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KANSAS FARMER

Established in 1863.

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E. B. COWGILL.....President
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116 West Sixth Ave., Topeka, Kans.

The Illinois Farmers' Club was organized at Champaign, Ill., January 29, 1902, for the purpose of advancing general agricultural interests throughout the State. This is to be accomplished as far as possible by bringing together for consultation and the spread of information the most progressive and scientific young men in the State. The club has been under consideration for several months, and after a number of preliminary discussions, was organized as stated above. The following are the officers for the ensuing year: President, Eugene Funk, Bloomington, Ill.; vice president, J. R. Funkerson, Jerseyville, Ill.; secretary-treasurer, A. W. Jamison, Peoria, Ill.

The editor of the KANSAS FARMER hoped to be permitted to publish the full proceedings of the State Horticultural Society in one number of the paper soon after the meeting. Application was made to the secretary for the copy, but for some reason it was not furnished. On February 6, however, we were able to obtain copies of some of the papers. An incomplete report would be unfair to readers of papers, so that now, nearly two months after the meeting, we are obliged to give up the publication of these interesting proceedings. The editor regrets his inability to recognize in this way the great compliment of the society in electing him an honorary member, but the autocracy of office has thwarted his best endeavors.

Secretary F. D. Coburn, of the Kansas State Board of Agriculture, Topeka, informs the KANSAS FARMER that he can still supply applicants with copies of the board's quarterly report for September, 1894, which is a 210-page book devoted to the subject of wheat as food for farm animals. It is a thorough dis-

cussion of the whole question from both the experiment station and farmer's standpoint, and constitutes a fund of wonderfully timely information just now, nowhere else so fully available. The value of wheat as a substitute for other grains in a maintenance or fattening ration for either cattle, horses, sheep, or swine, or for milk-making, is a pressing question upon which many stockmen are needing light, and this report gives it. Some other of Mr. Coburn's reports of this series yet obtainable to a limited extent are those devoted to "The Modern Sheep," "Forage and Fodders," "Dairying in Kansas," "Pork-production," "Alfalfa, Irrigation and Subsoiling," and "The Horse Useful."

The National American Woman's Suffrage Association, which convenes at Washington next week is not only the annual session of this association, but also an international conference, and fourteen foreign countries are to be represented. The striking feature of this convention will be that it opens the first night with addresses by six prominent women of this and literary societies who have just passed the ages of 80 years. They are: Mrs. Julia Ward Howe, Mrs. Elizabeth Cady Stanton, Miss Susan B. Anthony, Mrs. Lowell Miller, Mrs. Beecher Hooker, and Mrs. Mary A. Livermore. The Kansas delegation will leave here the last of next week, and will consist of: Miss Helen Kimber, the State president; Mrs. Elizabeth Johnson, of Courtland; Miss Helen Ecker, of Minneapolis; Mrs. Henrietta Stoddard Turner, of Paola; Mrs. W. A. Johnston, of Topeka; Mrs. Henrietta Briggs Wall, of Hutchinson; Mrs. Judge C. W. Smith, of Stockton; and Mrs. Clara Hoffman, of Enterprise. This is expected to be one of the largest meetings in the history of the association.

BALANCED RATIONS, AGAIN.

EDITOR KANSAS FARMER:—Your article in the issue of January 30, explains the difference between the chemical analyses and the digestible nutrients, but still that does not account for the difference between the table in "The Beef Steer and His Sister," and what you give as the accepted figures of digestible nutrients. The two stand thus: "The Beef Steer and His Sister," corn-and-cob-meal, protein 8.5; your figures, corn-and-cob-meal, protein 4.4. Now it seems to me there must be a mistake somewhere, as feeding experiments have proven corn-and-cob-meal to be equal to corn and some times have given better results than corn, pound for pound.

There is another point I would like light upon. Professor Georgeson's method of calculating the ratio (The Beef Steer and His Sister, page 40) is as follows: "Multiply the fat by 2.5, add product to the carbohydrates and divide the sum by the protein." Some authorities simply add the fat to the carbohydrates and divide by the protein. Now who is right? By one method I am feeding 1 to 6, and by the other too much protein. I am feeding a mixed lot of 2-year-old steers and cows.

Jamestown, Kans. PETER HANSON.

The editor likes to have a correspondent "come back" in this way for further discussion of his subject of inquiry.

It should be remarked that analyses of feeding-stuffs give exceedingly varying results. The tables of composition

usually accepted are made up from averages of analyses by reputable chemists. Varying composition of materials subjected to analysis, accounts for a part of the variations in results. Doubtless some of the variations are to be ascribed to unavoidable, possibly some to avoidable inaccuracies in the work.

Determinations of digestibility are subject to all of the variations characteristic of determinations of composition and to other variations peculiar to the case. From these causes the determination of balanced rations is subject to far more uncertainties than are found in proportioning nails to wire in building fence. Further, the individual requirements of animals differ so that the so-called feeding-standards are made up of averages from approximations.

With these preliminaries understood, we may proceed to consider the questions raised by our correspondent.

Corn-and-cob-meal, protein 8.5 pounds in 100, is the accepted statement. Digestion experiments indicate that cattle digest only 52 per cent of the protein in this feed. This percentage applied to the composition gives:

$$8.5 \times .52 = 4.42,$$

the amount of digestible protein in corn-and-cob-meal. The digestibility of corn is given as 76 per cent. The other nutrients in corn-and-cob-meal are only slightly less digestible than in corn. It may therefore happen in practical feeding, especially if the ration contain some feed rich in digestible protein, that corn-and-cob-meal will give results which compare favorably with those obtained from the use of corn. It is not contended that the recognized percentages of digestibility of corn and of corn-and-cob-meal are correct or will agree with results obtained in practical feeding. The fact that in digestion experiments the animal is restricted as to variety, and that the conditions are necessarily somewhat artificial, induces thoughtful persons to accept, with allowances, the results obtained. But, such as they are, these results have a place in discussions of values of feeding-stuffs and in estimations of balanced rations. Valuable checks upon them are the feed-lot experiences of practical and experimental feeders. The chief obstacle to the full acceptance of feed-lot results grows out of the uncertainty as to what element of the feed-lot conditions produced the result observed, or in what proportion any of the feeds is to be credited with the results. As observations of feed-lot experience come to be more carefully made and recorded, doubtless we shall be able to derive more determinate conclusions from them. So also the repetition of digestion experiments with varied conditions may change the figures now accepted.

As to the second point, the relative feeding-value of fats and carbohydrates, it must be said that the figures given by Professor Georgeson do not agree with the results of the latest investigations on the subject. True, for the production of heat in the animal body 1 pound of fats—vegetable oils—is believed to be worth about $2\frac{1}{2}$ times as much as a pound of carbohydrates—starch or sugar. For the production of fat in the animal body 1 pound of fats is found to be worth about $1\frac{3}{4}$ pounds of carbohydrates. For the production of flesh in the animal body, fats and carbohydrates are found to be of prac-

tically equal value pound for pound as aids in flesh formation.

From these considerations it may be surmised that for feeding animals whose only protection is a barbed wire fence, animals that must produce immense amounts of heat to maintain the bodily temperature, fats may be worth $2\frac{1}{2}$ times as much as carbohydrates, while for animals so well housed that they do not have to produce an inordinate amount of heat, the difference in value may be much smaller or may disappear. It may be surmised also that for animals, like hogs, which lay on large quantities of fat, 1 pound of vegetable oils may be worth as much as $1\frac{3}{4}$ pounds of carbohydrates, while for animals like beef-cattle, whose flesh is largely lean meat, the difference in values may be much less. On account of the various considerations affecting the relative value of these two classes of feeds, and without stating these considerations, the writer, in a paper on "Relative Values of Feeding-stuffs," adopted the ratio of 1 to $1\frac{3}{4}$ as a fair one for average conditions. He has not yet seen reason for changing these figures. Doubtless, however, for summer feeding of beef cattle a ratio of 1 to 1 more nearly expresses the value, while for winter feeding of exposed animals, 1 to 2 or $2\frac{1}{2}$ may not be too high.

According to the feeding standards our correspondent is feeding his 2-year-old cattle rather much protein. It should be considered, however, that recently the demand is for growthy, juicy beef, such as is produced by a ration rich in protein, rather than for the hard, fat, tallowy article which the butcher formerly required.

It is to be hoped that this correspondent will favor the readers of the KANSAS FARMER with a record of his feed-lot experience and its results.

POT-HUNTING ON THE FARM.

Many of our exchanges state that a considerable amount of illegal shooting of quails and prairie-chickens has been going on in their several neighborhoods, particularly during the recent snow storms, when the birds are driven to the fields of Kaffir-corn and sorghum for feed. One of these exchanges states that the birds are being ruthlessly slaughtered, and then mildly states that "There has been some talk of lodging complaint against a number of violators of the game laws." "Some talk" indeed! Why don't you do it? If some one should go upon your farm and shoot your pigs or cows or horses, would there be "some talk" merely? Wouldn't you go after the shooter with such vigor as to make him think he had gotten mixed up with a cyclone? You value your pigs, cows, and horses because they represent the results of your labor and savings for years, and you don't want them shot by a cigarette-smoking, pin-headed nonentity from town who thinks he can pot your quails and get over the fence before you can catch him. But the great heritage of free, wild life that the Almighty presented you with when you came to Kansas and which, but for its wanton destruction, would have been worth to you the value of many pigs and cows in the destruction of insect life on the farm, is worth so little to you that its slaughter when helplessly snow-bound brings forth no greater protest than "some talk about lodging complaint."

When you older men came to Kansas what a glorious place it was for wild game. How often, when tired with the day's labor and worried with "the cares

that infest the day," have you taken your old muzzle-loader and gone out for an hour to enjoy the royal sport and bring home enough game to supply the family with much-needed fresh meat, which could hardly have been supplied in any other way. Does not this experience remain green in your memory, and do you not enjoy telling of those great old days to your boy? And is it not a real pleasure to see his eyes sparkle and his cheeks glow at the tale? Do you, too, not enjoy it? Now what antagonism have you developed against that boy of yours that you should have forever cut him off from the enjoyment of the same pleasure? What have you against him now that you can stand by and see the few remaining quails and prairie-chickens slaughtered by irresponsible persons, and make no more vigorous protest than "some talk?"

And above all, what have you against yourself and your own interests that you will allow these birds to be butchered when your farm is overrun with "bugs and beetles and things" that destroy your crops and cut down your income and compel you to the bare necessities of life to tide over bad seasons when a little vigorous action on your part would prevent all this and save you money.

But you are doing your boy a still greater harm. By the mere fact that you do not take vigorous action against these selfish game-hogs you encourage the violation of the game laws and your boy grows up amidst an unhealthy sentiment, which impresses him with the idea that if he can sneak out behind the hedge and pot a bunch of quails without getting caught he is doing a "slick" thing. In this way he not only loses respect for the game laws, but for all other laws as well and with what results? Who can say? Who will be to blame? Not the boy, certainly.

The KANSAS FARMER hopes to see the day come in the immediate future when the game laws of Kansas will be thoroughly respected, not only by the chronic violators and habitual pothunters, but by the farmers themselves, and we also hope to see the present urgent necessities of the case met by the prohibition of all shooting of these birds for at least five years. Unless this is done and the country allowed to restock itself with these most valuable farm-birds, the next generation of farmers of Kansas will not know a prairie-chicken from an habæus corpus, and the bugs and worms will own the farms.

THE SUB-SURFACE PACKER.

The system of soil culture commonly known as the "Campbell system," has so often and so worthily proved its value that there can be no doubt that it is here to stay. Perhaps no system

was ever so thoroughly tested as was this one during the extremely hot and dry weather of the past season, and yet it came off with flying colors. In the neighborhood of Topeka a number of instances have been reported where good corn crops have been secured by use of this system, while farmers living on adjacent farms made a partial or entire failure. The system has been in operation at many of the Experiment Stations, and always with the best of results, and this for many years. It consists, as most people know, in the fining of the surface soil into a dust mulch; the proper packing of the sub-surface, and in the immediate breaking up of any tendency to crust on the surface after a rain.

Like any other work that is worth doing it is better and more easily done by the aid of tools especially adapted to the purpose. To Mr. Campbell belongs the credit of devising the proper tools for such a system, and this is the glory and reward, but with the advantage of knowledge gained from experience, coupled with native inventive ability, it has been possible to make improvements on some of the earlier machines. For instance, it was found that the sub-surface packer, made with each roller-wheel loose upon the axle a great advantage was gained in that the machine could be turned in its own length, which is not possible in a machine where the rollers are rigidly attached to the axle. Again, if the wheels are loose upon the axle, it obviates the necessity for the use of oil upon the bearings, which can only act as a means for holding the accumulated dust and thus increasing instead of diminishing the friction. These are valuable features in the machine, and will serve to greatly lengthen its period of usefulness. These are points that are worth remembering when a sub-surface packer is to be purchased. Such an improved machine as that described is now made right here at home. It is a Kansas product and a good one, as may be seen by consulting the large illustration in our advertising columns.

ALFALFA—AN INQUIRY.

EDITOR KANSAS FARMER:—Will you please answer the following, through your paper? Would you advise sowing alfalfa on good, clean wheat-land, where the wheat is partly winter-killed, and how soon could it be used for hog-pasture? Would sorghum or cane make good hog-pasture, and would it be best to sow cane on thin, high land, or on the best land? W. G. WALTERS.
Highland, Kans.

The expense of seeding land with alfalfa is so great and a good stand is so very desirable that we would not advise sowing where there is a partial stand of wheat, unless it be the intention to kill the remainder of the wheat and devote the land entirely to alfalfa. In this case the wheat-land may be disked, harrowed, and rolled, and the alfalfa-seed may be drilled about the time of sowing oats, with fair prospect of obtaining a stand, provided the mower be run over the field as often as anything—alfalfa or weeds—gets high enough to be cut. But if the stand of wheat is good enough to promise to pay expense of harvesting, a better plan will be to defer sowing the alfalfa until after harvest, then immediately prepare the soil by disking, plowing, harrowing, rolling or planking, and harrowing again after every rain until about the middle of August, when the alfalfa may be sown, preferably with a press drill. If in this preparation, the soil be worked twelve to eighteen times it will not be labor lost.

Alfalfa should not be used for hog-pasture until it has been mowed three or four times. Until the crowns are protected by stubble the hogs bite off the young shoots too short and many roots are killed, making the stand poor.

Sorghum is said to make good pasture for hogs. It will make a growth on poor land and a better growth on good land. If by poor land is meant gumbo, the above statement should be modified. If the season be moist enough to give sorghum a good start in gumbo soil, it makes a good crop, and at the same time very nearly cures the soil of the gumbo habit.

ABERDEEN-ANGUS RECORD BREAKERS.

The two days' sale of Angus cattle which came to a close at Dexter Park amphitheater, Chicago, February 6, was a record-breaking affair in every way. During the two days eighty-two head were disposed of for the great average of \$650. There were twenty-four head of imported cattle in the offering, which averaged \$1,234, showing that American

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I ask for no money. Simply write me a postal and I will send you an order on your nearest druggist for six bottles of Dr. Shoop's Rheumatic Cure, for every druggist keeps it. Use it for a month, and if it does what I claim pay your druggist \$5.50 for it. If it doesn't I will pay him myself.

I have no samples. Any medicine that can affect Rheumatism with but a few doses must be drugged to the verge of danger. I use no such drugs. It is folly to take them. You must get the disease out of the blood.

My remedy does that, even in the most difficult, obstinate cases. No matter how impossible this seems to you, I know it and I take the risk. I have cured tens of thousands of cases in this way, and my records show that 39 out of 40 who get those six bottles pay, and pay gladly. I have learned that people in general are honest with a physician who cures them. That is all I ask. If I fail I don't expect a penny from you.

Simply write me a postal card or letter. Let me send you an order for the medicine. Take it for a month, for it won't harm you anyway. If it cures, pay \$5.50. I leave that entirely to you. I will mail you a book that tells how I do it. Address D. Shoop, Box 529, Racine, Wis.

Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

breeders appreciate the enterprise of the man who has the courage to bring across the water the best that Scotland can produce. The story of how Blackcap Judy was purchased for \$6,300 by C. H. Gardner, of Blandinsville, Ill., and how B. R. Pierce, of Creston, Ill., secured the imported bull, Prince Ito, for \$9,100 will be of permanent interest. These are the highest prices ever paid for Angus cattle, and the price for the bull is the highest paid in an American sale-ring in a quarter of a century. The Angus men have reason to be exceedingly proud of this great sale. It shows the confidence breeders have in the future, and augurs well for the cattle industry.

Over \$52,000 was realized at the combination sale.

The average of the famous Estill sale was exceeded by \$70. An average of \$1,234 was realized on twenty-four head of imported cattle. The average on the twenty-four head contributed to the sale by M. A. Judy, of Williamsport, Ind., was \$1,002.

Illinois secured most of the cattle, Michigan being a good second and Kentucky third. Buyers from these States were warm competitors at the ring-side.

L. Van Winkle, of Vans Harbor, Mich., secured the largest number of cattle, but B. R. Pierce, of Creston, Ill., paid the most money. Chas. H. Gardner, of Blandinsville, Ill., gave the third largest check in settlement of his account. O. G. Callahan, of Helena, Ky., gave the fourth largest. The money spent by these four men at the sale was: B. R. Pierce, \$11,600; L. Van Winkle, \$9,100; C. H. Gardner, \$6,300; O. G. Callahan, \$5,600.

THE AMERICAN ROYAL FOR 1902.

The American Royal Show for 1902, at Kansas City, will be an event in the way of live-stock displays far exceeding all the brilliant events of recent years. This year all breeds of beef-cattle will make a show. Heretofore but three breeds have shown, but arrangements were completed last week which assures that not only all beef breeds, but a great steer show will be made at the same time. In addition to these important new features there will be held a national swine show, which promises to be the greatest event for this class of stock ever held on earth.

The committee in charge of the swine show, which is to be held the same time as the cattle show, consists of H. M. Kirkpatrick, Wolcott, Kans.; Chas. E. Sutton, Russell, Kans.; and James Main, Oskaloosa, Kans. These, with a few others to be named, will

have the affair in hand, and the Kansas City Stock Yards Company will erect a new building to accommodate this swine exhibit. The company also, with characteristic enterprise and liberality, in addition to providing the building, will furnish \$1,000 for prizes, to which at least \$4,000 more is practically guaranteed. All arrangements have been completed for the cattle and swine show, and preparations are still under advisement for holding a draft-horse show at the same time. The KANSAS FARMER desires to congratulate Kansas City on the auspicious prospect for a live-stock show, which will be a credit to the whole world, and it is hoped that Kansas breeders will take steps at once to be numerous and properly represented.

BLOCK OF TWO.

The regular subscription price for the KANSAS FARMER is one dollar a year. That it is worth the money is attested by the fact that thousands have for many years been paying the price and found it profitable. But the publishers have determined to make it possible to secure the paper at half price. While the subscription price will remain at one dollar a year, every old subscriber is authorized to send his own renewal for one year and one new subscription for one year with one dollar to pay for both. In like manner two new subscribers will be entered, both for one year, for one dollar. Address, Kansas Farmer Company, Topeka, Kans.

Eugene Rust, former traffic manager of the Kansas City Stock Yards Company, has been appointed general manager of the institution, vice H. P. Childs, who resigned to take the position of head purchasing agent for the company. C. F. Morse, vice president of the company, was appointed president in place of Chas. Francis Adams, who will drop from the active management of the corporation.

Crosby Bros.

We call attention to the splendid advertisement of Crosby Bros., of Topeka, Kans., one of the largest, best managed, and most successful business enterprises in Kansas, who have greatly enlarged the mail-order department and already have a splendid line of business over Kansas, Oklahoma, and contiguous territory. From a long acquaintance with this firm, we know they always make a specialty of giving careful attention to all requests. They have just issued a splendid illustrated spring catalogue, which they will send free to any one who will mention the Kansas Farmer.

TO CURE A COLD IN ONE DAY
Take Laxative Bromo-Quinine Tablets. All druggists refund the money if it fails to cure. E. W. Grove's signature is on each box. 25 cents

Brain Markets.

Conducted by James Butler, Secretary of the Farmers' Co-operative Grain and Live Stock Association.

"The human race is divided into two classes,—those who go ahead and do something, and those who sit still and say, why wasn't it done the other way."—Oliver W. Holmes.

Grain-Growers' Meeting.

The Kansas grain-growers will hold a meeting at Hutchinson, March 4, 1902, for the purpose of advancing and pushing forward farmers' cooperative shipping associations in the entire wheat belt of Kansas, Oklahoma, and Nebraska. Oklahoma and Nebraska are invited to send representatives.

A rate of one and one-third fare for the round trip from all points in Kansas, Oklahoma, and Nebraska has been secured for this meeting. Farmers and all cooperative elevator companies interested in securing just market and fair treatment should take an active interest in this meeting.

The Dakota and Minnesota grain-growers are to have a meeting on the same day at St. Paul, to perfect an organization of the spring-wheat growers on the same line that the Kansas wheat-growers are now organized. With the wheat districts of Kansas, Oklahoma, Nebraska, Minnesota, and the two Dakotas thoroughly organized, any intelligent farmer can readily see the benefit that would result from such organization to the wheat-growers of the whole country.

The power of Leiter and Phillips in their palmy days as compared to such an organization and the good it would accomplish for the producers, would make their work mere side-shows. And yet, Joe Leiter assisted more farmer in lifting the mortgages from their homesteads than all other artificial causes combined. There is no longer any doubt as to the ability and power of farmers when thoroughly organized, and that they will succeed in organizing is no longer questionable; it is only a matter of time.

Attend the Hutchinson meeting and do your part in extending the movement. If you want to get information regarding farmers' cooperative associations and the necessity of unity of action, attend the Hutchinson meeting. All cooperators are invited.

Cooperative Telephones.

Under the above head the Topeka State Journal in last Saturday's issue contained an article that furnishes further proof of the benefit of cooperation. We reproduce the article for the benefit of our readers. It reads as follows:

"There is a hint for Topeka and other Western cities in an article which appears in the current number of the Review of Reviews telling of an interesting experiment tried by citizens of Racine, Wis., as the outcome of a war against a telephone company. It appears that the rates were considered excessive by the vast majority of subscribers and that the local company paid no attention to the demands for a change. These rates were \$48 for store service, and \$36 for house service, and it was estimated that a company could be formed to give satisfactory service and make money on the basis of a smaller assessment.

"Such a company was formed with a capitalization of \$5,000, the stock divided into 100 shares, each representing the cost of installing a single telephone; each stockholder being permitted to hold one share of stock for each phone rented by him and no more, the ownership of stock to be absolutely confined to the renters of telephones; the dividends to be at least 1 per cent a month on the stock.

"Rates were established when the company was actually organized, of \$2.25 a month for store service and \$1 for house service, but the profits of the venture were such that the store rate was reduced to \$1.50, and the house rate to 25 cents a month, while at the same time the dividends were increased to 1½ per cent monthly. Starting with an exchange of 3 telephones, the article continues, the exchange soon increased to 300 phones, or 1 to every 17 persons in the community. Then came a rate-war with the old company, which had decided to fight for a foothold in Racine. The old company offered phone service for three years free of charge, and the cooperative association appealed to the patriotism of the people.

"This finally came to the aid of the latter and the offer of free phones was refused. So the cooperative company has prospered until its stock has reached \$15,000 with prospect for further increase. Meanwhile cooperative electric light and power plants are projected, and similar cooperative telephone companies have been established in three other cities of the Wisconsin Valley.

"The writer concludes that the experiment of Racine proves that the citizenship of the average American town can be trusted to deal intelligently and economically with public utilities. The people's business can be safely given over to the people, rather than left to a corporation whose sole aim is exploitation."

Dakota and Minnesota Farmers Preparing to Organize.

The wheat-growers of Minnesota and the Dakotas are to meet in St. Paul, Minn., March 4, for the purpose of effecting an organization on the same line and for the same purposes that The Farmers' Co-operative Grain & Live Stock Association of Kansas is organized. It is encouraging to know that our brother grain-growers in the great spring-wheat belt are awake to the situation and have determined to get together in a central organization for mutual protection.

The heads of sixteen farmers' elevator companies signed the call for a mass convention, which assures its success, if the trust does not succeed in getting knockers on the floor that will work against any plan proposed, and thereby divide the meeting and prevent organization. We had them at Salina last year, who opposed every essential move, with long-winded speeches, to no purpose except to retard and delay.

Such men are always on hand to oppose, so they can say, "I told you so," if success is not attained. But now with the Northwest getting into line it should encourage farmers everywhere in the winter-wheat belt to join with us and push to success the greatest movement ever started in their interest. Farmers ought not to wait to be solicited, but should at once apply for stock in the local and State associations, and supply their own company with ample means to secure and protect their own interests.

With an organization such as the Farmers' Co-operative Grain & Live Stock Association operating in Minnesota and the Dakotas, it will make success much easier in Kansas, Oklahoma, and Nebraska. With farmers in the spring-wheat belt unorganized and rushing their wheat on the market at any price, bearing the market lower and lower, a great injury to Kansas, Oklahoma, and Nebraska farmers has been worked. In fact, Oklahoma and Nebraska have rushed their crops on the market and played their part in depressing prices. This chaotic condition is the result of a lack of organization, and intelligent association, and action on the part of farmers. But now every farmer in Kansas who has been standing back timid and doubtful of success should buckle on his armor, step in line, and help to overawe all opposition. Now is the time that recruits will make the work before us much easier and the burden much lighter.

If every farmer in Kansas, who knows it is his duty to aid and assist us, should send in his application for stock and enroll with us our numbers would be so great that all opposition to our movement in this State would wilt like a thistle when cut off in hot wind.

If you want to assist in attracting attention to the Hutchinson meeting of grain-growers, cut out a notice of the meeting found elsewhere in this paper, and take it to your home paper and ask him to publish it. Your local paper will gladly give the meeting notice if he knows you desire it. Write, talk, and work for success, and you will attain it.

We ask every friend of the Farmers' Co-operative Grain & Live Stock Association, who can write an article, to do so, get your home paper to publish it, and send me marked copies of the paper. With active local work on this line our movement will grow more rapidly. Just think of the good that would result if 100 men wrote and secured the publication of short articles favorable to farmers' shipping associations for 100 papers.

We now have farmers' cooperative shipping associations organized in thirty counties in this State. Reno County has five, Ottawa five, Smith five, and several counties have three organizations each. There should be one at every grain-shipping station in the State.

THE MARKETS.

Kansas City Live Stock.

Kansas City, Feb. 11, 1902.

Cattle receipts the past week were light for this time of the year, but the bulls who prophesied a tremendous winter shortage of fat cattle again failed to make good. Local arrivals were 26,600, against 31,300 the same week last year. The Eastern markets continue to receive big supplies, however, and sellers here were not encouraged to make much capital out of the moderate local receipts. Top on fat steers the past week was \$6.35. Local buyers seemed particularly listless in taking on supplies during the week and several bunches of choice cattle went on to other markets. Top steers a year ago brought \$5.40. Butcher cattle showed but little change during the week, the seemingly lower prices being explained by a marked deterioration in quality. Choice heavy feeders held steady and in good demand. Medium to poor grades broke a full 25c from the high point of last week. The scarcity of feed and high price of fat cattle caused several bunches of almost fat steers to go back to the country at a cost of \$5.00 to \$5.25. Feeders claimed there was more money in finishing them than in fattening the cheaper stockers and feeders.

Hogs closed about steady for the week, and generally showed more activity than for several weeks. Receipts showed an increase from the previous week, arrivals amounting to 60,100 against 47,000 the foregoing seven days. Buyers were loath to give \$6.50 for top hogs, but came very near that mark. The week closed with the top price at \$6.42½ and the bulk of sales, including the light weights, at \$5.60 to \$6.35. These figures are about the same as the close of the preceding week. The better tone of provisions is expected to hold up the hog market above the 6c mark a while longer.

Sheep receipts were moderate at 10,600, which number included six double-decked loads direct to packing-house buyers. The scarcity of stock made prices higher. Lambs advanced 15 to 25c and muttons almost as much. Choice native lambs sold for \$6.25, the highest point since the middle of 1900. Colorado lambs sold up to \$6.10. POWELL.

Kansas City Grain Markets.

Topeka, February 10, 1902.

The grain markets seem to have fallen into a rut for the time being. Fluctuations in wheat were very narrow during the past week notwithstanding that cables were firm and export bids near the market. Liverpool markets are now about 11½c over Chicago price on wheat, while a month ago they were only 5 or 6c over Chicago. If this spread in price continues to widen, we may again see lively export business before long. In fact, last week's exports very materially increased over those of the past few weeks and were 4,800,200 bushels, while the visible supply decreased 1,363,000 bushels last week and is now down to 56,564,000 bushels. The primary receipts are also decreasing very fast, and were only 1,589 cars—less than one-half of the normal receipts—in the Northwest. The Southwest—Kansas City and St. Louis—had only 250 cars of wheat last week, not half enough for the supply of local mills, many of which have now

shut down. This, however, does not augur that there is a scarcity of wheat in the Southwest, but that farmers are holding on to their supplies, at least until such time when another crop may be expected. A generous snow blanket is covering nearly the entire winter wheat and nothing can even be conjectured regarding the growing crop at this time.

The same attitude that farmers manifest in holding back their wheat supplies also seems to apply to corn. This is the time of year, when corn receipts at primary markets are usually very large, but with the possible exception of Kansas City, receipts have been and are now very light throughout the West. The writer recently returned from a trip through the corn belt of Illinois and found the elevators and cribs at stations all bare of corn, and the only corn available, in strong farmers' hands, who are bullish without an exception and will hold on to their surplus corn as long as possible. Of course the big traders seem to talk lower prices for corn, but to the writer it looks as though all grain is low enough at present.

However, there is about one and one-half millions of Northern corn in Kansas City elevators, all very poor stuff, which should get out of condition next month, might cause a serious break in the Kansas City corn market.

Markets closed as follows to-day:
Chicago.—No. 2 red wheat, 84 to 85c; No. 2 hard winter wheat, 76 to 78c; No. 2 corn, 61 to 61½c; No. 3 corn, 59 to 59½c; No. 2 oats, 44c.

Kansas City.—No. 2 red wheat, 88c; No. 2 hard winter wheat, 75c; No. 2 corn, 61c; No. 3 corn, 59½c; No. 2 white corn, 67c; No. 2 oats, 47c.

F. W. FRASIUS.

Prevention of Alfalfa-bloat.

Editor Kansas Farmer:—Having noticed some splendid articles in your paper from time to time on alfalfa, I wish to give my experience. I live on a forty-acre farm four and one-half miles north of this city and keep as many cattle as I could possibly raise feed for. To make my business profitable I was at times compelled to pasture alfalfa. In order to get good results from my cows in the fall I would sow rye, and in the spring I would seed Kaffir-corn and beets. After early potatoes I would get a good crop of cane. After thoroughly cultivating my corn I would take my disk, and go around my corn-field and kill all the weeds, and seed to cane. By thus using every square foot of ground to grow something that was of value, I was able to get a good stand of alfalfa on sixteen acres of my forty and at the same time raise feed for my stock while waiting for the alfalfa to get a start. To prevent bloat from alfalfa I devised a bit which is hollow and perforated, which I used to my entire satisfaction. In fact I found it so satisfactory that I procured a patent on the same. I have put them with the best farmers in our neighborhood and they have given entire satisfaction wherever used. I sell them with a guarantee to prevent or relieve bloat or money refunded. You will find my advertisement in this paper. WILBURN BUSH.

Wichita, Kans.

Notice.

On another page of this issue of our paper will be found the advertisement of the Watkins Medical Company, of Winona, Minn. These people are the sole owners and manufacturers of the famous Watkins Remedies. These remedies are not new and untried preparations, for they have been upon the market and in daily use over a very large section of the country for the past thirty-four years. We do not doubt but that many of our readers are perfectly familiar with, and are now using Watkins Remedies. They have stood the most rigid test of all these years, and are more popular with the people to-day than ever before. This could not be true but for the fact that the remedies are made upon honor and sold on their merits. The responsibility of the Watkins Medical Company is entirely beyond question. Ask your banker, any reputable business man, or refer to Bradstreet and Dun's Commercial Reports. Write them for a free copy of their Home Doctor and Cook Book. This will serve to acquaint you with these people and give at the same time much valuable information—weather forecasts, cooking recipes, etc. Address, The J. R. Watkins Medical Company, 28 Liberty Street, Winona, Minn., U. S. A.

Works of Art.

The McCormick Harvesting Machine Company has just issued a series of very handsome posters, which readers of Kansas Farmer can secure by writing to the general agent, whose name appears in connection with the company's advertisement in this issue.

A Fortune in Eggs.

I receive so many letters from my old home, regarding preserving eggs, that I thought best to answer through your paper. I started the spring of 1888 with \$36, which bought and preserved 417 dozen eggs, which sold in December for \$121. The next spring I borrowed \$315, and bought 3,400 dozen; I sold in November, and after returning the \$315 borrowed, had \$594. In 1890, I bought 6,400 dozen and sold in December for \$1,799. In 1891, I borrowed \$3,000 and invested \$4,500 in 50,000 dozen eggs, which I sold for \$15,061. In 1893, I moved to the city and preserved about 50,000 dozen a year until 1900, when I retired, having all the money I needed. I have a niece that started in 1894 with \$10, which she reinvested each year with the profits, and now she has \$16,346, all made from that \$10 reinvested for eight years. You can buy eggs at from 8 to 10 cents and sell them from 25 to 30; figure the profits yourself. It costs a cent a dozen to preserve eggs. I don't sell egg preserver, but any one sending \$1 to the People's Supply Company, New Con-

ELECTRIC FOR STRENGTH
You are through with
wagons worry forever when
you buy one of our
HANDY WAGONS.
They carry 4000 lbs. and do
it easily, and don't cost a
fortune either. Write for the free catalogue. It tells all
about this wagon and the famous Electric Wheels.
ELECTRIC WHEEL CO., BOX 48, QUINCY, ILLINOIS.

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cord, Ohio, will receive by return mail enough preserver to preserve 100 dozen eggs and complete directions for preserving them; I got my egg preserver from this firm. Eggs will keep a year and you can't tell them from fresh eggs. This is a good business for city or country. Ten dollars reinvested will soon pay the mortgage on the home, or buy a lovely home, and not interfere with your other work either; all that is necessary is a little push.

J. G. GREEN.

Cancer Microbe Said to Have Been Discovered.

The Cancer Germ said to have been discovered by an Eastern Physician caused great surprise. Heretofore this disease was supposed to be caused by a cell growth. Careful experiments are being made. Dr. Bye, the Eminent Cancer Specialist, of Kansas City, Mo., is being besieged by hundreds of people suffering with this dread disease. The Doctor is curing many cases, thought to be incurable, with the combination of a Medicated Oil. Persons suffering or having friends afflicted should write for an illustrated book on the treatment of cancer, tumor, ulcer, piles, fistula, and all skin and womb diseases. Address Dr. W. O. Bye, Cor. 9th & Broadway, Kansas City, Mo.

Stops the Cough
and Works off the Cold.
Laxative Bromo-Quinine Tablets cure a cold in
one day. No Cure, No Pay. Price 25 cents.

ECZEMA positively cured, no
cure no pay; every case
guaranteed. Full particulars, address,
Home Remedy Co., Topeka, Kans.

Agricultural Matters.

The Superior Value of Large, Heavy Seed.

BY GILBERT H. HICKS AND JOHN C. DABNEY,
FIRST ASSISTANT BOTANIST AND AS-
SISTANT, DIVISION OF BOTANY,
U. S. DEPARTMENT OF AG-
RICULTURE.

INTRODUCTION.

No farm practice yields more beneficial results than the careful and intelligent selection of seed for sowing. The planter who raises a special crop like tobacco, cotton, wheat, or corn usually looks carefully to the quality of his seed, while the truck-farmer is even more particular in this respect, paying a very high price for the best obtainable article. Nevertheless, it is true that in general practice, especially in the case of garden and forage plants, there is frequently very slight attention given to the real worth of the seed used for planting, and not infrequently the grower sells his marketable alfalfa or clover-seed for instance, and reserves the remainder, consisting possibly of screenings, for his own use. The folly of such a proceeding can not be too strongly condemned. Weak or otherwise inferior seed, if it comes up at all, often gives rise to sports and new varieties, and so far may be valuable for experimental use; only the very best seed, however, should be employed in the production of staple crops. Any other practice is poor economy. The grades established for clover- and grass-seed, known as "prime," "choice," "extra prime," etc., take into account only its purity, that is, its degree of freedom from chaff and dirt, weed seeds, and other foreign matter. The buyer is assured in the most general terms (but not guaranteed) that the seed he gets is "pure, reliable, and true to name," and selected (by the seedsman) with "reasonable care." No intimation is given, however, as to the proportion which will germinate. It is assumed that any deficiency in this respect can be readily overcome by sowing an extra amount. The still more important points as to the origin, size, and weight of the stock are seldom taken into account.

Another serious drawback to the se-

sible results from his labor, the seed should be bought by sample in the fall or winter before planting. First of all, it should be examined for purity and then a simple home-germinating test should be conducted. If the sample is pure and of good germinating capacity, the purchase may be completed, after which a careful sorting should be made preparatory to planting in the spring.

PRINCIPLES GOVERNING SEED-SELECTION. The principles governing seed-selection depend largely upon the kind of seed and the object of the crop, whether size, quality, or earliness of the latter is most desired. It also makes some difference whether the plants are to be grown for forage or seed. Certain climates, soils, and fertilizers tend to seed-production rather than to vegetative development, and a plant may be cultivated and selected for its seed-producing capacity until a strain of seed is obtained which tends to yield plants possessing similar seed fertility. If quality rather than quantity of crop be the object, the selection of seed must follow a certain line in order to secure plants of the desired characteristics.

