. F. Lout, Parsons, Kans.
 Stormer by Jumbo Braker, same, to F. P. Pence, Scanmon, Kans.
 Jumbo Ruby, same, to Jack Mock, Mineral, Kans.
 Lady Norton by Jumbo Braker, same, to L. V. Graham, Norton, Kans.
 Short Head 1st by Short Head, N. B. Sawyer, to M. H. Alberty, Cherokee, Kans.

Pan-American Exposition.
 Nothing since the World's Fair at Chicago, in 1893, has elicited the widespread interest that is manifest, all over the world, in the Pan-American Exposition, which is to be held in Buffalo from May 1 to November 1, 1901.
 The purpose of the exposition is to illustrate the progress of the countries of the Western Hemisphere during a century of wonderful achievements, and to bring together into closer relation the people composing the many states, territories, and countries of the three Americas. Acting under proper authority, the President of the United States has invited all the Republics and Colonies of the American Hemisphere to join in commemorating the close of the Nineteenth and beginning of the Twentieth Century, by holding this international exposition on the Niagara frontier.
 For this important event the Nickel Plate

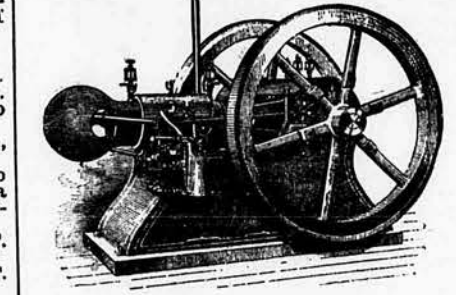
Road has issued an attractive descriptive folder pamphlet, elaborately illustrating the Pan-American Exposition, the buildings and grounds.
 The Nickel Plate Road is the short line between Chicago and Buffalo, and affords competent train service from Chicago to Buffalo, New York City, Boston, and all points East, with trains of modern equipment, on which no extra fares are charged; also dining-car service of the highest order. It affords meals in its dining-cars on the individual club plan, ranging in price from 35 cents to \$1.
 Call on any ticket agent for Pan-American folder of the Nickel Plate Road, or address John Y. Calahan, General Agent, 111 Adams St., Chicago.
 Parties desiring hotel or rooming accommodations at Buffalo or Niagara Falls during any period of the Pan-American Exposition are invited to apply by letter to F. J. Moore, General Agent, No. 219 Main St., Buffalo, N. Y.



Jerusalem Artichoke.
ARTICHOKE
 FOR
HOG FEED. 75 Cents Per Bushel.

SEED CORN—NORTHERN GROWN
 Golden Beauty, King of the Earlies, Pride of the North, Champion White Pearl, Improved Hickory King, H. S. Co.'s White Perfection.
 \$1.00 Per Bushel. Sacked and delivered f. o. b. cars, Kansas City, Mo.
THE HARDEN SEED CO.,
 —WHOLESALE SEEDS—
 Telephone 1818. 505 Walnut St., Kansas City, Mo.

LIGHTNING GASOLINE ENGINE



KANSAS CITY HAY PRESS CO.,
 129 Mill Street, Kansas City, Mo.

"HERE YOU ARE AT LAST."

The SMITH Cream Separator The only separator of the Swedish system but what MIX the milk and water. Beware of the separators that MIX the milk and water, they spoil the milk and cream. If you need a separator get a SMITH. It's the greatest farmer's separator ever placed on the market. Watch for our ad. in the Kansas Farmer. We want agents. Write us. Remember the address Smith Cream Separator Co., 13 W. Locust Street, Des Moines, Iowa.

.....BERRY'S IMPROVED.....
ARTICHOKE.
 Cheapest hog feed on earth. Yields from 300 to 1,000 bushels per acre. Harvested by the hogs, themselves and grow fat. If you raise hogs you can not afford not to grow them. 65 cents per bushel; \$2 10 for four bushels—enough to grow one acre.
 50 BUSHEL BURLAP BAGS, 65 cents per bushel; CHAMPION OATS, 40 cents per bushel; SEND ORDERS, SPETZ'S, POTATOES, TIMOTHY, CLOVER, BLUE GRASS, all varieties of Grasses, Garden, and Flower Seeds; best cheaper than any one. Catalogue tells all about it. It's free. Ask on a postal card for it.
Box 50. A. A. BERRY SEED CO., Clarinda, Iowa.

The Poultry Yard

Nitrogenous Food for Growing Chickens.

WEST VIRGINIA EXPERIMENT STATION.

Very little careful work has been done to determine how nitrogenous, or narrow, a ration should be for growing chickens, and indeed it is quite probable that no general rule applicable to all cases can be determined, for possibly the ration best suited for the production of broilers, which are forced as rapidly as possible until they reach a suitable market size, may not be best for the production of breeders in which vigor and strength are prime essentials. In order to study this problem exhaustively, then, it would be necessary to consider the nutritive ratio of the rations best suited to the requirements of these two branches of the poultry industry.

The feeding experiment described below is merely preliminary, and can not be considered complete in any sense, nor is it of much value to the producers of poultry on a large scale, for most of these people have already recog-

Table with 2 columns: Pen number, Cost of food and gain per pound. Rows include Pen 1, Pen 2, and Average.

nized, the great importance of an abundant supply of nitrogenous food for growing chickens. There are, however, many small producers who, in the past, have not paid sufficient attention to this matter, and this experiment is reported with the object of attracting renewed attention to the importance of a narrow ration for young chickens.

Fifty White Wyandotte and White Leghorn chicks, most of them about two months old, were divided into two lots similar in respect to number, size, and age, but as some of them were quite small it was impossible to distinguish the breed with certainty, and after the experiment had been under way for some time it was found that there were more White Leghorns in one lot than in the other. The fowls which received the carbonaceous ration consisted of 8 White Wyandotte cockerels, 13 White Leghorn pullets, and 4 White Wyandotte pullets. The other lot contained the same number of White Wyandotte cockerels, 9 White Leghorn pullets, and 8 White Wyandotte pullets, and although the weight of the two lots of fowls would probably have varied somewhat even though they had been fed the same ration on account of there being more fowls of the lighter breed in one pen than in the other, yet as the two rations had such a marked influence upon the health and development of the fowls, the experiment is of value even though the actual gain in weight of the two lots be disregarded.

The experiment began July 28, 1899, and was divided into four periods of thirty days each. During the first three periods both flocks were confined in runs 30 feet wide and 100 feet long, and during the fourth period both lots, in addition to the runs, were occasionally allowed to range in front of the poultry houses.

It was planned to continue feeding the same fowls the nitrogenous and carbonaceous rations after the pullets had begun to lay, and study the influence of the two rations upon egg production, but shortly after the end of the fourth period several of the carbonaceous fowls died of roup, and as none of them were in a healthy, vigorous condition it was feared that the disease might spread to other pens and the experiment was discontinued. The carbonaceous fowls were then put upon a good wholesome diet and an immediate improvement in their condition was noticeable.

The chicks were fed each morning a mash consisting of ground feed moistened with water, and in the afternoon as much whole grain as they would eat, up clean, corn predominating for the carbonaceous lot. Mica crystal grit, granulated bone, and pure water were supplied at all times.

The following table gives the kind and amount of food consumed during each thirty day period. Calculated for 100 chicks in each flock.

The following table shows the original weight, and the gain made during each period. Calculated for 100 chicks in each flock:

Table with 6 columns: Pen number, Original weight, Gain Period 1, Gain Period 2, Gain Period 3, Gain Period 4, Total gain.

The cost of the food for 1 pound increase in live weight for each of the four periods is shown below. The financial calculations are based upon the following schedule of prices:

Table with 2 columns: Food item, Price per unit. Items include Wheat, Oats, Wheat Bran, Middlings, Meat Meal, Fresh Bone, Corn-meal, Corn.

Table showing the cost of the food consumed and the cost of 1 pound increase in live weight for each of the four periods:

Table with 5 columns: Period, Cost of food, Cost of 1 pound gain, Total cost, Average.

This table shows a remarkable variation in the cost of grain during the different periods, and is probably an illustration of the fact that care in feeding is at least of as much importance as the rations fed.

OBSERVATIONS CONCERNING THE TEST.

Neither ration had the proper composition for economical gains, one being too wide and the other too narrow. The influence of the food upon the health and development of the fowls was, however, very marked. The nitrogenous chicks were vigorous and hearty at all times, while the carbonaceous ones were sickly, poorly feathered, and had very little appetite for their food. A certain amount of animal protein seems to be necessary for poultry, and perhaps the poor development of the carbonaceous lot was caused as much by this factor as by the composition of the ration. Of the two breeds the White Leghorns seemed to be much better able to thrive on the carbonaceous ration than the White Wyandottes, for they were much better feathered, and more vigorous than the White Wyandottes in the same pen. The fact that the composition of the ration should depend to a certain extent upon the characteristics of the breed to which it is fed has been already observed. In an experiment conducted at the New York Geneva Station, and described in the Eighth Annual Report, it was found that "the larger breeds did somewhat better on the nitrogenous ration, and the smaller breeds considerably better with the less nitrogenous." The whole subject of poultry feeding still needs much study.

Practical Points.

Leg weakness in young fowls is usually the result of high feeding and forced growth. It is not strictly a disease but is due rather to the fact that the body grows faster than the legs strengthen. By supplying plenty of bone-meal and ground oyster shells so that the fowls can help themselves, the difficulty can usually be remedied.

A hen does not scratch for a living but for exercise, and she should always be afforded the opportunity to scratch all she wants to, but compelling her to scratch for a living is asking too much. If you want to encourage her to scratch, scatter some grain among litter and let her scratch it out, but feed her regularly just the same.

In a majority of cases such disorders as flat eggs, eggs within eggs, double yolked eggs, and occurrences of this kind come from the hens being allowed to become too fat. In addition to this the eggs from overfat hens more often prove infertile, while the chicks that are hatched are often weak and feeble.

When the roosts are high, compelling the fowls to fly or jump down, alighting on the hard floor, the disease known as tumble foot often results. As soon as

the swelling ripens fairly, cut open the puffy protuberance and let out the gathered pus as freely as possible. The cut should be made sufficiently deep to do this at once. Merely pricking the skin will not answer. Clean off matter thoroughly and then wash in a mixture of water and alcohol, so as to cleanse. Repeat two or three times a day until a cure is effected. N. J. SHEPHERD, Eldon, Mo.

Prickly Ash Bitters cures diseases of the kidneys, cleanses and strengthens the liver, stomach and bowels.

POULTRY BREEDER'S DIRECTORY.

BLACK LANGSHANS.

Eggs from 3 yards of very fine fowls. A few choice cockerels. Circular with prices free. J. C. WITHAM, - - Cherryvale, Kansas.