Seed may be selected according to origin, color, form (considering especially whether it is plump or wrinkled), size, and weight, it being taken for granted that the selection shall be made only from sound, pure, and germinable stock. It is thought by some that the value of seed varies in certain cases according to the part of the plant or fruit from which it comes. An experiment made in Georgia with cotton showed that the bottom bolls produced seed which gave a heavier yield than that from the upper bolls, the yield in the former case amounting to 1,043 pounds of seed-cotton per acre as compared with a yield of 750 pounds in the latter. This was undoubtedly due to the fact that the lower bolls contained larger and heavier seed, rather than because the seed came from a certain part of the plant. Many trials have been made of corn selected from the tips and butts of the ears. Sometimes one and sometimes the other kind of kernels give the best crop. It is quite likely that this variation results from the difference in size and weight of the different kernels taken from the same ear. In the case of the parsley, carrot, parsnip, and other umbelliferous plants, it is commonly supposed that the central stalk produces the best seeds. This

resulting in the conclusion that such seed produces as a general thing smaller and less vigorous plants. Professor Goff, of Wisconsin, has shown that by the use of immature tomato-seed there is also a tendency to increased earli-

chanical means alone is adequate, although such selection, if properly practiced by the agriculturist, would invariably bring him a decided gain in the size or quality of his crop. Thorough selection must begin with the

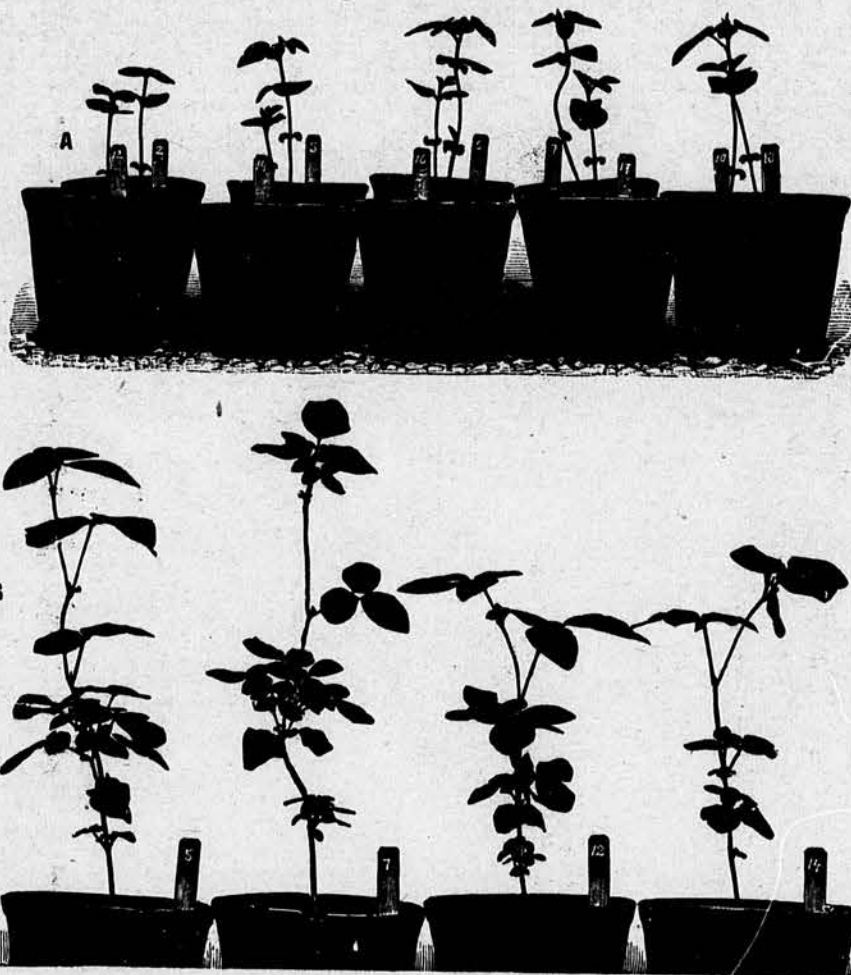


Fig. 75.—Soy-bean 12071 (heavy compared with light seed): A, planted September 15, 1896, photographed October 15, 1896; plants in rear pots from heavy and those in front pots from light seed. B, four typical plants photographed at the close of the experiment, the two at left from heavy and the two at right from light seed.

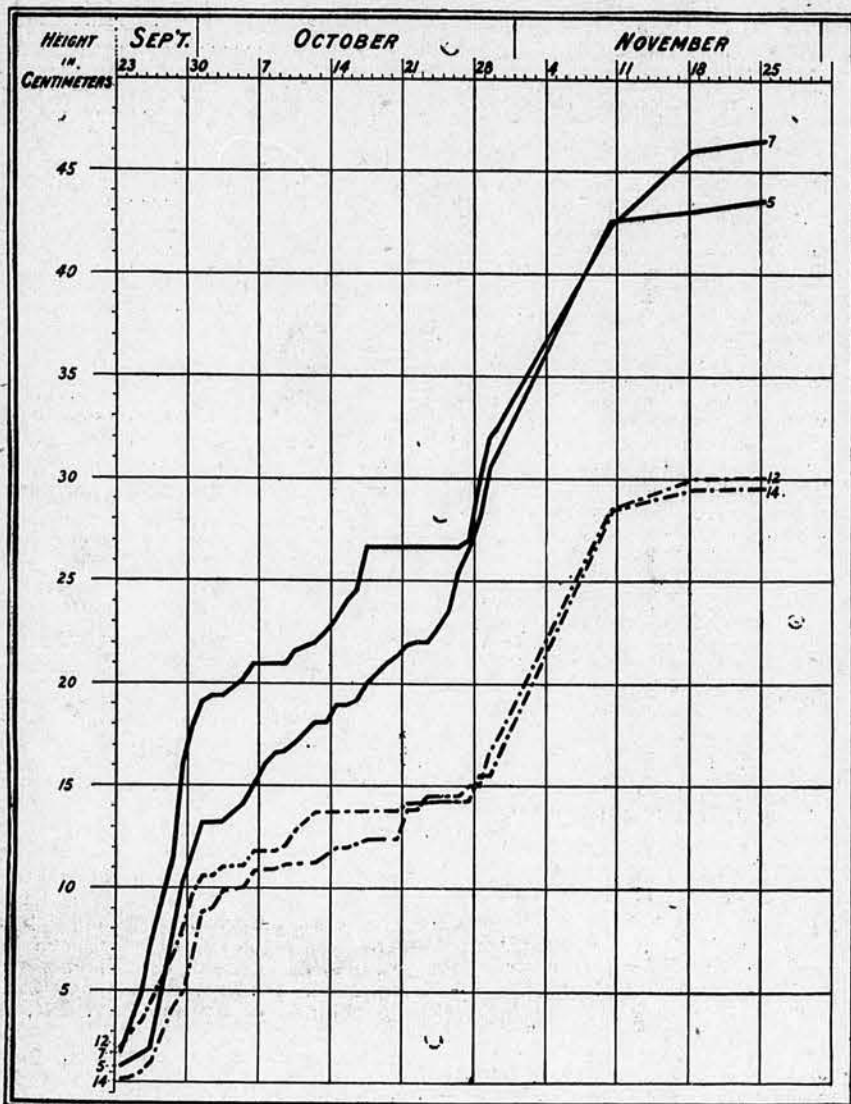


Fig. 74.—Development of soy-bean from heavy and light seed. The upper curves represent plants from heavy and the lower those from light seed.

lection of good seed is the common practice of waiting until about time for sowing before buying. It is then too late to ascertain its origin and history or to test its vitality, even if the planter had a desire to do so. If the cultivator would secure the best pos-

may be due to the fact that such seeds are frequently larger and heavier than those from the lateral shoots.

The degree of maturity of seed when harvested is an important factor in determining its value. Many experiments have been made with immature seed,

ness in the maturity of the fruit. By means of continued seed-selection plants may be so developed as to show a certain flavor, capability of resisting disease, general hardiness, earliness, superior content of sugar, oil, starch, gluten, etc.

METHODS OF SELECTING SEED.

The manner of selecting seed varies somewhat with its shape, weight, and size. If heavy seed is desired, a salt solution may be used, of such density that only seed of a desired weight will sink to the bottom, while all the lighter seed and undesirable matter can be skimmed off and rejected. This method is open to several objections, among them being the fact that the heavy seeds do not always sink, owing to bubbles of air which surround them or to the flat surface which some species present. This, however, may be obviated to a slight extent by previously boiling the water of which the solution is made. Furthermore, unless dried promptly or sown at once, such seeds may lose some of their vitality. A better way to obtain heavy seed is by making use of the centrifugal principle, applied by running the seed through some kind of apparatus which throws the heavier seed to a considerable distance, while the lighter seed and chaff drop near the machine. By the use of a current of air the same separation may be secured, in this case the light material being blown away. The common method of selecting large seeds is by the use of sieves, either by hand or placed in any common fanning-mill.*

The principal object in using the ordinary fanning-mills is elimination of chaff and other foreign matter, although some of the lightest seed is blown out by the fans. It would pay the farmer when he is cleaning up seed for planting to work his seed-cleaning machines in such a manner as to blow or screen out a great deal of the light and small seed, retaining only the largest and heaviest for planting.

Seeds are sometimes cleaned and sorted by running them through a thin metal cylinder placed in a slightly inclined position. This cylinder is provided with a series of holes of different shapes and sizes, which allow certain seeds to drop through at certain points. Machines embodying this principle are used considerably in Europe and to a small extent in this country.

The fact needs emphasis, however, that no system of seed-selection by me-

plant itself. Only those plants should be chosen for seed purposes which come the nearest to the type which is to be reproduced. Such plants are to be harvested and kept by themselves. After their seed is threshed and cleaned, another and rigid selection, based upon size and weight should be made.

DESIRABILITY OF KNOWING THE ORIGIN OF SEED.

In the choice of seed the place of its production should receive very careful consideration. Much of the failure to secure a desired crop of vegetables or forage plants is due to the fact that the buyer of such seed usually has no information whatever as to its origin. The soil and climate where it was produced may have been very different from his own, and the seed be totally unfit for use on this account. A great deal of controversy has arisen from time to time over the alleged superiority of Northern-grown seed, and many dealers make a great point out of the statement that their seed is Northern-grown. This is not a question of section alone, nor is it true that Northern-grown seed is always superior to that raised in other latitudes. As is well known, certain plants thrive better in one locality than in another. Plants adapted to Northern climates or high latitudes where the seasons are short mature more quickly than if grown under different conditions, and hence a strain of seed which in time tends to produce quickly maturing plants. However, such seed frequently "runs out" quickly when planted in a different climate and gives rise to very different strains from the original stock; hence, a constant renewal is necessary to maintain the type desired. In many cases by a system of careful cultivation and selection a desired strain may be secured and thoroughly acclimated, so that the introduction of outside stock becomes unnecessary. The fact that many kinds of imported seed do not produce as good crops as home-grown seed of the same variety is to some extent due to a difference of climate. The imported seed, while perhaps cheaper in the first instance, owing to the less cost of production, may be much dearer in the long run, since it is seldom so pure as American-grown seed, and frequently gives rise to noxious plants which the buyer neither desires nor pays for.

Soil, as well as climate, impresses not necessarily the most fertile soils seed with a particular character. It is which furnish the most productive seeds. If seeds are transferred to a different kind of soil from that upon

*See Year Book of the United States Department of Agriculture, 1894, pp. 406-407, for brief description, with figures, of different kinds of screens in use.

which they were grown, although the climate be the same, a marked difference in crop is frequently noted. Experiments in growing oats have shown that certain varieties raised on a light soil were the most productive if sown on a similar soil, while the same varieties of seed if grown on heavy soil showed a preference for heavy soil. These facts indicate that, in many cases at least, the farmer will get the best results from seed which he has grown himself under conditions well known to him.

The Department of Agriculture fre-

information save its name and brief directions for planting.

Seed should be selected with reference to its ancestry as well as to the place and conditions under which it was grown, or its individual characteristics. Plants, no less than animals, inherit the qualities of their forerunners, and this applies to seed as well as to the plant taken in its entirety, especially is grown for seed alone, as in the case of the cereals and some legumes. Unfortunately the ancestry of seed can rarely be traced by the purchaser.

The main purpose of this article is to show in a brief way the advantage of using only large and heavy seed for planting, and, if possible, to establish the principle that it will pay in many cases to buy a larger quantity of seed than is to be used, in order that only larger and heavier seed may be selected for planting.

MANNER OF CONDUCTING SEED-SELECTION EXPERIMENTS.

The series of experiments upon which this paper is based were conducted in a greenhouse by the writers during the winter of 1896-97. Seeds of the following plants were employed: Garden peas, beans, soybeans, hairy vetch, rye, barley, wheat, and oats, the three first named being

principally dealt with here. In all cases except that of the hairy vetch the seed was of known origin, each variety having come from a single lot grown in one place. We consider this fact one of the most important conditions of the experiment. In many experiments on record of somewhat similar nature no mention is made of the origin of the seed, which is generally of the ordinary commercial kind and often a mixture of various lots

These seeds were planted in pure sand, and the plants were given equal amounts of a culture solution which contained all the necessary elements of plant food. They were kept from first to last under identically similar conditions so far as possible, measurements and photographs being made from time to time. At the conclusion of each experiment typical plants from each lot were photographed, carefully taken from the soil, weighed, and measured.

EXPERIMENTS WITH SOY-BEANS OF DIFFERENT WEIGHT.

The table following shows the comparative growth of soy-beans from heavy and light seed. The seed used in this experiment was raised at the Massachusetts Agricultural Experiment Station. It was planted September 15, 1896, and harvested December 12, a growing period of eighty-eight days.

He further claims that a greater difference at maturity is visible in plants grown in quartz-sand cultures than in those grown in garden soil. The curves shown in fig. 74 are of great interest as bearing on this point. It will be noticed that, while the two plants of each lot maintained an approximately equal growth throughout the experiment, during the early seeding stage—that is, for the first week from the time of planting—the plants from both heavy and light seed showed nearly the same degree of development. From this period the growth of the two lots began to deviate considerably, reaching its widest divergence at the close of the experiment. Fig. 75 is taken from photographs, one made thirty days from the time of planting and the other at the close of the experiment. In both cases a striking difference is shown in

TABLE I.

DEVELOPMENT OF SOY-BEANS FROM HEAVY AND LIGHT SEED.

(a) Five Heavy Seeds.

Number of plant.	Weight.*				Height of plant.	Number of leaves.	Length of taproot.	Diameter of stem.
	Seed. Grams.	Root. Grams.	Shoot. Grams.	Plant. Grams.				
2.....	0.189	(0.7) 4.8	(3.3) 8.6	(4.0) 13.4	352	17	220	4.0
5.....	0.204	(0.6) 4.6	(6.7) 9.7	(7.3) 14.3	405	19	238	4.0
6.....	0.201	(0.9) 5.8	(3.8) 9.7	(4.7) 15.5	407	28	215	4.5
7.....	0.219	(0.6) 3.8	(2.6) 7.4	(3.2) 11.2	415	24	202	3.5
10.....	0.197	(1.2) 12.1	(6.6) 19.6	(7.8) 31.7	483	26	198	5.0
Total.....	1.010	(4.0) 31.10	(23.0) 55.0	(27.0) 86.1	2,062	114	1,073	21.0
Average.....	0.202	(0.8) 6.22	(4.6) 11.0	(5.4) 17.22	412.4	22.8	214.6	4.2

(b) Five Light Seeds.

12.....	0.077	(0.4) 3.9	(2.4) 6.3	(2.8) 10.2	261	15	352	3.0
14.....	0.088	(0.2) 2.0	(2.0) 4.8	(2.2) 6.8	281	13	180	3.0
16.....	0.085	(0.2) 1.2	(0.8) 2.5	(1.0) 3.7	157	11	195	2.5
17.....	0.076	(0.7) 8.0	(4.0) 11.7	(4.7) 19.7	343	18	375	4.0
18.....	0.086	(0.4) 2.7	(3.0) 6.9	(3.4) 9.6	344	11	182	3.0
Total.....	0.412	(1.9) 17.8	(12.2) 32.2	(14.1) 50.0	1,386	68	1,284	15.5
Average.....	0.082	(0.4) 3.56	(2.44) 6.44	(2.82) 10.0	277.2	13.6	256.8	3.1

*The weights in parenthesis are air dry, the others fresh.

A reference to the table shows that the heavy seed (lot a) weighed over twice as much as the light (lot b), and the resulting plants weighed nearly twice as much in the former case as in the latter.

The development of the soy-beans was retarded for a couple of weeks by unavoidable lowering of the temperature in the greenhouse. Afterwards the growth was uninterrupted and the plants at all times were healthy, although the usual somewhat bushy habit of similar plants in the field was not attained. No root tubercles were developed with the exception of a few on No. 12. The experiment was closed at a time when the plants were in the best condition for forage or green manure, that is, about the time of flowering. It is not known, however, whether this degree of difference would have been maintained in the open field. Hellriegel claims that the difference between mature plants from large and small seed is greater in impoverished soil than in that which is richly supplied with food material. The difficulty of absolutely controlling the conditions of plants in the field makes results from such experiments somewhat uncertain. Although no organized food was furnished to the soy-beans in this experiment, an abundant amount of all the elements necessary to plant growth was constantly given them. The plants of each lot were treated alike and the results obtained hold perfectly good for comparison, although the greenhouse conditions were not as favorable as could have been wished and the total development was much smaller than it would have been in the open field, where it is believed a greater difference would have been shown in the result.

It has also been stated by Hellriegel that the differences in plants grown from large and small (in this case equivalent to heavy and light) seed are most apparent in their earlier stages, growing less marked toward maturity.

the development of the plants from the two kinds of seed. The difference between seedlings of soy-beans from heavy and light seed is seen in fig. 76, II, which represents a typical seedling from a lot of heavy and another from light seed. The difference in development is equally apparent in roots, stems, and leaves. A study of the in-

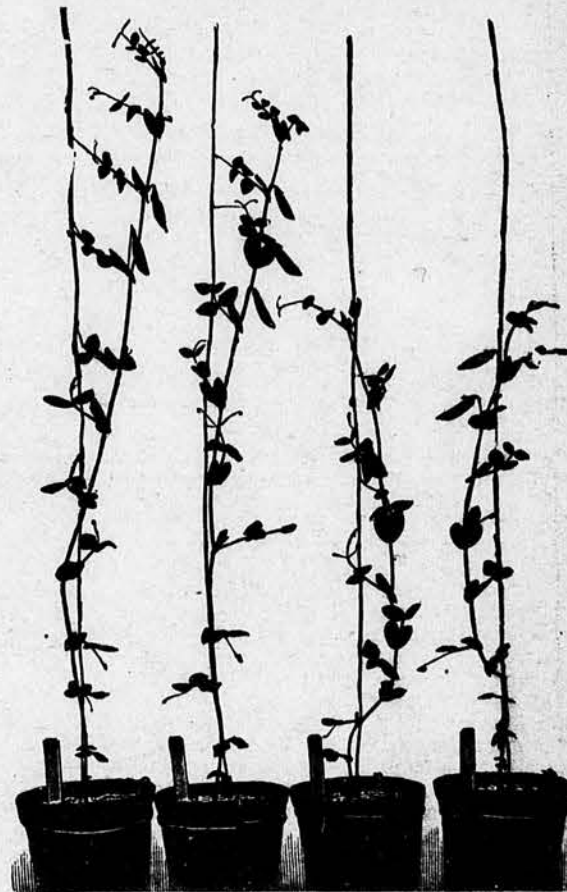


Fig. 78.—Peas, Extra Early Alaska, from heavy and light seed: Plants at the left are from heavy, and those at the right from light seed.

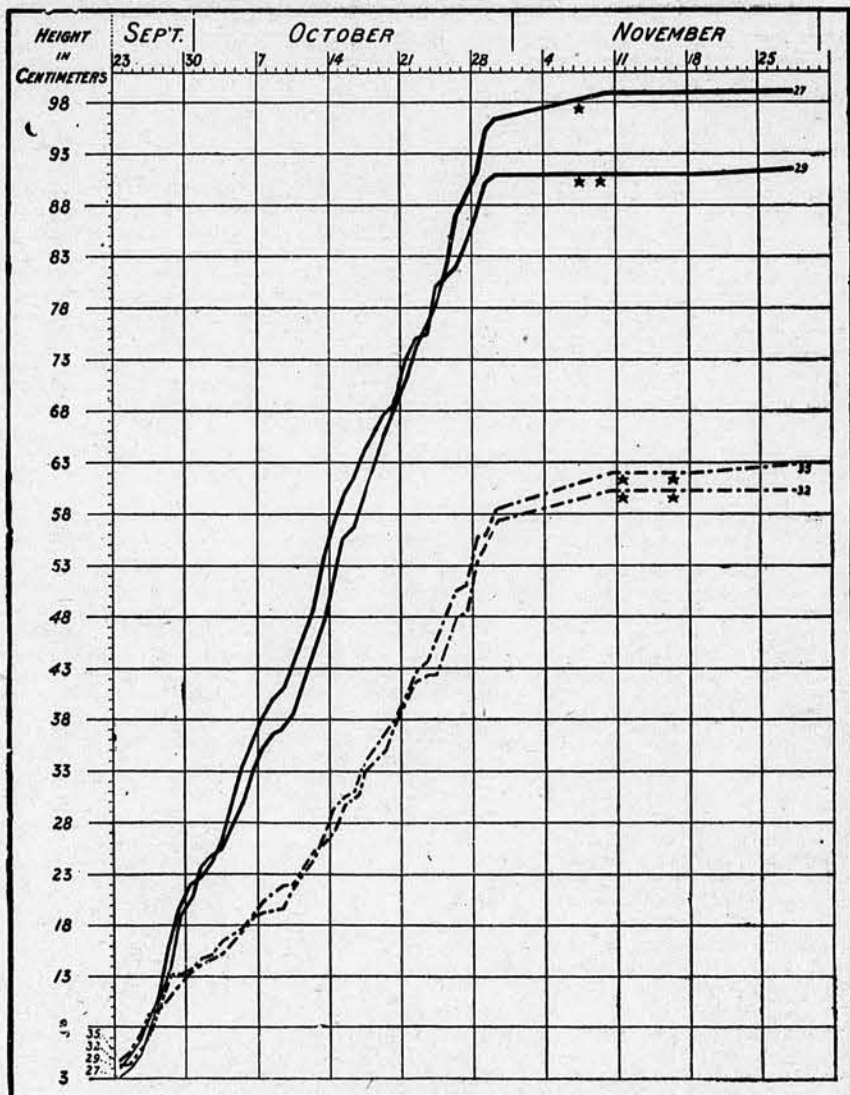


Fig. 77.—Development of Extra Early Alaska peas from heavy and light seed: The stars show when the pods were ready for the table; the upper curves represent plants from heavy seed, and the lower curves plants from light seed.

among the buyers of seed only to a very limited extent. The farmer should secure from the dealer whenever possible a statement of the origin of the seed which is offered for sale. Until such requests become much more common than they are now seedsmen will continue to offer seed accompanied by no

grown under different conditions. The results obtained from such seed can not be relied upon.

The seed was carefully separated into two lots, one of heavy and the other of light seed, the individual seeds of each lot having approximately the same weight.

dividual plants (see table No. I), shows that each plant (fresh) in lot b was lighter than any of lot a, excepting No. 17. In this case the large weight is unaccountable. The pot in which this plant grew proved to be less porous and hence more retentive of moisture than any of the rest, and to this fact some of the extra vigor may be attributed. The development from the first, and was lightest at the close of the experiment.

have been due. Plant No. 16, from some unknown cause, showed a retardation. However, the extra development of one plant is nearly offset by the weakness of the other, and the average result is only slightly affected, although the difference in favor of the heavy seed would have been more marked if these plants had not been taken into account. It will be observed that while the weight of each plant is not exactly proportional to that of the seed, there is an unmistakable average proportion maintained in considering the total of each lot.

Plants from the heavier seed were greater not only in weight, but also in length, in number of leaves, and in diameter of stem. Although the average root length was greater in the soybeans grown from light seed, the total root development was much less. The advantage to the heavy-seed plants in possessing a greater root development is evident in the fact that such plants have so many more absorbing organs for taking up the food elements of the soil. Another great advantage, especially while in the seedling stage, is in the better soil grasp afforded to such plants, giving them a firmer hold at a period when the wind or other unfavorable circumstances is most likely to uproot them or lay bare their roots. The greater stem diameter is correlated with a larger number of tubes (vascular bundles) for pumping up the nourishment to various portions of the plant. The larger leaf surface secures greater transpiration and consequently a more rapid food supply, as well as a greater capacity for transforming the raw food materials into the organized substances necessary for growth.

EXPERIMENT WITH PEAS.

In selecting heavy peas for seed the same advantages were attained as in the case of the soybean, with the addition of a very important factor—increased earliness. The seed used in this experiment was grown on the department grounds, under conditions of soil as nearly identical as possible. The following table gives the result of the experiment:

TABLE II.
DEVELOPMENT OF EXTRA EARLY ALASKA PEAS FROM HEAVY AND LIGHT SEED.

(a) Four Heavy Seeds.

Number of plant.	Weight.				Length.				Size of Pods (combined).			
	Seed planted.	Root.	Shoot.	Hull.	Seed.	Plant.	Root.	Shoot.	Number of leaves.	Length.	Breadth.	Thickness.
25.....	0.250	3.2	1.0	0.466	1.409	6.075	395	770	12	107	23	18
26.....	0.253	2.5	1.0	0.385	1.777	5.662	200	890	12	136	41	22
27.....	0.274	2.2	1.3	0.390	1.723	5.613	280	990	12	108	23	18
29.....	0.264	1.2	1.1	0.358	1.677	4.335	290	900	12	132	37	23
Total	1.041	9.1	4.4	1.599	6.586	21.685	1,165	3,550	48	483	134	81
Average	0.260	2.27	1.1	0.399	1.646	5.421	291	887	12	120	33	20

(b) Four Light Seeds.

Number of plant.	Weight.				Length.				Size of Pods (combined).			
	Seed planted.	Root.	Shoot.	Hull.	Seed.	Plant.	Root.	Shoot.	Number of leaves.	Length.	Breadth.	Thickness.
32.....	0.102	0.8	0.6	0.205	1.075	2.680	222	605	11	96	26	14
34.....	0.108	0.5	0.5	0.189	0.889	2.078	255	526	11	88	26	13
35.....	0.102	1.0	0.6	0.182	0.735	2.517	178	602	11	84	25	14
36.....	0.103	0.8	0.5	0.184	0.915	2.399	290	748	11	85	24	13
Total	0.415	3.1	2.2	0.760	3.614	9.674	945	2,481	44	353	101	54
Average	0.103	0.77	0.55	0.190	0.903	2.418	236	620	11	88	25	13.5

Note.—The weights are air dry in grams; the measurements in millimeters. Five seeds were used in each lot, but the flowers of the fifth plant of lot a were not fertile; hence, this plant is not used in the table. One plant was rejected from lot b to make the result comparable.

As will be seen by referring to the table, the peas from the heavier seed made a better growth in every way than those from the light seed. The seed used in lot a was two and one-half times as heavy as that in lot b, while the air-dry plants from the heavy seed weighed two and one-fifth times as much as those from the light seed. Thus, it is seen that nearly the same ratio of difference obtains in the total crop as in the seed used for planting. The flowers in lot a began to blossom four days earlier, on the average, than the others, and produced the first marketable peas four days earlier. (See fig. 77.) As a crop, the pods on plants raised from large seed were ready for table use from five to six days earlier than those on the plants produced from small seed. This advantage held good for all the plants in the experiment.

The ability to market a crop of peas from four to six days earlier than otherwise possible by merely selecting the heavier seed for planting would be of very great value to the truck-gardener and would involve a gain throughout the country of thousands of dollars for those engaged in this industry. No one quality is more sought by the trucker than earliness, and from a financial point of view this is the most valuable characteristic attainable in the production of many kinds of vegetables. A

difference of six days in the maturing of peas is almost equivalent to a difference of 100 miles of latitude. While it is true that as great a difference in earliness might not always obtain in general practice, the experiments conducted show conclusively that similar selection of heavy seed-peas is worthy of the attention of truck-gardeners and especially of seedsmen who are desirous of originating extra early varieties.

The use of the larger or heavier peas, however, resulted in an increase of crop as well as in earliness. (See table No. II and fig. 78.) There were more blossoms and marketable pods on the plants from heavy seed than on those from light seed. Furthermore, the weight of the air-dry fruit (pods and peas together) was nearly doubled by the use of the larger seeds. An examination of the soy-bean showed that the difference in weight in the fresh state between plants from heavy or light seed was considerably greater than when the same were air-dried; hence it is not unlikely that if the peas had been weighed green—that is, as they would have gone to market—the advantage of the use of the heavy seed would have been still more striking.

EXPERIMENT WITH BEANS OF DIFFERENT WEIGHT.

An experiment conducted with Extra Early Valentine beans indicated a similar advantage in increasing earliness by the use of heavy seed. These plants maintained a marked difference in development from the first. Fig. 79, A, represents their condition two weeks after the seeds were planted. Every plant excepting one from the heavy seed showed a marked increase in size over the plants from light seed at the time this photograph was taken. This difference was maintained until the close of the experiment. (See fig. 79, B.) The difference in vigor was shown also in the greater diameter of the stems, which averaged five-tenths of a millimeter more in each plant in lot a than in those in lot b.

We are aware that there is a common belief that weak seeds tend to produce earlier fruiting plants than seeds which



taken as the index of a plant's vigor, but it goes a long way in this direction.

The roots of the peas were not weighed fresh, but when air-dried those from the heavy seed averaged 2.27 grams to 0.77 gram in the case of those from the light seed, the seeds averaging 0.60 gram in the former case and 0.103 in the latter. (See table No. II.) In other words, the seeds of lot a were

change in temperature, or a prolonged drouth, or a slight frost is apt to destroy the plants while in their young and tender condition.

Insufficient attention has been paid to the fact that different seeds, even of the same variety and lot, possess an unequal vigor, which shows itself in the plants produced. It should therefore be the aim of the planter to so select his



Fig. 79.—Beans, Extra Early Red Valentine, 11469, large compared with small seed: A, planted September 16, 1896, photographed September 30, 1896; plants in rear pots from large and those in front pots from small seed. B, four typical plants photographed at close of experiment.

two and five-tenths and the roots of lot a two and nine-tenths as heavy as the corresponding seeds and roots from lot b. This difference is strikingly shown in the roots of our typical plants represented in fig. 80, II.

RELATION OF HEAVY SEED TO THE EARLY STAGES OF PLANT GROWTH.

Planters frequently experience difficulty in obtaining a good stand of grain and other crops. Sometimes the seed comes up very unevenly, either leaving certain portions of the field bare or producing plants of unequal height and vigor. The weaker plants, if they grow

seed that both vigor and uniformity may be secured.

In order to compare the germinative power and stand of plants grown from heavy and light seed, a series of experiments was conducted in the greenhouse, in well-drained shallow boxes (greenhouse "flats") filled with sand, cleaned and sifted. The seeds were first sorted by means of sieves into different sizes and then counted out in lots of 50 to 100, only sound seeds being taken. They were next weighed, photographed (natural size), and planted, both the heavy and light seed being in the same box. All the seeds of a single

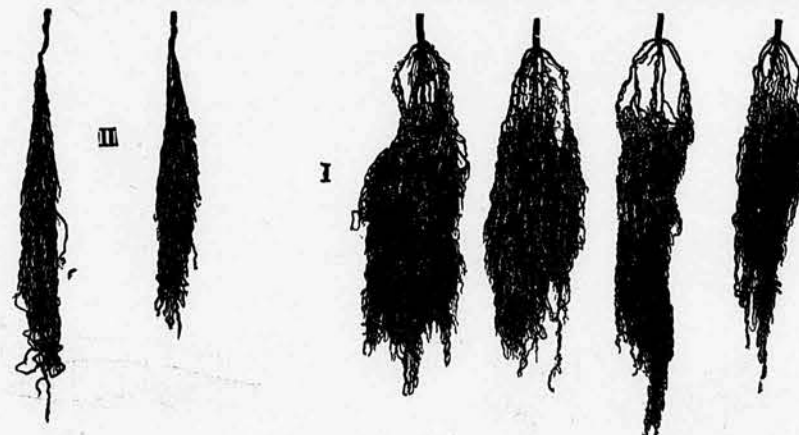


Fig. 80.—Root development of plants grown from heavy and light seed: I, Beans, Extra Early Red Valentine; II, peas, Extra Early Alaska. The two roots at the right in each case are from heavy, and the two at the left in each case are from light seed.

to maturity, produce a smaller crop of forage and fruit than those which had an early and better start. Furthermore, the value of the crop is greatly lessened owing to the larger proportion of light seeds and screenings which are rejected when it is offered for sale. Frequently the extra labor and expense of harvesting portions of the crop at different times are made necessary.

A still more serious drawback results from the fact that many weak plants perish in the seedling stage. If any of the seeds are lacking in vigor, even though they may germinate, a sudden

variety were covered with the same depth of sand and were kept under similar conditions throughout the experiment. Equal amounts of the same food solution were given them from time to time. A record was also kept of the germination. At the close of the experiment, which ceased before the plants had grown beyond the seedling stage, they were photographed, then taken out of the sand, cleaned and weighed while still fresh. Radish, amber cane, red Kaffir-corn, barley, sweet pea, winter vetch, oats, and rye were used in this experiment. The differ-

are more vigorous, but our experiments gave decisive indications that the contrary is true, at least in some cases.

ROOT DEVELOPMENT OF PLANTS FROM HEAVY AND LIGHT SEED.

The increase in the root development of plants resulting from the use of heavy seed is well indicated in fig. 80, I, which shows the fresh roots of four typical plants of the Red Valentine beans used in the experiment discussed above. The weights were as follows: Fresh roots of plants from large seed, 9 and 17.7 grams, respectively; of plants from small seed, 4.1 and 4.5 grams, respectively.

Not only in weight, but also in length and number, were the roots from heavy seed greater than those from light seed. Neither length nor number of the main roots is of as great importance, however, as the total weight, which indicates not only a greater individual diameter, but also—and this is of much more significance—a vastly larger number of rootlets and root hairs for absorbing food from the soil. The weight of the fresh roots from both lots of beans was directly proportional to the weight of the seed, being nearly twice as great in lot a from heavy seed as in lot b. The comparative development of roots grown in the same soil and under other similar conditions can not alone be

ences in the comparative size of the seeds and seedlings is illustrated by figs. 81, 82, and 83, taken from photographs. The results of the experiments are given in the following table:

TABLE III.
EXPERIMENTS WITH HEAVY AND LIGHT SEEDS.

Name of variety.	No. of seeds in each lot.	Weight of seeds.	Number germinated.	No. of plants weighed each lot.	No. of days of experiment.	Weight of seedlings.
Radish, Early Long Scarlet.....	100	Grams.	A73	58	24	A49.5
		B1.037	B84			B31.5
Cane, Early Amber.....	100	A2.411	A43	43	40	A23.5
		B1.360	B48			B12.0
Kaffir-corn, Red	100	A3.298	A90	47	39	A22.0
		B1.741	B49			B13.0
Vetch, Winter	50	A4.077	A48	47	15	A33.0
		B2.099	B47			B18.0
Sweet Pea, Her Majesty.....	50	A6.092	A46	41	26	A58.0
		C4.015	C47			C44.4
Rye, University of Minnesota, No. 2....	50	A1.105	A45	45	23	A31.5
		B0.145	B45			B20.0
Oats, White Wonder.....	50	A1.298	A50	49	23	A37.2
		B0.805	B49			B25.0
Barley, Salzer's	50	A2.522	{ Not re-cord ed. }	{ Equal No. each lot }	19	A39.5
		B2.146				B34.5
		C1.496				C29.0
		D0.957				D23.0

Note.—A, heavy seed or seedlings; B, lighter than A; C, lighter than B; D, lighter than C.

As will be noticed by a study of this table, there was in every instance a marked increase in the weight of the seedlings from the heavier seed which was closely proportionate to the difference between the weight of the seed. The experiments were too limited in number to warrant any conclusion con-

cerning the difference, if any, in the germinability of the heavy and light seed, either as to the time the sprouts appeared or the number produced. In the various experiments some of the plants were used for other purposes and could not be weighed. The number of seedlings taken into account in the different lots of each variety was the same, so that the results are perfectly comparable. The seedlings from heavy

lighter seed of the same variety sown under similar conditions; and there seems no room for doubt that, in the majority of instances at least, the selection of large or heavy seed will amply repay the planter for all the extra time, labor, and money expended.