LIGHT BRAHMAS—Forty cockerels \$1 each; 10 cockerels, very choice, \$3 each; 20 hens and pullets \$1 each. Eggs in season. Address F. W. DIXON, Holton, Kansas.

FOR SALE—One 96 point yearling tom turkey. Price \$3.50. E. L. Pitzer, Sawyer, Kans.

SILVER LACED WYANDOTTE eggs from standard-bred, farm-raised birds, 65 cents per 14. Mrs. M. A. Hall, New Salem, Kans.

POULTRY—Don't order, but write. I have pure bred, from laying strains. It pays to have hens that lay, and that is what I can boast of. Write C. L. Hollingsworth, Coffeyville, Kans.

WHITE WYANDOTTES—I have selected from my best bred poultry a pen of the finest; I will sell eggs from these at \$1 for 15. Write for prices of birds. B. L. Grover, Burton, Kans.

Barred Plymouth Rocks, and White Wyandottes—Eggs \$1 for 15; \$1.75 for 20. J. A. Sawhill, Edgerton, Kans.

EGGS FOR HATCHING—From Barred Plymouth Rocks of superior quality. 15 eggs, \$1; 30, \$1.50; 60, \$2. E. J. Evans, Box 21, Fort Scott, Kans.

High-scoring, prize-winning, Cornish Indian games, W. P. Rocks, Black Langshans. Eggs \$1 per 15. Mrs. J. C. Strong, Moran, Kans.

Pure-bred White Holland toms \$2.50; eggs \$2 per sitting of 9. Orders booked, Annie D Sullivant, Skiddy, Kans.

FOR SALE—S. C. B. Leghorn, C. I. Game, W. Wyandotte and W. Plymouth Rock. H. C. Staley, Rose Hill, Butler Co., Kans.

Twenty White Holland toms, \$2; hens, \$1.50. Twenty Barred Plymouth Rock cockerels, \$1 to \$2 each. J. C. Curran, Curran, Kans.

EGGS FOR HATCHING—From Rose Comb White Leghorns, \$1 per sitting. Mrs. John Hill, Vinland, Kans.

SUNNY SLOPE POULTRY YARDS—E. K. Terry, Proprietor, Burlingame, Kans. White Plymouth Rocks exclusively. My stock continues to improve in size and Rock characteristic. At head of pen No. 1 will be a (Canfield) cock in his second year (Gen. Snow); head of No. 2 will be White Plum; all pure white, magnificently shaped birds. Eggs \$1 for 15; \$2 for 30, express paid in Kansas, and \$3 for 45, express paid any point in U. S. A.

BLACK MINORCAS—Biggest layers of biggest eggs Pairs, trios, and breeding pens for sale cheap; 50 cockerels from \$1.25 up; eggs for hatching \$1.50 per 15. Also American Dominiques, Houdans, White Crested Black Polish, White Crested White Polish, and Buff Laced Polish; eggs same price. Fair hatch guaranteed. James C. Jones, Leavenworth, Kans.

GEM POULTRY FARM—C. W. Peckham, Proprietor, Haven, Kans. Buff Plymouth Rocks, 2 flocks. Eggs from best flock \$2 per 15. A few choice Burdick cockerels for sale. Pea Comb W. Plymouth Rocks, 2 flocks. Eggs from best flock \$2 per 15. A few choice cockerels for sale. M. B. turkeys, 2 grand flocks. Eggs \$2 per 11. Young toms for sale.

BARRED PLYMOUTH ROCKS—Eggs from prize-winners \$1.50 per 15, of large stock. Write me your wants and I will try to please you. Satisfaction guaranteed. L. L. De Young, Box B 246, Sheldon, Iowa.

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EGGS—\$1 for 15, from Barred Rocks; fine fowls; Shoemaker and Hawkins strain. Mrs. T. Bowen, Garnett, Kans.

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In the Dairy.

Conducted by D. H. OTIS, Assistant Professor of Agriculture, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

Up-to-Date Information on Raising the Skim-Milk Calf.

(Continued from last week.)

WATER.

Calves like fresh, clean water. In a trial with thirteen calves, ranging from two to three months in age, it was found that 868 pounds of water was drunk in seven days or nearly ten pounds per day per head. It was noticed that these calves drank several times a day, but sipped only a little at a time. Even after their ration of milk they would go and take a few swallows of water. An automatic waterer situated a little above the surface of the ground is the best arrangement for supplying this need.

CALF TIES.

The Kansas Experiment Station has tried both ropes and stanchions and finds that the latter is the simplest and best means of holding calves while they are being fed. They will also learn to eat grain much quicker than when fed in an open pen. With stanchions each calf finds its place and the feeder can set the milk-pail in the feed trough, which prevents it from being tipped over, and while the calf is drinking can measure out the milk for the next calf. In this way it is possible for a man to keep three or four pails going until all the calves are fed. If grain is put into the feed-trough at once, the calf will go to eating and forget about its friendly but impolite and unsanitary affections for its neighbor's ears or mouth. Calves fed in this way can be let loose again fifteen minutes after entering the stanchions.

The agricultural college has found that excellent stanchions for calves can be made out of plain fencing for the upright pieces with 2 by 4's for the horizontal pieces at the top, with fencing boards at the bottom. The stanchions are 42 inches high, 28 inches apart from center to center and allow for 4 1/2 inches space for the neck. The feed-trough is 12 inches wide, 4 inches deep and runs the full length of the stanchions. If calves are fastened by rope ties, they should be far enough apart to prevent them from sucking each other.

SCOURS.

The greatest difficulty in raising calves is undoubtedly scours. Here as elsewhere "an ounce of prevention is worth a pound of cure." The principal causes are overfeeding, feeding sour milk, feeding cold milk, feeding grain with the milk, dirty milk-pails and unwholesome feed boxes, and irregularity of feeding. An intelligent and observing feeder will notice the symptoms of this disease as soon as it appears, in which case the ration of milk should be cut down one-half or more and gradually increased again as the calf is able to stand it.

A successful feeder will do his best to keep the milk sweet. When sterilized skim-milk is brought back from the creamery, the portion intended for that night's feed will usually keep in good condition without any treatment. The portion intended for the next morning's feed or for following feeds (where milk is kept over Sunday or hauled to the creamery every other day), needs to be cooled down to 60° F. or less as soon as it arrives from the creamery. Complaints are sometimes received about sterilized skim-milk souring, when placed in tubs of cold water as soon as received from the creamery. Sterilized skim-milk will not sour until it is cooled to about blood temperature. A can of hot milk will warm a tub of water to about this temperature, and as the milk is cooled at the same time, the best of conditions are offered for the development of lactic acid germs. In this case a tub of water only helps to keep the milk at blood temperature. Under such circumstances the water is worse than nothing. If hot skim-milk is cooled in a tub, it should be done by running water. A better plan would be to use a cooler, and then place the can of cooled milk in a tub of cold water in order to keep it cool. Skim-milk treated in this way at the agricultural college has been kept sweet from Saturday forenoon until Monday morning, during the hottest months of the summer without the use of a particle of ice, the cooling being done with well-water. Where trouble is experienced when the skim-milk is cooled and kept below 60°, the fault probably lies in using unclean utensils or by the creamery receiving tainted or sour

milk or by the skim-milk being improperly sterilized.

The heating of milk seems to produce chemical changes that help to prevent scours. There is probably no more effective way of upsetting the system of the young calf than by feeding it cold milk.

So important is it to always feed the milk at blood temperature (95° to 100° F.), that a careful feeder will occasionally test the temperature with a thermometer. No one can expect to successfully raise skim-milk calves unless they pay very close attention to the temperature of the milk when fed.

The feeding of grain with the milk has already been mentioned in detail. Calf buckets may be kept clean by rinsing and scalding after each feed. No more grain or hay should be fed than what the calves will eat up clean. Should any remain not eaten, it should be removed before giving any fresh feed. Calves like salt the same as any other animal.

To summarize, warm, sweet milk, fed in clean buckets, with access to corn or Kaffir-corn meal, bright hay, fresh clean water, salt, plenty of sunlight, shelter, and bedding in cold weather, shade in summer, and regularity and kindness in treatment will usually insure good thrifty calves that will gain from 1 1/2 to 2 pounds daily.

ADDITIONAL CALF NOTES.

There are a few points, while not absolutely essential, are nevertheless valuable in connection with calf raising. With the exception of blooded stock, it is well to dehorn the calves while young, preferably when three or four days old. As soon as the button can be felt beneath the skin, clip off the surrounding hair; then take a stick of caustic potash, wrap all but one end with paper to protect the hand, moisten one end with water and rub gently over the button until the skin becomes slightly raw and the calf smarts a little under the operation. In a few days a scab will form, soon to disappear, leaving the animal without horns. Usually one application is ample, but should the horn start to grow, the operation can be repeated. This is by far the easiest and most human way of de-horning cattle.

During the hot summer months, flies are a constant torment to young calves. For the past two seasons the entomological department of the agricultural college has been experimenting in compounding various substances in order to produce an effective and economical mixture, which when applied to the surface of an animal, would ward off the flies. As a result of these experiments, they have succeeded in producing the following formula, which seems to answer the purpose reasonably well: Resin 1 1/2 pounds, laundry soap 2 cakes, fish-oil 1/2 pint, enough water to make 3 gallons. Dissolve the resin in the solution of soap and water, add the fish-oil and the rest of the water. Apply with a brush. This mixture will cost from 7 to 8 cents per gallon and may be used for either calves or cows. One-half pint of the mixture is considered enough for one application for a cow, a calf of course would require less. It will be more economical to apply this only to the parts of the animal not reached by the tail.

At first it will probably be necessary to give two or three applications per week until the outer ends of the hair become coated with the resin. After that it will be necessary simply to retouch those parts where the resin is rubbed off. D. H. O.

Scale in Boilers.

BY D. P. YODER.

ITS SOURCE AND SOME PREVENTATIVES.

Scale in boilers is a hard, white incrustation on all parts of the boiler touched by water, but it is the thickest and hardest where the heat is greatest, and on upper surfaces or where it can settle and bake fast. This scale is composed of what is commonly known as limestone, which is dissolved and held in solution by water, or it may be carbonate of soda held in the same way. Heat causes the water to drop its hold upon these substances and they settle and bake hard, and of course where the most water is heated or close to the fire will burn, for the scale has only one-thirtieth of the conductivity of iron, "hard water," as we call it, is used, and it is very detrimental to the boiler as well as causing a waste of fuel. It hurts the boiler because the boiler rusts underneath it, and when the scale is very thick the plates exposed to the fire will burn, for the scale has only one-thirtieth of the conductivity of iron, and if the scale is one-quarter of an inch thick it is equal to nearly 4 inches

of iron, and we all know how hard it is to pass heat through a thick iron without burning and blistering it on one side.