[A very effective machine for the

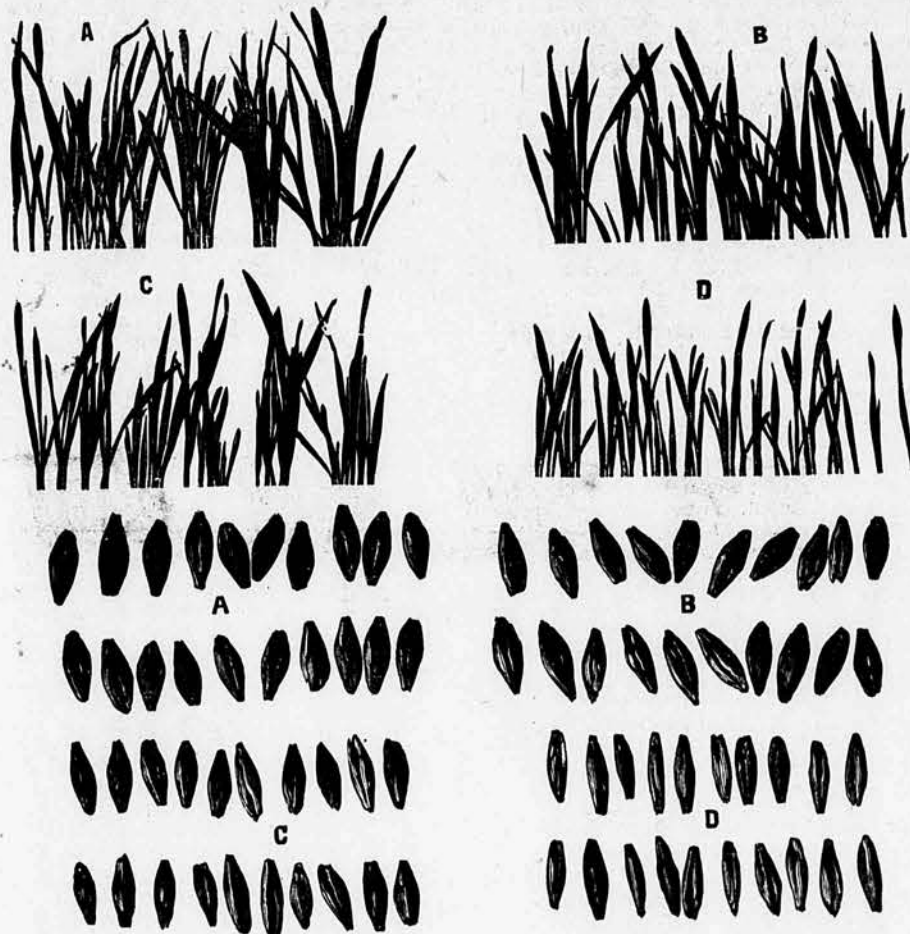


Fig. 81.—Early development of barley from heavy and light seed: Barley, Salzer's 13093. Planted September 30, 1896, photographed October 14, 1896. Seedlings weighed as follows: A, 39.5 grams; B, 34.5 grams; C, 29 grams; D, 23 grams. Fifty seeds were planted in each lot, weighing as follows: A, 2,522 grams; B, 2,146 grams; C, 1,496 grams; D, 0.957 gram. Typical seeds from each lot are shown natural size.

cerning the difference, if any, in the germinability of the heavy and light seed, either as to the time the sprouts appeared or the number produced. In the various experiments some of the plants were used for other purposes and could not be weighed. The number of seedlings taken into account in the different lots of each variety was the same, so that the results are perfectly comparable. The seedlings from heavy

rapid and perfect selection of heavy grain for seed has lately been put upon the market by the Eureka Manufacturing Company, of Lincoln, Neb. This is the only machine for this purpose so far as we know.—Editor.]

Many Questions.

EDITOR KANSAS FARMER:—G. Schmoker, of Earlton, Kans., asks a series of questions. He states that they do not

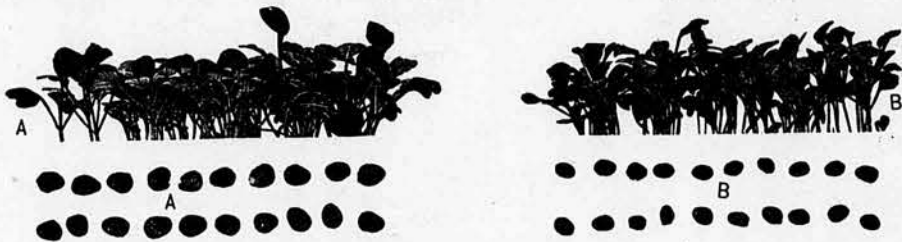


Fig. 82.—Early development of radish from heavy as compared with light seed: Radish, Early Long Scarlet, 11256. Planted October 16, 1896, photographed November 5, 1896. Fifty-eight seedlings of each lot weighed November 9, as follows: A, 49.5 grams; B, 31.5 grams. Typical seeds are shown natural size; A, 100 weighed 1.770 grams; B, 100 weighed 1.037 grams.

seeds always showed more vigor than those from the lighter seeds, and there seems no doubt that this superiority would have been maintained to a considerable extent in the field. Of the barley, four different sizes and weights were taken and a corresponding graduation was noted in the seedlings therefrom.

Owing to a lack of facilities, these ex-

periments were not conducted on a field scale, but numerous investigators both in this country and Europe have found that heavy seed-wheat, oats, etc., produce heavier crops in the field than

raise wheat where he lives, but thinks they could if they used commercial fertilizer. He wants to know what kind we use. Farmers here have not raised an acre of wheat for twenty years or more until now, and there are over 300 acres near me as against none before—an increase of percentage that is enormous. We all clubbed together and got amon-

lated ground bone, costing us \$1 per 100 pounds delivered here. Most of us used 60 quarts or about 100 pounds per acre, but some used more. I would like to use 100 quarts per acre, then plow up the wheat stubble and put it into the new early Siberian millet. Enough of fertilizer would be in the soil to grow the millet to a finish.

He wants to know what he is to do about bugs destroying other crops. Now here is the great thought, and

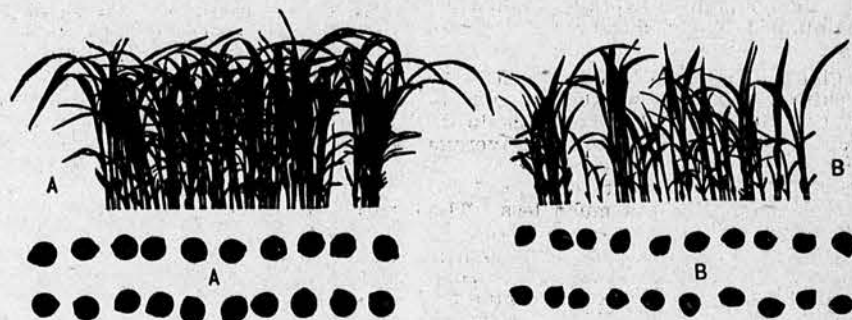


Fig. 83.—Early development of Kaffir-corn from heavy and light seed: Red Kaffir-corn, 11704. Planted October 16, 1896, photographed November 20, 1896. Forty-seven seedlings of each lot, weighed as follows: A, 22 grams; B, 13 grams. One hundred seeds were planted in each lot, weighing as follows: A, 3,398; B, 1,741 grams.

one of the most perplexing thoughts the wheat-farmer has to deal with. When the corn crop so nearly failed, I at once saw the need of winter pasture, and of a grain crop as early as possible the next season. Wheat naturally suggested itself, but the destruction of other crops by the bugs was the puzzle. After doing some tall thinking I decided to put in wheat with fertilizer; and on one side of the wheat-field I would raise flax; and on the other side, soybeans, using the flax where I would want to grow wheat the next year. I can plow up the flax stubble and grow a crop of Siberian millet in plenty of time to drill in wheat after the millet, and also raise millet after the wheat crop, thus adding many tons of best of feed for the cattle and hundreds of bushels of seed to sell or feed. The millet ought to pay all the cost of the whole season's work on the fields, giving the other crops as clear profit.

I feel as if I could not say too much about this new millet, the Siberian. It is the first millet I ever saw that remained green after being threshed, and that the stock would eat all up clean, not leaving the faintest trace that millet straw was ever on the place. Just think of this, brothers. We have all seen German millet straw left around the fed rack three feet deep, and the work of removing this when hauling manure, but we will never live to see any of the new Siberian millet wasted this way.

Now brothers, I have no seed to sell but have got to buy some more, so don't think I have an ax to grind. I would like to have every farmer in Kansas try a little of this millet and report the results.

Mr. Schmoker says that where he has sown clover with oats, the bugs did not trouble him and he thinks it paid him, although the clover dried up later on. Bugs can not stand shade, hence thick oats or oats and clover were too much for them. Much shade causes sickness among them and they die. He wants to know about the drill used here for wheat.

We use a disk, press-drill with fertilizer attachment, and they do good work. He wants to know if his broadcast seeder will do to sow the wheat and fertilizer.

No, it will not. Wheat must be put in with the fertilizer touching the seed, and the row of drilled seed must be firmly compressed, hence the benefit of the press-drill over any other kind.

Could he sow oats with a press-drill? Yes, also flax and millet. In fact, I believe it will soon become known generally that the press-drill is the best machine with which to put in any small grain.

Now brother farmers, I believe this plan of mine has solved the bug question and will enable us to all raise wheat by the use of fertilizer. Now let us have your opinions on the benefit of wheat for use as a pasture crop—whether pasturing hurts the crop or not. How much benefit is the wheat as a fall or winter pasture, and how late should it be pastured? Should it be rolled in the spring? Would harrowing it do any good? If rape was sown in the wheat in spring, would it injure the wheat? What good would it do to sow rape in wheat? I want to promote a discussion through the FARMER and hope I have "shook 'em up" so, that many farmers will "let their light shine."

Moran, Kans. J. C. NORTON.

When writing advertisers please mention Kansas Farmer.

Seed-corn.

EDITOR KANSAS FARMER:—We did not have any corn worth speaking of last season, so there are a number of farmers that will have to get seed-corn from other localities. I see a number of firms have seed-corn advertised in your paper, but I do not know if corn raised in Iowa will do as well the first year in central Kansas as native corn. I would also like to know what is the difference in value for seed, of corn 1 year

old and corn 2 years old. This I think is a very important matter to farmers of Kansas this year and any information in regard to it would be appreciated very much. AMOS HESS.

Hesston, Kans.

There is much difference of opinion as to the advantages and disadvantages of native seed-corn and that from a distance. Until recently the majority have favored importation of seed as a method of keeping up the excellence of the plant. Lately some adverse experiences have been reported. It will be remembered that last year a cargo of wheat was imported from southern Russia as a means of reinforcing the peculiar excellencies of Kansas hard winter wheat. The case is, by some, thought to be similar with corn, but on this point testimony is not uniform.

As to 2-year-old seed, much depends upon the conditions under which it has been kept. No one need remain a week in doubt as to the germinability of seed-corn. Put a few thicknesses of old newspaper, a little water, and twenty grains of corn in the bottom of a fruit-jar, screw on the lid without a rubber, put in a warm place, and the corn will soon give you more reliable information as to that sample of seed than can be obtained from any other source.

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When searching press or magazine
To catch a moment's bliss,
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"When Mabel Trips Across the Street,"
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"When Susie Seats Herself to Play,"
"When Stella Starts to Squeal,"
"When Celia Comes Upon the Stage,"
"When Helen Has a Beau,"
"When Sophie Skates Upon the Ice,"
"When Sallie Starts to Sew,"
"When Mother Makes a Johnnycake,"
"When Polly Pours the Tea,"
"When Father Shaves His Stubby Face,"
"When Susie Smiles at Me,"
"When Grandma Winds Her Ball of Yarn,"
"When Patience Packs Her Trunk,"
"When Sammy Spins His Brand New Top,"
"When Father Slays a Skunk,"
"When Ezra Eats Pie With a Fork,"
"When Charlotte Chews Her Gum,"
"When Gertrude Strikes Her Golging Ball,"
"When Baby Sucks His Thumb,"
"When Rachel Rakes the Meadow Hay,"
"When Betsy Bumps Her Crown,"
"When Willie Wears His Trousers First,"
"When Reuben Comes to Town,"
And so it goes from day to day,
No matter which you read,
The daily press or magazine,
"When" poems take the lead.

Our Boys and Girls.

MARGARET HILL M'CARTER, BEFORE OAK
GRANGE INSTITUTE.

Whoever would talk intelligently of country life must have known something of country life himself. All the theories about breaking colts and weaning calves and cultivating potatoes, useful as they are, need to be supplemented by the actual breaking in of colts, the bringing up of calves, and the growing of real potatoes from the planting in to the digging out of the same. So I who come to talk to you about "Our Boys and Girls," unless I too know something of the life-experience of the farmer's child can be of little service to you. Fortunately for me I have behind me many years of a life spent on the farm, and yet something of the farm-lore I have not forgotten. I know that clover sod makes good corn ground and that wheat may properly follow corn in crop rotation. And I know a trick about bumblebees who build their nests in the wheat stubble and rise to a point of order in late August when the ground is broken for seeding. I know wheat will keep nip-fles away from horses; what will cure a cow of the hollow-horn; how to sut a hen, and the Keeley-cure methods by which to break her of the habit; and I know when to pull the runners off the strawberry vines. And I'm very proud of my knowledge, or I should not be airing it here. I know, too, what it means to have lived the life of a country girl from infancy up to young womanhood, and to have always been in more or less intimate association and sympathy with the boys and girls from the farm. This is my excuse for being on this program to-day, and with your permission I'll come at once to my subject.

"Such should be the homesteads of our land,
Where who so wisely wills and acts may dwell
As king and law-giver in broad-acred state,
With beauty, art, taste, culture, books, to make
His hour of leisure richer than a life
Of fourscore to the barons of old time.
Our yeoman should be equal to his home
Set on the fair green prairies purple-
rimmed,
A man to match their distance
Not to creep dwarfed and abased across
them."

But to attain to this ideal we must understand something of the advantages, the needs, and the disadvantages of our girls and boys. If I were to judge farmers only by what I see here I should think them a well-dressed, well-fed, well-mannered, happy folk. But I can not measure country life altogether by what I see of it here. I think it was Dorley who said, "The country is the place where all the good things of life come from." But he added that "the city is the place where all the good things of life go to." The latter statement may or may not be correct, but the truth is, many farmers are poor with that sort of poverty that falls heavily upon their children. They may not be cold nor hungry and yet know that hard, grinding kind of existence that provides not all the comforts, and few if any of the luxuries of life. While in the aggregate Kansas farmers are well-to-do, and are reducing their mortgages where they have any (if the gospel according to Coburn be true), yet each of you here know at least one family where in dark, cold, cheerless bedrooms at night the children may dream of homes heated by furnaces, lighted by electricity, carpeted in every room; with pictures, pretty curtains, furniture, and bric-a-brac; where in summer time grass soft as velvet grows in the door-

yard and flowering vines hang over trellises—of all of which their home is bare. If I talk with a real-estate agent who has a farm for sale his story will run after this fashion: "It is an excellent farm but awfully run down. The man who lives on it got discouraged when the drouth came on, and just let things go. So the fences are down, the house 's out of repair, there never was a very good barn, and the weeds have nearly taken the place." It is a doleful picture, but the saddest feature of it is that boys and girls, children of discouraged parents, at the time when the spirit is fullest of hope and zeal, must look daily upon failure and neglect, upon growing weeds and starving stock; must see disorder where there should be beauty; must feel the lack of those things that labor or money may buy, and really need what they are forced to do without, because they are the children of poor farmers. Perhaps the business mind would see only an unfortunate investment or simply hard luck in all this, but I must think, too, of the girls and boys upon whom, in a way, hard luck always falls heaviest. Against this disadvantage, many and many a boy and girl is forced to struggle.

CEASE TOIL.

Again, the country child is bred to toil, "sentenced to hard labor for a term of years," as it were. Early rising does not imply an early bed time. After a long, busy day comes the never-ending choring at night. The boy must learn early to make a full hand in the field, must leave school in the spring and wait till the crops are harvested before entering it in the fall. The girl, too, must learn to do a woman's work. And of all the strenuous living under the sun that of the average farmer's wife is superlative. I think I know here what I'm talking about. And yet this seeming disadvantage is after all a blessing. The curse of the city-bred child is idleness. The curse of the community is the grown-up loafer. The habit of industrious employment is the best basis for the successful business of life. It shuts out of the brain the little evils that grow in idle soil whose fruits ripen in crime. It breeds in the mind a self respect, a sense of manhood and womanhood, of having rendered back something through honest toil that sets one free.

ISOLATION.

Another disadvantage is isolation. Lack of sufficient and proper association has kept down many a bright young mind to the level of ignorant hired-help, has led to many an ill-assorted marriage and its consequent misery. Country telephone systems, rural free delivery of mail and good roads are slowly overcoming this isolation in social life. But not all neighborhoods have yet the free delivery of mail and telephones; and good roads are still an unrealized dream. But when good roads do come they will prove a powerful agent for social uplifting. When the United States Government built the old National pike road from Annapolis, Md., to eastern Illinois it did more for the advancement of Ohio and Indiana than the great Pan-handle system of railways ever could have accomplished. When polished shoes may replace gum boots, when shining carriages, well-groomed horses, horses in bright, clean harness may take the place of mud-crust turn-outs isolation which promotes discontent, envy, and ignorant living will cease to be as great a disadvantage to our young people.

OPPORTUNITIES FOR EDUCATION.

Another difficulty for our boys and girls is their inferior educational advantages. Each year sees a steady improvement in our schools, but the short term and the many grades under one teacher necessarily mar the educational development of our children. And you have noted too, how, sooner or later, your best teachers leave the country for the city schools; and I have noted how a teacher who fails in the city generally hunts up a place in the country. I would not imply here that most country teachers are of a poor quality and most city teachers are otherwise. The point I would make is that country children like their city cousins are possessed of certain inalienable rights. The mansion or the dugout wherein they first see the light of day; the asphalt paving or the plowed furrow over which their baby feet first stumble are mere accidents. But every child born into the world comes vested with the divine right to a good education. It is no favor bestowed upon him by the State—this opportunity for mental unfolding. It is the duty of the State, the first peaceful duty it owes, to give to our girls and boys the very best instruction that schools can furnish. High-salaried teachers, well-equipped schoolrooms, and the opportunity for regular attend-

ance upon the full term no farmer can afford to lift his voice against. And the schooling must go further than that given in the little red schoolhouse. Higher education is a common need. It is unnecessary for me to talk to such a company as this upon its value; you know it already.

In this matter of schooling, country children have after all an immense advantage. They learn economy of time and concentration. They can do without many of the frills of modern education so they give themselves up wholly to the common branches and they master them. The very best students of our high-schools and colleges come from the farm. I have the pleasure of numbering among my acquaintances a prominent professor in a great university of one of our northern States who is at the same time alderman in the capital city of the State near which the university is situated and is a recognized authority on all questions of municipal government. Our acquaintance began when as a big, over-grown country boy in plow-boots he lumbered into my high-school the biggest, awkwardest youngster there. More than that, he came from a most inferior family, all of whom except himself had weak eyes, and were by common consent "a respectable but mighty good-for-nothing tribe." This boy, Sam, used to sit stooped over in his seat and when I called him to account for it he said, with blushing frankness, "Miss Hill, I'm so tall I'm ashamed." Of course I assured him that only once does a man's length really count for anything and that is when he is measured for his coffin. But I did not need to urge the matter, for when he finished school he measured up to the standard of the valdicatorian and earned a university scholarship. Then he measured up to the requirements of a high-school principalship, and went as instructor into the school in which he had begun his higher education. Next I heard of him winning honors in the university at Jena, Germany, and now he is a professor in one of our own great universities. And he is not yet 40, and life is all before him. And Sam is only one of a great and growing class of country boys who yearly come up to fill the responsible places in all the useful callings of life. If any of your neighbors' children feel discouraged, do not fail to impress upon them that they are the very salt of the earth—these country boys and girls who know how to study and how to work.

CULTURE.

Close on the heels of education comes the need for culture. There is many a country boy or girl who can solve every problem in the complete arithmetic, who is weighed down in the company of the cultured by a sense of ignorance and awkwardness. There is many a well-to-do farmer who has Poland-China pigs and Plymouth Rock chickens whose cattle are whitefaces of the best Hereford strain and whose horses can proudly trace their ancestry back to Hambletonian 10, or Duroc, or old Justin Morgan, whose stock in fact is all thoroughbred—except his children. They are just common scrub—like their sire. Our girls and boys need an inheritance other than that which is taxable—the inheritance of refinement. It is well, exceeding well, to own and bequeath a competency in property, but he is wise who converts some of his bank-stock into books and his acres into art, that his children may grace their inheritance. It is their need and privilege to have beauty in their homes, and a cultivated sense of the beautiful to enjoy it. It is not a question of means so much as a taste for the artistic. To the farmer's child life has a richer meaning when his eyes are opened to a sense of the sweetness and grace of nature and art. The bird's song has a new melody for him and the wayside goldenrod forgets to be a weed. The fields of grain and rugged woodland become to him a picture fair to see.

"And higher, warmed with summer lights,
Or winter-crowned and hoary,
The far horizon lifts for him
Its inner veil of glory."

CHILDREN'S DUTY.

But the needs are not all in the form of obligation from parents. Our young people owe to their fathers and mothers a duty in obedience and reverence. It is a divine law whose promised reward is a length of days. In these years of much and conscientious child-study we are apt to overlook the beauty of the commandment, "Honor thy father and thy mother," and to forget to impress it upon our children. Yet it is the basis of good citizenship, and its second degree is patriotism. Obedience in the home makes respect for civil law easy. Reverence for parents is not far re-

In a Glass of Water.

Put a handful of *glazed* coffee in a glass of water, wash off the coating, look at it; smell it! Is it fit to drink? Give

LION COFFEE

the same test. It leaves the water bright and clear, because it's just pure coffee.

The sealed package insures uniform quality and freshness.



moved from love of country and pride in the stars and stripes. And here the home assists the school in its teachings. Whatever may be the political faith of the parents, that house is graced that has hung upon its walls the pictures of our martyred Presidents. The child who looks up into the strong, sad eyes of Abraham Lincoln has before him the face of

"The noblest man that ever lived in the tide of times."

With the telling off of years William McKinley's name will be pronounced more and more reverently as the name of a well-rounded, fine-fibered statesman and gentleman and Christian, who in his day and generation served his fellowmen with faithfulness and zeal and ability; and whose death made more hearts to ache than the death of any other man who had lived before him. And our boys and girls must feel and know these things against the day of their own obligations as citizens.

SUNDAY OBSERVANCE.

Following after obedience to parents and reverence for one's country and loyalty to its flag comes the need to our young people for better church facilities. Nothing in after years, I am convinced, can take the place of the character development that comes through regular, habitual attendance upon Sabbath-morning church-service. And it is the child's divine right to hear the gospel from men of power. It is a short-sighted wisdom that sends the poorest equipped preachers into the rural regions. Yet how often the children of the city slums have advantages denied to the bright, eager, deserving country children.

The breaking of the ten commandments or of any one of them is no less a curse to the American citizen to-day than it was to the Hebrew people who could not look upon the face of their law-giver when he came down from Sinai. We owe it to our children to bring them up in the nurture and admonition of the Lord. And the boy who puts in the Sabbath morning in salting the stock and the Sabbath afternoon in pitching horseshoes with neighbor boys, and the girl who prepares the Sunday feast for the table and fritters away the remainder of the day may in the hour of accountability lay upon us the responsibility for a Godless life.

ADVANTAGES OF RURAL LIFE.

Now against the disadvantages and needs of the farmers' children there is the other balance and it is not empty. As a rule they have health, robust bodies, a wholesome digestion, and a well-behaved nervous system; and these are the most effectual bulwark against sickness and sorrow and sin.

They have a knowledge of nature, of soils and subsoils. All word-lore is theirs. Trees and plants, rabbits and squirrels—the fowls of the air and the fish of the stream—they can call them all by name. They learn how to sow and reap; and they are weatherwise without the aid of the signal service.

Farm life develops mechanical skill. The children learn how to use tools, to mend harness, to regulate the clock, to set up a reaper, to make screen-door frames, to weave up trellises, to round a rick of hay, to manage a sewing machine and drive a traction engine. They are not green, these young people who live outside of city corporations. They are shrewd and skillful.

They are self-reliant and courageous, too. The boy can swim and dive like fish. They feed horned cattle and break in vicious colts. They can climb to dizzy heights, and they are not afraid in the dark. They can use fire-arms—not toy pistols but shot-guns with which they acquire unerring skill. And if you are possessed of the notion that your life is worth anything it is much safer to hunt with these boys than with their city cousins who aim to the west and

maybe hit some object away to the northeast.

One more benefit is their inheritance. They live near to nature's heart. The wide reaches of starry skies, the dew-bespangled fields of alfalfa, the driving showers across a sweep of meadow land, the odor of fresh-plowed ground, the misty pink sweetness of the early morning and the ineffable glory of sunset—all are theirs—theirs to keep forever. And however pitilessly the storms of care and grief and misfortune and suffering may beat down upon them in after years these things are a part of their bone and fiber, a beautiful possession forever.

CONCLUSION.

Now the sum of all this, of the poverty and toil and isolation and inferior education; of the need for culture and beauty and reverence and patriotism and church privileges; of the power of health and labor and courage and concentration and mechanical skill and contact with nature—the sum of it all is character. These things enter into the being of our children to make or mar their success in life, which means in truest sense their success in eternity. Happy for them if they come into manhood and womanhood disciplined but not overcome by their hardships and equipped through their opportunities and privileges to fill a sphere of usefulness which is a sphere of greatness. Happy for them, if they can gather from their early training a spirit of contentment, an appreciation of the dignity of honest labor and a realization of the true worth of things as distinct from that which is trifling and showy and useless.

Into the ear of every farmer boy and girl plodding along in sturdy persistence, tired at night and often discouraged and discontented, and falling altogether to know the power and wealth of the kingdom that is theirs, I would whisper if I could the beautiful gospel of labor as New Dyke has written it.

"I think the king of that country comes out from his tireless host, And walks in this world of the weary, as if he loved it the most; For here in the dusty confusion with eyes that are heavy and dim, He meets again the laboring men who are looking and longing for him.

"He cancels the curse of Eden, and brings them a blessing instead; Blessed are they that labor, for Jesus partakes of their bread. He puts His hand to their burdens, He enters their homes at night; Who does his best shall have as a guest, the Master of life and light.

"And courage will come with His presence, and patience return at His touch, And manifold sins be forgiven to those who love Him much. And the cries of envy and anger will change to the songs of cheer, For the tolling age will forget its rage when the Prince of Peace draws near.

"This is the gospel of labor—ring it ye bells of the kirk— The Lord of Love came down from above, to live with the men who work. This is the rose that He planted here in this thorn-cursed soil— Heaven is blest with perfect rest, but the blessing of earth is toil."

The Young Folks.

A Son or the Soil.

I

(Continued from last week.)

John was hurried along with the crowd at the depot toward the street, where they all boarded a passing car. He stood on the rear platform with sev-

eral other young men, all of whom he found to be students of Fairfax College. He listened eagerly to their talk, feeling strangely self-conscious, at their familiarity with the college and each other, contrasting with his own evident unfamiliarity, and hoping to learn something of the new life before him.

Presently one of the young men turned to him and said, "Are you going out to Fairfax?"

"Yes," said John, feeling grateful for the little attention, but a little awkward still, as the young men all looked toward him.

"One of the new Freshmen, I suppose?"

"Yes," said John again, wishing he could think of something besides that insignificant little word to answer.

One of the others spoke up now, with some show of interest, "Going into the cane-rush?"

"I guess so," not knowing in the least what was meant, but giving the answer that was evidently expected of him.

"Well, you'll run up against a pretty tough proposition when you tackle those Sophs. I'm one of 'em myself, so I know what I'm talking about."

"That's right, Eastman," said the one who had spoken to him first. "You've got a pretty good-sized class. But you just look out for the Freshies this year—biggest class in the history of the college! Come along, Freshie, here's where we get off."

John picked up his heavy valise and followed the others. He saw before him the big gray buildings set at the top of a long gentle slope, looking over the tops of the graceful pines and cedars that surrounded them. The odor of the pines was in the air, and the soft light of the September sun filtered through their branches. To him it was a beautiful place, destined to become more dear in the months that he was to spend there.

He saw boys sitting on the high stone steps; groups of boys and girls chatting and laughing in their pleasure at meeting old friends; and he saw also, other lonesome mortals like himself, wandering awkwardly about, striving to feel at home, and somehow the sight of them made him feel a little less strange.

His companions led the way up the stone steps, stopping here and there on the way to exchange greetings with acquaintances, and, pushing open two heavy doors and walking down a long hall, finally entered a large room crowded with whispering young people.

"You'd better go up there and register," said one of his new friends, remembering him for a moment, pointing toward a desk on the opposite side of the room.

John made his way to the desk, which was surrounded by a group of students, new and old, and as he awaited his turn, he had an opportunity to see how it was done. After he had written his name and paid fifteen dollars of his precious twenty-five for his first term's tuition, he started out to find a rooming-place.

II.

JOHN'S FIRST LETTER HOME.

Sept. 26, 19—.

Dear Ma:

I went to church this morning, the Baptist. Most of the fellows went to the Methodist, because it is near, and they like the preacher, but you said for me to go to the Baptist, so I went, but I guess I'll go with the other fellows next time.

This is a great old place. My, I feel like as if I wasn't John Copley anymore but some other fellow. I don't know what to tell you about first. My money is most gone and I've got to kick around some way to get some more. I wouldn't go home now if pa would give me the whole farm. I'm going to go through the whole four years if I have to starve at it. Say, those senior fellows are great. Seems like a long time before I'll be one, but I'll be somebody when I do.

Lots of the fellows deliver papers and pay their way that way, but you have to pay a lot for the right to do it. They have "routes" and they buy them, and when they are through with them, they sell them to some other fellow. Ma, do you suppose you could get pa to loan me three or four hundred dollars? I could pay it back it three years. That is what I heard some of the boys say. Oh, well, I don't suppose pa would do it. There's one fellow that tends to the furnace-fires in all the buildings and he gets his tuition for that. Wish he'd get sick and I'd get his job. I know a boy that lives here in town—a real nice fellow, too. He's a cripple. Well, his father owns the biggest bookstore here in town, and he thinks may-

be he can get me a place in the store afternoons and Saturdays. He says he most always has a clerk from the college that way. That would be great. Well, I'll find some way of getting along and don't you worry. Pa says I am my mother's son, you know.

There is some awful smart folks in this college. It will keep me digging to keep up. Say, there is the most girls goes here to college. Almost as many girls as boys, and they seem to be pretty smart, too. Tell Sylvie girls as old as her don't wear their hair tied down like she does it. They do it up in some kind of wad, and it looks lots better than hers.

They are talking some of having some kind of a singing club. One of the boys that sat next me in chapel the other morning said I ought to go into it. He said there was always room for a good tenor. I said I would think about it. If it don't cost too much I guess I'll join.

We had a class-meeting Friday, and I was elected secretary. We have got a fine class. The president is a girl, and my but she is pretty. I never thought red hair was pretty, but it looks nice on her. Her name is Eleanor Blake. We are going to have a cane-rush. I don't know just exactly what it is, but it is against the Sophomores. They are our enemies.

Some of the fellows played tennis yesterday. My room-mate knows the girl that owns the tennis-court, and he told me to come along up and he would introduce me to her. She is a jolly girl. She just talks to a fellow as if she had known him forever and she is just as nice all the time, too. Her name is Miss Weymouth, and she said she would be glad if I would play there sometimes. I told her I didn't know how, but she said it was easy for a boy to learn.

Our botany teacher is fine. I wanted to ask him something the other day, about the lesson, and he said to come over to his room that night and he would show me a specimen. So I went over, and say, his room is fine. He has got books all around the walls and magazines on his desk, and pictures all over, and cushions and a lounge and an easy chair. I declare, I wanted to stay there. It's finer than our parlor. He has got a little room besides that one, with a piano in it, and some more books, and it is just full of pictures of girls and ladies and men. He said he liked to drum on his piano once in a while when he felt homesick. I was pretty homesick the first night after I came, but I guess I'll not get that way again. Your son,
1694 Monroe Ave. JOHN COPLEY.

QUESTION BOX.

Neckwear.—What is the latest style in neckwear for young girls? H. M.

One might almost say, anything that is pretty, for there is an infinite variety. A very simple and pretty style is like this: Get a yard and a half or two yards of ribbon; pass it around the neck, crossing in the back and tie in a common four-in-hand knot; then, about three or four inches from the knot, make a small doubt bow-knot. Stocks can be made of any left-over piece of velvet, satin, or silk, trimmed or untrimmed. A narrow roll around the top of some contrasting or harmonizing color adds very much to the effectiveness of a plain stock. Many people have stitched collars of the same material as the waist, and then tie a narrow ribbon—an inch or less in width—around the top.

You see there is room for a great deal of originality and individuality in that very small and unimportant thing, a collar.

What Studies Shall a Farmer Boy Take?—I expect to go to college next fall. Do you think it worth while for a boy who wants to be the best kind of a farmer to take anything but technical studies? What's the use, for instance, of literature or Latin for a man who expects to spend the rest of his life on a farm? CINCINNATUS.

This is the most difficult question that has yet come to this department, and one upon which one can only give an opinion. Of course, a familiarity with Latin, Greek, literature, psychology, the higher mathematics, etc., will not enable you to raise more wheat to the acre or to improve your kind of stock, while there is no doubt that a knowledge of plant-breeding, soil-physics, and like "technical studies" does help very materially in improving farm condi-

tions and will, in the end, "put money in thy purse."

However, I see no reason why "a man who expects to spend the rest of his life on a farm" does not need culture and a knowledge of the things that are contained in books as much as a man who expects to travel all over the world for the rest of his life. A man with a well-stocked brain and a cultivated mind will always be a profitable companion, not only for himself, which, as Mr. Gleed has reminded you, is no small consideration, but also for his family and associates.

Since Cincinnatus has done us the honor to ask our advice, we would say we think it decidedly worth while to study literature, because thereby we learn to know the greatest and best men of the world; and science, because the whole world of nature, from the smallest bud to the mighty rocks, becomes a vast library, every most ordinary phenomenon having its own wonderful story to tell. But Greek and Latin we would leave for the specialist and the man who has plenty of time at his disposal, because the benefit to the man who must get to business as early as possible is not sufficient to pay for the time spent upon them.

FOR THE LITTLE ONES

THE SPOILT CHILD.

'Cause Herbert Graham's a' only child—
"Wuz I there, ma?"
His parents got him purt'-nigh spoiled—
"Wuz I there, ma?"
Allus ever where his ma tells
Where she's bin at, little Herbert yells,
"Wuz I there, ma?"
An' when she telled us wunst when she
"Wuz ist 'bout big us him an' me,
W'y, little Herbert he says, says-ee
"Wuz I there, ma?"
Foolishest young'un you ever saw—
"Wuz I there, ma? Wuz I there, ma?"
—James Whitcomb Riley.

Shortie and Charlie and Ettie.

Once there was a little boy named Charlie; and he had a little sister whose name was Ettie. Now, Ettie was a dear little girl, and Charlie loved her dearly but sometimes he forgot to be good to her.

So, one day, when there was snow on the ground ever so deep, and it was very cold, Ettie said, "Charlie, won't you take me a ride on your pretty sled?" and he said "No," just as cross, and so Ettie almost wanted to cry, but instead, she just laughed and ran away to play with her dear, ugly rag-doll, Judy. And Charlie did feel a little ashamed of himself, but he was afraid to say so. Wasn't that queer? Afraid to say he was sorry! But after awhile, they heard some sleigh-bells jingling merrily, and when they ran to look out of the window, what do you think they saw? They saw a nice pretty sleigh painted red and black and there were a man in it, and a little boy. When Charlie's and Ettie's mamma opened the door, they saw it was the doctor who had made Ettie well when she had the mumps, once, so their mamma said, "Why, how do you do, doctor? Come right in and warm yourself by the fire."

And the doctor said, "No, I thank you. But I should be glad if my little boy could stay here with Charlie and Ettie until I come back from seeing a sick man who lives about a mile farther on."

So Charlie's mamma said she would be very glad indeed, and though Charlie did not say anything, he smiled and thought it would be very nice to play with a boy just about as big as he was.

The little boy came in and warmed himself by the fire and he said his name was Clifton, but that the other boys called him Shortie, because he was so short. So Charlie said, "Shortie, let's play with my sled."

Clifton was a very nice boy, so he said, "All right, we'll let the little sister ride in the sled, and we'll be her horses and she can drive us."

That made Ettie smile a big, wide smile, because she wanted so very much to have a sled-ride. Her mamma wrapped her up so warmly that she looked like a little bundle, and you could only see the end of her little red nose, and her bright eyes sparkling.

And Charlie and Clifton had ever so much fun pulling her in the sled, for they ran very fast. And once they tipped her right out into a snow-drift and they all thought that was very funny and they laughed until mamma opened the door and looked out to see what was the matter.

Then she called them in and gave each one a nice, big, fat ginger cookie and when they had eaten them, they heard some sleigh-bells jingling mer-

rely again and there was Clifton's papa ready to take his little boy home.

So Clifton had to put on his coat, and his cap, and his ear-muffs, and his mittens, again, and say "Good-bye" and start home.

And everybody was glad he came because he was such a nice little boy.

What Makes the Difference?

JAMES WILLIS GLEED.

The curse of poverty is not the lack of money; it is not hardship and deprivation. If a boy has no overcoat and is compelled to run a mile to school in the winter to keep the cold from reaching his very marrow, what of it? The exercise does him good. If a girl can't go into society because she has to work, or because she has no money for dress,—what of it? She will never know how many silly flirtations, worthless lovers, and tragic marriages she had luckily escaped. God knows best. Every added pleasure or comfort, every newly acquired dollar, or place, or power, or influence which God puts into the life of a man or woman, brings a new and added danger and responsibility which may in no wise be escaped; the temptation and danger of the ball-room is greater than that of the school-room or the shop. No, the curse of poverty is not deprivation or hardship. Deprivation is better from all points of view than gratification. Deprivation is nothing. The curse of poverty and its sole curse is loss of self-respect, loss of right views of life and of men.