If scale is only one-sixteenth of an inch, which it often is in neglected boilers, it is equal to nearly 2 inches of iron. Just imagine, if you will, a boiler made of 2-inch iron, and the waste of fuel as given by a good authority is, for one-sixteenth inch scale 15 per cent, for one-eighth inch scale 30 per cent, or nearly one-third, and for one-fourth inch scale about 50 per cent or more, also if a boiler is once scaled up badly it injures the boiler and makes it worse every time.

The results of a scale being well known to all who have made a study of scale formation are to be heard of, for instance the many different patented compounds, some good, some indifferent, and some bad, also vinegar, potatoes, and petroleum.

These, as a rule, either dissolve the scale or their action prevents its baking fast, in which case it is easily washed out. A compound to give good results must be made up for one particular water and then used in the right proportion, which in some cases is hard to do. Potatoes are mechanical in their action, merely keeping the scale from baking. Vinegar is an acid and is chemical in its action, but should never be put in a boiler, because if it has no scale to act upon it will attack the boiler. Petroleum is good in hard water, probably the best of the commonly used preventatives, but can not be used in creameries or anything of that kind on account of the odor of the steam. It is also liable to make a boiler foam.

The heater is undoubtedly the best thing to keep scale out of the boiler and put it where it can be handled. The most of the substances in solution are dropped by the water just below the boiling point. Consequently the exhaust-steam may be used to heat the feed-water. This heat solves two problems, one the scale and the other the saving of fuel. Some good engineers claim a saving from 15 to 25 per cent counting in the saving on the boiler, on work of cleaning, and on the fuel used. This latter saving on account of the water being heated up to 180° or 190° before going into the boiler and so not reducing the temperature of it so much. No one can afford to use a stationary steam-boiler without having a heater, even if he has to use live steam from the boiler to heat the water, for many reasons which the thoughtful observer can easily see, and if too costly to buy, most anyone can make one which will fill the bill to all intents and purposes.

More Than Skin Deep.

J. A. CONOVER.

The effect of pounding a cow with the milk stool, a club, or a board, is

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more than skin deep. Not long ago we went to a slaughter house where a cow was being butchered; she came from a herd where the milk stool had been used as a "weapon of defense" against kicking cows. On the right side, after the skin was removed, was seen two places, one over the ribs, the other on the rump, where the flesh was all bloodshot and much darker than the rest. We asked the butcher what caused these spots and he told us that the cow had been pounded. He further said that he did not like to buy cows from a dairy herd just on that account, for such meat was unsalable. There is no excuse for such treat-

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ment of the cow; if she is a kicker, tie her legs; if she is mean other ways, either dispose of her or fix a place where she can be handled without danger to herself or the milker, but under no circumstances allow her to be pounded.

No dairyman (?) can ever hope to succeed who allows his cows to be thus treated.

Soy-Beans for Dairy Cows.

JESSE M. JONES.

The farmers in eastern Kansas have large crops of corn, and feed this alone to their cows, expecting a good flow of milk, and as corn is a fattening food their cows lay on flesh instead of filling the milk-pail. What is needed is a food rich in protein, to balance up the carbohydrates and fat of the corn, and soy-beans are excellent for this purpose. They can be easily raised, giving a good yield, besides leaving the ground in most excellent condition.

The value of soy-beans, grain, and hay, for dairy cows, when fed with corn, is shown in the two examples below from Allen County. One farmer fed the soy-beans ground with corn, roughness, timothy, and clover, and found a gain of 25 per cent over the old way of feeding only corn as grain. The other farmer fed the soy-bean hay with corn as grain and found his cows nearly doubled their flow of milk. These examples show that more protein is needed and this need not necessarily be bought, as so many farmers are prejudiced against buying any kind of feed.

Grange Department.

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

Conducted by E. W. Westgate, Master Kansas State Grange, Manhattan, Kans., to whom all correspondence for this department should be addressed. News from Kansas Granges is especially solicited.

National Grange.

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

Kansas State Grange.

Master.....E. W. Westgate, Manhattan
Lecturer.....A. F. Reardon, McLouth
Secretary.....Geo. Black, Olathe

Bro. R. M. Petherbridge, deputy for Leavenworth County, writes that they have in that county two granges, both reorganized last year and in good working order with 25 members each—High Prairie Grange No. 51 initiated two members at its last regular meeting and has another ready for next meeting. But I am sorry to learn they are doing nothing for themselves in the insurance line. Brothers, the Patrons Fire and Tornado Association will save you on an average about one-half the money you pay for insurance if you will let it. It is conservative, economical and safe. It has settled satisfactorily for every loss incurred by fire, by storm or wind since its organization. It insures the property of grangers only. Make the most of your opportunities in the grange socially, morally, intellectually, and financially.
E. W. W.

Objections to Joining the Grange.

One of the most successful organizing deputies in Michigan writes us that there seems to be three great objections made by a certain class of farmers when asked to join the grange or to form new granges. We propose to consider briefly these three great (?) objections.

1. "Farmers can't organize." Well, the trouble with this argument is, that "it ain't so." Look at the Association of Farmers' Clubs in this state. Look at the many agricultural insurance, stock, and horticultural societies—thousands of men in these successful farmers' organizations. And then look at the grange. Over 400 granges in Michigan—and 23,000 members. Nearly 5,000 granges in the United States, and over a quarter million of paid-up members. And these granges are doing business, too. They are educating the farmers, they are securing needed legislation. They are saving the members money enough to pay the entire cost of the grange.