All men endure what they can not escape; yet some lives are full of glory and magnificence and triumph, and others are only pitiful. What makes the difference? The difference lies wholly and solely in the spirit with which the accidents and incidents of life—its joys and sorrows, its so-called good fortune and ill—are met and treated. A life of sorrow and poverty and disappointment which simply grows steadily more bitter, selfish, and self-centered, is unhappy and pitiful. A life of ease and luxury and place and power, which grows steadily more selfish and self-centered, is unhappy and pitiful. But that life which grows broader and sweeter and more unselfish with each passing year, come good fortune or come ill,—that is the happy life and the life full of glory, magnificence, and triumph. Such a life may yours be.

The Stock Interest.

Sotham's "Kriterion" Sale.

Last week we had in hands the most extensive report of the sale that we have ever published and we greatly regret that owing to our special grange edition we could not use the full report; however, we present the detailed sales and a condensation of the report. The consignors to this sale were:

Mr. T. F. B. Sotham, Chillicothe, Mo., who sold fifty-one cows and heifers at an average of \$384.30.

Clem Graves, Bunker Hill, Ind., eight head; average \$1,077.50.

S. H. Godman, Wabash, Ind., nine head; average \$586.65.

F. A. Nave, Attica, Ind., ten head, four bulls and six heifers; average \$336.50.

The Egger Hereford Cattle Company, Appleton City, Mo., forty head, mostly bulls; average \$215.15.

J. C. Adams, Moweaqua, Ill., twelve head; average \$317.50.

Geo. F. Henry, Goodenow, Ill., twelve head; average \$285.85.

C. B. Smith, Fayette, Mo., ten head; average \$249.50.

Makin Bros., Lee's Summit, Mo., nine head; average \$197.25.

D. W. Black, Lyndon, Ohio, five head; average \$229.

Geo. H. Adams, Creston, Col., six head; average \$185.

B. E. Keyt, Newtown, Ind., four head; average \$212.50.

James Paul, Patch Grove, Wis., five head, cows and heifers; average \$242.

Jesse B. Fernow, Leesburg, Ohio, one heifer; \$200.

S. L. Studebaker, Warren, Ind., one cow; \$910.

T. H. Carrothers, Ryan, Iowa, one heifer; \$450.

The general averages for the sale were as follows: One hundred and thirteen females sold for \$42,145, which was an average of \$373; 71 bulls sold for \$20,730, or an average of \$292; 134 head sold for \$62,875, or an average of \$341.70.

The story of the sale, briefly and artistically told by the Breeder's Gazette, follows:

"The Kansas City 'Kriterion' sale of Herefords seems to have measured up to its name. At least in representative attendance and averages it affords a mark to shoot at for the rest of the year. With an attendance from coast to coast, a total

of \$62,875 and an average of nearly \$342 on 134 head of cattle it need scarcely be pronounced a huge success, as the figures speak. Fourteen prominent breeders contributed to the offering, which was widely scattered. Nearly every State was represented, from Washington on the Pacific coast to Virginia, and from the Dakotas on the north to the Gulf. The Hereford breeding contingent in Indiana was represented by practically all the leading breeders of 'whitefaces' in the Hoosier State. It was certainly one of the largest and most representative gatherings of Hereford breeders that has yet been called out by an auction sale. But for the presence of a number of cattle that should have had no place in such a select offering the averages would have run considerably higher. The end of the sale found plenty of buyers still wanting cattle. Mr. Clem Graves sold his show herd and realized far more money for the same number of cattle than any other contributor.

The feature of the event from a price standpoint was the sale of the 13-month-old Good Cross, son of Imp. Improver and The Grove Maid 22d, second dam Pretty Face by Anxiety, third dam Pretty Maid by Longhorns, the sire of Anxiety. Probably no bull living is bred as this youngster. In offering him Mr. Sotham requested that the purchaser should give him the first chance to buy Good Cross back in case he was placed again on the market. Messrs. J. B. Egger, of Missouri, John Hudson, of Texas, and S. H. Godman, representing the Wabash Stock Farm Company, of Indiana, looked horns over this bull up to \$1,700, when Mr. Hudson and Mr. Godman continued the contest, the young bull finally falling to the bid of the latter at \$3,995, which is the top price for a bull of the breed at that age. Mr. Graves topped the female contingent at \$2,300 with the Corrector cow. Happiness, with heifer calf at foot by Improver and bred to Dale. Carruthers Bros. secured her. Mr. Sotham sold no females of his own breeding. The strong prices made by the young bulls from Weavergrace was the feature of the event, the average standing at \$486.45 for twenty-four bulls; the twenty-seven females averaging \$293.55. Mr. Sotham advises us that all things considered he believes the 'Kriterion' to have been the best sale of the breed ever held.

"The banquet at the Midland Hotel, tendered on Tuesday night by Mr. Sotham to those in attendance on the sale, was enjoyed by over 300. Gen. Frederick Funston, of Kansas, who has distinguished himself in the Philippines, was among the guests of honor and spoke briefly. He was very enthusiastically received. A large number of toasts were happily responded to. The second evening's entertainment proved highly interesting and instructive. Messrs. Geo. F. Morgan and John Gosling, veterans in the trade, delivered talks on beef-cattle form and quality and Hereford type and character, illustrated by some of the animals in the sale and by a veritable 'scrub' especially provided for the occasion."

The complete sale list is appended:

BULLS.

Good Cross 120180, Wabash Stock Farm Co., Wabash, Ind.	\$4,000
Don 122944, John Hudson, Canon, Tex.	200
Almo Wilton 113635, John Hudson.	100
Pleasant Boy 118922, Holt Bros., Laurel, Neb.	135
Prince Heed 91745, C. A. Shaffer, Wilson, Kans.	115
Brother Bredwell 117074, John Hudson.	265
Liquidator 120190, R. H. Hayzlett, Eldorado, Kans.	250
Pathfinder 120193, R. T. Thornton, Kansas City, Mo.	230
Gov. Yates 121830, John Hudson.	100
Rowland 110358, J. A. Griggs, Appleton City, Mo.	150
Lew Rolls 108391, W. Henselman, Garden City, Kans.	120
Prompt Reward 108398, W. Henselman.	125
David Harum 113664, W. A. Parrott, Greenville, Mo.	175
Lucky Cross 119541, J. H. Howe & Son, Emporia, Kans.	200
Master Grove 124552, R. H. Hayzlett.	205
Prince Rupert 5th 106016, Corrothers Bros., Ryan, Iowa.	175
Sovereign 123337, H. G. Clarke, Craig, Neb.	400
Judge Peabody 126936, H. Holderman.	120
Molter 110354, R. C. Burns, Lovelace, Texas.	100
Quackenboss 110357, R. C. Burns.	115
Lord Cassidy 108893, R. C. Burns.	100
Rabbitt 108857, R. C. Burns.	100
Solomon 91203, H. G. Clarke.	95
Sylvester 110361, H. G. Clarke.	85
Capital 119115, Makin Bros., Lees Summit, Mo.	300
Serenade 124558, G. E. Jewett, Reno, Kans.	100
Broxwood 120171, Geo. Way, New Sharon, Iowa.	390
Lord Lovell 126553, Sam Lazarus, Abilene, Texas.	350
Concubination 120173, Edw. Taylor, Fremont, Mich.	250
Algood 117092, McMillan Bros., Lubbock, Texas.	225
Chilli Real 108880, W. J. Scott, Timber Lake, Okla.	180
Peacemaker 102899, W. Henselman.	150
Insurer 108889, W. Henselman.	195
Sagee 102905, W. Henselman.	125
Bolter 108879, H. G. Clarke.	115
Elevation 121828, John Gosling, Kansas City, Mo.	230
Bright Lad 119534, Corrothers Bros.	300
Beau Donald 121073, Colin Cameron, Lachiel, Arizona.	450
Orpheus 3d 115946, J. S. Kennedy, Yorktown, Iowa.	125
Commander 127373, J. M. Harman, Fairport, Mo.	170
March On 13th 106675, Stewart & Hutcheon, Greenwood, Mo.	740
Comprador 109919, Geo. D. Wolford, Lubbock, Texas.	425
Bequeather 93977, Corrothers Bros.	1,100
Emancipation 126547, J. C. Watts, Cincinnati, Ark.	1300
Just Viscount Rupert 123357, H. S. Fickel, Laredo, Mo.	230
Iconoclast 108887.	...
Truce 113162, Garret & Mathews, Bwings, Mo.	200
Blushing Lad 2d 124546, John Gosling.	300
Masterpiece 91742, Stover & Enon, Spokane, Wash.	705
Oakwood Hesiod 22d John Gosling.	140
Alex. 123335, Sam Jacobson, Wakonda, S. D.	400
Conqueror 127374, H. T. Fickel.	600
Cynric 120174, N. C. Mashner & Son, Salisbury, Mo.	600
Improvement 120184, W. E. Stilwell, Searsboro, Iowa.	300

Diplomacy 120175, Tom Evans, Hartford, Kans.	200
Lancaster 120189, C. N. Thompson, Merwin, Mo.	300
Nettleton 120192, C. C. Lilly, Stark, Kans.	355
Intruder 110345, F. L. Studebaker, Warren, Ind.	125
Browning 118341, H. G. Clarke.	115
Howitzer 108886, Albert Swartz, Soldier, Kans.	125
Bedstone Boy 115942, John Gosling.	145
Compromise 131556, G. A. Giles, Sabetha, Kans.	130
Puritan 120197, R. C. Burns.	500
Masher 108895, J. A. Harper, Corydon, Iowa.	130
Follower 110343, H. G. Clarke.	100
Pickrell 110350, H. G. Clarke.	125
Don 127774, John Gosling.	140
St. Armour Lad 119545, Stover & Enon.	155
Duke of Woodland 119543, Jas. Adams, Moweaqua, Ill.	500
Prince Walnut 6th 119051, C. C. Lilly, Star, Kans.	120
Clarendon 120172, J. A. Harper.	335
Doric 126544, Jas. V. Hill, Round Head, Ohio.	2,050

FEMALES.

Madrona 73658 and c. c. O. Harris, Harris, Mo.	\$1,050
Honor 98915, J. Hartley, Fairmount, Ind.	760
Keep On Duchess 100283 and c. c. S. H. Godman, Wabash, Ind.	800
Sultor Lass (imp.) 111885, Clem Graves, Mary M. 2d 68656, J. R. Campbell, Independence, Iowa.	375
Sparkle 63552, J. R. Campbell.	360
Dot Dot 66336 and b. c.	655
Gem 2d 50290 and b. c. R. C. Burns.	485
Buttercup 3d 127372, Geo. S. Redhead, Des Moines, Iowa.	200
Angelica 4th 9273, C. A. Jamison.	120
Just Sylvia 92730, Geo. D. Wolford.	225
Gypsy Queen 92740, J. F. Ferrell.	250
Angelica 3d 82573, R. C. Burns.	205
Ada 5th 81170, Clem Graves.	225
Prairie Rose 4th, C. A. Jamison.	300
Bella 95619, T. F. B. Sotham.	375
Eureka Maid 93012, T. F. B. Sotham.	250
Maud's Maid 110889, Sanford Bros., Newcastle, Ky.	300
Promise 118099, Sanford Bros.	425
Lou H. 4th 112530, Geo. Way.	225
Flower Miss 2d 91187, Sanford Bros.	300
Florodorn 118178, Clem Graves.	150
Miss Nellie Bly 8th, Clem Graves.	40
Gipsy Girl 84244, D. W. Black, Lyndon, Ohio.	360
Fancy Edith 2d 82584, Jas. W. Hill.	255
Rosamond 4th 102904, H. D. Anderson, Kearney, Mo.	155
Miss Flower 2d 91187, F. A. Nave, Attica, Ind.	275
Cosette 77842, G. E. Jewett.	200
Princess 120216, S. L. Brock, Macon, Mo.	150
Flossie 119539, Clem Graves.	350
Miss Excellent 118093, C. N. Thompson.	205
Jessie T. 2d, C. N. Thompson.	175
Maude Louise 111011, J. L. Carmine, Leroy, Kans.	205
Park Blanch 69224, J. Hartley.	1,080
Garland 64038, F. L. Studebaker.	675
Clio 4th 67642, S. L. Brock, Macon, Mo.	230
Rose Blossom 72723, J. L. Carmine.	235
Carmine 2d 67640, R. C. Burns.	210
Clara Chilli 81172, Chas. Billan, Heston, Kans.	235
Countess Wilton 3d 86291, C. A. Jamison.	235
Inez 5th 71302, C. A. Jamison.	200
Lady Banks 102895, J. D. McCowan, Newman, Ill.	285
Powerful Queen 93016, Holt Bros.	230
Millie 121684, Sam Lazarus, Abilene, Texas.	330
Lady Real 2d 79650, John Hudson.	200
Miss Silicia 124555, C. A. Jamison.	300
Mrs. Stouebunner 109900, D. D. Akin, Marion, Kans.	300
Lettie 117719, J. D. McCowan.	200
Lady Dale 121115, F. L. Studebaker.	825
Lady Wiltonia 102830, F. L. Studebaker.	700
Snowflight 3d 87682, Jones Bros., Comiskey, Kans.	300
Ready 110643, J. A. Harper.	140
Miss Pearl Dixier 118399, J. A. Funkhouser, Plattsburg, Mo.	250
Lady Harrison 4th 118995, S. H. Godman.	190
Miss Pearl 110643, F. L. Studebaker.	350
Rosebud 2d 92745, S. L. Brock.	240
Sylvia 3d 102906, S. H. Godman.	240
Countess Dunsmore 5th 102889, R. Jewell, Hereford, Texas.	230
Miss Zada 12455, A. R. Ohl & Son, Iowa City, Iowa.	200
Sadie L. 112537, Clem Graves.	225
Merry Day 118091, O. Harris.	200
Imp. Evadine 117872, Holt Bros.	405
Belle 5th 77601, M. Holderman, Cheyenne, Wyo.	360
Rosalind 95634, W. Henselman.	320
Polly 91198, S. H. Godman.	375
Verbena 81205, W. Henselman.	275
Vivian 6th 71325, S. H. Godman.	505
Primrose 109489, W. P. Campbell.	230
Delight 119536, Clem Graves.	375
Deborah 60447 and b. c. M. Holderman.	240
Flancee 2d 119538, S. L. Brock.	385
Beatrice 102482, F. L. Studebaker.	300
Dora Thorne 118061, A. R. Ohl & Son.	345
Margaret 118057, S. H. Godman.	420
Mary M. 5th 112532, T. F. B. Sotham.	225
Leon B. 3d 108602, Geo. Way.	290
Imp. Bright Girl 126977, Sam Lazarus.	150
Doranna 3d 91588, Corrothers Bros.	630
Peerless Queen 3d 96179, F. S. Studebaker.	725
Mapleleaf 71991, Benton Gabert & Son, Dearborn, Mo.	675
Happiness 94012, Corrothers Bros.	2,300
Bright Duchess 32d 109733, Jos. Adams.	1,200
La Tosca 98778, John Hudson.	275
Cora 96367, Geo. D. Wolford.	280
Beauty 7th 127371, J. D. McCowan.	330
Rosebud 72724, C. A. Jamison.	210
Miss Pearl Juryman, Jas. Funkhouser.	315
Clematis 84210, C. A. Jamison.	305
Lady Almont 79367, Jas. A. Funkhouser.	435
Fancy Agnes 4th 92739, G. E. Jewett.	295
Clio 3d 12484, J. E. Ferrill & Son, Calio, Mo.	390
Peamleaf 2d 81173, C. A. Jamison.	405
Elsie 6th 102891, C. A. Jamison.	350
Mable 86296, S. H. Godman.	275
Martha 91195, Stover & Enon.	300
Lady Real 3d 120215, S. L. Brock.	160
Belle of the Woods 119532, A. R. Ohl & Son.	200
Minnie C. 89075, Nathan Dougherty, LaGro, Ind.	505
Amy Adams 119847, Clem Graves.	210
Lucy 5th 112531, W. P. Campbell.	305
Darling 123336, J. W. Meyer, Moweaqua, Ill.	200
Peerless Maplewood 96178, Nathan Dougherty.	505



"Love lightens labor," the saying runs, and in a sense it is true. But even love cannot lighten labor or make it easy for the woman who is in constant suffering from inflammation, bearing-down pains or other womanly diseases. The one thing that can make work easy for women is sound health, and Dr. Pierce's Favorite Prescription is the thing that will give sound health to sick women. It cures womanly diseases which cause weakness, and cures the backache, sideache, nervousness and other ills which are the result of womanly diseases.

"I suffered from female weakness for five months," writes Miss Belle Hedrick, of Nye, Putnam Co., Va. "I was treated by a good physician but he never seemed to do me any good. I wrote to Dr. R. V. Pierce for advice, which I received, telling me to take his 'Favorite Prescription' and 'Golden Medical Discovery.' When I had used the medicines a month, my health was much improved. It has continued to improve until now I can work at almost all kinds of housework. I had scarcely any appetite, but it is all right now. Have gained several pounds in weight. Dr. Pierce's medicines have done wonderfully well here. I would advise all who suffer from chronic diseases to write to Dr. Pierce."

"Favorite Prescription" makes weak women strong, sick women well. Accept no substitute for the medicine which works wonders for weak women. Dr. Pierce's Common Sense Medical Adviser is sent free on receipt of stamps to pay expense of mailing only. Send 21 one-cent stamps for the paper-covered book, or 31 stamps for the cloth-bound volume. Address Dr. R. V. Pierce, Buffalo, N. Y.

Miss Zenoba 103464, Jos. Adams.	910
Sally Edwards 66077, Jos. Adams.	930
Miss Java 2d 94200, Nathan Dougherty.	900
Sophie Edwards 81204, Corrothers Bros.	505
Pearl Standley 107372, J. V. McCowan.	315
Lady Darling 105709, Jas. Hill.	200
Marie Anxiety 3d 116241, J. V. McCowan.	455
Gipsy Maid 3d 67646, J. Carmine.	230
Gipsy Maid 4th 82585, John Hudson.	300
Fancy Agnes 5th 105807, A. R. Ohl & Son.	240
Clio Fancy 92734, W. E. Stilwell.	235
Victoria 3d 105815, Geo. Way.	265

The Central Shorthorn Breeders' Association.

The Central Shorthorn Breeders' Association began its fifth annual meeting in the assembly room of the live stock exchange at 11 o'clock on February 4, 1902. Attendance at the morning session was light.

Pres. H. C. Duncan, of Osborn, Mo., called the meeting to order and introduced G. M. Walden, president of the Kansas City Live Stock Exchange, who made the address of welcome.

T. J. Wornall, of Liberty, Mo., responded in behalf of the association.

Pres. H. C. Duncan then delivered his address. In part he said:

"Shorthorns have increased in favor and in price very materially in the last twelve months; the demand has not only been greater, but prices have been much higher than for the past fifteen years. The outlook is also brighter for the future."

Keep Your Bowels Strong.

Constipation or diarrhoea when your bowels are out of order. Cascarets Candy Cathartic will make them act naturally. Genuine tablets stamped C. C. C. Never sold in bulk. All druggists, 10c.

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How can we do this? Because we manufacture our own factory and vehicles well. Get one of our free money saving catalogues.

Kalamazoo Carriage & Harness Mfg. Co., Station 32, Kalamazoo, Mich. (Pioneers of the Free Trial Plan)



rest and

reau of Animal Industry, was present and took Mr. Wilson's place on the program. Mr. Rommel said:

"For the past ten years it has been persistently reported that the ratio of live stock per capita in the United States was gradually decreasing. This is not true. I knew Mr. Wilson's paper embraced some figures on this question, and as the paper is not at hand I am able to supply the statistics."

The statistics follow:

the regularity of clock-work. Twenty years of straightforward record-making work has given this great herd a prestige to which it is richly entitled. It is a practical demonstration of the possibilities open to the Galloway breed that right fully challenges the attention of the entire cattle growing world. If you have not yet secured the catalogue, do so at once. The arrangement is logical, everything is plain, the breeding is like fine silk, and the cattle themselves are well

R. S. COOK." "Mr. Wilbern Bush. Dear sir: This is to certify that I have thoroughly used your Gas Releasing Bits, and I can say they are all right. I have turned my cows on alfalfa in the morning when the dew was on, and also left them on when it was raining, and I have had no trouble with them bloating since I received them; before that, I lost a fine thoroughbred heifer and had some others to bloat several times. I can heartily recommend them to the public generally and will use them right along. Yours respectfully, C. O. AUSTIN, Iola, Allen County, Kans."

WONDERFUL WORK OF A MISSOURI MAN.

The Remarkable Cures Being Made by Prof Weltmer, the Great Healer, Has Given Him a World-wide Reputation.

WILL SEND MAGNETIC JOURNAL FREE

Prof. S. A. Weltmer, the noted magnetic healer of Nevada, Mo., proposes to give each of our readers a free copy of his Magnetic Journal, which contains information of vital interest to every man and woman who wishes health and happiness. This 40 page Journal fully explains Weltmerism, that wonderful method of curing diseases without the use of drugs or the surgeon's knife. His method of treatment banishes disease as if by magic. Jno. G. Bishop, of Noblesville, Ind., had a cancer on his face and was given up to die by his family. He was cured by the Weltmer treatment in two months. S. A. Black, of Manhattan, Kans., was afflicted with rheumatism and had to walk with a cane. He was cured by this method even without seeing Professor Weltmer. Mrs. Anna Deason, of Carter, Texas, had been confined to her bed fourteen months suffering with female weakness, stomach and kidney troubles and medicine failed to cure her. She tried the Weltmer treatment and was permanently cured. Thousands of others all over the land have been restored in the same manner. This method reaches cases that are pronounced incurable by medical doctors. Send for a copy of the Magnetic Journal which gives a long list of the most astounding cures. It is sent free.

TEACHES HIS ART Professor Weltmer teaches his wonderful art to others and it is the grandest and best-paying profession of the age. It can be taught by mail or personal instructions. Address Prof. S. A. Weltmer, Dept. 2, Nevada, Mo.

type; Perfection Pansy, out of Pansy Perfection, by Chief Perfection 2d, and sired by Perfect Boy, by Perfect I Know. Both of the above are bred to Skylight Perfection, who claims the proud distinction of being the best Chief Perfection 2d pig in the West. But there are others. A fall yearling by Dietrick & Spaulding's herd-boar, Ideal Black Chief, is a good one, as well as one of the same age by Kansas Black Chief, out of a dam by Chief Tecumseh 2d. Two full sisters of the gilt that Kirkpatrick & Goode sold into Indiana, and a fancy fall yearling by Chief Eclipse. If you want size, finish, and proved breeding qualities, you will bid on the herd boar Chief's Model 2244, which will be sold because of his close kin to the herd. Write for a catalogue, and see the breeding of these good things, and when you write, mention the Kansas Farmer.

February 25, 26, and 27 should be on every Hereford man's calendar in red figures, for these are the dates on which Gudgell & Simpson, Scott & March, O. Harris, Steward & Hutcheon, C. A. Stannard, Frank Rockefeller, Walter B. Waddell, and Mrs. C. S. Cross, announce that they will sell at Kansas "the best 200 head of registered Herefords to be sold during the year." When breeders as conservative as are the ones interested in this sale make an assertion of that kind it is pretty safe to bank upon it. Such being the case, the 200 head that will be

(Continued on page 184.)

LIVE STOCK STATISTICS.

Year—	Sheep.	Ratio per 1,000.	Hogs.	Ratio per 1,000.	Horses and mules.	Ratio per 1,000.
1840.....	19,311,374	1.131	26,301,293	1.541	4,335,699	254
1850.....	21,732,220	937	30,354,213	1,309	4,896,066	210
1860.....	23,977,085	763	36,980,772	1,175	8,752,622	278
1870.....	31,851,000	826	29,457,500	764	9,944,300	258
1880.....	43,576,899	860	36,247,603	723	13,150,357	261
1890.....	43,431,136	694	50,625,106	898	16,353,232	285
1900.....	61,414,024	804	63,297,249	829	21,818,188	285

Year—	Milch cows.	Ratio per 1,000.	Other cattle.	Ratio per 1,000.	Total cattle.	Ratio per 1,000.
1840.....	4,837,043	283	10,134,513	592	14,971,556	877
1850.....	6,385,094	275	11,393,813	491	17,778,907	767
1860.....	8,728,863	278	20,234,165	643	28,963,028	921
1870.....	10,023,000	260	16,212,200	420	26,235,200	680
1880.....	12,368,653	247	20,937,702	415	33,306,355	664
1890.....	16,019,591	256	36,875,648	589	52,895,239	845
1900.....	17,199,881	225	50,706,671	664	67,906,552	889

Mr. Rommel referred to the suggestion in Secretary Wilson's recent report that the time may have come to close the ports of the United States against foreign cattle. He said this was merely a suggestion and was not calculated to call forth the sharp criticism and discussion that had resulted. He said the Secretary's reason for the suggestion was that American cattle were good enough as they were, and read statistics from numerous shows held during the past two years to show that imported cattle fell far short of the domestic as prize-winners.

At the afternoon session Will R. Goodwin, associate editor of the Breeder's Gazette, read a paper on "The Farm Demand for Shorthorns."

In the evening 150 guests sat at the banquet given by the Central Shorthorn Breeders' Association at the Coates Hotel. Among the late arrivals at the meeting was S. F. Lockridge, of Greencastle, Ind. Mr. Lockridge was twenty-four hours in the journey to Kansas City, the trains from his section being snow-bound. He came to Kansas City for a double purpose, that of attending this meeting and that of the executive committee of the various beef-cattle breeds which convened in Kansas City on February 6. Mr. Lockridge is a member of the executive committee of the American Shorthorn Breeders' Association. The meeting of these committees was for the purpose of fixing dates and making other arrangements for cattle shows throughout the country.

The directors of the American Shorthorn Breeders' Association asked the Central Association for an expression on its registration rules for imported animals.

English and Canadian breeders were seeking to have the rule modified, the directors said. A resolution bearing on the matter was offered. The resolution was to retain rule number one of the American Shorthorn Breeders' Association, which is in effect that all imported animals eligible to registry in the American herd-books must be registered in the first twenty volumes of the English herd-book, or that the ancestors of such animals must have been registered.

The resolution was discussed at length and adopted unanimously.

B. O. Cowan, secretary of the association, read a paper by Mrs. Virginia C. Meredith, of St. Anthony Park, Ind., on "Shorthorn Reminiscences." It was an interesting paper and a rising vote of thanks was given the author.

After the paper Mr. Gentry's proposition for a display of dairy Shorthorns was then taken up for discussion. The following resolution was offered and adopted:

"Resolved, That it is the sense of the Central Shorthorn Breeders' Association that the directors of the American Shorthorn Breeders' Association arrange to enter Shorthorn cows in the dairy test which is proposed for the St. Louis World's Exposition."

Wavertree Galloways at Omaha.

Buyers of top Galloways will be in clover knee deep at Omaha, February 28-March 1. This is the occasion when the far-famed Wavertree Galloways, Dundee, Minn., are to be marshalled before buyers to receive their verdict as to the values wrapped up in this great breeding herd. In this connection we need scarcely expatiate at any length upon the show record of the Wavertree cattle. Well posted cattlemen know that this herd has been in for the lion's share of the best prizes offered at the State fairs and big expositions of recent years. The Omaha sales will constitute one of the best breed shows that admirers of the shaggy-coated Galloways have ever been permitted to see. It will surely be worth the price of admission. A summary of the big offering of 113 head may be found profitable to those who expect to attend. It is briefly as follows. Fifteen daughters of the celebrated sire Imp. Gallant General Gordon, 40 of the get of the great sire Speculator of Dundee, also a large number of cows bred to the great bull Imp. Mario of Castlemilk, or with his calves at foot. This great sire is himself included in the offering, as is also Speculator of Dundee, and it is matter of extreme interest and deep concern to know where such great sires will land. Everything is in the air at Wavertree; there can be no hedging; the sale is soon to be; and the good things go. Imp. Mario of Castlemilk leads last year's importation into this Omaha sale ring also, regarding the various members of which the catalogue gives full and explicit information. It is to be noted also by Western men, that there are twenty-four bulls in this grand offering of Galloways. Dr. Medd, the manager at Wavertree, is anxious that all arrive at a fair understanding as to the true character and quality of these fellows. They are absolutely bred at the top of the heap, and they are just as good as they make them. They come of the exact lines of breeding made famous through the production of prize winners. Their dams are the good, roomy, breezy, salted, and do harem service at the stood on after another, with

up to the limit of Galloway excellence—and what more is wanted? See the advertisement.

Gossip About Stock.

Geo. H. Augustus, of Paris, Ills., in connection with other prominent breeders, expects to hold a public sale of Shorthorn cattle at Kansas City, on April 15.

Kansas buyers have always found good bargains for the money whenever they attend one of the annual stock sales at Limestone Valley Farm, owned by L. L. Monsees & Sons, Smithton, Mo., who hold their twentieth semi-annual sale on Tuesday, March 4, 1902, at which time they will offer twenty good breeding jacks, fourteen and one-half to sixteen hands; six good stallions, saddlers, coaches, and draft; twenty good work mules; twenty-five choice Poland-China brood-sows, representing all the best and most fashionable families, all safe in pig.

Remember the Angora-goat sale, to be held at Kansas City Stock Yards, February 24, 1902, when 1,200 head of fine Angoras, from the famous breeding establishments of Mrs. Armer, Kingston, New Mexico, and the McIntire Company, of Kansas City, are to be sold. The offering comprises 900 bred does, and 300 head of high-grade wethers for brush-land purposes. Intending purchasers may be assured of proper treatment, as the sale is under the personal management of W. T. McIntire, of Kansas City, who knows how to treat customers right always.

June K. King, of Marshall, Mo., writes: "The Berkshires I have catalogued for the public sale to be held at Kansas City, February 21, 1902, are an extra good lot of useful Berkshires, with the best of breeding and quality to suit the up-to-date breeder. An examination of the pedigrees of this very choice lot will prove my consignment to be as well-bred as any Berkshires ever offered at public sale. Breeders of the best class of up-to-date Berkshires as well as parties starting new herds or who wish to add a few first-class animals to their herds, are cordially invited to attend the sale February 21, 1902, at Kansas City."

The attention of farmers and stock breeders is called to the advertisement of Wilbern Bush, of Wichita, Kans., who manufactures a gas releasing bit for cattle. The following recommendations from well-known stockmen will best describe the article: "Wichita, Kans., Dec. 24, 1901. To all whom it may concern: After testing Mr. Bush's Gas Releasing Bit for cattle some thirty days on large, growthy alfalfa, I find they are a success, and will keep cattle from bloating. Before using the bits I did not dare put my dairy cows on the alfalfa for more than thirty minutes or some of them would be bloated; but after using the bits, have only had two cows come off the alfalfa bloated, and their bits were stopped up. I took the bits off, cleaned them out, and put them on the cows again, and they were soon relieved. I consider them a great success, and every cattle and dairyman should have a supply of them so he can pasture alfalfa without fear of bloat.

W. P. Harned, proprietor of Idlewild Herd of Shorthorns, of Vermont, Mo., one of our largest and oldest advertisers, is meeting with the success which is his due. In a recent letter to the Kansas Farmer, he writes as follows. "I have just sold to Henry Perriguy, Bonnetto, Mo., one Godoy heifer calf for \$300, also one cow bred to Godoy for \$300, and one cow 11 years old, for \$150. I also sold to Mr. Perriguy one bull of my old Anna Lancaster family, for \$350. I have some interesting births of late in my herd. The Crickshank cow, Butterfly of Rose 5th, has dropped a heifer calf, by Godoy. I have great hopes of this calf. Aconite of Valley Home, Young Aconite, Golden Violet 2d, and Butterfly of Idlewild, all Crickshank cows, are due to drop calves to Godoy next month. Old Godoy is hale and hearty and very sure. I have had so many twins by him that with the scarcity of feed, I am tired of them."

Scours is a troublesome disease among young animals, and particularly among calves. A reliable remedy is therefore of considerable value. Alexander's Scour Cure has been very successfully used during the last three years, and is strongly recommended by a number of well-known stock raisers. Our old friends, the Pasteur Vaccine Company, are selling agents for Alexander's Scour Cure, and their advertisement will be found in another column. The remedy is cheap, and every stock raiser should buy a bottle, or see that his dealer has some in stock ready for immediate use when required. The Pasteur Vaccine Company will, upon request, send interesting literature with a long list of valuable endorsements. The Pasteur Vaccine Company also furnishes "Blacklegline" both for single and double treatment. "Blacklegline" being Pasteur Blackleg Vaccine ready for use as sold.

Mr. A. B. Mull, whose advertisement for his combination sale of pure-bred Poland-Chinas appears in this issue, is a breeder who knows what he is after, and then gets it. He has been buying his stuff from such herds as those owned by T. R. Wilson, B. L. Gosick, Harvey Johnson, Kirkpatrick and G. K. Null. He bought the highest priced gilt out of Anderson's Model 1900 litter as well as the best one of the second highest price for a Chief Perfection 2d gilt at Axline's sale. Among the notable sires of those now offered for sale are Perfect I Know, Chief Tecumseh 2d, Missouri's Black Chief, Chief's Model, Perfect Boy, Chief Eclipse, Ideal Black Chief, Kansas Black Chief, Model's Look Me Over, Perfection Chief 2d, Success I Know. And this is not all. The gilts to be sold are bred to such boars as Skylight Perfection by Chief Perfection 2d, Keep On 2d by the great Keep On, Black Missouri's Chief, Sunrise Perfection, Perfection Chief 2d, T. C's U. L. 2d, and others of equal merit. Mr. Mull thinks that the plums of his consignment are Leoma's Pride, out of Leoma, by Chief Tecumseh 2d, and sired by Chief's Model, a fall yearling gilt of show-yard

CROSBY BROS., TOPEKA, KANSAS,

SELLERS OF

DRY GOODS, LADIES' SHOES, FURNITURE, CARPETS, and CURTAINS

Our Mail Order System Saves Money and Time.

Your letters get the same prompt, courteous attention that you would receive at our counters.

...WRITE FOR FREE SAMPLES...
Of DRESS GOODS, SILKS, WASH GOODS, SHIRTINGS, Etc., stating colors and prices desired.

SEND YOUR NAME AND THOSE OF YOUR FRIENDS FOR OUR
Illustrated Spring Catalogue Free

The Stock Interest.

THOROUGHbred STOCK SALES.

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

February 19 and 20, 1902—Breeders' Combination Sale, South Omaha, Herefords. C. R. Thomas, Manager.
February 20, 1902—W. B. & M. Hawk, Beattie, Kans., Shorthorn bulls and Poland-China swine.
February 21, 1902—Harris & McMahan, June K. King, and J. T. Pollard, Berkshire hogs, Kansas City, Mo.
February 25-28, 1902—C. A. Stannard, Gudgeon, Simpson, Scott & March, and others, Kansas City, Herefords.
February 26, 1902—J. R. Young, Richards, Mo., Poland-Chinas.
February 28 and March 1, 1902—Dispersion of Waver-tree herd of Galloways, South Omaha, Neb.
March 15, 1902—C. H. Nigh, South Omaha, Red Polled cattle.
March 19, 1902—Dispersion Shorthorn Sale. Col. W. R. Nelson, Kansas City.
March 20, 1902—B. B. & H. T. Groom, Kansas City, Shorthorns.
March 25-27, 1902—National Hereford Exchange, Chicago, Ill. (Botham Management.)
April 15, 1902—Geo. H. Augustus, Kansas City, Mo., Shorthorns.
April 16, 1902—Geo. Bothwell, Nettleton, Mo., Shorthorns.
April 18, 1902—W. O. Park, Atchison, Kans., Aberdeen-Angus.
April 22-24, 1902—National Hereford Exchange, Kansas City, Mo. (Botham Management.)
April 25 and 26, 1902—H. O. Tudor, Holton, Kans., Shorthorns.
May 7 and 8, 1902—Colin Cameron, Kansas City, Arizona Herefords.
May 27-29, 1902—National Hereford Exchange, Omaha, Neb. (Botham Management.)
June 24-26, 1902—National Hereford Exchange, Chicago, Ill. (Botham Management.)

Situation not all Sunshine.

EDITOR KANSAS FARMER:—It will be only a few days more, until I will have received 100 letters asking many things about millet and soy-beans, the subjects

could, and to do this they have had to buy a great deal of feed. I have twenty head of sows, and will probably raise 80 to 100 pigs in spring and as many more in fall, but what in the world am I to keep them on until there is sale for them, is the question. I have already paid out \$200 for feed for them, and have only five weeks' supply on hand. By the time that is gone I will have pigs, lambs, calves, and colts coming on, not to speak of the horses. My cows, sheep, and horses have not had an ear of corn or any other form of grain since they were taken off of pasture, and while they look as well as they ever did, yet I am not used to this way of feeding and I can not foresee the results, while buying grain to work the horses on in the spring is simply out of the question. I shall work them as little as possible; shall not plow any except for potatoes; shall simply use the subsoiler every four feet and go once over with disk, then plant. The ewes, cows, and mares must get along till grass times on fodder, or die; and my case is exactly the average case, and all this booming of the enormous resources of the farmers of Kansas is simply hot air. Since I weaned my October pigs, I have only fed two ears of corn each per day to my sows, but they have had all the warm shorts slop they could possibly drink, twice per day, and all the unthreshed soy-beans they would eat up clean.

The shorts fed daily is two and two-thirds quarts per head, or at the rate of sixteen quarts shorts in four buckets

STRONGER THAN STEEL

This famous fence is woven of best steel made more durable by heavy galvanizing. Every rod is guaranteed. When it is put up—right—your fence troubles are ended for all time.