"But," the objector says, "look at the Patrons of Industry, the alliance, etc., see how they have gone down." True, but they were built on the sands of party politics; had they been built on the rock of education, the storms would have beat upon them in vain. Moreover, shall we cease trying because we fail? Shall the child give up trying to walk because it falls fifty times in try-

ing? Do you, my friend, turn your colt loose in the woods because he won't drive single the first time you hitch him up? Failures are but incentives. What nonsense to say farmers can't organize, because a few attempts have failed!

The objector had better say that farmers don't need to organize. Of course no one believes that; but if they need to they can. Don't tell us that the American farmer has lost all his grit and courage. He can organize if he needs to. Indeed, if the farmer needs to and doesn't—he is a fool, isn't he, and deserves total failure?

2. "They aren't true to each other when they are organized." Alas, too true it is. But they are learning that to maintain an organization, they must be true, stand shoulder to shoulder, through good and through ill. Yes, they are learning that—in the grange they have already learned it.

The great trouble is not that farmers can't organize, or that they aren't true to each other; the real trouble is that a whole lot of fellows, like this objector, stand off and growl, and object, and complain, and kick, and tell what can't be done, instead of walking up and joining the army, helping fight the farmers' battles, and encouraging the veterans. This isn't square.

3. And the third objection is, "Nothing in it financially—it don't pay." That also is not true. It has been demonstrated over and over again that members of the grange can save enough by cooperative buying to more than pay all grange expenses. Grange insurance pays. In some granges cooperative selling pays.

But suppose it doesn't pay in the sense of returning 10 per cent on every dollar paid out; doesn't it pay to become better educated? Doesn't it pay to make choice friends? Doesn't it pay to help secure wise legislation?—Michigan Farmer.

The Grange for the Farmer.

The farmers have arrived at two decisions; first, that it is imperative that they organize, and second, that the grange meets their requirements better than any other organization. While it is a secret society, it is only to the extent of keeping agriculturists within the fold and the sharks who yearn to fleece them on the outside. It makes no specialty of mystic rites or ostentatious parades in costly regalia. It does not import large calibered guns to fire heavy charges of condensed wisdom over the average clodhopper head and then lie dormant for six months or a year, but it meets weekly or semi-monthly and is composed of practical farmers and their wives and daughters, who aim at mutual improvement by each learning to express their views intelligently on such topics as live stock, grain crops, soils, drainage, fruits, flowers, household affairs, and every phase of every-day practical farm life.

But, though the grange deems cows and cabbage to be of prime importance, it does not confine itself to topics in that line, but has a mixture of music, mirth, and sociability. Cooperation in making the agriculture dime expand to the limit of its value in purchasing the supplies of the farm is a feature in the grange, and while the grange takes no part in party politics, yet it is not backward about defending the rights of agriculture in the halls of legislation.
S. B. K., in Farmers' Voice,
Dunlap, Ill.

Things for Patrons to Think About.

Harmony and good fellowship should pervade throughout the order. The grange should never be used to advance personal or political interests. Organization, to be useful and successful, must be based on business principles.

Every patron should ask, what am I doing to widen and deepen the influence of the grange?

A dull grange meeting is evidence that the wrong officers are in charge. Live officers will make a live grange.

Patrons should make it a rule to attend every meeting of the grange, and never make it secondary to anything but the church.

Every patron should labor for the advancement of the order, because when doing that he is working to advance his own interests.

If farmers wish to be treated fairly they must stand together and demand the enactment of laws that will distribute the burdens of government justly.

A good patron tries to become familiar with the ritualistic work; is prepared to fill any vacancy, and perform all the duties that may be enjoined.

Remember the grange is a farmers' organization for farmers, by farmers,

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and no one is eligible to membership who has not a practical interest in agriculture.

Patrons should be careful that the grange instead of being a school, does not become simply a social club, a place for men and women to meet and have a good time.

The existence of the nation rests upon the work of the farmers. When they are prosperous the whole country is prosperous, and when they are pinched all business is depressed.

Are patrons living up to the principles of the declaration of purposes as closely as they should? The question is an important one, and should be considered by every member of the order.

Cooperation in the grange should always be to educate the members that they may live a higher, broader, happier, and better life and let their influence and power be seen in every community in which a grange is located.

As surely as the grange forgets the singleness of purpose, its devotion to the agricultural development of the nation, its reliance upon the farm home for members, officers, and directing sentiment, its days are numbered.

If you wish to perpetuate the grange you must manage to get the young people interested by giving them something to do that is of importance. If they are neglected or slighted they will soon neglect and slight the grange and go elsewhere for pleasures.

A distinguished statesman recently remarked to some friends, "I can tell as soon as I enter a place of meeting whether there is a grange in the community by the manner and appearance of the people." Such a sentiment from such a source is a high compliment, indeed.

We recently conversed with a county deputy who was unable to tell when the grange movement was inaugurated, nor who were the men who laid the strong and sure foundation of this great order. How in the name of all that is sacred can he enlighten the farmers on grange subjects?

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J. P. ENGEL,
Alden, Kans.

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you will continue to send the paper for some time, I am, Yours truly,
D. O. RINEHART.

Ford, Kans.

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Transferring Bees.