ELLWOOD STEEL FENCE

stands heat and cold, storms, bulls, boys, horses, sheep and cattle. Made in six heights, from 18 inch to 58 inch. Styles for all purposes. Best and cheapest diamond mesh wire fence. Get prices. Sold in every town. If not handled by your dealer, write to

AMERICAN STEEL & WIRE CO., Chicago,
New York, San Francisco, Denver.

Report of Secretary Wilson's Paper Before the Shorthorn Breeders, February 5, 1902.

The secretary said in part:

"The condition of the cattle industry in the United States at this time is a subject for congratulation. There is a demand for all classes of cattle at prices far above those which have ruled in recent years. Beef cattle, dairy cattle, and pure-bred cattle, all may be marketed on terms favorable to the breeder and feeder.

"The preliminary census figures which have been made public are surprising. They show a much larger number of cattle than many writers anticipated. They demonstrate that during the years of the last decade, when it was supposed the stock of cattle was

glion of any such diseases on their way to the ships which are to carry them? This is to-day the most important question to all governments that are willing to consider the advisability of admitting foreign animals to their territory. Most of you know how on account of pleuro-pneumonia in this country we lost the freedom of the British market for our cattle over twenty years ago. Since that time our cattle have been killed on the docks where landed within a prescribed number of days. You can readily see that when our animals are once landed without the privilege of shipping to any other market, without the ability to hold them beyond the ten-day limit, our shippers are at the mercy of the English buyers. How many millions of dollars these restrictions have cost the American farmer will never be known. All that we can say is that we have lost and are still losing an enormous amount of money because we permitted that disease to remain a few years too long upon American soil. We might just as well have stamped the disease out in 1870 as in 1890, and if we had done so there would have been no occasion for these restrictions which have now been permanently imposed. The reason we did not act sooner was that we listened to the counsels of a lot of noisy and insistent individuals who thought they knew all about the subject, but who were densely ignorant of everything pertaining to it. We have had about the same experience with sheep scab."

Secretary Wilson suggested the propriety of shutting down on the importation of cattle and sheep, following the example of Great Britain.

"Glanders," he said, "is an imported disease," and he made the suggestion that it might be well also to exclude foreign horse from the American market.

"Then why," he asks, "should we not adopt measures to protect our horses as well as our cattle? Why should we continue to live in a fool's paradise, imagining ourselves safe when we see these diseases existing in other countries? We should have seen foot-and-mouth disease jump from the Continent to England again and again within the past two years notwithstanding the prohibition of sheep, cattle, and swine; we have seen rinderpest jump to the African continent and spread over it like a sheet of flame devouring the cattle and damaging the sheep; we saw surra jump to the Philippines.

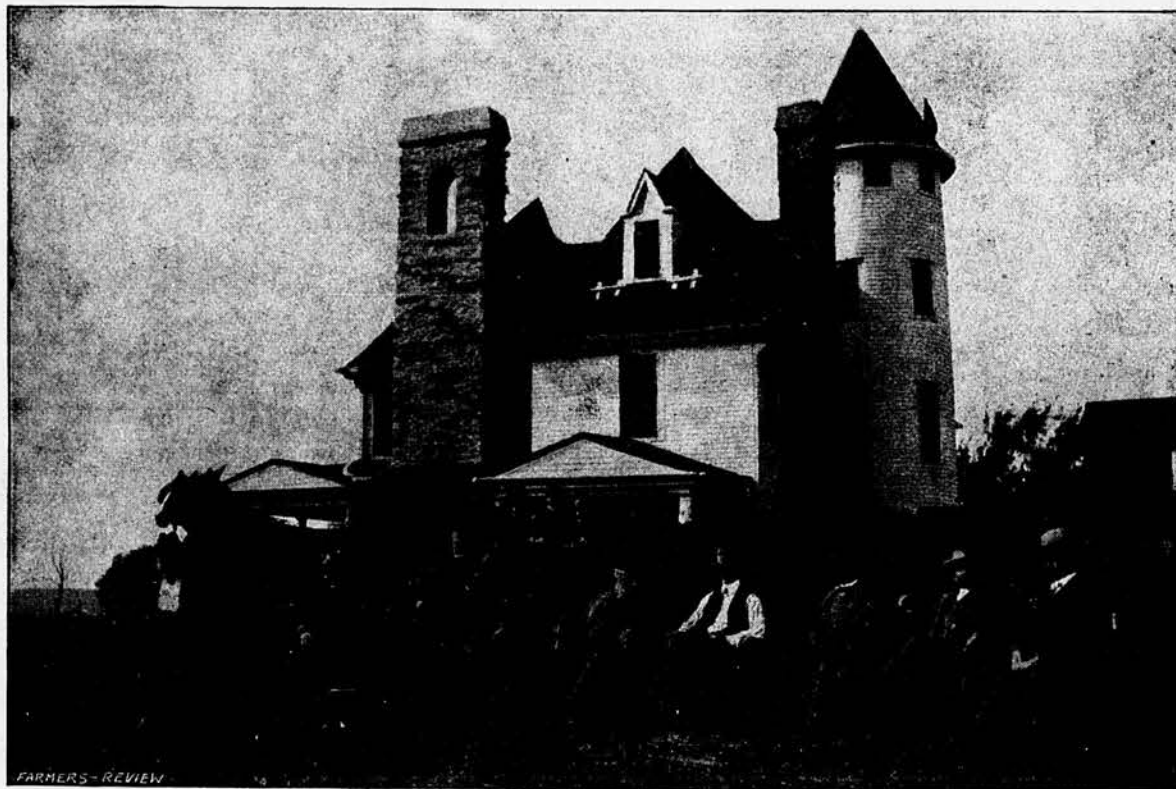
"And finally, there is the tuberculosis which is neither new nor strange to us. In various countries the conclusion has been reached after careful investigation that tuberculosis was being spread by pure-bred animals purchased to improve the common animals of the country.

"When the Department of Agriculture began making tests of the pure-bred cattle coming into the United States from Canada, it found that 24 per cent of them were affected with tuberculosis; and in some of the tests made in Great Britain of cattle that importers desired to purchase, it was found that 50 per cent had the disease. How is it possible to maintain the health of our cattle if we continue to import that kind of breeding stock? I present these facts plainly because you are the men who should be, above all others, interested in the welfare of the cattle industry, and because I desire you to know my reasons for establishing and continuing the tuberculin test of imported cattle."

"Secretary Wilson explained at some length how American cattle are now excluded from Argentina because English cattle have foot-and-mouth disease and the United States permits the importation of British cattle.

Feeding Cottonseed-Meal to Hogs.

The Oklahoma Experiment Station, at Stillwater, has issued a bulletin reporting the results of an experiment in feeding cottonseed-meal to hogs. The



Residence of Winn & Mastin, of Mastin, Kans., who hold a Public Sale of Poland-Chinas on February 25, 1902.

I have recently written about to the KANSAS FARMER. In all my experience this far exceeds any previous record and goes to show that farmers are studying more and deeper this winter than ever before, one of the good results of the drouth, no doubt.

Farmers here are approaching the most critical time of their life. Feed is very scarce and high, and many are selling off stock at public sale as a last desperate resort. All this talk about the farmers of Kansas being so well off, etc., does not apply here.

Nearly every farmer has spent \$200 to \$400 for feed, and the end is not till corn is in roasting-ear, unless there is a bumper crop of wheat, which at present looks very doubtful indeed, and God only knows what will become of us should there be another failure of the corn-crop. Shorts are \$1.35 per hundredweight; bran is \$1.25; corn, 80 cents to \$1.25; and wheat can not be bought, as Western wheat-growers are not selling. Nearly every farmer has sold off every hog he had, and just as soon as corn is in roasting-ears, the demand for bred sows and gilts will be enormous. This has encouraged a few to carry all the sows over that they

of hot water, twice a day to a dozen head of brood-sows or gilts. On this diet they have gradually gained and are soon to pig, and I never saw sows appear in better condition to pig before. The soy-beans and shorts, and the lack of corn, gives their hair an oily, shiny appearance that denotes thrift, and while they are not lubbly fat, they are sleek, smooth, devoid of wrinkles, and of that mellow appearance hog-men so love to tell about. They have had an abundance of salt, ashes, and charcoal daily, freshly burned each day, and as I have an artificially warmed house for the sows to pig in, I am trusting to have soon a goodly number of pigs running around squealing for something to eat.

Now, we are all asking ourselves, What is the best pasture for our hogs this coming season? I have my hog pasture sown in wheat, and if it survives the winter, I shall harrow lengthwise of the drills and sow rape, clover, timothy, and any old thing that I can get that I think will grow and make hog feed.

Now brothers, let us hear from you on this subject. Not all have clover pastures for their hogs; many are situated just as I have stated and want to know at once what is best to sow. Would it do any good to add oats, sorghum, or Kafir to the other seeds mentioned, or millet and flax to the growing wheat?

Let us discuss this subject fully and freely. Hogs are the only stock that worry me; others can eat wild grass. Moran, Kans. J. C. NORTON.

being depleted, it was really increasing. And now it would appear that we actually have more in proportion to population than we have had before.

"The same number of breeding-cattle gives us a much greater annual product of beef now than it did fifty years ago. The stock of cattle has been improved; it is more precocious. Bullocks are marketed at an earlier age and the carcasses average heavier and better. With dairy stock there has been a similar improvement.

"The statistics show that it is pre-eminently the development of the home market which has benefited the cattle industry.

"There is still a sentiment among some cattlemen that we must have fresh blood from Europe to maintain the standard of our herds. This sentiment has been handed down by tradition from the early days, when we began building up our herds. I believe I am right in concluding that this sentiment has no other foundation than tradition and personal interest at the present day, and I am going ahead on that theory and trying to put our cattle in the markets of the world. The idea that foreign cattle as a class are better in the show-ring, or have greater prepotency than our cattle, is a fallacy which the American breeder should set about dispelling now and for all time.

"One of the first questions which we are asked by the governments of countries to which we propose to export animals is, are they free from contagious diseases and can you guarantee that they will not be exposed to the conta-

TRY THEM FOR

Coughs, Colds,
Asthma, Bronchitis,
Hoarseness,
and Sore Throat.

Fac-Simile
Signature of *John S. Remmon* on every box.

following brief statements comprise the chief results given in the bulletin:

1. Of a lot of four weanling pigs fed a grain ration consisting of one-fifth cottonseed-meal and four-fifths corn-meal, and kept in a small pen, two died after being fed this mixture for 40 days. The other two lived and thrived and were fattened on the above mixture without change in 126 days. During that time they made an average daily gain per pig of 1.07 pounds, and for each pound of gain they ate 3.57 pounds of grain that had a value of 2.24 cents.

2. Of a second lot of four weanling pigs kept in a small pen and fed a grain ration of one-fifth cottonseed-meal and four-fifths corn-meal for 4 weeks, then corn-meal for 2 weeks, alternating in this manner during 18 weeks, one died at the end of 5 weeks (after being fed for 4 weeks on the mixture and 1 week on pure corn-meal), the other three lived and thrived and were fattened at the end of 126 days. During that time the average daily gain per pig was 1.06 pounds, and for each pound of gain they ate 3.08 pounds of grain that had a value of 2.14 cents.

3. A third lot of four weanling pigs were kept in a small pen and fed a grain ration consisting of one-third corn-meal and two-thirds wheat middlings, for 126 days, and all were well fattened at the end of this time. The average daily gain per pig was 1.15 pounds, and for each pound of gain they ate 3.7 pounds of grain that had a value of 2.87 cents.

4. A fourth lot of four weanling pigs fed corn-meal for 84 days and kept in a small pen, made very poor gains, and a change of feed was necessary to fatten them. In the 84 days they made an average daily gain per pig of one-half pound, and for each pound of gain they ate 5.6 pounds of grain that had a value of 2.99 cents. When changed to a grain mixture of one-fifth cottonseed-meal and four-fifths corn-meal the gains were increased and in 42 days following the change, they made an average daily gain per pig of .92 of a pound, and for each pound of gain they ate 3.42 pounds of grain that had a value of 1.95 cents. For the total feeding period of 126 days the average daily gain per pig was .62 of a pound, and for each pound of gain they ate 4.7 pounds of grain that cost 2.61 cents. At the close of this period only two of the pigs were in a marketable condition, but the others were making good gains.

5. In this experiment, when weanling pigs were kept in small pens and fed a grain ration containing one-fifth cottonseed-meal and four-fifths corn-meal, one-fourth to one-half of the number died after being fed the ration 5 to 7 weeks; those living and fed the above ration, continuously and alternatingly with corn-meal, were fattened with most excellent results.

6. The amount of grain required to produce a pound of gain was practically the same with pigs getting cottonseed-meal as it was with pigs getting middlings, but was much less than that required by pigs getting corn-meal. The pigs getting one-fifth cottonseed-meal and four-fifths corn-meal alternating with corn-meal, required 34.5 per cent less grain to produce a pound of gain than did the pigs that were getting only corn-meal.

7. More economical gains, disregard-

ing losses caused by death, were obtained by feeding rations containing cottonseed-meal than by feeding either corn-meal or a mixture of corn-meal and wheat middlings. With corn-meal worth 53.5 cents per hundredweight, wheat middlings 90 cents, and cottonseed-meal \$1 per hundredweight, the gain of the pigs getting one-fifth cottonseed-meal and four-fifths corn-meal alternating with corn-meal, cost 23.5 per cent less than the pigs getting two-thirds wheat middlings and one-third corn-meal (84 days). The cost of the gain of the corn-meal-fed pigs was a trifle more than that of those getting middlings in their ration, but the outcome of the former should be considered a failure and unprofitable while the latter was a success and profitable.

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

Bronchial Pneumonia.—1. I lost a black heifer two years ago. She had been stabled about a month, and fed on alfalfa and chopped fodder. The first symptoms of sickness were heavy or hard breathing, and she would cough as though she was choked. The breathing grew harder for four days, at the end of which time she died. She ate quite freely of grain until a few hours before her death. Upon examination the windpipe showed no indication of any foreign substance. One lobe of the lungs was redder than the rest; the contents of the pouch seemed natural; the folds of the stomach seemed a little dryer than natural; but I did not think sufficient to cause it to clog. Can you tell me what the disease was, and what should have been given to relieve her? I gave her Pratt's Stock Food after she was taken sick.

2. I have another 3-year-old roan heifer that has been coughing for about six weeks. She was in good flesh when she began coughing, but is falling off quite rapidly. She eats, but not as well as before. I am feeding her chopped fodder, with an occasional feed of wheat-hay.

Webber, Kans.

Answer.—1. From the symptoms given we would think she died of lung trouble, but it might have been actinomycosis of the larynx, or pharynx, which hardly kills so quickly. Treatment should have been laxatives, febrifuges, and stimulants.

2. Give her one ounce daily of elixir of calisaya bark, iron, and strychnine in one-half pint of raw linseed-oil for two weeks. Feed her alfalfa hay, dampened with salt and water, two quarts of bran, and one quart of corn-chop, mix and pour on four quarts of boiling water and add a little cold water before feeding.

Chronic Laminitis.—One of my neighbors has a 7-year-old Norman horse, weight about 1,400 pounds that was foundered about two years ago. Since then he has frequently been affected in the same manner without any apparent cause. He has had two attacks this winter, and has been fed principally on corn-fodder with a little grain.

Webber, Kans.

Answer.—This is caused by irritation and inflammation of the mucous membranes of the stomach and bowels, and is reflexed through the nerves to the feet. One attack impairs the functional activity of the affected tissues and thus renders them more easy of a subsequent inflammation. Feed carefully and do not allow him too much water, at once; and especially, if he is warm, do not allow a draft on him; and keep his feet in good condition, and shoe with good wide bar shoes.

Catarrh.—I have a young sow that appears to be in good health; her appetite is good and bowels regular, but she seems to have something like a cold in the head. She is constantly running at the nose, and sometimes opens her mouth as if she had trouble of breathing through her nose. She has been troubled this way for about four or five months.

Answer.—Give her a teaspoonful of Fowler's Solution in a little milk once a day.

Manitis.—I have a cow that

very bad udder about a year ago. The udder became very much inflamed, and was so swollen that it was hard for the cow to walk. Milk was not good as it was ropy, was streaked with blood, and had the appearance of matter. At present the cow is due to calf, and her udder is swollen, and has the same appearance as last year. Last year I treated the udder with various remedies, but with no avail, but I have not treated her at all this year. What ails her, and what is the best treatment? Is she liable to have same trouble with every succeeding calf?

Alida, Kans.

LEO CASPAR.

Answer.—Take a good heavy piece of blanket or canvas, and make holes in it for the teats, and fasten on surcingle to each of the corners, and bring them up and tie on the loins so as to hold the weight of the bag up. Apply with the hand, three ounces of camphor phenique, one ounce of fluid extract of Belladonna in one pint of hog's lard. Mix, and apply twice a day. Use a layer of cotton-batten between the support and the bag. Bathe the gland with warm water twice a day, and milk her three times a day; feed light, and keep the bowels open with epson salts. She will probably grow worse every time she comes fresh.

Chinese for Domestic Service.

EDITOR KANSAS FARMER.—The question of the restriction of Chinese immigration, so many phases of which were presented by extracts from the opinions of masters of the State Granges upon the subject, in your columns recently, is of such importance as to justify, and even demand, examination from every point of view; and as your ably written articles never fail to present, on any debated question, the legitimate interests of the farmers of the State, I feel sure you will not be unwilling to accord me a small amount of space for the presentation of the subject in a form that vitally affects the best interests of the farmers, and, therefore, the great majority of your readers.

No intelligent observer, who has ever traveled through Kansas, and especially no one who has lived in a farming community, can fail to be impressed with the hardship, loss, suffering, sickness, and even death in the farmers' household, which is caused by the outrageously excessive labor imposed upon the patient wife, the frail and worn-out mother; who, owing to a scarcity of efficient help, is often compelled to discharge, at one and the same time, the multiplied duties of cook, laundress, nurse, housekeeper, seamstress, governess, and sometimes the husband's chore-boy, toiling continuously in these different capacities from dawn till dark; heroically persisting, day by day, in a vain effort to overtake the ever-accumulating tasks. Finally, worn out by the arduous toil and incessant worry, a large number of farmers' wives become nervous and physical wrecks; and an appalling proportion (according to statistics) find a dismal cessation from labor and care within the gloomy recesses of the lunatic asylum, or find peace and rest in the darker shadow of the grave.

Yet the outside aspect of the sufferer's home would hardly indicate the existence of the living tragedy within. Around the pleasant house are broad acres of the richest soil the Almighty ever made. In the sheltered corral are herds of sleek and fattened steers standing complacently before the well-filled rack, increasing in weight and worth every day. In the yards are stacks of unthreshed wheat, or in the bins are tons of golden grain. The symbols of abundance and prosperity are seen on every side. Why then the toil-ridden wife, the living sacrifice, within?

To your readers the answer is needless. The woman "treads the wine-press alone" because there is no one to help. The husband has scoured the township, or even the county, for the needed help, but in vain, and the fruitless efforts of past days teach him the folly of wasting time and further effort in the pursuit of domestic help for his wife at home. He offers good wages and considerate treatment, but obtains no acceptance of his terms, or even consideration of his offer. The net is set in vain, in the sight of the coveted bird.

He finds that the scarcity of domestic help is not created by insufficient wage. To-day, to the average girl, the kitchen is more profitable than the store. The cook secures a better salary than the clerk. Whatever may be the fault, the trouble is not with the wage. A Topeka merchant informs me that he has scores of applications from girls for a position in his store where he can not afford to give more than \$2 a week, with-

THE NURSE'S STORY

An Interesting Incident Out of Her Long Experience.

"Interesting?" said Nurse Coopernail, in response to a reporter's query; "Yes, indeed, I have had some very interesting experiences since I entered my profession. One in my calling has many opportunities to look upon the inside of home life, and, while I have seen much suffering, there is always a bright side, too."

"An experience which affected my own life very intimately occurred a short time ago. Fortunately it had a happy ending. I had been suffering for about sixteen years with indigestion and other attendant disorders of the stomach. I was bilious and felt tired and depressed much of the time; my head ached a great deal and often a faintness came over me so that I was obliged to lie down until it wore away. Besides that, I had a trembling of the stomach with all the symptoms of acute gastritis and my abdomen was so sore and tender that I could hardly bear to touch it. These ailments interfered to a great extent with my work as a nurse. I tried a number of remedies without success until, upon reading one of your books, I determined to see what Dr. Williams' Pink Pills for Pale People would do in my case. I began taking them according to the directions and experienced relief almost immediately. I took them in all for about two months and now I recommend them to all who suffer from diseases brought on by poor blood or weakened nerves."

Mrs. Charlotte Coopernail, whose above statement was sworn to before Noah H. Browning, a notary public, lives at No. 40 North Fifth Street, Hudson, N. Y. She is one out of many who have been cured by Dr. Williams' Pink Pills for Pale People. These pills will not only cure cases similar to hers but are a positive specific for all diseases arising from poor blood or weakened nerves. They cure locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after-effects of the grip, palpitation of the heart, pale and sallow complexions and all forms of weakness either in male or female. Dr. Williams' Pink Pills for Pale People are sold by all dealers, or will be sent post-paid on receipt of price, fifty cents a box, or six boxes for two dollars and fifty cents (they are never sold in bulk or by the 100) by addressing Dr. Williams Medicine Company, Schenectady, N. Y. Avoid imitations; substitutes never cured anybody.

out board or lodging. At the same time, in the same county, there are hundreds of housekeepers who are willing to pay \$3 a week, with board, to these selfsame applicants.

The trouble lies in the aversion of the average American girl to any kind of housework. In the process of evolving the ultimate ideal of womanhood (?) the Nation has produced a type of woman highly organized—if you will—and nervously over-developed, that is utterly incapable of seeing in any kitchen, or any household, save her own, a sphere of activity agreeable to her tastes.

The imperative need of the American Nation to-day, the supply of which would roll a crushing burden off the shoulders of the Nation's womanhood and especially its motherhood, is the addition to the population of a million or more neat, industrious Japanese or Chinese women who would be content to enter our homes and happy to do, for good wages, the so-called domestic drudgery which our wives, mothers, and sisters have honored themselves in doing, but which is beneath the dignity, or disagreeable to the tastes, of the modern woman.

In this conflict of demagogism with common sense and true humanity, I wish to be placed on record as urgently advocating the opening of the gates of the Nation for the admission of an indispensable class of labor which our own population can not or will not, of itself, supply.

Maple Hill, Kans.

Should the Teeth be Pulled?

EDITOR KANSAS FARMER.—When a cow gets to be about 12 years old she loses about half of her nippers, or front teeth, so that the few that are left interfere with her nipping grass. Would it not be well to pull out those left?

Hope, Kans.

SUBSCRIBER.



EVERY MAN
WOMAN AND CHILD

who suffers from

Rheumatism

should use

St. Jacobs Oil

It Conquers Pain, acts like
magic, and has no equal on
earth as a pain killer.

Price, 25c and 50c.

SOLD BY ALL DEALERS IN MEDICINE.

Gossip About Stock.

(Continued from page 181.)

sold will afford anyone who can buy Herefords the very best possible chance for doing so. It is good cattle, and good cattle only, that a Hereford breeder should buy. There is material in this sale that will improve any herd in the country, and the beginner who takes advantage of an occasion of this kind to purchase his foundation stock has two-thirds of the battle won. This is the annual sale in which each of the contributors leads forth the best of his cattle, and says to the public: "There they are. That is the best I can do." Each contributor is offering the best results of his work as a breeder. The cattle to be sold have not been purchased for speculative purposes, but are the best specimens that these eight breeding establishments with their large annual increase can put out. It is doubtful if any other sale with a like number of cattle involved has contained so few bred by others than the contributors. The consignors are not using their names and reputations to sell cattle of any other breeding than the kind upon which their name and reputations have been built. And there will be plenty of them. One hundred and twenty females and eighty bulls form a larger offering than is usual, and coming as this does after the numerous sales of the past six months no sensational prices are anticipated. In fact, the conditions are such that it is highly probable that the buyers present will be able to pick up a great many plums at less than they could be purchased for privately. All females old enough have been bred to the various herd bulls of their owners, and this includes the majority of the females in the sale. Such great sires as Dandy Rex, Java, Benjamin Wilton, Columbus 17th, Wild Tom, Keep On, Militant, and numerous others of the same high merit have been used, and the value of calves from these grand females by such bulls can not be overestimated. The bulls to be sold are of the breeding and individuality that can be used to advantage in every pure-bred herd in the country. The bull contingent is full of "herd headers," but the large number to be sold—eighty—makes it extremely likely that many of them will go at farmers' prices. Don't miss this sale. Catalogues may be had by addressing Gudgeon & Simpson, Independence, Mo.

Publisher's Paragraphs.

Ross & Ferrell, proprietors of Southwestern Iowa Seed-house, Farragut, Iowa, report excellent trade through the Kansas Farmer advertisement. They handle the best of seed.

Kansas Farmer readers will find Mr. W. L. Pedersen's watch advertisement the most attractive proposition of the kind seen in print. His illustrated price list should be on every farm-house table. You will like to see it, so send for it without delay. Be friendly, and investigate.

One of the oldest and best seed-houses in this "neck-o'-woods" is the Topeka Seed House, which was established in 1876. The house has everything you want in the way of seeds, bulbs, roots and plants, fruit-trees, and poultry supplies. Patronize home industry and write for a catalogue.

The St. Joseph Walking Lister is on exhibition in Kansas Farmer columns this week. It is the plow that adds bushels to every acre of corn you grow. The more you know about the St. Joseph lister, the better you like it. It is built to do the work, and it scours. Write the St. Joseph Plow Company, St. Joseph, Mo., for a copy of their nicely illustrated catalogue. See the advertisement.

Put on your thinking cap and read carefully the advertisement of C. L. Gerrard, of Columbus, Neb. Then tell your friends, as it will do you all good to know, that

last summer when most all the people were praying for rain and did not get it, he with his men were working that little stream of water down the corn rows so that some of our people could have the best seed-corn this year and at a moderate price.

We are in receipt of a very handsome catalogue of Northern-grown seeds, plants, bulbs, and fruits, just issued by L. L. May & Company, of St. Paul, Minn., which does credit both to the printer's art and to their enterprise as seedsmen. They seem to catalogue everything from a cabbage to a caladium, and all Northern-grown. Write them for a catalogue. It is a pretty thing to have and don't cost anything.

Within five years Cascarets have reached the largest sale of any liver or bowel medicine in the world, simply because they cure. They have great merit and the manufacturers consider the sale of over ten million boxes a year their best testimonial. No matter what ails you, start using Cascarets to-day and if you are not benefited and in every way satisfied after you have given them a fair trial, you can have your money back for the asking. There is no waste. They are put up in tablet form and every tablet is stamped "C.C.C." They don't cost much—10 cents, 25 cents, and 50 cents a box, and a 50 cent box will purify a whole month's treatment for the worst case. Cascarets are the best and cheapest liver and bowel regulator in the world.

J. R. Ratekin & Son, of Shenandoah, Iowa, send out a seed catalogue that is straight business, and contains just the things we need in Kansas this year. Northern-grown potatoes and seed-corn will be wanted here in quantities, and they have them both in large quantities grown in the famous Nishni Valley, where the drouth had practically no effect. Corn grown under these conditions will very nearly meet the requirements of the Kansas and Oklahoma corn-grower in being both Northern-grown and in being grown close at home, so that its replanting here will not be so violent a change in climatic conditions for the plant. These people have all sorts of seeds, bulbs, and plants, but their specialties this year will be seed-potatoes and seed-corn, especially the "Iowa Silver Mine" corn. Write them for a catalogue. It don't cost anything and is a good thing to have about.

Professional breeders in competition for prizes at the great shows generally exhibit artificially hatched poultry. The demands of chicken-growers and breeders for very simple but reliable incubators grow greater each year. George H. Stahl, of Quincy, Ill., manufactures incubators built on scientific principles and made of materials specially designed for the service they are to give, and so simple that they can be operated by anyone. They are of different sizes, the 50-egg, known so favorably the poultry world over as the Wooden Hen, and the 200-egg, being an enlargement of the former. In these incubators heat, moisture, and ventilation are automatically and perfectly controlled. They are surprisingly cheap, the price is only \$12.80 for a first-class 200-egg incubator, which is claimed to hatch every fertile egg. To any one interested in chicken-raising or breeding of any kind, circular and catalogue will be mailed free upon request.

Farm Telephone.

Traveling through the farming districts, one becomes more and more impressed with the manner in which agriculturists are keeping pace with progressive ideas and improvements. This is especially true



WATER WAS IN THE CORN.

A little stream of water was running down every corn row in my fields during the drouth last summer while other fields were suffering very badly, and drying up. Do you realize the difference? In other words—my fields produced a fine crop of fully developed seed-corn. The other fields produced mostly nubs and some not that. If you wish to raise a full crop this year, you can not do it by planting drouth-stricken seed.

When you plant my IRRIGATION GROWN SEEDS you have planted the best, and they will assure you a strong and vigorous stand, with the great vitality which is necessary to secure a large yield of corn. Send four cents for samples.

CLARENCE L. GERRARD, Columbus, Nebraska.

GALVANIZED WIRE—AT BARGAIN PRICES.

Fifty car loads of new galvanized wire, in short lengths. Never was used. Comes from 5 to 10 gauge. Put up 100 lbs. to a coil and only one size wire to each bundle. Prices range from \$1.40 to \$1.90 per 100 pounds. Our Free Catalogue No. 61 for the asking. We handle all kinds of supplies from Sherill's and Receiver's Sale. Chicago House Wrecking Co., West 35th and Iron St., Chicago.



Cable-Wire Fence.

In the margin is shown sample of the Illinois Wire Company Street and Hog Fence. Turns any kind of stock. 4 to 11 cables, or 20 to 53 inches high. Stays 6 inches apart, crimped at crossings, woven in fact. Wires are cables, right and left spring twisted; springs give when wire contract in cold weather; wires never break and fences never sag, but stand rigid and erect. Best Bessemer steel, galvanized. Write us to-day for free illustrated catalog, prices, etc. ILLINOIS WIRE CO., Dept. E. Chicago, Ill.



In regard to the number of farm telephones in daily use. With one of these installed, the farmer has merely to call up any one he may desire and he can transact business, give orders, get market quotations on all of his products, keep thoroughly informed, etc., without going to town. In the busy season he is enabled to save valuable time and facilitate movements all along the line. He gives orders on the telephone for up-to-date machines, implements, and tools of all kinds. The farmer's time is money, and he saves time and money by using the most improved machines and facilities at his command in this age of improvements. The use of the telephone on the farm is aptly illustrated on another page of this issue, where the farmer is shown ordering new McCormick binders and twine from the dealer.

A New Idea About Seed-corn.

A Winfield subscriber makes the following pertinent inquiry, which of course is open for discussion: "The only seed-corn advertisements I see in your paper are for corn raised in Iowa or Nebraska. Haven't some of your northern or eastern Kansas readers got seed-corn to sell, and won't they advertise same in the 'old reliable'?" Please make mention of above in your paper."

When writing advertisers mention Kansas Farmer.

GOLD MEDAL GLADIOLI

Groff's Hybrid Gladioli Received the Gold Medal and 13 First Awards at the Pan-American Exposition.

I have the Latest and only Complete Collection of **GROFF'S HYBRIDS** in the United States, and Control over 75 per cent of all Stock Grown and Introduced by Mr. Groff. Write for Catalogue. **ARTHUR COWEE**, Gladioli Specialist, Meadowvale Farm, Berlin, N. Y.

SEED CORN.

\$1.25 and up. Raised in the best corn district in the United States.

Oats and Grass Seeds. Stamp for Catalog and Samples.

THE McELROY SEED FARM, Blanchard, Iowa.

B. G. Fox. D. F. Logan.

Fox & Logan,

Successors to

T. B. Bright & Co.,

Will Sell at Our Livery Stable in DANVILLE, KY., FEB'Y 28, 1902,

THIRTY HEAD OF **NATIVE BRED**

KENTUCKY JACKS,

Ranging in height from 14½ to 16 hands. All well broken and the best lot of Jacks ever offered at public sale in this State. Catalogues furnished on application.

Sale Begins Promptly at 10 a. m. Call on or address

FOX & LOGAN, LOCK BOX 582, DANVILLE, KY.

WILBERN BUSH, WICHITA, KANSAS.

MANUFACTURER OF **GAS RELEASING BIT FOR CATTLE.**

This Bit is strongly made and durable—the mouth-piece being made of nickel and side bars aluminum—will last for years. For preventing and relieving Bloat from alfalfa and clover. Price \$1.00 each by mail to any address

Money in Corn

Dry or Wet Season If Put in With the "FAMOUS"



ST. JOSEPH LISTERS

For they always scour and plow deep—essential points. The St. Joe SCOURS where others fail.

Then before the weeds start use our **DISC CULTIVATORS**

Twenty acres a day, cleaner than you can hoe it.

Write "Dept. L" for Catalogue.

ST. JOSEPH PLOW CO., St. Joseph, Mo

LOW RATES TO THE NORTHWEST VIA GRAND ISLAND ROUTE.

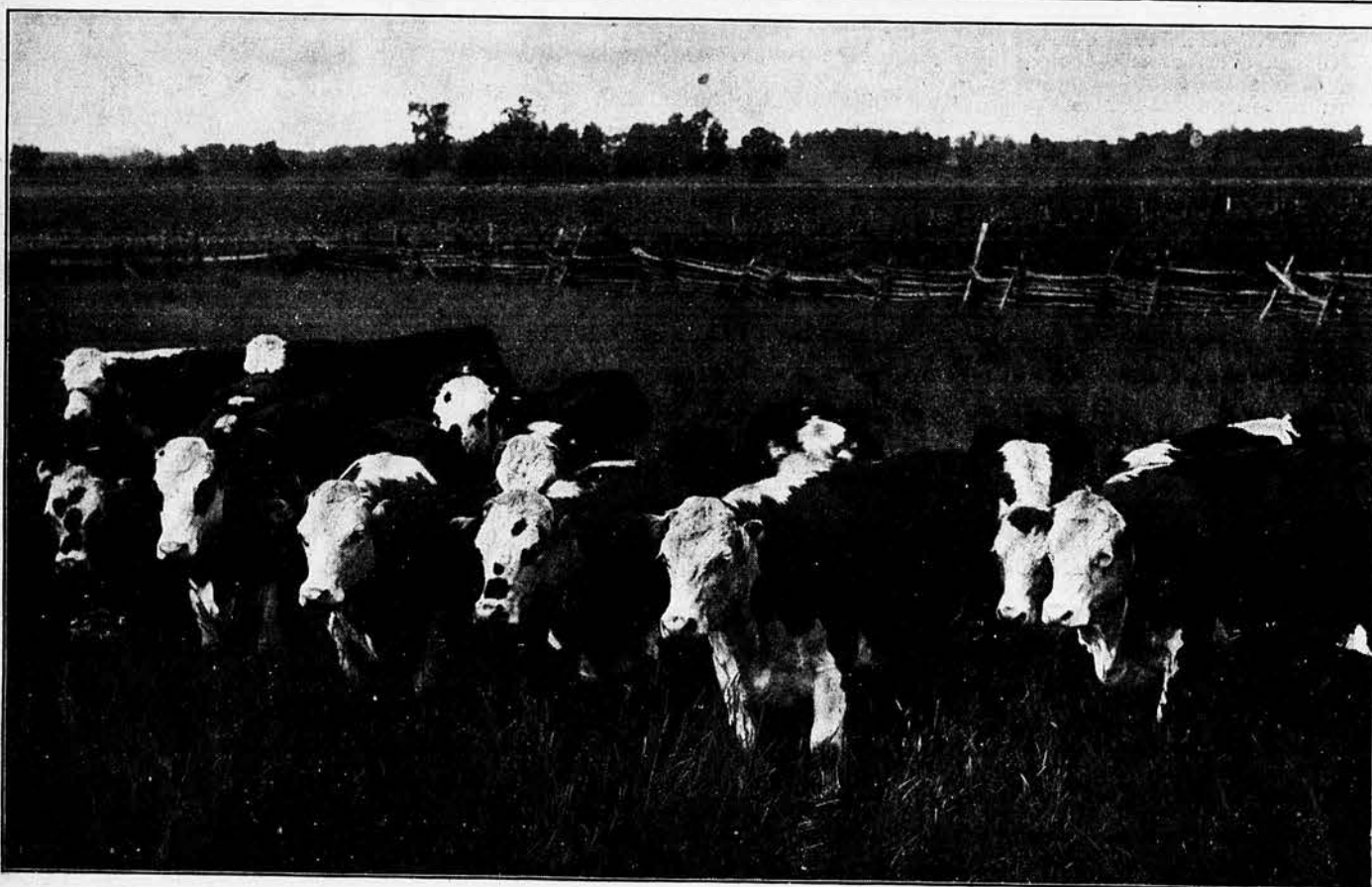
Every day during March and April the **GRAND ISLAND ROUTE** will have on sale colonist tickets to the Pacific Northwest, and intermediate territory at very low rates. Stop overs allowed in certain territory. For rates and further information, call on nearest agent, or address

S. M. ADSIT, G. P. A., St. Joseph, Mo.

LADIES WANTED TO WORK ON SOFA PILLOWS. Materials furnished. Steady work guaranteed. Experience unnecessary. Send stamped envelope to Miss McGee, Needle Work Dept., IDEAL CO., Chicago.

O. F. MENNINGER M. D., Consulting Physician. 727 KANSAS AVENUE, TOPEKA, KANSAS.

Specialties: Chronic, and Obsolete Diseases Heart and Lungs



First-prize 2-year-old Hereford and Grand Championship Steers.

Car-load lot of Hereford steers belonging to Mr. D. W. Black, of Lyndon, Ohio. They were fed on Germ Oil Meal and Gluten Feed, manufactured by the Glucose Sugar Refining Company, Rookery Building, Chicago, and won first prize for car-load of 2-year-old Hereford steers, and grand championship prize over all breeds of 1898 Stock Exhibition at Chicago.

Special Want Column.

"Wanted," "For Sale," "For Exchange," and small or special advertisements for short time will be inserted in this column, without display, for 10 cents per line, of seven words or less, per week. Initials or a number counted as one word. Cash with the order. It will pay. Try it!

SPECIAL.—Until further notice, orders from our subscribers will be received at 1 cent a word or 7 cents a line, cash with order. Stamps taken.

CATTLE.

FOR SALE.—Three pure Cruikshank-Shorthorn bulls. Call on or address H. W. McAfee, Topeka, Kans.

SHORTHORN CALVES FOR SALE.—Two bull calves, thoroughbred, and 13 months old. Geo. D. McClintock, Rural Route 2, Meriden, Kans.

FOR SALE.—My fine Shorthorn herd bull, Pearl's Victor 18822, Vol. 48, two years old, dark red, low down, with very heavy quarters. Price \$150. H. O. Miller, Valencia, Kans.

PUBLIC SALE.—Tuesday, February 18, three miles south of Tisdale, Kans., on Silver Creek, 24 head Galloway heifers coming 2 and 3 years old, 12 head horses, 4 fine mares, machinery, etc. Geo. Honnold, Winfield, Kans.

FOR SALE OR TRADE.—For Shorthorn heifers, double standard Polled Durham bull, Polled King, Ducker upright piano, fine phonograph, McCormick harvester, two ladies' bicycles, all nearly new and in good order. A. L. West, Garnett, Kans.

I HAVE 15 head of high-grade Aberdeen-Angus heifers for sale. Prices reasonable. Address J. H. Jones, Bendena, Doniphan Co., Kans.

THE STANDARD CATTLE COMPANY has 12,000 acres of the richest land in the West; and will receive applications from tenants desiring to lease land. We also want men with families to work in best fields. Correspond with Standard Cattle Company, Ames, Neb.

FOR SALE.—My registered Aberdeen-Angus bull, Maple Hurst Landor 51118, sired by a son of Imp. Kabul, dam, Juana of Maple Hurst. Individually good with breeding to back it. Would exchange for grade steers or heifers. Price reasonable. Address J. E. Long, Rock Creek, Ks.

FOR SALE.—Two registered yearling Red Polled bulls; good individuals, best breeding. Address Chas. Morrison, Phillipsburg, Kans.

D. P. NORTON.—Dunlap, Kans., will sell long and short yearling Shorthorn bulls at prices of calves.

FOR SALE.—Three registered Hereford bulls; also a few high-grades. Inspection of foundation stock invited. A. Johnson, Clearwater, Sedgwick Co., Kans.

FOR SALE.—One dark red, registered Shorthorn bull; a sure breeder. Brookover Bros., Eureka, Kans.

HEREFORDS FOR SALE.—Five heifers and 8 young bulls, sired by Imp. True Britton. Address J. M. Foster & Co., Topeka, Kans.

SHORTHORN CATTLE SALE.—I will offer at public sale, 1 1/2 miles south of Marysville, at 2 o'clock p. m. on Tuesday, October 15, 17 registered Shorthorns, 19 high grade Shorthorns, and 8 thoroughbred Jerseys. Lewis Scott, Marysville, Kans.

SWINE.

FOR SALE.—A few good gilts sired by son of Chief I know, and bred to a son of Missouri's Black Chief. Bargains to quick buyers. I ship from Lawrence. Address, W. B. Van Horn, Lone Star, Kans.

PEDIGREED Duroc.—bred sows. \$12 for a few weeks only. C. Dorr, Peterton, Kans.

FOR SALE.—Large English Berkshire boars and gilts. E. C. Stratton, Pavilion, Kans.

HORSES AND MULES.

FOR SALE.—Black Percheron stallion Monthaber 18162 (24057), 12 years old, weight 1,800 pounds, an extra breeder; price \$400. Address G. W. Southwick, Riley, Kans.

REGISTERED stallions, mares, and jacks for sale, one mile west of Hartford, Lyon County, Kansas. Three registered Percheron stallions, 3 registered Percheron mares; 3 registered Hackney mares; 1 stallion Standard-bred, Rubini 12844, sired by Lord Russell, sire of Maud S and grand sire of Miss Previous, sold at Marcus Daly's sale as a yearling for \$10,800, and Prelatis for \$4,600; 1 large black jack, good and sure breeder; 3 work mares; 1 carload of Hereford heifers; 3 top crosses. Address Thomas Evans, Hartford, Kans., or see B. F. McCormick on place.

FOR SALE.—Mammoth Jack, 4 years old, and saddle-gaited stallion, 3 years old. E. N. Woodbury, Cawker City, Kans.

FOR SALE.—Four big black jacks. Address J. P. Wilson, Wellsville, Mo.

JACK FOR SALE.—Five years old, sixteen hands high, black with white points. Must be sold. Don't write but come quick. T. C. Hume, Council Grove, Kans.

FOR SALE.—Two jacks 5 years old. One Shire and two Belgian stallions. Address Chas. H. Giffin, Scandia, Kans.

FOR SALE.—One Cleveland Bay, one seal brown Percheron, and one imported black Shire stallion. Will sell one of the above cheap for cash. Lewis J. Cox, Concordia, Kans.

FOR SALE.—The best 3-year-old jack in Missouri. This jack has never been beaten in the show ring yet. Call on or write George Manville, Dearborn, Mo.

FOR SALE OR TRADE.—Two large, black jacks, mealy points, 3 and 4 years old. E. E. Potter, Sterling, Kans.

FOR SALE.—One 6-year-old jack—for sale or trade. Write at once. James A. Carpenter, Carbondale, Kans.

TO TRADE.—For good jack—black Percheron stallion, coming 8 years old; also Oxford ram for sale, or trade for another. J. C. Strong, Moran, Kans.

FOR SALE.—At a bargain—young draft stallions. A. L. Hakes, Eskridge, Kans.

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

SHEEP.

FOR SALE.—Plain Merino ewes, 150 head; Merino rams, 45 head; all figures for quick sale. L. C. Wallbridge, Russell, Kans.

BALMOLINE.—Nature's Wonderful Healing Salve. Man or Beast. Druggists, 25 and 50 cents. Trial size 4 cents from B. H. De Hay, Ph. D., Abilene, Kans.

FARMS AND RANCHES.

FOR SALE.—One of the best wheat and stock ranches in Ford County, Kansas at \$5 per acre; 1,800 acres fenced and cross-fenced, inexhaustible water supply, four miles from Dodge City, Kans. For further particulars address J. H. Churchill, Dodge City, Kans.

FARMS FOR SALE.—On reasonable price and terms. Address for particulars D. W. Jones, Iola, Allen Co., Kans.

FOR SALE.—A 16-acre fruit and garden farm near Junction City and Fort Riley. Address R. W. Scott, Junction City, Kans.

WANTED.—Correspondence from parties wishing to buy wheat-farms or stock-ranches. J. M. Patten & Co., Dighton, Kans.

FOR SALE.—Several 10-, 15-, and 20-acre tracts of land with good houses on West 6th and 10th Sts., Topeka, close in. Bargains on good terms. Better see these before they are sold. F. J. Brown, 17 Columbian Bldg., Topeka, Kans.

120 ACRES.—Improved, Osage County. \$1,500. Rents \$100. Buckeye Agency, Agrícola, Kans.

IF YOU WANT to buy a good farm, address J. F. Shump, Garden Plain, Kans.

FOR SALE.—Alfalfa farm on the Arkansas Valley, running to the river, 2 miles west of Dodge City; a model dairy-farm containing 178 acres alfalfa and alfalfa-land, 500 acres pasture adjoining; good improvements. For further particulars address J. H. Churchill, Dodge City, Kans.

160-ACRE IMPROVED FARM.—In Marion County, Kansas, for sale or trade; a bargain. Full particulars by return mail. Address John Fox Jr., New Cambria, Kans.

SEEDS AND PLANTS.

SIBERIAN MILLET. the new forage millet, per 100 lbs., sacked, \$2.50; seed corn, several varieties, per bushel, \$1.50; Bromus Inermis, per lb., 18 cents; per 100 lbs., \$16; Dwarf Essex rape, per lb., 8 cents; per 100 lbs., \$7. Write for catalogue. Trumbull & Co., Kansas City, Mo.

BLACK HULL KAFFIR SEED of my own growing, re-cleaned and screened; a choice article; crop 1901. Send for samples and prices. Asher Adams, Osage City, Kans.

BEST pure Red River Valley, Ohio and Triumph seed potatoes at wholesale prices. T. G. Ferguson; Central Station, Beaver Crossing, Neb.

FOR PRICE LIST of Strawberry, Raspberry and Blackberry plants send to Wm. Brown & Sons, Lawrence, Kans.

FOR SALE.—White Kaffir and Colman cane seed, \$2.50 and \$3 per cwt., sacked f. o. b. Address I. W. Gilpin, Admire, Lyon Co., Kans.

CHOICE ALFALFA SEED.—Crop of 1901, price \$5 per bushel. Address C. E. Smith, Wallace, Kans.

FOR SALE.—Siberian millet seed, re-cleaned; 120 pounds of seed and sack \$2.50. H. Baughman, Wyomere, Neb.

WANTED.—Cane and Kaffir-corn seed in car lots. Mail samples and quote price. McBeth & Kinnison, Garden City, Kans.

WANTED.—If you wish to buy or sell corn, oats, hay, cane seed, kaffir-corn, corn chop, or anything in the feed line, correspond with us. Western Grain & Storage Co., Wichita, Kans.

HIGHEST PRICE paid for cane seed, alfalfa, millet, kaffir-corn, and pop corn. Please send samples. Kansas City Grain & Seed Co., Kansas City, Mo.

POULTRY.

Black Langshans

50 Cents, 75 Cents, \$1 and up. Circular Free J. C. WITHAM, Cherryvale, Kans.

HIGH CLASS POULTRY.—Silver Wyandottes, White Wyandottes, and White Plymouth Rocks. Eggs for hatching, 15 for \$1. R. F. Meek, Hutchinson, Kans.

FOR SALE.—Bard Plymouth Rocks and M. Bronze turkeys of high quality. Write your wants and for prices. M. S. Kohl, Furley, Kans.

AGENTS.

WE WILL GIVE the exclusive agency of our specialty to one canvassing agent in every town; up-to-date article and big profits. Daisy Mfg. Co., Seymour, Iowa.

WANTED.—A good, active man with horse and wagon, to represent us in each county. Will bear investigation. Imperial Stock Food Co., 902 Jackson St., Omaha, Neb.

WE PAY TWENTY DOLLARS A WEEK AND EXPENSES.—To men with rigs to introduce our Poultry Compound. Send stamp. Javelle Mfg. Co., Dept. 92, Parsons, Kans.

AGENTS WANTED to sell "Schley and Santiago," by Geo. E. Graham. Autograph introduction and personal account of the battle by Rear Admiral Schley. True Story of Santiago told exactly as it occurred for the first time by the only eye-witnesses of the fight. No subject before the public interests everybody as this story of Admiral Schley. The American people demand full recognition of the Hero of Santiago. Book selling like wildfire. Price \$1.50 to \$2.75, according to binding. Liberal commissions. Outfit and books ready. Send seven 2-c. stamps for complete outfit. Act quick. Big money for you. **W. B. CONKEY CO.,** Sole Publishers, CHICAGO.

PATENTS.

UNITED STATES AND FOREIGN PATENTS F. M. COMSTOCK & CO., Office, 529 Kansas Avenue, Topeka, Kans.

J. A. ROSEN, attorney and counselor in patent, trademark, and copyright causes. Patents procured and trademarks registered. Office, Rosen block, 418 Kansas Avenue, Topeka, Kans.

PERSONALS.

NEWLY MARRIED PEOPLE.—Or those contemplating marriage SEND \$1 for valuable advice to P. O. Box 203, Joplin, Mo.

When writing advertisers please mention KANSAS FARMER.

MISCELLANEOUS.

WANTED.—130 horses and mules for pasture at \$5 per head. E. W. Thoes, Alma, Kans.

WANTED.—Man with wife desires situation as manager on farm for widower or bachelor; have had nine years experience with up-to-date machinery in Kansas. Address Box 182, Abingdon, Va.

THE BEST CUP OF COFFEE and plenty of good things to eat. Farmers trade a specialty. Come and get something good. The Two Minute Restaurant, 532 Kansas Ave., Topeka, Kans.

SCOTCH COLLIE PUPPIES.—Of pure breeding. Will be sold cheap if ordered at once. Write now to O. A. Rhoads, Columbus, Kans.

FOR SALE.—Page Woven Wire fencing. O. P. Udegart, Topeka, Kans.

ONE HUNDRED THOUSAND.—First-class apple, peach, cherry, plum, and pear trees, and plants at Wholesale Prices. List free. S. J. Baldwin, Nurseryman, Seneca, Kans.

WANTED.—Man and wife—without children, on stock ranch. Man to do general farm work, and woman to do housework and cooking for family. Geo. E. Mathews, Coolidge, Kans.

VISITORS TO TOPEKA.—Rooms for rent for transients, northwest corner 12th and Polk streets, Topeka, Kans. Meals served. Mrs. E. Porter.

WANTED.—Guns; buy, trade on new ones. Remodel, or repair any part of any gun made. Strictly high grade work. The largest line of modern guns in the State always on hand. Athletic sporting goods. Foot, and base ball supplies. Practical ideas developed, and patent models manufactured; any material, any model. H. B. Howard, 505 Kansas Avenue, Topeka, Kans.

WOOL WANTED.—We have just completed our New Woolen Mill in North Topeka and want at once 200,000 pounds of wool for which we will pay the market price. Write us if you have wool for sale. Western Woolen Mill Co., North Topeka, Kans.

FOR SALE.—Feed mills and scales. We have 2 No. 1 Blue Valley mills, one 400-pound platform scale, one family scale, and 15 Clover Leaf house scales, which we wish to close out cheap. Call on F. W. Griggs & Co., 308 West Sixth Street, Topeka, Kans.

The Stray List.

Week Ending January 30.

Clay County—J. H. Keerby, Clerk.
COW—Taken up by R. J. Beutel in Oakland Tp., December 15, 1901, one red cow about 8 years old, a scar about two inches long on under side of neck near brisket; valued at \$20.

Sedgwick County, J. M. Chain, Clerk.
STEER—Taken up by D. S. Wall, of Wichita Tp., on January 11, 1902, one yearling steer, black, under bit in each ear; valued at \$10.

Greenwood County, C. D. Pritchard, Clerk.
HEIFERS—Taken up by H. D. Dean, in Lane Tp. (P. O. Virgil), January 20, 1902, one red heifer, with white face, age 2 years, dim brand on right hip, crop off right ear; valued at \$17. Also, one red heifer, with white spot on forehead.

STEER—Taken up by C. F. Dehlinger, in Lane Tp. (P. O. Virgil), January 13, 1902, one red and white steer, 2 years old, mark in right ear, and stub horns; valued at \$25.

Week Ending February 6.

Harvey County—J. L. Caveny, Clerk.
STEER—Taken up by C. C. Epp, in Alta tp., October 1, 1901, one red and white yearling steer; valued at \$15.

Week Ending February 13.

Edwards County—T. B. Hoffman, Clerk.
HORSES—Taken up by E. T. Eslinger, in Brown Tp. (P. O. Kinsley), January 13, 1902, one sorrel horse, 15 1/2 hands high; valued at \$30. Also one bay horse, 15 hands high; valued at \$30. Also one bay pony mare, 13 1/2 hands high; valued at \$20.

Finney County—C. A. Schreider, Clerk.
STEER—Taken up by I. L. Diesem, in Garden City, December 30, 1901, one black steer, 1 year old.

TREES

Ours have stood the test of 50 years. Send for price list. 600 Acres. 13 Greenhouses. Established 1892. PHOENIX NURSERY COMPANY, 1800 Park St., Bloomington, Illinois.

THE BURGESS & GRAY IMPORTING CO.

ROBERT BURGESS & SON, Wenona, Ill.

M. C. GRAY, Beatrice, Neb.

Are again prepared to save you from \$250 to \$500 on each horse you buy. We saved our Western customers over \$10,000 last winter, and from these same customers not a stallion has been returned and but one letter of complaint. We are not in the "clorn" or "masot" business, nor are we able to prevaricate in many languages; but we do keep some GOOD stallions, whose merits speak loudly for themselves, and THE BUYER TO BE THE JUDGE. See our American-bred and prize-winning Percherons and Shires before purchasing elsewhere; they are the best and most satisfactory at any price! But how does \$800 for a 3-year-old, that will mature at 2,000 pounds, strike you? You can get it at Beatrice. Don't throw your money into the sewer, but come where you can get a GOOD horse and a SQUARE DEAL at a MODERATE price! Call on, or address **M. C. GRAY, Beatrice, Nebraska.**

Low Settlers' Rates to the NORTH WEST

Every Day During March and April, 1902.

Free land; low-priced land; fine climate; splendid crops; good schools and churches; good neighbors. The growth and prosperity of the wonderful Northwest is unequalled in the history of America. Now is your opportunity to secure a home and farm. Don't neglect it. Write to-day. The good land is going fast. It will soon be gone.

These Bulletins tell you all about it. Send 2c stamp for each one wanted.

North Dakota Bulletin
Milk River Valley (Mont.) Bulletin
Flathead County " "
Cascade County " "
Colville Reservation (Wash.) Bulletin
Stevens County " "
Central Washington " "
Wenatchee Valley " "

Map and description of Washington (Folder.)

Write for rates and full information to any agent of

Great Northern Railway.

NEW YORK, 413 Broadway.
BOSTON, 211 Washington St.
PHILADELPHIA, 336 Chestnut St.
BUFFALO, 408 Prudential Building.
PITTSBURGH, 902 Park Bldg., 5th Ave.
DETROIT, Nor. B. B. Co.'s Dock.
MINNEAPOLIS, 300 Nicollet Avenue.
MILWAUKEE, 66 Wisconsin St.
CINCINNATI, 5th and Walnut Sts.
ST. LOUIS, 403 Carleton Building.
KANSAS CITY, 322 Walnut St.
DES MOINES, 407 Walnut St.
ST. PAUL, 332 Robert St.

F. I. WHITNEY,
Gen. Pass. & Ticket Ag't,
ST. PAUL, MINN.

MAX BASS,
Gen'l Immigration Ag't,
220 S. Clark St.,
CHICAGO, ILL.

GREAT NORTHERN RAILWAY

WINN & MASTIN'S GROUP.

The subject of our illustration on this page is the group of five herd boars owned by Messrs. Winn & Mastin, Mastin, Kans., whose sale advertisement appears in this week's issue of the KANSAS FARMER. The sale is to be held at the home-farm at Mastin. Sixty head of brood sows will be sold, all bred to the five boars mentioned. In the foreground is Perfect I Know 19172, winner of sweepstakes at the Trans-Mississippi Exposition in 1898 and whose produce shown for get of boar have never been defeated. In the center facing one another are Proud Perfection 23799 and Correction 26466. Proud Perfection was the sweepstakes boar at the Iowa and Illinois State Fair in 1900, while Corrector won sweepstakes at Springfield in 1901. Back of Corrector stands Missouri Sunshine 55777, the sweepstakes boar at the Iowa State Fair in 1901, and facing him is Lamplighter, a winner at the Illinois State Fair and at Chicago in 1901, where he headed the first prize herds in each show. Perfect I Know is a son of Chief I Know and is the sire of the champion sows, Lady Louise, Margaret, Miss Perfect I Know, and Matchless, and the sweepstakes boars, Correll's Perfect I Know and Big Perfect I Know. Proud Perfection sired the group that won first at the 1901 Missouri State Fair for get of boar. He is a son of Chief Perfection 2d and Beauty's Climax and is a litter-mate to D. J. Walter's Foster's Chief Perfection and B. F. Reed's Climax Chief. Corrector is a son of L's Perfection, Missouri Sunshine, a son of Ideal Black U. S., and Lamplighter a son of Missouri's Black Chief, forming a staff of boars to be proud of. Write for full particulars and catalogue of the sale to Winn & Mastin, Mastin, Kans.

American Cattle-growers, March 4.

To the members of the American Cattle-growers' Association and all cattle-growers and breeders:

The second annual convention of the American Cattle-growers' Association is hereby called to meet at the Tabor Opera House, in Denver, Col., at 10 o'clock a. m., on Tuesday, March 4, 1902, and continue through as many sessions as business may require.

The basis of representation in this association is individual membership, and any grower or breeder of cattle, or the managing officer of any corporation engaged in the growing or breeding of cattle, is eligible to membership upon the payment of an initiation fee of \$5.

The program will be limited to few set subjects or papers, it being the purpose of the convention to confine the proceedings to open debate and argument on the part of the members. After the presentation of each subject or paper, sufficient time will be given for the members to discuss the same in five-minute speeches. The convention will be wholly in the hands of its members, and ample time will be given for the discussion of all subjects presented.

Many matters of interest to cattlemen of the West will be introduced, one of the most important of which is the "Land Leasing Bill," now in Congress, prepared by a committee appointed for that purpose by the association at its last annual meeting. The "Diseases of Cattle and Their Remedies" will also come up for discussion, and papers will be presented by the most able men in the country on "The Best Mode of Feeding and Fattening Cattle for Market in the Arid Regions of the West Where But Little Grain Is Raised."

One of the objects in fixing the date of this convention in March was to enable the Northern buyers to meet the cattle-raisers from the South and give them a chance to become better acquainted, which doubtless will result in many sales being consummated at this meeting.

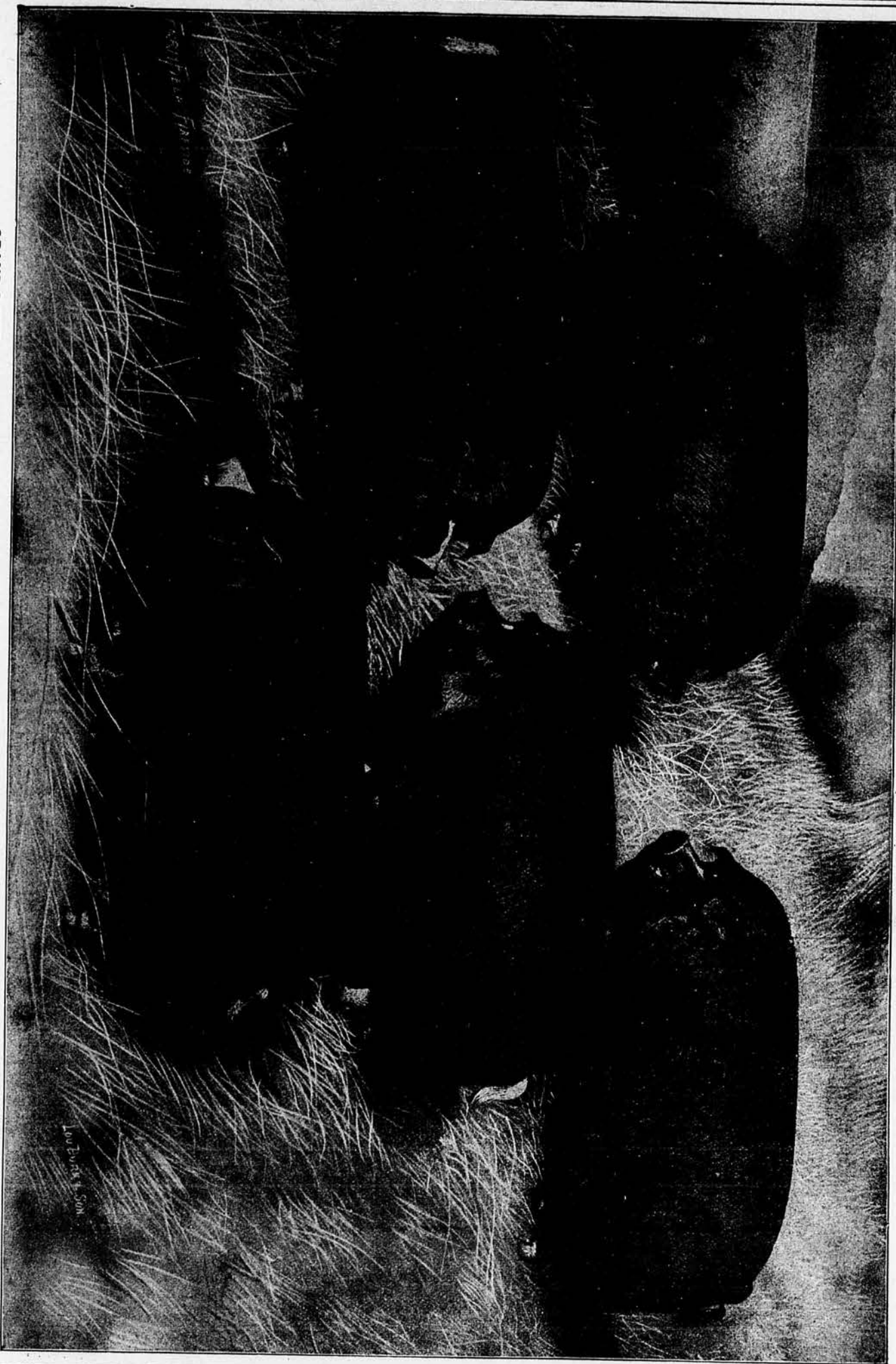
This association was organized to protect and advance the interests of cattle-growers, both large and small, and all should be interested in becoming members. The proceedings of the convention will be highly beneficial and of vital importance to the cattle interests, and we are assured that there will be a large attendance at this meeting, and any cattle-grower who can possibly do so is respectfully urged to be present.

Immediately upon your arrival in Denver you should register with the secretary of the association, at the Tabor Opera House, at which place you will be provided with a badge admitting you to convention hall.

All railways have granted a reduced rate for the round trip. Be sure and ask your agent for reduced rates to the American Cattle-growers' Convention in Denver, on sale March 3 and 4.

By order of executive committee.

GRAND PRIZE WINNING BOARS OWNED BY WINN & MASTIN, MASTIN, KANSAS.—See description on this page.



"Stone-coal's" Celebration.

An interesting anniversary was appropriately celebrated Tuesday, February 11, at Wilkesbarre, Pa. It marked the passage of one hundred years since the vastly important truth became known that "black rock" would burn—in other words, the discovery of the availability of anthracite coal as fuel. The Pennsylvania valleys under whose soil the inexhaustible deposits have existed for untold ages had become comparatively well peopled a century ago. The good points of the land the settlers tilled were thought to be pretty well understood, and so, too, its disadvantages. Much of the ground was rough and in places there broke through evidences of the unwelcome "black rock," which, as investigation proved, underlay the surface in immense quantities. This was deemed a misfortune rather than otherwise. The ebony-hued substance broke too easily to be available as was other "rock" for building purposes, and its presence was detrimental from a farmer's point of view. The lucky ones were those whose land was free from it—so they thought.

But one day a bit of information reached the Wilkesbarre neighborhood, although at the moment it was not taken seriously. A fellow passing through from down the State a way gave it out that it was suspected that the despised black rock would burn. Nobody believed it, apparently. Nearly every one openly derided the idea. One man, however, Jesse Fell by name, quietly made up his mind to investigate for himself. He did not tell his neighbors of his purpose. He did not wish to be an object of ridicule and the butt of their jokes in case his experiment turned out a failure. So when everybody was asleep he slipped out and procured a quantity of the stuff, and, having supplied his grate well with kindling, started his fire, dumped on his "rock," and within a short time had banished every doubt from his own mind. Incidentally, too, he had warmed his house in a way that he had never before thought possible. The next day he called in his neighbors, and, as if they were all Missourians, he "showed" them.

This occurred February 11, 1802, and its centenary Wilkesbarre celebrated,

as most becomingly it should. The tremendous significance of the discovery was far from appreciated at the time. Decades passed before the utilization of steam and rail had made available to the fullest extent its beneficent possibilities. But Jesse Fell's experiment one hundred years ago, in consequence of which our "black diamonds" became known to American commerce, is worthy of all the glorification Wilkesbarre gave it—whether the pleasant little story is literally true or not.—Kansas City Journal.

Catarrh Can Not Be Cured

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

F. J. CHENEY & CO., Props., Toledo, O. Sold by druggists, price, 75c. Hall's Family Pills are the best.

Horticulture.

Trees Valuable for Timber.

EDITOR KANSAS FARMER:—In your issue of January 30 I noticed a most excellent article by Mr. Tincher, who quotes our mutual friend, John P. Brown, and in the same issue is an item I wrote on the same topic, but it did not so fully cover the points I had in mind.

If land is not accessible or is uneven on account of creeks or bluffs, so that it would wash if cultivated, timber would have plenty of time to grow for almost every purpose, and this timber would add considerable profit to the farm.

The one item I especially wish to invite attention to is the kind of trees to grow. The Catalpa Speciosa is no doubt the best-known tree and is the best where moisture is ample, but in the western part of the State the honey locust, black locust, and black walnut are more successful. The borers were very bad on the black locust years ago, but they have not caused trouble for the past fifteen to twenty years, so the timber has been solid, hence it is safe to plant them.

But in my estimation, the tree worth more than all others in the Southern deciduous cypress. It is little known here, being a native of the Southern swamps, where it stands a part of the year in water. This fact might indicate that it would require such environments elsewhere, but such is not the case. It has been grown in the vicinity of Lawrence since the sixties. Some are on dry hard-pan land, while others are on black prairie soil, but neither have suffered from dry or cold weather. They stood the extreme cold of 1898 and the extreme heat of 1901 while many other trees either died outright or were seriously injured. One of these trees is nearly fifty feet high. It is straight as it could possibly be, and beautiful in branches and foliage. These trees were planted for ornamental purposes and for this they have no equal, as they have clean, bright, and abundant foliage, which is soft and feathery and admired by all who see it.

This tree should be grown extensively. It is rarely found in nurseries North or South, and never in forest plantations, but it should be, and why it should, I am not sure. The seed evidently comes from the South, but now abundant it is or how much labor it requires to gather it, I do not know. I hope that when Mr. Brown gets to Mississippi next summer, he will ascertain if the seed can be secured in paying lots, and if so that he will plant some of it in this section of the country. This tree deserves popularity as it is a very fast-growing tree, is erect in habit, splits easily, has very light wood, and will last well in the ground or when used in buildings. I would rather have a plantation of cypress-trees than any other kind. I am going to plant a row along the roadside and am going to cut down maples that are from twelve to twenty inches through the body to make room for them. I do not know how far west it will thrive, but it will grow beyond Salina or Great Bend and north of the State line. Everybody who desires the choicest trees should plant the cypress. Lawrence, Kans. A. H. GRIESA.

The Black Walnut.

EDITOR KANSAS FARMER:—There is, probably, not a more profitable forest-tree to plant for wind-break or timber than the black walnut. When planted in rich, black soil it grows rapidly, making in a few years shade and shelter for stock, and timber from which poles, fence-posts, or wood for fuel can be obtained. In prairie districts this is quite a saving, as every tree for fuel and every load of posts, where the farmer has to buy such commodities, as many do, represent so much cash actually expended.

The nuts should be buried in the ground, preferably in the autumn, or, failing in this, one may gather them early from under the leaves where they have kept moist all winter, and planted in rows where the grove is wanted. The ground should be plowed to a good depth and rendered loose and moist by the admixture of well-rotted barn-yard manure to promote rapid growth. The ground selected should be rather low and humid, if possible, but we have seen groves of fine, large trees on slope lands, bearing yearly heavy crops of nuts as do the native walnut-trees along the creeks in this section.

The young trees should be cultivated as soon as they make their appearance, and the weeds kept out of the row with

the hoe. The first year's cultivation will be the most arduous, as after the trees are started, all that is needed to keep them growing is to keep the weeds down with a horse cultivator.

With us, the common black walnut is considered a valuable auxiliary in the feeding of fowls, as it has been found to be a good substitute for meat. Chickens and turkeys take a great delight, and considerable exercise, in picking out the kernels from the shells. Our attention was directed to the possibilities of nut-feeding by a report showing the comparative nutritive value of nuts, including the walnut, and other food-stuffs, sent out by a medical journal several years ago. We have since experimented and found that the report did not overestimate the importance of nuts as an article of diet. They, however, should not be fed in too large quantities as they are very rich and a little will suffice.

It is not generally known that the walnut, itself, is very valuable for fuel. In sections where wood is not very plentiful it is a good substitute. As a rule the tree is a prolific bearer and the nuts are as easily obtained as wood or coal. When dried and stored in a dry place they will repay one many times over for the labor of gathering them.

It is to be hoped that farmers in the West will pay more attention in the future than they have in the past to the growing of forest-trees, thus supplying in a measure what nature has failed to provide. We know of farmers who have lived in prairie districts for fifteen or twenty years, who have groves of stately trees several feet in circumference, that they planted when they first moved there, with their own hands. Had they planted a goodly acreage of forest-trees they would not now be at such a disadvantage for lack of timber for building and fencing purposes, and for firewood. C. B. THURMAN, Kans.

Cottonwood- and Walnut-trees.

EDITOR KANSAS FARMER:—How old do cottonwood- and walnut-trees grow? What growth do they make where they are in a healthy condition? Erie, Kans. A. L. CALAW.

The following answer to this inquiry is furnished by Prof. G. O. Greene, of the Kansas Experiment Station:

Both of these questions may be answered in one. The cottonwood is our largest tree. It is found all over the State, and the older trees are from three to eight feet in diameter. As they grow somewhere near three-fourths of an inch in diameter per year on good bottom-land, the largest tree would be at least 125 years old.

A walnut-log was exhibited at the World's Fair at Chicago from Leavenworth County, which measured seven feet in diameter. The walnut is said to grow about a half to three-fourths of an inch in diameter each year after it becomes well started. This would make that particular tree at least 200 years old. Either of these trees will probably grow to a much greater age if they have good soil and plenty of moisture. It is safe to say that either will grow to the age of 200 years.

Shawnee Horticulturists.

The Shawnee County Horticultural Society met February 2 in the rooms of the State Society.

The prompters being called upon, Mr. Goodell responded for small fruits, stating that, so far as he knew, berry-bushes were largely destroyed and the best thing to be done now is to clear out the dead vines and give the live ones a chance.

Mr. A. B. Smith stated, for stone-fruits, that his cherry-trees were all right, but that his plum-trees were destroyed, mainly by the work of curculio, and he knew not how to combat this enemy. He was facetiously advised by some one to invest in better varieties, but the society did not agree as to what are better varieties than Mariana and Wild Goose. It was agreed, however, that the native American varieties are harder than the Japanese sorts. It was agreed that plum-trees need plenty of water. Planted in a sandy spot not far from a river they do well.

Mr. Lux, on improvement of varieties, recommended the selection of scions or buds from trees that show the most desirable traits in any variety. Scions should always be taken from young trees in preference to old trees, no matter how vigorous the shoots.

Mr. Rude, on gardening, urged prompt action in the preparation of beds and planting of seeds for early vegetables. Work for the month was outlined.



Mrs. L. A. Harris, a Prominent Member of a Chicago Woman's Political Club, tells how Ovarian Troubles may be Cured without a Surgical Operation. She says:

"Doctors have a perfect craze for operations. The minute there is any trouble, nothing but an operation will do them; one hundred dollars and costs, and included in the costs are pain, and agony, and often death.

"I suffered for eight years with ovarian troubles; spent hundreds of dollars for relief, until two doctors agreed that an operation was my only chance of life. My sister had been using **Lydia E. Pinkham's Vegetable Compound** for her troubles, and been cured, and she strongly urged me to let the doctors go and try the Compound. I did so as a last resort; used it faithfully with the Sensitive Wash for five months, and was rejoiced to find that my troubles were over and my health restored. If women would only try Lydia E. Pinkham's Vegetable Compound first, fewer surgical operations would occur."—MRS. L. A. HARRIS, 278 East 31st St., Chicago, Ill.

\$5000 FORFEIT IF THE ABOVE LETTER IS NOT GENUINE.

When women are troubled with irregular, suppressed or painful menstruation, weakness, leucorrhoea, displacement or ulceration of the womb, that bearing-down feeling, inflammation of the ovaries, back-ache, bloating (or flatulence), general debility, indigestion, and nervous prostration, or are beset with such symptoms as dizziness, faintness, lassitude, excitability, irritability, nervousness, sleeplessness, melancholy, "all-gone" and "want-to-be-left-alone" feelings, blues, and hopelessness, they should remember there is one tried and true remedy, **Lydia E. Pinkham's Vegetable Compound** at once removes such troubles.

Judge Fred Wellhouse made the talk of the day on "The Benefits Derived by Kansans from a Drouth." He said he believed there was a benefit in all things; and if there was any benefit in a drouth he wanted to know it. He had studied more on it during the past summer than he ever had before; and after looking at the subject carefully, and in the light of his past years of experience, he was satisfied that there were some benefits; and he was ready now to point out one or two of these. He showed that pure water, as absorbed by the trees and plants, furnished no food for the trees, but acted only as a circulatory medium and a conveyor of food in the shape of mineral matters held in solution.

"Rains, when they fall, absorb certain gases from the air, such as ammonia, carbonic acid gas, etc., and these are reabsorbed by the earth within a very short distance of the surface. Water, passing into the earth and not soon evaporated or taken up by plants, goes downward dissolving certain mineral elements and carrying them away in springs and rivers.