Please instruct me through the KANSAS FARMER, how and when to remove bees from old "gums" to patent hives. Minden, Kans. A. E. STRIKER.

There are two different methods of transferring bees, which we may call the old way and the new way. The old way has some good features about it, and for the beginner it is a good first lesson, and he is almost sure to master the first principles of beekeeping in performing the job. On this plan, we would go at the job about as follows: First, of course, get your frame hive in readiness. This need not necessarily be a patent hive, for the best bee-hives are not patented, at least the leading standard hives are not. The only part of the hive needed is the lower story, or brood chamber.

It is necessary to have a few tools to work with, and these may consist of a saw, a hammer, chisel, a common meat knife, good and sharp, a ball of hard twine, and last but not least a bee-smoker. You can get along without the bee-smoker, but it is the most helpful article you can have. Before beginning the job, the bees must be thoroughly smoked, and in the absence of a smoker you can use a roll of cotton rags, fired at one end to produce a smoke, and this placed under the hive after tipping it up a little, and placing a block under the edge to hold it in place. This smudge of smoking rags should send up among the bees and combs a good smoke, and let this continue to smoke, until the bees have taken a good fill of honey, which requires some time, perhaps ten minutes of time, but the smoke may be occasionally removed, so as to give them a little fresh air, and then applied again. I dwell some time on this smoking question, for this is the most important thing for a new hand, for if he fails to get the proper amount of smoke applied, the bees may turn out master of the situation.

After thus smoking the bees thoroughly, pick up the old hive and set a little to one side, in a convenient place to work, and place the new hive on the exact spot the old one occupied, with the entrance facing the same direction. Lay out the frames at one side. Have a box or table previously prepared to work on. If this table is large enough, the hive of bees may sit at one end, and the frames at the other. Turn the old hive, or gum if it may be, over with the bottom up, and if the bees come up in your way, use smoke to send them down. Just at this time you had better practice a little with the smoker, and as they come up, drive them back until they conclude to stay down. Now with hammer and chisel pry off one side of the hive. Note which way the combs are built, and open the hives parallel with the combs so as not to break them. With the knife cut loose the combs from the sides of hive where they are fastened, and thus take off about two sides of the hive. If a hollow gum, split it in two, and lay it open. Use a little smoke occasionally, to drive the bees back, and now place an empty frame before you, and proceed to cut out the combs, cut them to fit inside the frames, and if one comb does not fill the frame, cut out more, cut them to fit the vacancies, and thus get each frame well and neatly filled, after which wind twine around the frame enough to hold the combs in place, and when completed place it in the new hive, and take up the next and so on until you have all the combs thus fitted in the frames. I omitted to say in making out a list of your tools, that a brush is needed. This may be stiff quills from a turkey's wing, one of which is sufficient at a time. Use this to brush the bees from the combs as you cut them out, and always brush them off into the new hive, and when you are through, you will have most of the bees in the new hive. The bees adhering to the old box can also be brushed off into the new hive, when all is completed.

The new way to transfer is to fill the frame of your new hive full of foundation comb, and thus get it in readiness the same as though you were going to put a new swarm in it. Now remove the top from the old hive, and thus lay the bees and combs bare, place the new hive directly over this, and with smoke from the bottom, and pounding on the old hive moderately with a light hammer, you drive the bees up into the new hive. That is, you get the most of the bees up into the new hive, and this

will do for the present, provided you are sure to get the queen there, for she must be hunted out and located, so that there will be no mistake of her whereabouts. Now set the old hive in a new location, and the new one in the old location, and in twenty days make another drive, and drive all the bees out into the new one. You see that there will be a lot of brood in the combs of the old one, which would be lost if we were to take all the bees from it, so by leaving some bees in to care for the brood, in twenty days the young will be about all hatched out, and nothing but the combs will remain.

The proper time to transfer bees is in early spring, just when they are gathering their first honey, about the time that fruit-trees are in full bloom. If honey can not be had, we must feed the bees, or wait a little later until honey is coming in. When the bees can gather honey, they will readily go to work patching up the combs, and thus in a day or two fix up the combs so nice you would scarcely know them. After this, you can take out the frames, and remove the twine from them, and if they are a little crooked, you can straighten them, and trim them up in good order. It is true you get a better set of combs by using the foundation comb, and transferring the new way, but I recommend the old method in preference, especially where a beginner has a hive or two that he wishes changed, and is not going into the business as a whole. The apiarist, of course, would adopt the new plan.

Questions About Bees.

I am taking the KANSAS FARMER, and am interested in the bee department, and would be pleased to have some information on the following points. I am a beginner, and have 13 stands of bees, and will need supplies this summer. I would like to have the largest and best hives and fixtures, and would be glad to know where I can get them most conveniently, and cheapest. I would like also to get a good bee journal, and a good book on bee culture. When is the best time to move bees in spring, and which do you think the most profitable, to run them for comb, or for extracted honey? Is there any way to keep bees from swarming more than once to a colony? What are the best hives, and the best sections? Should the sections have two openings, or but one? W. J. DAVIS.

Harrison, Kans.

The most convenient point to obtain the best supplies for this state is at Augusta, Kansas. A supply station is now located there with Carl F. Buck, manager. "Gleanings in Bee Culture," published at Medina, Ohio, is the leading monthly journal on bees. The American Bee Journal, weekly, is published at Chicago. The A B C of Bee Culture, which may be obtained at the above supply station, is, we think, one of the best.