"During a drouth the process is reversed, and the water in the earth is constantly rising by capillary attraction and otherwise, carrying its load of mineral matters with it and leaving them at or near the surface on evaporation. Then, when a rain does come, as come it will some time, those mineral matters at the surface are redissolved and carried downward, and taken up by the roots of trees and plants which have survived the drouth. These mineral matters are what is necessary to build up the tree.

"Last summer," he said, "my trees withstood the drouth to a wonderful degree. The leaves seldom or never wilted, but new leaves came tardily, or not at all after the drouth had well set in. The apples did not fall off, but remained small and green, and during all the dry season scarcely made growth enough to be noticed. But when the rains of late summer set in the apples made wonderful growth, and the twigs could be seen to lengthen and thicken up. The drouth had caused an abundant store of the mineral elements necessary to the life and growth of the trees to be placed within reach of the

roots; but the water of the fall rains was necessary to carry this food into the trees.

"Another benefit was derived from the scare caused by the drouth, which was general. It brought the prices up so that in the fall prices of apples were as high as they are to-day. Prices were high until it was found that Kansas always produces an abundance or a fair crop, whether the weather is wet or dry."

He also showed that the heat and drouth of summer was very destructive to fungus diseases of the trees, and to injurious insects, such as the tent caterpillar, and a help in the production of ichneumon flies, the orchardist's best friend.

Mr. Walter Wellhouse ably seconded his father's remarks by stating his experience with ichneumon flies. Toward the last of the season, after clearing his trees of tent-caterpillars, he placed the last wagon load of "tents" in a building and watched the results. He found in due time that instead of many "tent-caterpillar" moths emerging, there were hosts of ichneumon flies, "millions of them," the judge said, emerging from the pupa cases of the caterpillars, and not very many moths. He opened the windows and doors during the hours that the flies were active, to release them, and kept them closed during the hours the moths were active, in order to confine the moths. He could not say whether the flies, on being released, found any tent-caterpillars in the

FREE SWEET PEAS ... TO ... ONE HUNDRED LADIES.

In order to more thoroughly introduce our flower seeds, we will give, free of all expense, to the first 100 readers of the KANSAS FARMER applying; enough Sweet Peas to plant a generous row (one of our large 50-cent packages). In answering please state size of your flower garden—and we will be glad to also send you our beautifully illustrated catalogue of popular garden plants.

M. B. FAXON,
FLOWER SEED SPECIALIST,
31 State Street, Boston, Mass.

bodies of which to deposit their eggs, as his orchards had none, though possibly some other trees may have had; but it remains to be seen the present year, if we shall have a reduced number of tents of the ten-caterpillar, whether any benefit is to be derived in that direction from the increase of ichneumon flies in 1901, indirectly as a result of the drouth.

The remarks of the judge were also endorsed by Mr. A. L. Brooke, the nurseryman, who stated that in his observation the soil was not in many years in so sour a condition as during the spring of 1901, and that the earth was never in a sweeter or more healthful condition than at the close of the drouth. The temperature of the soil, rising to 135° to 140° F. was sufficient to destroy sourness and all kinds of bacterial and fungus diseases, including root-knot of trees and not sufficient to destroy the trees or many plants.

Mr. A. E. Dickinson, being called upon, stated that his experience regarding fungus diseases was limited to apple-scab and bitter-rot, and he found that spraying with blue vitrol or the Bordeaux mixture was beneficial. He recommended arsenical spraying and gave valuable formulas.

Three new persons—S. M. Crowe, J. H. Queen, and Frank Lapont—were elected to membership.

Appointment of prompters for the ensuing season was announced as follows: Apples, J. S. Jordan, Wakarusa; berries, H. E. Goodell, Tecumseh; domestic economy, Mrs. Kittie McCracken, Mission Center; grapes, A. L. Entsminger, Silver Lake; gardening, F. P. Rude, North Topeka; improvement of varieties, Philip Lux, Topeka; stone fruits, A. B. Smith, Topeka.

The next meeting of the society will occur March 6 at the State House, with the following program:

"Forethought for the Flower-garden"—Mrs. Kittie J. McCracken.

Fitting Up a Lawn on a Farm"—B. B. Smyth.

"The Utility of Bees to the Orchardist"—By some bee-man to be selected.

Walnut Logs.

EDITOR KANSAS FARMER:—Replying to your request as to the best place for a Kansas man to dispose of prime walnut logs, I suggest any of the following firms:

The Des Moines Lumber Company, Sheffield, Mo.; Prouty, Lesh & Co., East Chicago, Ind.; The Oaken Lumber Company, Columbus, Ohio. These firms are always in the market for good stock. I will quote a recent price sent me from the Des Moines Lumber Company. Quotations are made f. o. b. Sheffield (near Kansas City) Mo.:

FIRST-CLASS STRAIGHT LOGS.

Diameter, inches.	Length, feet.	Price per 1,000 feet.
18 to 21	10 to 16	\$43
22 to 25	10 to 16	\$48
26 to 29	10 to 16	\$53
30 to 33	10 to 16	\$58
34 and up	10 to 16	\$70

COMMON LOGS.

12 and up	8 to 16	\$27
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All logs must be cut in even lengths, as 8, 10, 12, 14, or 16 feet. A crooked log must be put in the next lower grade to the one it would properly belong to if straight. No culls and few commons should be handled, as these two grades neither pay the shipper or receiver. We measure logs by Doyle's log rule, at the small end, the narrow way, from bark to bark, except where the sap exceeds one and one-half inches, in which case one inch should be deducted.

For the convenience of any one who may have logs for sale I will present Scribner's log table, from which all lumbermen measure stock in buying. The rule will be found interesting, as it will enable a person at a glance to tell about how many feet of lumber in a standing tree:

SCRIBNER'S LOG TABLE.

By Doyle's Rule.

Diameter, inches.	8 ft.	10 ft.	12 ft.	14 ft.	16 ft.
10	18	23	27	32	36
11	24	31	37	43	49
12	32	40	48	56	64
13	40	50	61	71	81
14	50	62	75	88	100
15	60	75	91	106	121
16	72	90	108	126	144
17	84	106	127	148	169
18	98	122	147	171	196
19	112	141	169	197	225
20	128	160	192	224	256
21	144	181	217	253	289
22	162	202	243	283	324
23	180	226	271	313	359
24	200	250	300	350	400
25	220	276	331	386	441
26	242	302	363	423	484
27	264	330	397	463	530
28	288	360	432	504	576
29	312	391	469	547	625
30	338	422	507	591	676
31	364	456	547	638	729
32	392	490	588	686	784
33	420	526	631	736	841
34	450	562	675	787	900

Soil for Pears.

EDITOR KANSAS FARMER:—Where should pear-trees be planted, on the bottom or on the upland? The upland is hard red clay subsoil and not good for apple-trees or cottonwood. Are pear-trees that make a big growth more subject to blight than those that do not grow so rank? W. W. WICKS.

Hunnewell, Kans.

This inquiry was referred to Prof. Albert Dickens, horticulturist of the Kansas Experiment Station, who replies as follows:

"Some rather contradictory conclusions might be drawn from observations made in different localities in Kansas but the weight of the evidence at hand seems to show that in general best success attends the plantings made on soil that is at least not over-rich rather than those made on first-class land. As a rule the blight has caused more injury where quick, rank growth has been made than where the rate of growth has been only moderate. The hardier varieties as Kieffer and Garber, while not as fine quality as many other pears, are more generally successful and if picked before ripe and well ripened off the tree are of a very fair quality—good fruit for table or canning."

Maple Syrup.

Maple syrup can be made from the soft maple and from the box-elder, which is of the maple family. As the earth begins to thaw the sap will flow, and this is the best time, when it freezes at night and thaws through the day, to save the sap and make good syrup. It will take less sap of the box-elder than of the soft maple to make the same amount of syrup. Five or six pailfuls of sap will make a pound of sugar or more than a quart of syrup. Making of syrup is one of the best uses that can be made of the box-elder. It is hoped that many will take advantage of the opportunity. A. H. GRIESE.

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. Bachelder, Concord, N. H.
Secretary..... John Trimble, 514 F St Washington D. C.

KANSAS STATE GRANGE.

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

Manhattan Grange.

Manhattan Grange No. 748, Patrons of Husbandry, met in Odd Fellows' Hall Wednesday, January 29, at 10.30 a. m. A fair number were present considering the inclemency of the weather. After a bounteous feast the grange was opened in form and the third and fourth degrees were conferred upon Brother Porter. A roll-call responded to by every member present giving some item of interest in current events was a very pleasant change in the lecturer's program. The worthy master read from the KANSAS FARMER the note to the Patrons of Husbandry concerning the tax commission bill, which called out considerable discussion and that subject was assigned for discussion for one hour at next meeting. I hope every subordinate grange in the State will secure copies of the bill and give it careful consideration. Now is the time for securing any change we may wish. E. W. W.

Big Grange Meetings.

There is a revival of interest in some of our supposed dormant granges of this county that is certainly deserving of notice, and even compliment, and some report of the good work should go out to our people through the columns of our grange paper. In their sickness, these dormant granges had our sympathy, and our recording fingers were hovering over the alphabet to give them a deserving obituary when the last breath had flown. But they are cheating us out of the fun of a funeral and we are having some most wonderful resurrections, all because they were told that they were so near dead that there was no possible chance of recovery.

Gardner grange made the start on last Saturday night having a good audience, a grand feast and installing their officers for the new year; Ole Hibner doing the ritualistic work and Henry Rhoades at the gavel. If Gardner grange goes down under such a role of

Comedy or Tragedy?

Household Dramas on which the Curtain is Drawn.

The daily press makes us familiar enough with the scene in the drunkard's family in which the intoxicated man finding the meal not to his liking, throws it on the floor and proceeds to vent his temper by smashing crockery and furniture. This is pure tragedy to the abused and helpless family, and to the onlooker who through the windows of the press views the sad scene. But the daily paper never has a word to say about the sober and reputable man of family, who, in a fit of irritation, dashes to the floor or out of the window some dish not to his liking. The press doesn't tell because it doesn't know. Family pride and love draw the curtains of privacy closely about such scenes, and it is only when the long



suffering wife appears perhaps in the divorce court that the curtain is raised for a moment and reveals the miseries love has long hidden. This is not a fanciful case. There is many a good home haunted by this skeleton of unhappiness; many a reputable business man whose home coming is both feared and dreaded. To an outsider the sight of a man furiously throwing a dish of cake from the window, or savagely kicking a chair out of his way, would provoke a smile. But to those in the man's family his conduct provokes only tears.

THE CAUSE OF IT ALL.

It is not natural ill-temper or pure meanness which makes a man so moody, sullen and irritable. The cause of his condition is generally to be found in disease of the stomach, often involving the liver, kidneys, or other organs. The surest and quickest cure for disease of the stomach and other organs of digestion and nutrition is found in the use of Dr. Pierce's Golden Medical Discovery.

"Having seen the advertisement of your 'Golden Medical Discovery,' and being a great sufferer from the effects of stomach trouble for the past eight years, I concluded to try your medicine," writes Mr. W. A. Maxwell, of Marshfield, Coos County, Oregon. "I had tried almost every known remedy, also consulted with the best medical skill attainable, but all without any relief. After reading one of your circulars I concluded to try one bottle of Dr. Pierce's Golden Medical Discovery. After taking one bottle I felt so relieved it induced me to continue. Am now on the fourth bottle, and have not had a spell of bloating or 'acid stomach' (which was very painful), for the last six weeks. Before the use of your medicine I was in dread of every meal time, for in twenty minutes after eating I would be racked with pain. Indigestion was my principal ailment, and I have been also terribly afflicted with asthma, which I believe was brought on through the medium of indigestion. Now, as I stated, after having used four bottles of your medicine, I have not had an attack of sour stomach or painful bloating, and my asthma has just about disappeared. In fact, I feel better now than for the last ten years. As I am largely known in New Mexico, Arizona, Colorado, California, and Ore-

gon, as a rather prosperous mining man, I thought these facts might be of some benefit to some of my acquaintances."

THE WORST THING TO DO.

The worst thing to do when the stomach is diseased and causes discomfort, such as belching or acidity, is to take some of the many palliatives put up in the form of pills, tablets, powders, etc. These are not remedies for the disease. They only superficially change existing conditions. Allow that they "sweeten" the stomach, release the accumulated gas, check fermentation, etc. All this is only temporary. The diseased condition of the stomach is untouched. Disease never stands still, and therefore the stomach itself is getting worse instead of better. It is the result of the use of some of these numerous palliatives that men and women, when they have exhausted their little helpfulness, find themselves with an aggravated form of stomach "trouble." If these palliatives had not disguised and covered up the earlier symptoms, the people would long ago have sought and found a real cure.

The moral is that if your stomach is "weak" or diseased don't trifle with trivial palliatives—get the medicine which cures disease of the stomach and other organs of digestion and nutrition, Dr. Pierce's Golden Medical Discovery.

"For three years I suffered untold agony," writes Mrs. H. R. Waite, of Stanstead, Stanstead County, Quebec, Box 115. "I would have spells of trembling and being sick at my stomach, pain in right side all the time; then it would work up into my stomach, and such distress it is impossible to describe. I wrote to the World's Dispensary Medical Association, stating my case to them, and they very promptly answered and told me what to do. I took eight bottles of Dr. Pierce's Golden Medical Discovery, and five vials of Dr. Pierce's Pleasant Pellets. Thanks to Dr. Pierce and his medicine I am a well woman to-day. Dr. Pierce's medicine also cured my mother of liver complaint from which she had been a sufferer for fifteen years. We recommend these medicines to all suffering people."

WHAT YOU MAY EXPECT.

You may expect from the use of "Golden Medical Discovery" the same results which have followed its use in a multitude of other cases. You may expect that the stomach will be perfectly and permanently cured; that by the perfect digestion and assimilation of food the whole body will receive new strength; that lost flesh will be regained. You may expect that if the disease of the stomach has involved the heart, liver, kidneys, or other organs, that the disease of these organs will be cured with the cure of the stomach.

Why may these things be expected? Because they are the common experience of those who have been cured by the use of "Golden Medical Discovery." These experiences follow the law of expectations by which we naturally expect that an effect which has usually followed a given cause will not cease to follow it.

By the same law you may expect "Golden Medical Discovery" to cure you. It has a record of cures, covering nearly a third of a century. In ninety-eight cases out of every hundred it has perfectly and permanently cured the diseases for which it is prescribed and recommended.

Those who suffer from chronic diseases are invited to consult Dr. Pierce, by letter, free. All correspondence strictly private. Address, Dr. R. V. Pierce, Buffalo, N. Y.

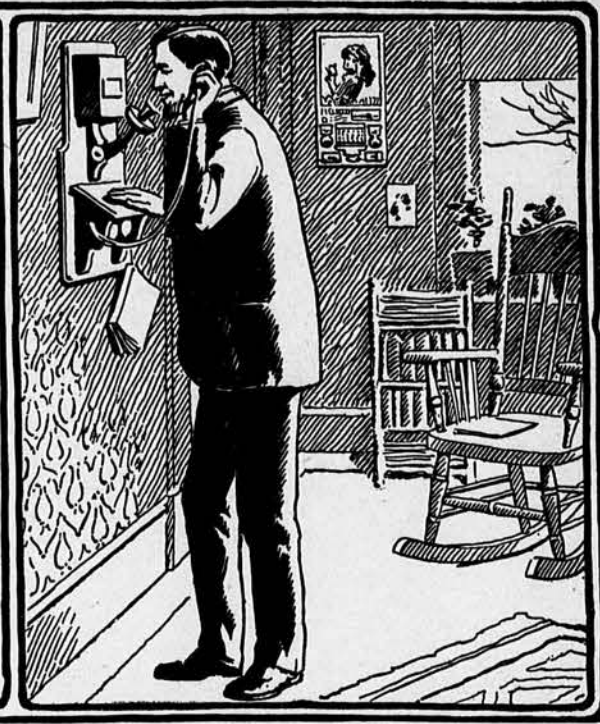
WISDOM FOR PENNIES.

A 1008 page book, free. You can get the People's Common Sense Medical Adviser, the best medical book ever published, free, by sending stamps to pay expense of mailing only. Send 21 one-cent stamps for the book in paper covers, or 31 stamps for the cloth-bound volume, to Dr. R. V. Pierce, Buffalo, N. Y.

officers as were installed that night, then good generals can not always lead to victory.

Next came Tomahawk grange so long reported as being prostrated at the very verge of the grave and even too weak to wiggle into its final rest-

ing place. There was a demand made that Tomahawk must surrender its soul in the form of its original charter, to be given back to the State, or to the archives of our national organization. This is always a dangerous demand to make on any animated thing until the



An order by 'phone

"Hello! Is this Mr. Wise, the McCormick agent?"

"Yes, who is this?"

"This is Bright of the Brookdale Farm. — Say, have you any more new, right-hand McCormick binders like the one Wilson bought?"

"Yes; just unloading our third car today."

"Have these binders got the folding divider, new needle, hardened knotted parts, reversible trip hook and new pitman shield?"

"Yes, sir; all of 'em."

"Well, set aside two binders for me. Guess I'd better have 500 pounds of McCormick twine, too; Manila brand. — And, say, Wise, send me one of McCormick's World-Centre books."

"All right, Mr. Bright. The binders will be ready for you any day, and I'll mail the book. Thank you; good-bye."

"Good-bye."

♦ If you are interested in harvesting machines, write for beautifully illustrated book entitled, *The World-Centre*. ♦
ADDRESS: B. L. REES, General Agent, McCORMICK HARVESTING MACHINE CO., Topeka, Kansas.

pulsations of its life's blood have made their final stroke, as is well known to every Nimrod who has attempted to draw the sharp edge of his hunting knife across the throat of a prostrate buck while the life currents are still flowing; and so the unexpected happened at Tomahawk. They neither surrendered their charter nor hid it in an oak tree like the New Englander of history, but arose in their strength and such a meeting as we had at Tomahawk grange last Friday night should live in grange history. The hall was crowded to its utmost capacity and when Brother W. P. Goode took the gavel and called the house to order it seemed like he, for the time being, had entirely forgotten his pedigreed hogs and white-faced cattle, which is much like saying "the Lord has forgotten his people," but it certainly was complimentary to the man to know that he could arise to the occasion and catch the inspiration of a resurrected grange and by a well-timed address, direct its future destiny.

After the opening address by Brother Goode, Brother Rhoades proceeded with the installation exercises, the ritual of which is a perfect gem of literature, and the officers of the new year were installed, every officer elect being present, which I must admit was an exceptional incident in our history, and a good omen for the future of Tomahawk grange. After the ceremonial part was over, which was preceded by an address from Brother Rhoades, we had a love feast, and as a part of this, an address from Bro. Robt. Baker which convinced me that they had made no mistake in the selection of their lecturer. Then followed an oyster supper with all the accompaniments that belong to such a feast and an adjournment in the "wee small hours of the morning."

I can not recollect all the names of the various officers that were installed at these meetings, and since it is customary for each grange to report in full, I have no doubt but the list will soon reach your office.

But I must acknowledge that Brother Rhoades and I were most royally entertained by Brother Goode and family while visiting Tomahawk grange and such friends and favors will be long and kindly remembered. We went out and looked at Brother Goode's fine stock, and, especially, his large herd of pedigreed hogs, and the sight filled me with avarice and remorse, such perfect proportion, such excellent build, in a brute, and I, a man, made just a little lower than the angels (so the good book says), and yet so lank and lean, and scrawny, and cadaverous and out of harmony with the beautiful. I slipped back into the house and peeped into every nook and corner of Brother Goode's library and ransacked some of its drawers to find that wonderful medication, that secret production of alchemy, that mysterious magical drug, one dose of which, I hoped, would do for me what it had done for his hogs—make me perfect in physical form and stature as a man. I failed to find it, and when Brother Goode came in he perfectly paralyzed me with his long lecture on the necessity of breeding up through a long line of ancestry in order to perfect animal form.

I felt like he was casting reflections on my honored sires, was abusing my grandmother and slandering all the long line of my ancestry, even telling me to my face that I was of no royal, nor even very respectable lineage, but rather that I belonged to the scrubby line of ill-bred stock, without any pedigree whatever, and even undeserving of social recognition.

I wondered if he had not met my mother in her early life and she had jilted him and my father had "cut him out," and he was now playing ghoul and taking vengeance, in visiting his wrath on their degenerate son.

But Brother Goode and his family had treated us so kindly that I gulped down the awful dose of "pedigree philosophy" and we parted friendly with the warmest of feelings towards that family and that entire community and a supreme trust in the future of Tomahawk grange.—I. D. HIBNER, in Kansas Patron.

Granges Organized.

The organizers for the grange in Kansas are beginning to get in their winter work. Mr. Ole Hibner, general organizer for the State, has reported the reorganization of Stanton Grange in Linn County with H. P. Clay worthy master and Mark Clay, worthy secretary.

Bro. W. G. Obryhim, deputy for Osage County, has reported the reorganization of Carbondale Grange No. 754. W. J. Dedrick is master and Henry Wright secretary, with twenty members; also, the reorganization of Valley Grange No. 448 with R. H. Montgomery master and W. E. Daniels secretary, with thirty-one members.

We would be glad to hear from other deputies throughout the State doing as good work. The general organizer has some good prospects before him. Let the good work go on.

Grange Notes.

A wise patron thinks twice before he speaks once.

A talking patron is not always a working patron.

Active politicians are not of much use in the grange.

A zealous patron is always ready to speak a word for the good of the order.

Remember the grange is an organization of farmers, by farmers, for farmers.

The individual who is a patron for revenue only is not of much use to the grange.

These are the evenings for grange visitation and the zealous patron improves them.

Now that the new officers have been installed we may look for a boom in grange work.

Patrons, what efforts are you making toward securing better schools for your children.

Brother, if your grange is not what it ought to be, whose fault is it? Are you blameless?

If patrons would cooperate more fully farmers who are not members of the order would be more deeply impressed in favor of the grange.

If farmers could only be made to real-

ize that they are continually opposed by organized enemies, they would then more readily see that they must act as a unit or be made bearers of other people's burdens.—Pennsylvania Farmers' Friend.

SMALL POX.

This dreadful disease is now very prevalent in all parts of the country, and, as exposure to its malignant breath is liable to occur at any time no matter how careful we may be, it behooves everyone to take proper precautions to prevent the germs from affecting the body. The doctors say that pure blood, good digestion, and regular bowel movement materially aid the body in resisting attack, hence it is the course of wisdom to purify and strengthen the system without delay. A most effective remedy for this purpose, one that combines the necessary properties for purifying the blood, strengthening the kidneys, toning up the digestive organs and for cleansing and regulating the bowels will be found in that well known system tonic and purifier, Prickly Ash Bitters. This valuable remedy is the right thing for putting the body in shape to resist the effect of exposure to Small Pox. No one will knowingly expose himself to this disease. The exposure usually takes place when it is least expected, therefore the need for precautionary measures is the more urgent. It is safe to say that the frequent use of Prickly Ash Bitters while the disease

is so prevalent will keep the body in such fine physical condition that no ordinary exposure will affect it.

"Who was Ananias?" asked the Sunday school teacher. After a thoughtful pause a hand went up toward the foot of the class. "Very well, Tommy," said the teacher, "you may tell us who Ananias was." "Please, ma'am," said Tommy, "he wuz th' feller wot sed he swollered a whale."—Ohio State Journal.

"Do you regard the Isthmian canal as a good thing?" asked the interviewer. "It may be," said Senator Sorghum, thoughtfully, "for somebody, if it is worked right."—Washington Star.

Have You Hogs?

All our subscribers who own hogs should read *Blooded Stock*, Oxford, Pa. It is a first-class swine paper. Send stamp for sample.

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The Poultry Yard.

Hatching and Raising Early Chicks.

EXPERIENCE OF MRS. LEONARD JOHNSON, OF PENNSYLVANIA, IN AMERICAN AGRICULTURIST.

On January 1, 1900, there were eighty-three hens and two males in my flock, the latter being White Plymouth Rocks. One was a yearling cock used the preceding summer, of very blocky shape and very yellow skin, beak, and legs. The other was a June hatched cockerel, raised from my own stock under first-class conditions. The cockerel was more of the Leghorn type of White Plymouth Rock, but had the yellow skin and legs that I like in my market poultry. My hens are almost all high-grade Rocks, Barred or White. There are a few with Minorca blood, kept because of their laying qualities.

All of the eggs set early in the year were marked on the larger end, with pen and ink, with the name of the hen which had laid it. In most cases I knew from actual observation that the eggs would prove fertile. Almost all the early chicks were sired by the cockerel, which was 7 months old when the eggs were set. Most of the eggs were from 2-year-old hens. Sometimes all the eggs from one hen hatched, sometimes only a part, and in the case of three old White Rocks none hatched, although a number were set at different times. The plumage of these hens remained as white and immaculate as if they had just finished molting. I have learned that these clean, unruffled hens are either mighty poor layers or never permit the attention of the males. Eighteen eggs laid by an early hatched pullet in January produced eighteen chickens. Pullet eggs were usually more fertile than those from hens. I saw no difference in the chicks.

The hens were set where they had laid. It is risky removing broody hens in the winter to strange quarters, for the eggs chill so quickly. As only a small part of the flock is laying and the hens set are almost always old ones, they are not disturbed to any extent. As soon as the first egg was chipped, the box with hen and eggs was carried carefully into my kitchen. Once in a while, the hen, alarmed, would step off the eggs and make for the hen-house, when I would leave her for ten or fifteen minutes, hunting for her nest; and as a rule when I finally caught her and brought her back to her eggs she was glad enough to cover them. By doing this every egg that contained a chick hatched, very few were killed by the hen, and I had a chance to study the whole operation comfortably.

When the chicks were a day old the hen was greased with pure melted lard close to the skin and from the crown of her head to her legs. To do this I spread an old bag on my lap, confining the hen's legs between my knees. The feathers were pushed back with one hand, the grease applied to the skin with the other. To treat the breast I laid her on her back. It took about half an hour to perform the job, but if the thing was thoroughly done, no further treatment for body lice was necessary for her flock of chicks. Not only all the lice but all the louse eggs were destroyed. Broilers when killed three months later were perfectly free from vermin. I need hardly state here that a lousy hen will not raise many chickens in the winter, nor that the few raised will prove acceptable broilers. Pure lard used in this way will not injure the chicks in the slightest degree. Of course I don't place them in a cold building immediately afterward; I should consider that risky.

I have a good sized box, the floor covered thickly with cut clover hay, in a sunny window of the kitchen, where they stay with their mother for four or five days. The litter is changed every day. Here they run about and scratch for their oatmeal and are quite strong when removed to an outdoor coop or house. By changing the litter all unpleasant odors are avoided, there is no dampness, and the grease on the hen's feathers is rubbed off. Water is given in the metal tops used on Mason fruit-jars.

Of the 36 eggs set January 8, only 12 were from my hens; 11 hatched and 10 were raised. The other 24 were White Wyandottes and were no doubt chilled coming here in a common basket and open wagon. Nine hatched and 5 were raised. Two hens were used, both placed in the roosting-room of the scratching-shed. These hens, being the same age, did not quarrel with each other nor injure each other's chicks, but in the flock hatched three weeks

later, a hen and a pullet were placed together and the hen tried to cover all the chickens. There were thirty at the start, which, of course, she could not do successfully in such cold weather, and half of them died simply from cold. It is always risky confining two hens in the same room with chickens. I intended keeping the hens in small boxes, letting the chicks have the run of the room, but could not keep the boxes clean and dry enough.

When the first brood was 3 weeks old they were placed in the shed to make room for the second brood. They were shut up in boxes at night, but in the daytime they ran out of doors with the hens, even when most of the ground was covered with snow. Being free from lice, they were pretty well feathered at six weeks, when one of the hens deserted them. The other took charge for two weeks longer. When the third brood was hatched, the second was transferred to the shed, and then I found I had reached the limit, as the hen with brood No. 2 worried the older chicks, and one of the hens with brood No. 3 proved very vicious to the chicks she thought were not hers. Seventy per cent of the three broods survived, but I am sure many more would have lived if each hen could have had a separate room. Cracked corn, whole wheat, pin-head oatmeal, and stale bread were fed. For green food they had the wheat sown in yards in fall. This they began to eat when only 2 weeks old.

The other broods were placed in small coops outdoors. These coops were made from store boxes. They had double pitched roofs, projecting as far as possible in front and back. They were covered with tarred paper, and were open only in front. Narrow slats, which could be removed, closed the front, leaving a space for the chicks to run in and out. These coops were light, warm, and waterproof. They rested on two thick joists laid on the ground, and the floors were always dry.

About April 1 all the chicks with hens were allowed full liberty, and although I tried to prevent it, some of the hens would scratch along the fence where the gape worms flourish, and their flocks were decimated by that disease. About the time I thought the hens wanted to leave their flocks, I drove them at night into the scratching-shed house until they went there voluntarily, so that, by the middle of May, all the early chickens roosted in there and the small coops were occupied by later broods.

Poultry Week, Kansas State Agricultural College, Manhattan, Kans., Monday, February 17 to Saturday, February 22, 1902.

JUDGING.

Judge C. H. Rhodes, of Topeka, will give every afternoon instruction in scoring and judging poultry. A large number of chickens of the leading breeds will be loaned by Manhattan fanciers for the work.

MORNING SESSIONS.

Each forenoon will be devoted to a poultry institute, with papers, addresses, and discussions by leading poultry-raisers of the State. Subjects and speakers are as follows:

"Artificial Incubating," Mrs. J. W. Pinkerton, Clay Center. (Illustrated by three incubators hatching.)

"Hatching With Hens," Capt. J. T. Smith, Manhattan.

"From Eggs to Market," Judge L. P. Harris, Clay Center, Neb.

"Brooder Chicks," W. A. Lamb, Manhattan.

"Raising Chicks With Hens," Mrs. S. Koppenhaver, Manhattan.

"Feeding for Exhibition, from Shell to Judge," Chas. Steinberger, Wakeney.

"Intelligent Poultry-feeding," H. E. Moss, Kansas City.

"Feeding for Winter Eggs," Alex. Howell, Manhattan.

"A Woman's Experience With Chickens on the Farm," Mrs. J. T. Heil, Wamego.

"The Hen," Thos. Parker, Hutchinson.

"To What Extent Can Poultry-Raising Be Made Profitable on the Farm," Mrs. A. J. Pottorf, Riley.

"Fattening and Marketing Poultry," James Herbert, Manhattan.

"Fitting for the Show," M. L. Canfield, Belleville.

"Breeding and Mating," C. C. Smith, Topeka.

"Poultry Diseases," S. J. Norton, Manhattan.

"Molting," B. W. Smith, Manhattan.

"Chalk Talk," Prof. J. D. Walters, State Agricultural College.

"Poultry Accessories," Dr. S. D. Ross,

Manhattan. (Illustrated with model appliances in actual use.)

"Raising Turkeys from Eggs to Market," J. R. White, Salina.

"Raising Water Fowls," H. E. Moss, Kansas City.

"Question Box," Geo. H. Gillies, Editor Illustrated Poultry Gazette.

The Question Box will be opened at each session and you are invited to ask any question on poultry-raising upon which you wish information.

All the work of the entire week will be free, and every one interested in any way in poultry is invited to attend.

Exhibit of incubators, green-bone cutters, nests, feeds, poultry-fencing, etc.

Eggs in Winter.

Only a little profit can come from eggs produced by fowls unless they can be made to lay during the winter months, when fresh-laid eggs are most valuable. The fact that so many do succeed in securing a fair per cent of egg-yield through the winter months, proves the possibility of a greater yield when it is learned more fully what is requisite. It is frequently seen in print, an easy-to-follow statement, "Keep the hens at work; make them dig in straw for all their grain," yet how few do we find who follow these simple instructions? Many scatter the straw but will feed their fowls on the bare ground or in troughs. The object to be desired is to make the hens hunt and dig continually for food that they may have plenty of exercise; exercise is what they need and must have or they will not lay.

Those who pay proper attention to these simple methods succeed, while those who disregard them do not. They bring assured success to those who follow them, but an assured loss if disregarded. Only those who follow the proper methods have any chance to succeed.—The Feather.

Poultry Notes.

N. J. SHEPHERD, ELDON, MO.

All of the stimulants breeding fowls need are wholesome food, and drink. Medicine is good as medicine, but as food it is detrimental and sooner or later bad results will follow. The only safe way is to give medicine when the fowls are sick.

If the hens become lousy they will appear weak and spiritless, with combs pale and feathers ruffled, and will lay but few eggs. What few they do lay will be pale and watery. Dust insect powder among the feathers on the body, and put a mixture of kerosene and lard on the top of the head, and under the wings.

In raising early broilers for market, a quick growth is essential, and this implies good feeding. It is full feeding on good, nutritious food that makes the paying difference between the plump,

POULTRY BREEDERS' DIRECTORY.

FOR SALE—Barred Plymouth Rocks exclusively. 100 to select from. Every cockerel pure yellow beak and legs. Farmers' prices. Barrings perfect. John D. Ziller, Hiawatha, Kans.

FOR SALE—White Holland toms, \$2 each; also Barred Plymouth Rocks. Mrs. Porter Moore, R. R. No. 4, Parsons, Kans.

WHITE WYANDOTTE CHICKENS—\$1 each; White Holland turkeys \$1.50 each. Satisfaction guaranteed or money refunded. Darby Fruit Farm, Amoret, Bates Co., Mo.

BARRED PLYMOUTH ROCK COCKERELS—\$1 each. John Sawhill, Edgerton, Kans.

WRITE ME for prices on S. C. Brown, or White Leghorns—eggs or stock. H. C. Short, Leavenworth, Kans.

SIXTY MAMMOTH BRONZE TURKEYS—Two separate pens, headed by a 42-pound tom. Address Mrs. Fred Cowley, Columbus, Kans.

FOR SALE—Choice blue-barred Plymouth Rock cockerels, \$1 to \$1.50 each. Address Mrs. L. Hothan, Carbondale, Kans.



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AND CHILDREN.

Get an incubator that they can run; one that will do good work from the start and last for years. The Sure Hatch is made of California red wood, with box, cold rolled copper tank, Hydro-Safety Lamp, Climax Safety boiler and Corrugated Water regulator. Send for our big free catalog. It gives actual photographs of hundreds who are making money with the Sure Hatch Incubator. Our Common Sense Brooder is the best. Send now. Sure Hatch Incubator Co., Clay Center, Neb., or Columbus, O.

STANDARD POULTRY.

Barred Plymouth Rocks, White Plymouth Rocks, Partridge Cochins, Buff Cochins, Light Brahmas, Black Langshans, Silver Wyandottes, White Wyandottes, Silver Spangled Hamburgs, Brown Leghorns, and Belgian Hares. All Our Breeding Pens of this season at Bottom Prices, also Spring Chicks. Prices now less than half of winter prices. Fine Exhibition and Breeding Stock of Rare Quality. Write Me Your Wants. Circular Free. A. H. DUFF, Larned, Kansas.

\$15 A WEEK AND EXPENSES for men with rigs to introduce our Poultry Mixture. Straight salary. We mean this. Enclose stamp. EUREKA MFG. CO., Dept. 47 East St. Louis, Ill.

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Have at Stud—HOBSON and NOBLE BRANDANE, sired by imported Brandane Rightaway, possibly the best Collier that ever left England, a winner and a sire of winner puppies of either sex, for sale. Prices reasonable.

W. B. WILLIAMS, Proprietor, Stella, Neb.

BELGIAN HARES...

Belgian hare fry beats chicken, and a good breeding pair of hares will keep you supplied all the year round. I can supply you in the finest breeding stock at \$5.00 per pair; \$5 per trio, until further notice.

A. H. DUFF, Larned, Kansas.

INCUBATORS AND BROODERS

BEST HOT WATER PIPE SYSTEM. Simple, durable, economical and safe. Hatches stronger and more chickens from 100 eggs than any other. Prices reasonable. 32-page illustrated catalog of Incubators, Brooders, fancy poultry and poultry supplies free. C. C. SHOOKMAKER, Box 420, Freeport, Ill.

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well-feathered chickens that command the best prices, and the lean, feathery specimens that it is hard work to sell at any price.

The advantage in using a broad, smooth board upon which to place the food for little chickens is that it is so much easier to provide proper cleanliness. It requires but a few minutes' work to clean a board of this kind and there is no danger of the feed getting into the cracks and decaying, thus supplying conditions favorable to the development of disease germs.

Raw bones, whether given in the form of meal or broken into little bits, so that they can be readily swallowed, tend to hasten laying in the pullet and feathering out to maturity in the cockerels. They furnish the material needed for egg-shells and for the growth of bone and feathers. So important are they that a supply should be kept where the fowls can readily help themselves. There is no danger of their eating too much.

Good feeding and care will make common fowls more productive and valuable for the table, but often all the characteristic difference between the thoroughbreds and the common kind is so marked and well established that it can not be changed by food or care. Common fowls do not possess the characteristic qualities of thoroughbreds, and they are not so valuable or useful as the breeds that have been bred for generations with a view of fixing desirable qualities, type, or points of excellence. We can produce from a chosen variety a better flock and higher quality than from indifferent specimens bred together.

No domestic fowl is more susceptible to training than the turkey, and none take more kindly to the preparations made for their thrift and comfort. They require attention during the laying and hatching season, and it is a good plan, when it can be done, to give them the run of the orchard as a pasture where suitable nests can be arranged.

To a very considerable extent the success of the season depends on knowing where each turkey-hen lays in order that no eggs may be lost, and on this account a place with nests should be arranged in good season.

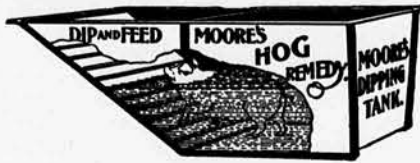
Miscellany.