The best time to move your bees is during March, at any time when the weather is mild. Whether raising extracted honey is more profitable than comb-honey, depends upon the market you intend to supply. Ordinarily, comb-honey sells the best from the fact that extracted honey is a new thing in many localities, and requires extra labor to work up a trade for it. But I am rather partial to this way of producing it, and would prefer it to comb, but it is a good plan to raise both. The beginner will usually get better results in quantity, if he extracts.

The hives known at present as the "Dovetail Hives" are the latest and best hives, and in fact there are scarcely any others now offered. The 1-pound section is the most popular, and should have two openings, so that you can use two tiers of them at the same time. With but one opening, you would have to confine them to but one tier, and they could not be interchanged.

To keep bees from swarming, has been more or less of a great study with the apiarist. Bees can be controlled from swarming to a great extent. Usually, if we let them swarm once, we control second swarms by taking out the queen-cell from the parent colony. There should be one cell left to supply the colony with a queen, but if we get all the cells but this one, we will check them from swarming again. Removing the cells as fast as they build them, say once a week, will prevent most colonies from swarming. One thing should be kept in view, that is, that the colonies have plenty of storage room, and never become crowded for room. This in itself largely prevents swarming, and not only that, but it is the right step towards large honey crops. It would be almost useless to try to prevent a strong colony from swarming, if we kept them crowded into small space.



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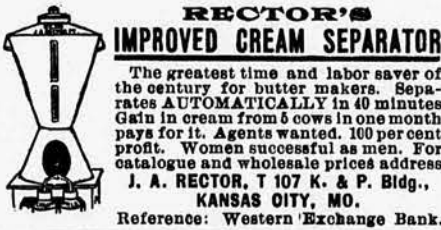


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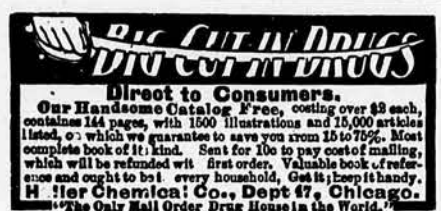
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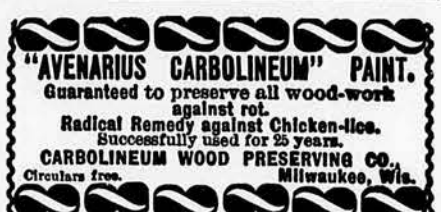
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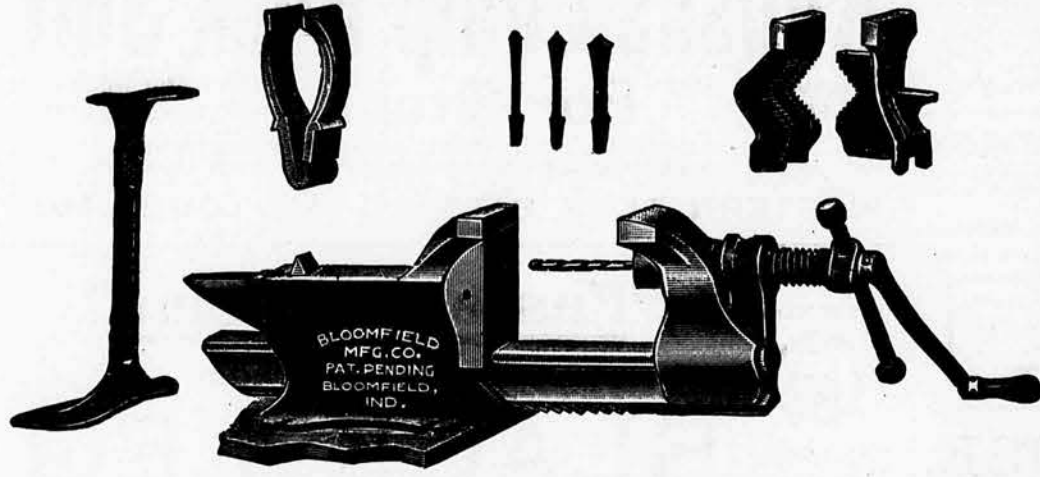
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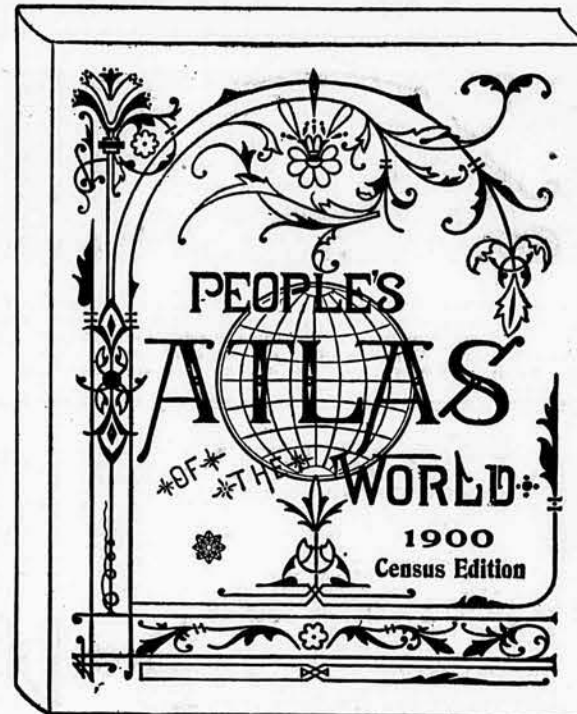
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