The Improved Respiration Calorimeter— for Studying the Nutrition of Man.

About five years ago public interest was excited in the nutrition investigations carried on as a cooperative enterprise by the United States Department of Agriculture, the Storrs Experiment Station, and Wesleyan University, at Middletown, Conn., by the experiments on the nutrition of men in the respiration calorimeter. The "man in the box" was overwhelmed with visitors curious to see a man housed in an air-tight copper box for from four to twelve days. Each year the experts in charge of the apparatus have made changes tending to simplify its manipulation and increase its accuracy. The original copper box is no more. For the past three months a force of mechanics and electricians have been at work entirely reconstructing this remarkable apparatus, and it is expected that the finishing touches will be given in a few days. It is believed that the new apparatus will be very accurate. In the original box the heat-measuring devices were so delicate as to permit of the measurement of the heat developed in so slight a motion as rising from a chair, but it is hoped that the new apparatus will record the heat given off in a sudden cough or sneeze or change of position in bed.

The new devices include an unusually accurate thermometer for recording changes of body temperature, an improved cooling apparatus to remove the heat radiated from the body, and a novel method of introducing food and drink into the air-tight chamber without admitting air. This latter device is on the principle of the double-doored chamber used in tunnel construction. The chamber between the doors is used for

Moore's Hog Remedy KEEPS HOGS CLEAN ON INSIDE AND OUTSIDE....



Kills lice, cures mange, removes worms, aids digestion, and prevents disease AT SMALL COST. Read what A. J. Lovejoy & Son, Roscoe, Ill., write:

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Moore's Hog Remedy is sold in gallon and half gallon sealed cans only—never in bulk. On receipt of price, \$2.50 per gallon—3 to 6 gallons, by freight prepaid, \$2.25 per gallon. Book "Care of Hogs" free. Call, or address

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the transitory storage of material, only one door being open at a time.

The double insulated wooden walls have been coated inside and outside with asbestos paper to prevent any possible danger from fire due to breaks in the numerous electric circuits. The chamber is literally inclosed in a web or network of wires, each with its own independent connection, and all leading to a table outside, where an observer sits continually day in and day out. An especially elaborate and ingenious switch of a new type, controlling all the electric circuits, is now completed, ready for installation. The object is to regulate the temperature of the interior of the chamber and measure the heat given off from the body of the occupant.

The system of plumbing is hardly less intricate than that of electric wiring, for each wire has its counterpart in a water pipe. These pipes are used to cool the air spaces around the metal box and the wires serve as a resistance to the electric currents and thereby heat the air correspondingly.

The box rests on lignum vitae castors in a track, and when rolled into its casing, or shed, the double back is put in place and the metal box is completely housed. A telephone system permits conversation with the outside world, and aside from what he hears over the telephone, the subject is dead to the sound of voices when in the chamber. A large water meter measures the amount of water used to cool the inside of the insulated chamber and bring away the heat generated by the body. Long thermometers, graduated to fiftieths of a degree, record the temperature of the cold water as it enters the heat-absorbing system and the warmed water as it comes out. A new mechanical pump provides for a very constant ventilation. The large double-glass window offers a good opportunity to see the subject inside, and it is seldom that his every motion is not watched either by some assistant or by a visitor to the university laboratory.

During certain kinds of experiments the subject must engage in hard muscular work. The small size of the innermost chamber forbids even ordinary gymnastics or calisthenics, and the work must be done on a machine. The new work-machine consists of a stationary bicycle so arranged that its rear tire is brought into contact with a pulley on a small electric dynamo, the pulley being grooved to fit the curve of the rubber tire. The machine is geared to ninety-six, and when riding at the fastest pace the armature of the dynamo runs at 3,500 revolutions per minute. The dynamo is magnetized by a current from outside and the amount of electricity generated by the man pedaling the bicycle is carefully measured. He works eight hours a day in four periods of two hours each. The equivalent distance ridden on a smooth track would be nearly one hundred miles—a good day's work.

During the years in which the apparatus has been used a large amount of experimental results has accumulated. The work done is already more extensive, more accurate, and more complete than found in any other inquiry. A bulletin of the Office of Experiment Stations will soon be issued, giving the results of a large number of experiments. Another bulletin is now in preparation, which will give still more experiments and summaries of results up to the present date. They throw most valuable light upon the changes of matter and energy which take place as the food is used in the body. The experiments number forty-eight and were made with five different men. They cover altogether 155 experimental days and nights. The men have had different kinds and amounts of food, and the tests have been made when they were at rest and when they were engaged in more or less severe muscular work. The results are very important in their bearing upon the theory of nutrition and the practical uses and values of food.

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Angela (to whom Edgar has been proposing)—"Tell me, Edgar! Did you ever say anything like this to any woman before?" Edgar (in a burst of honesty)—"My dear girl, do you think that it could be done like that the first time?"—Pick-Me-Up.

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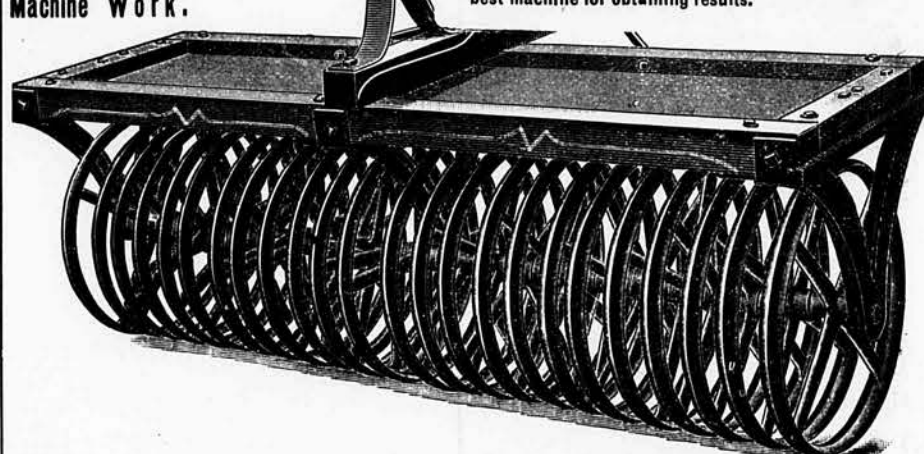
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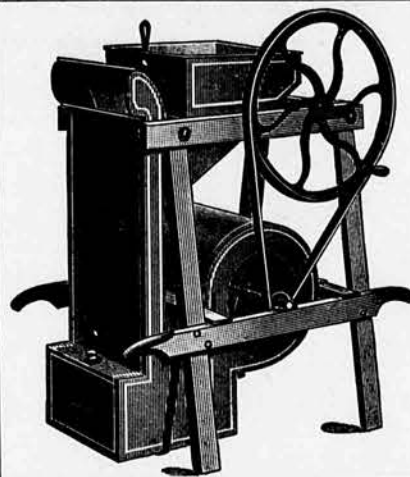
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Best varieties Field-corn a specialty. We handle nothing but best of pure seed and want your orders. Samples free. Write for circular and price-list to-day.

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"Western Seeds for Western Planters." KANSAS SEED HOUSE.

We keep everything in the line of SEEDS for Farm, Field, and Garden—Fresh, Pure, and True. Alfalfa and Grass Seeds our specialty. Champion Beardless Barley and Russian Speltz—two Grand Novelties for dry soils. Bromus Inermis—the new drought-proof grass. Limited quantity of Macaroni wheat for those who wish to try it. Send for descriptive circular and elegant new catalogue for 1902, and learn all about them. Free to all.

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Seven different varieties to select from. All our varieties are grown from pure stock, and are heavy yielders. Our Seed Corn is carefully sorted, hand selected, and examined by men having years of experience. Our leaders are: West's Improved Legal Tender (yellow), price \$1.50 per bu., 10 bu. or more \$1.80 per bu.; Iowa Silver Mine (white), \$1.75 per bu., 10 bu. or more \$1.85 per bu.; bags free. Write for free descriptive illustrated Catalog. Send 4c in stamps and receive samples of 5 varieties of seed corn. Address **O. M. WEST SEED CO., Shenandoah, Iowa.**

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CATTLE KING, medium early, from 60 to 100 bus. per acre, is one of the best cattle corns grown. EARLY REED, light yellow, ears from 9 to 12 in. long, deep grain, small cob, matures in 100 days, will yield more than any other early variety. MAMMOTH WHITE—We think this variety the very best for those wanting white corn, medium early, ears from 9 to 14 in. long, white cob. Our corn is all selected, tipped, shelled, sacked, and f. o. b. cars. Price \$1.25 per bushel. Write for samples.

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Write for prices of Choice Clover, Timothy, and Millet Seed.

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"I was so well pleased with your (Yellow Prize) corn that I had to have a bushel of your White Prize also."
(Signed) WM. KOENIG.

Mr. Jacoby attended the conventions in Lincoln and was one of several farmers to place his order after seeing our corn.

This White and Yellow Prize is tipped, dry, hand-picked, and well matured. Has large ears, is medium early, and went from 40 to 75 bushels to the acre last year. Shelled and sacked, free in cars, Lincoln, at \$1.25 PER BU. (Car load lots a specialty.) Catalogue free.

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P. O. Box A. LINCOLN, NEBRASKA.

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January 29, 1902.

"I enclose \$15 for 10 bushels Early Ohio Seed Potatoes, Northern grown, as per your offer when I was in Lincoln. The seed corn (9 bushels Yellow Prize, and 2 bushels White Prize), arrived last Saturday, and was
(Signed) PETER JACOBY.

J. I. REYNOLDS, President. (Formerly of Trumbull, Reynolds & Allen.)
KANSAS CITY GRAIN & SEED CO.
BUY AND SELL Millet, Cane, Kafir, Alfalfa, Red Clover, Timothy, Pop Corn, Seed Corn, Cottonseed Meal, Linseed Meal, Corn, Oats, Rye, Harely, Etc.
KANSAS CITY, MISSOURI

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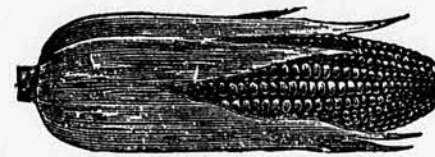
Choice new varieties of Seed Oats, Wheat, Barley, Cane, Seed Corn, Dwarf Essex Rape, Potatoes, Artichokes and all kinds of field, grass and garden seeds. Large illustrated catalogue of great value to farmers free, if you mention this paper. **IOWA SEED CO., Des Moines, Iowa.**

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Large Stock, Choice Quality,
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Eighteen Years Experience in the Seed Corn Business as a SPECIALTY convinces us that Farmers prefer to buy their Seed Direct from the Grower; then he knows where it is grown; also that it is not Commission House, or Elevator Corn; besides he saves the Middle Man's profits. We are the largest Seed Corn growers in the world, and have sent out more Seed Corn, in the past few years than any other Growers, Seed House, or Seed Firm in the world. We are headquarters for Seed Oats as well. Write us for our Free Catalog of Seed Corn, Farm and Garden Seeds. Always address

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by 10 to 25 bushels per acre more than common sorts, during the past drought season. Blood tells every time; more in seasons like last. We have raised more Seed Corn than any firm on the globe. If you want perfection in corn, we have it. We guarantee our prices are low and quality best. When you are buying seeds this season, you might as well get the best. If you wish to make Corn growing a success, send for our Seed Book. There are thousands in it for you. 10 Sample Packets of Leading Varieties of Corn or Grain and our 64 page Catalogue sent upon receipt of this notice and two 2-cent stamps to pay postage. CATALOGUE IS FREE. We can save you money. Write us. Be friendly.
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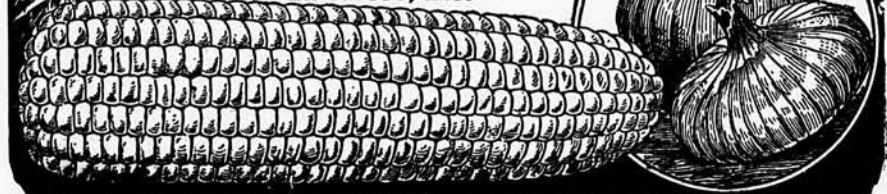
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Machines
Over 70 sizes and styles, for drilling either deep or
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Stops swine of all ages from
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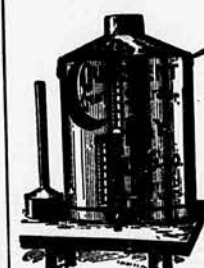
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OUR MILLS for 1901
are made for that, and are
Improved
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of ung-ared and double
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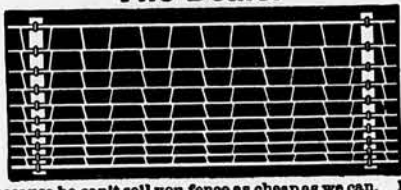


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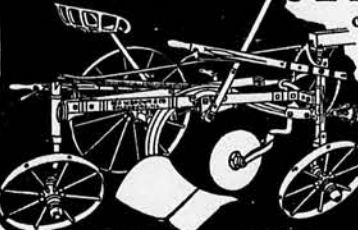
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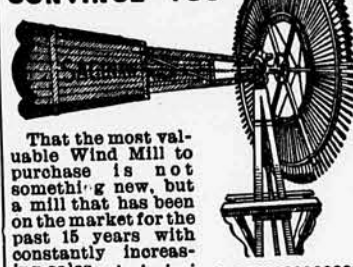
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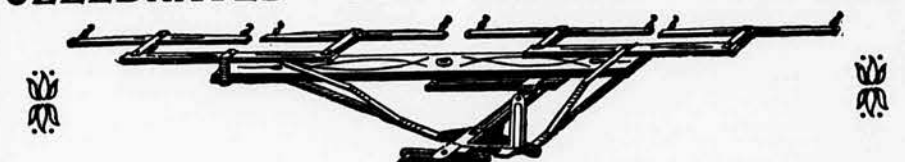
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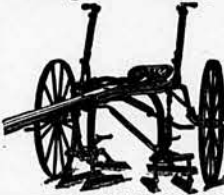
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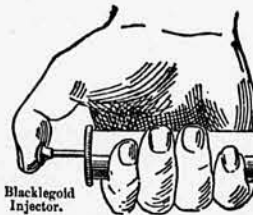
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Write for rates to points not given above.

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100 head for this year's trade; all eligible to record.

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Have sold all spring males, but have about 60 fine pigs of September and October farrow at reasonable prices.
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A Specialty.
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Lavender's Best No. 151639 in service. Herd contains a strong infusion of St. Valentine blood, through St. Valentine 12th, one of his best sons. Stock always for sale. Inspection and correspondence invited.

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Several Bulls Ready for Immediate Service.

Large herd. Can supply demand now. Also pure-bred Cotes' wold rams. Write for prices.
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Shorthorn Cattle, Poland-China Swine

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Sire of the champion calf and junior champion bull of 1900

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FEMALES are Scotch, both imported and home-bred, pure Bates, and balance 3 to 6 Scotch tops.

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SIX JACKS and a Registered Black PERCHERON STALLION.
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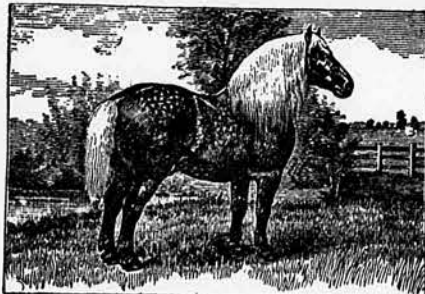
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FOR SALE—Percheron Stallions and a few Mares, about 20 head of Shorthorn Females, and a few fine young Bulls. Also several fine, large Jacks. Pedigrees and breeding of all stock guaranteed.

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For Sale at Special Prices—17 BOARS, and 25 GILTS, farrowed mainly in November and December. They are extra well bred and very thrifty.
8 Polled Durham Bulls, of serviceable age. 17 Stallions over 3 years. 2 Mammoth Jacks.



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We have a selection that are sure to suit you. As grand a lot of young stallions, of serviceable age as can be found in the country. We do not claim to have every color or kind of a stallion, you or anybody may want, but what we claim you will find true if you pay us a visit. All of our selections are made by a member of our firm, who has been at this line of work the past decade and has absolutely a first choice from the leading breeders of Europe. Our last importation, consisting of the three great breeds, and 62 head in numbers were selected in the early part of February, before any of the shows and to-day are ready for sale. Write us, or come and see us, if you or your community are in need of the best to be found.

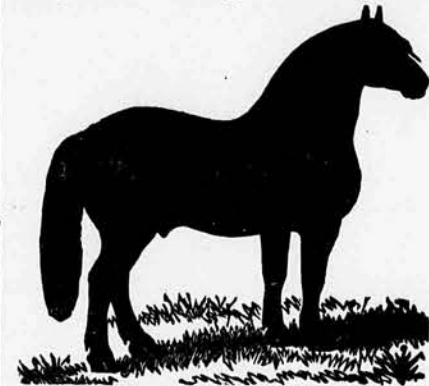
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For Sale—Twelve young stallions and a few mares. Inspection and correspondence invited.

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OLYDESDALE HORSES, AND SHORTHORN CATTLE.
For Sale—25 Olydesdales, including 5 registered stallions of serviceable age, and 18 mares. Inspection and correspondence invited.



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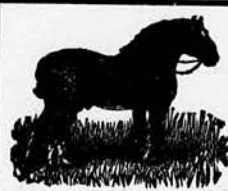
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For Sale—A few Shorthorn heifers, and Percheron stallions; also a Special Bargain on 9 Registered Hereford Bulls, 2 years old, and a few Full-blood Percheron Mares.

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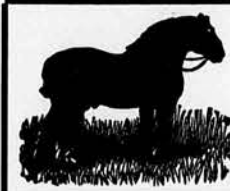
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Registered Mammoth, and Imported Spanish Jacks and Jennets;
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All stock guaranteed just as represented. Correspondence solicited.



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70 First Class Young Percheron Stallions
Now in our Shenandoah stables. Our last importation arrived October 1, 1901—mostly black, 3-year-olds, 30 imported stallions. An elegant string of 25 big two's and three's of my own breeding. Thirty years in the business. Come and see the horses.
M. L. AYRES, Shenandoah, Iowa

German Coach, Percheron, and Belgium Horses.

OLTMANNS BROS., Importers and Breeders, WATSEKA, ILLINOIS.
Three Importations in 1901. 100 Stallions For Sale.
No other firm enjoys such buying facilities; the senior member being a resident of Germany is personally acquainted with the best breeders in France, Germany, and Belgium. We can save you money. Come and see us. We shall exhibit at the International Live Stock Exposition, Chicago, Dec. 1-7, 1901.

THE LINCOLN IMPORTING HORSE COMPANY, LINCOLN, NEBRASKA.

The Largest Importers of
HIGH CLASS Draft Stallions
in all the West.

Our last importation arrived October 14. They were selected by two as competent horse judges as ever crossed the ocean. Our facilities for building up and acclimating foreign stallions can not be excelled in the United States, our main barn costing over \$10,000.

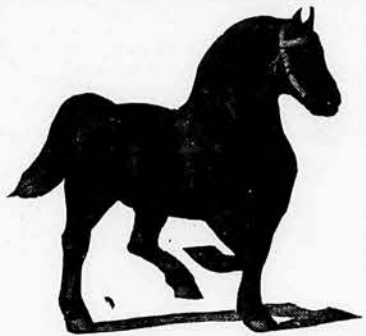


At the present time we have a grand lot of Percheron and Shire stallions, 2, 3, and 4 years old.
Write us for further information; would much prefer to have you visit our barns where you are made welcome and entertained with an exhibit of the best specimens of the up-to-date drafter.
Long distance telephone in our office—575.

America's Leading Horse Importers

Won at the Two Last Universal Expositions
At the Paris Exposition, 1900, our Percherons won Every First Prize with a possible exception.
At the Pan-American Exposition, Buffalo, 1901, our stallions won Every First Prize including the Grand Sweepstakes over all draft breeds.
We import more horses than any other three firms in America, and more prize-winners than all others.
We buy the best, can buy them cheaper and will sell them for less than anybody else.
If you want the kind that will improve your stock of horses, call on or write—

MOLAUGHIN BROTHERS,
COLUMBUS, OHIO.
LAWRENCE, KANS. EMMETSBURG, IOWA.



OAKLAWN FARM.

The Greatest Importing and Breeding Establishment in the World.
Percherons and French Coachers.
500 Head on Hand.

Nearly 300 stallions purchased in France during the last twelve months, being more than double the number of Percherons bought by any other firm, and more high-class animals than by all others combined.

AT THE RECENT INTERNATIONAL LIVE STOCK EXPOSITION AT CHICAGO,
the Oaklawn Percherons won every championship, first prize and gold medal award and every second prize in classes.

Notwithstanding the superior quality of our horses, it is a fact that our prices are lower than can be obtained elsewhere in America. Catalogue sent on application.

DUNHAM, FLETCHER & COLEMAN,
Wayne, DuPage County, Illinois,



STEELE BROS., Belvoir, Douglas Co., Kans.,
 Breeders of SELECT

HEREFORD CATTLE.

YOUNG STOCK FOR SALE. INSPECTION OR CORRESPONDENCE INVITED.

Sunny Slope Herefords

...200 HEAD FOR SALE...

Consisting of 40 good Cows 3 years old or over, 10 2-year-old Heifers bred, 50 yearling Heifers, and 100 Bulls from 8 months to 2 years old. I will make VERY Low Prices on any of the above cattle. Write me or come and see me before buying.

C. A. STANNARD, Emporia, Kans



SCOTT & MARCH

BREEDERS OF PURE BRED

HEREFORDS.

BELTON, CASS COUNTY, MO.

BULLS in service, HESIOD 29th 66804, Imp. RODERICK 80155, MONITOR 58275, EXPANSION 93662, FRISCOE 98674, FULTON ADAMS 11th 83731.

25 miles south of Kansas City on Frisco; Ft. Scott & Memphis; and K. C., P. & G. Railroads

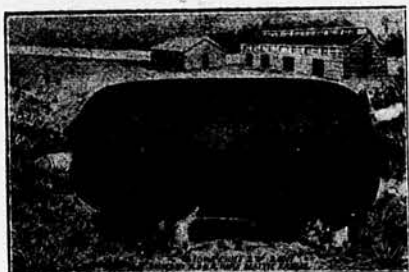
ROCKDALE HERD OF SHORTHORN CATTLE

—AND—

POLAND-CHINA HOGS

Thirty-six Bred Sows and 12 Scotch-topped Bulls and Heifers at Public Sale, February 20, 1902. Send for Catalogue.

W. B. & M. HAWK, Beattie, Kas.



LAMPLIGHTER 51834.

Gudgell & Simpson,
 Independence, Mo.,

..BREEDERS AND IMPORTERS OF..

Herefords

One of the Oldest and Largest Herds in America.

ANXIETY 4TH Blood and Type Prevail

Both Sexes, in Large or Small Lots, Always For Sale



Pearl Shorthorns.

YOUNG BULLS FOR SALE sired by the Cruickshank bulls Golden Knight 108086, Lafitte 11915, and Baron Ury 2d 124970, ranging in age from 8 months to 2 years.

Inspection Invited

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Valley Grove Shorthorns

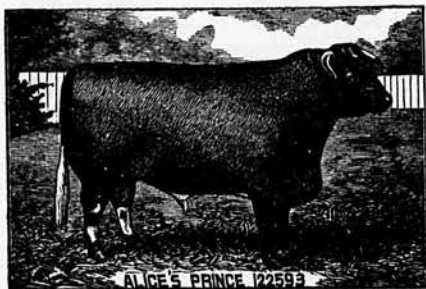
THE SCOTCH BRED BULLS

LORD MAYOR 112727, and LAIRD OF LINWOOD 127149
 HEAD OF THE HERD.

LORD MAYOR was by the Baron Victor bull, Baron Lavender 2d, out of Imp. Lady of the Meadow, and is one of the greatest breeding bulls of the age. Laird of Linwood was by Gallahad out of 11th Linwood Golden Drop. Lord Mayor heifers bred to Laird of Linwood for sale. Also breed Shetland ponies. Inspection invited. Correspondence solicited. A few young bulls sired by Lord Mayor for sale.

Address T. P. BABST, Prop., Dover, Shawnee Co., Kans

TEBO LAWN HERD SHORTHORNS.



ALICE'S PRINCE 122593

HERD BULLS ARE: ALICE'S PRINCE 122593 bred by W. A. Harris; VICTOR BASHFUL 152797 bred by J. R. Crawford & Sons; VALIANT 151304 bred by C. O. Norton; ADMIRAL GODOY 133872 bred by Chas. E. Leonard.

FEMALES are the best Cruickshank families topped from the leading importations and American herds. These added to the long established herd of the "Casey Mixture," of my own breeding, and distinguished for INDIVIDUAL MERIT, constitute a breeding herd to which we are pleased to invite the attention of the public. Inspection and correspondence solicited. Address all communications to E. B. MITCHELL, Mgr.

G. M. CASEY,

Rural Route No. 1.

CLINTON, MO.

COMBINATION BROOD SOW SALE

At Waverly, Kans., Feb. 27, 1902.

46 RICHLY-BRED POLAND-CHINA SOWS

Comprising nearly all of the popular strains, and bred to choice boars. Among them 3 sons of Chief Perfection 2d, one son of the great Keep On, and other boars of like merit. Also a few boars of breeding age, including Chief's Model, by Chief Tecumseh 3d. Terms, 8 months. No postponement on account of weather. Write for catalogue; it explains all.

H. DAVISON,

For Catalogue, address....

WAVERLY.

A. B. MULL, Iola, Kans.

Mention Kansas Farmer.

RURAL ROUTE No. 2.

Twentieth Semi-Annual Stock Sale

Limestone Valley Farm

Seven miles east of Sedalia, and 2 miles north of Smithton, Pettis County, Missouri,

Tuesday, March 4, 1902,

Twenty good breeding jacks, blacks, 14½ to 16 hands; 6 good Percheron Stallions, saddlers, German Coaches and draft; 20 good work mules; 25 Choice Poland-China brood sows, representing all the best and most fashionable families, all safe in pig.

TERMS: Cash, or satisfactory bankable note. Free conveyance from Smithton, main line Missouri Pacific Railway, and Beaman, main line M. & T. Railway. We shall be pleased to have all from a distance come the day before the sale. Come whether you wish to buy or not, we will be glad to meet you and take care of you free of charge. Catalogues ready February 10, and we will gladly mail you one. Telegraph station, Sedalia. Telephone, Bell line Sedalia, No. 438.

COL E. W. STEVENS, Auctioneers.

L. M. MONSEES & SONS, Smithton, Mo.

...IDLEWILD HERD...

.... OF

SHORTHORN CATTLE

OWNED BY..... W. P. HARNED, VERMONT, COOPER CO., MO.

THE strongest Cruickshank blood is obtained through Godoy. I Ask Special Attention to the Great Coats of Hair on Godoy Calves. They have scale and substance.

EIGHT YOUNG CRUICKSHANK BULLS BY GODOY FOR SALE. Send for bull catalogue. Also have herd catalogue.



Vermont is railroad station on farm. Tipton is on main line Mo. Pac. R. R. seven miles from farm. Telephone to farm.

CAR-LOAD BIG RANGE BULLS.

ONE OF THE CRACKS OF THE DAY IN A VICTORIA BULL BY GODOY, 13 MONTHS OLD, ROAN, WILL SELL.

T. K. Tomson & Sons,

* * Proprietors of * *

Elderlawn Herd of Shorthorns.

DOVER, SHAWNEE COUNTY, KANSAS.

Gallant Knight 1244468 and Imported Tellycairn in service. A choice lot of serviceable bulls, and a few bred cows for sale. Correspondence and inspection invited.

50 SHORTHORN BULLS FOR SALE.

THE BILL BROOK HERD OF REGISTERED SHORTHORNS

HAVE ON HAND FOR READY SALE

FIFTY YOUNG BULLS,

from 6 to 20 months old; also a few good heifers.

Address

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The Farmers' Co-operative Grain and

...Live Stock Association...

Will handle your grain, hay, and feed on commission. If you appreciate honest work, good treatment, and prompt returns, consign your grain to us. We want the consignment of all co-operation associations, independent dealers, scoop shovel men, and farmers. Correspondence solicited. Address all communications to

JAMES BUTLER, Secretary, Room 14, Office Block, Topeka, Kansas

WHEN WRITING ADVERTISERS MENTION KANSAS FARMER.

DISPERSION SALE WAVERTREE GALLOWAYS!

113 REGISTERED GALLOWAYS-- THE FLOWER OF THE BREED. . . .

**In New Sale Pavilion, South Omaha, Neb., U. S. A.,
Friday, Feb. 28, and Saturday, March 1, 1902.**

The dispersion of Wavertree's Galloway interests at this time follows as a natural result of the comparatively recent death of Mr. Edward Paul, whose enterprise in breeding good Galloways has long been felt in all American Galloway circles. The offering is strong in numbers, as it is also in the fine character and superior quality of the cattle to be presented, absolutely containing, as it does, a long string of choicely bred and select young cattle that were being retained as the "bone and sinew" of a great working herd of Galloways. Our twenty years of effort with Galloways at Wavertree is truthfully reflected in the high character of the young cattle to be sold in this sale—as, for example, such beautiful specimens of Galloway creations as Guardsman, Dragoon, Sauterne, and Valentine, being the get of the great herd bull, Imp. Mario of Castlemilk, when crossed upon the good matrons bred at Wavertree. The great bull, Imp. Mario of Castlemilk is included in sale, as are also a few select females of Wavertree's last importation. The great Wavertree sire of prize-winners, Speculator of Dundee, goes into this sale, surrounded with as good things of his get as eye could wish to see. At 10 years of age he is in perfect breeding form at 1,900 pounds, and has a world of usefulness ahead of him. The numerous line of his get in this sale comprise some grand young bulls and females, both young and that have reached an excellent maturity. It is the blood that is breeding on and on. Perhaps 15 daughters of the grand old bull, Imp. Gallant General Gordon, will grace this sale with their presence and that of their get. They are typical Galloway matrons, just in the prime of their usefulness. Some excellent young things by Imp. Woolfel 7245 are also to be sold here, both these imported bulls having done service at Wavertree. Twenty-four capital young bulls are listed. Write for our catalogue, one of the complete compilations in American Galloway history. Be on hand early for the sale. Sale opens 10 a. m. both Friday and Saturday. All are invited. Bring catalogues with you.

COL. JAS. W. SPARKS,
COL. R. E. EDMONDSON, } AUCTIONEERS

W. H. B. MEDD, MANAGER, DUNDEE, MINNESOTA.

Missouri's Black Perfection Sale

PURE-BRED POLAND-CHINAS.

TO BE HELD AT RICHARDS, MO., WEDNESDAY, FEBRUARY 26, 1902

Sixty Head Sired by or Bred to the Championship Boar of Missouri, 1902.

SPECIAL ATTRACTIONS ARE:—Two grand brood sows by the famous U. S. Chief, bred to Missouri's Black Perfection. Four great sows by Missouri's Black Chief, including a full sister to the champion boar. B. R. Adamson's great herd boar, Long Chief U. S. Three show gilts by Chief Perfection, bred to Missouri's Black Perfection.

THE LAD FOR YOU.

The best young boar ever offered and three others that are superlative, together with 20 excellent gilts, choice of the entire crop of Missouri's Black Perfection get of 1901. Also 20 grand-daughters of Chief Perfection 2d, very stylish, by Perfection L, R's Perfection, and Yet Perfection. Their blood is right; their feeding scientific, and their size and finish magnificent. J. M. Turley consigns 10 handsome gilts by his famous W. B.'s Chief, and Thos. P. Sheeley, of Amos, Mo., 10 head.

TERMS OF SALE:—Cash or bankable note, a note your banker will cash at face value. Sale begins promptly at 12 m.

AUCTIONEERS: } D. P. McCracken, H. O. Correll,
W. A. Ross, J. N. Harshbarger.

JOSEPH R. YOUNG.

OUR GREAT ANNUAL ...JACK SALE...

WILL BE HELD IN

COLUMBIA, BOONE COUNTY, MISSOURI, FEBRUARY 27, 1902

75 HEAD OF HIGH-CLASS JACKS, JENNETS, AND STALLIONS,

Will positively be sold without reserve or by-bid. This is the best collection of stock that ever went under the hammer at any one sale in Missouri. Most all old enough for service. Write for Catalogue.

COL. R. L. HARRIMAN, } Auctioneers. Limerick & Shepherd.
COL. E. W. STEVENS, }

Angora Goat Sale

Big Angora Goat Sale—to be held at

Kansas City Stock Yards, FEBRUARY 24, 1902.

1,200 head of good Angora Goats will be offered for sale by Mrs. Armer, of Kingston, New Mexico, and McIntire & Company, of Kansas City, Mo., consisting of 900 head of good recorded and high-class Angora Does, bred to recorded bucks, and 300 head of high-grade Angora Wethers for brush cleaning purposes; 600 of the above Does will be from Mrs. Armer's noted flock. For full particulars, address,

COL. EDMONDSON, Auctioneer.

W. T. McINTIRE, Agent.

THREE GREAT HERDS OF BERKSHIRES

Contribute TOPS IN BREEDING--TOPS IN QUALITY To a

PUBLIC SALE to be held in the New Sale Pavilion of the Kansas City Stock Yards, Kansas City, Mo., Friday, February 21, 1902.

Sale commences promptly at 10 o'clock a. m., when 60-HEAD OF BERKSHIRES OF THE KIND THAT WIN--60 will be sold to the highest bidder. This grand lot of tops is contributed by Harris & McMahen, Lamine, Mo.; June K. King, Marshall, Mo.; J. T. Pollard, Fulton, Mo.

The Best of Quality--The Best of Breeding

will be a marked characteristic of the very superior lot of Berkshires selected from the three noted herds for the annual brood sow sale to be held in the new sale pavilion of the Kansas City Stock Yards, Friday, Feb. 21, 1902.

This sale will consist largely of a very superior lot of sows bred to the best boars at the head of the noted herds named above. Every animal will be sold on its merits. The buyer will find in this sale Berkshires of the most popular lines of breeding with quality to suit the most critical, either for the show ring or to enable the purchaser to breed prize winners. The high character of the consignors to the above sale gives unquestioned assurance of the best quality of stock and entire satisfaction to purchasers.

Auctioneers: Col. J. W. SPARKS, and Col. R. L. HARRIMAN.

Send mail or wire bids to the Clerk, Auctioneer, or the Consignors. For Catalogue, address Clerk of the Sale--CHARLES F. MILLS, Secretary American Berkshire Association, Springfield, Illinois.

If You Want...ANGORA GOATS

buy direct from the breeder. We offer 1,000 good Angora does, bred to registered thoroughbred bucks to kid in April, May, and June. Also some fine doe kids. Over 30 years experience. We took all first premiums at the last association show and sale. Call upon or address,

Or C. P. BAILEY & SONS,
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DR. W. C. BAILEY, 219 Kansas City Stock Yards,
Kansas City, Mo.

MAINS' HERD OF POLAND-CHINAS.

Pigs by Anderson's Perfect, Harris' Black U. S. (the champion sweepstakes boar at the Iowa State Fair of 1900), Kemp's Perfection (the highest priced pig by Chief Perfection 2d sold last year). Stock of all ages for sale, including three yearling boars.

JAMES MAINS Oskaloosa, Kansas.

Prickly Ash Bitters

A TONIC FOR WEAK KIDNEYS

Heals Diseased Kidneys, Quiets Inflammation, Relieves Backache, Corrects Changes in the Urine and Assists the Extraction of Poisonous Uric Acid in the Blood.



A TRUE SYSTEM REGULATOR

Tones Up the Stomach, Strengthens Digestion, Relieves and Permanently Cures Heartburn, Dizziness, Headache. Corrects Bad Breath, Fickle Appetite, and a Constipated Habit.

THE MEDICINE OF MEDICINES

As a SYSTEM TONIC and BLOOD PURIFIER it is without an equal in Medicine. It overhauls the system thoroughly, drives out impurities, strengthens weakened organs, cleanses and regulates the bowels. Its fine tonic properties extend to and benefit every part of the body, producing strength, vigor and mental activity. Clears the complexion of yellow discolorations, brightens the eye, promotes good appetite, sound sleep and cheerful spirits. It is a GREAT REMEDY for workers—both body and brain workers, as it puts the brain and vital organs in superb condition and keeps them so.

SOLD EVERYWHERE AT \$1.00 PER BOTTLE.

.. WINN & MASTIN'S SALE ..

OF

Prize - Winning and Noted Poland-China Bred Sows,

AT

Mastin, Kans., February 25, 1902.

This herd won in 1901 FORTY-FIVE PRIZES, consisting of 22 firsts, 11 seconds, 8 sweepstakes, and 4 third prizes.

• • • The Sows are Bred to the Noted Herd Boars, • • •
Corrector 22466, Perfect I Know 19172, Lamplighter 26890, Proved Perfection 23799, and Missouri Sunshine 55777.

For Catalogues, address—

WINN & MASTIN, - - - Mastin, Kansas.

BREEDERS' COMBINATION SALE

OF

REGISTERED

200 HEREFORDS 200

AT

KANSAS CITY, MO., TUESDAY, WEDNESDAY, and THURSDAY,

FEBRUARY 25, 26, and 27, 1902.



120 Females and 80 Bulls
Of Serviceable and Desirable Ages.



LAST YEAR we announced to sell at Kansas City on the above dates the best 200 Herefords that would be sold during the year. We propose to make this pledge good with choice selections from our herds that jointly number over two thousand five hundred head of registered Herefords.

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