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KANSAS FARMER.

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116 West Sixth Ave., Topeka, Kans.

W. H. Olin has been elected assistant agronomist at the Iowa Agricultural College and Experiment Station. Agronomy is the science of crop production and not merely of corn-production, as a typographical error made the KANSAS FARMER say recently. Many have regretted that Mr. Olin was not given an opportunity to use his great energy at the Kansas State Agricultural College. He will do good work at the Iowa College.

The KANSAS FARMER, Secretary Coburn, and the Kansas City Star (a fairly reputable trio) have been somewhat severely criticised in a recent newspaper article by Mr. C. C. Smith, of Manhattan, on account of their action in insisting that agriculture at the Kansas State Agricultural College should be given more prominence and for their criticisms of the obstructions cast by the president of the college in the way of the realization of the larger purposes for which agricultural colleges were established as this trio understands them. The KANSAS FARMER is not surprised that the son of a Manhattan lawyer who has devoted his energies since graduation almost exclusively to the newspaper business should feel that agriculture is given all the prominence it ought to have. Really the reporter on a city daily or the editor of a paper in a county seat town has not very much use in his business for even the amount of agricultural instruction that was given at the college when Charley Smith

was a student. The case is somewhat different with the young man who is preparing to make farming his life work and wants all the help that the ideal agricultural college and experiment station can give him. Mr. Smith's preparation for a general newspaper career could have been very easily obtained at the State University. But the agricultural college should have another kind of development as its leading purpose.

SOW WHEAT.

The present season should witness the planting of the largest acreage of wheat ever sown in Kansas. The abundant rains of August and September, have provided the necessary moisture to assure a good fall growth in almost every county in the State. Seed is plentiful, and though not so abundant as last year, the advanced price should be taken as a reason for liberal sowing rather than as a barrier thereto. Recent prices are doubtless due in part to market manipulation, but the fact remains that the world must be fed, and that the 1902 crop presents no considerable surplus above the world's requirements, suggesting fair prices throughout the crop year and at least at the beginning of the 1903 season.

Forage furnished by the wheat crop, has less importance this season than it had a year ago, but good wheat pasture is of no small value to stock cattle, is not to be lightly esteemed by full-feeders, and is a prime feed for dairy cows, with the added advantage that all animals can help themselves to it.

The farmer who plants wheat has double assurance of a paying crop from his land. Wheat is a reasonably sure crop, at least as sure in the wheat-belt as is corn. But should the season prove unfavorable, and the wheat winter kill, its place may be taken by a spring crop, with chances that the wheat will have repaid its cost in the way of pasture. Advice to sow wheat is safe for most of Kansas.

THE AGRICULTURAL COLLEGE SECURES A PROFESSOR OF AGRICULTURE.

The regents of the Kansas State Agricultural College held their September meeting at the college last week and rearranged the work of the farm department. It will be remembered that the chair of agriculture vacated by Professor Cottrell was offered successively to three men who had made records in this kind of work. Three others who had submitted testimonials withdrew them.

A majority of the regents' farm committee, namely Regents Coburn and Stewart, agreed to recommend D. H. Otis for professor of agriculture at a salary of \$2,000, E. H. Webster for professor of dairying at a salary of \$1,500, and that an assistant professor of agriculture be employed on the recommendation of the professor of agriculture at a salary of \$1,200; the professor of agriculture to have general oversight of the department.

The action taken by the regents, however, was to make D. H. Otis professor of animal husbandry at a salary of \$1,650 and the use of the farm house; A. M. Ten Eyck professor of agriculture at a salary of \$2,100, and E. H. Webster professor of dairying at a salary of \$1,350.

When the matter of a professor of agriculture was under consideration President Nichols moved that the word agriculture be stricken out and agronomy substituted. This motion failed for want of a second.

Mr. Ten Eyck has been an assistant in the North Dakota College and is well recommended. It is hoped that he will measure fully up to the requirements of the important work placed in his charge at Manhattan. The fact that Professor Otis, whose abilities are well known throughout Kansas, was recommended for the place by Regents Coburn and Stewart, the only members of the board who have any direct connection with agriculture, will cause many to regret that the board preferred an assistant whose qualifications are less certainly known.

It is reported that Regents Coburn and Stewart were hissed by some hoodlums among the students as they passed to the chapel platform. It is not to be believed that any of the well-bred farmers' boys who are seeking education at the Agricultural College would offer such indignity to representatives of the State who were there discharging their official duties. Doubtless the indignity was offered by other than farmer boys, some of those who think that "agriculture does not cut much of a swath in the co-called agricultural colleges." The most surprising feature of the case is that while the hissing occurred on two successive mornings it called forth no word of disapprobation from the president.

A GREAT CONTEST FOR MONEY.
A battle royal seems to be in progress in the financial world just now. There is no politics in it so far as reported, but since these contests sometimes seriously affect all industries and all interests, to the remotest corners of the country, it will be well to give some attention to the present one.
It was reported a few days ago, that, on returning from Europe, recently, with sundry giant schemes for the consolidation of industrial and transportation enterprises well developed, J. Pierpont Morgan found, to his disgust, that certain presumptuous persons, namely, the Moore Brothers, had borrowed most of the available loan money in New York, and were proceeding energetically with some great railroad consolidations. Whether Morgan was so wroth at this proceeding, as reports have stated, may not be known, but it is currently believed, that he has been greatly disappointed to find that the banks on which he had been accustomed to rely for money, had loaned almost to the limit allowed by law.
This situation was made rather worse for Mr. Morgan, by the unusually heavy demand for money to buy Western and Southern crops, thus carrying ordinarily available funds away from the usual channels in New York.

It may be only a coincidence that money to be returned on demand—or on call—commanded 30 per cent interest in New York last Tuesday; but there are those who will surmise that the urgency of the Morgan demands for money is such that those interested in them have run up the price of loans. If this be true, it signifies a fierce contest for the use of the surplus money of the people of the United States.

The financial system of this country is not perfect, as is evidenced by the demands from all sides to amend it. But the effort of the Secretary of the Treasury to avert a panic, on account of the present contest for money, by increasing the Government's deposits with the banks, comes as a relief to the anxieties of others than the financiers, who deal in hundreds of millions. Thirty per cent money throughout the country would mean panic, with widespread hardship and ruin. It is greatly to be hoped that the secretary will be able to break the corner on money.

COTTONSEED FOR CATTLE AND HOGS.
EDITOR KANSAS FARMER:—Will cottonseed injure hogs, if fed to cattle for a period of forty days? i. e., both are in a dry lot and hogs are cleaning up after cattle. If cottonseed will, how about the meal if it is fed?
E. E. VOIGTS.
Merriam, Johnson County.

Cottonseed in any form should be fed with care. It is very rich in protein and is therefore valuable for balancing a ration of corn, corn-fodder, and prairie hay. Indeed the deficiency of protein is the most serious lack of most common feeds excepting alfalfa and clover. But cottonseed has in some cases proven fatal when fed in large quantities for a long time or when fed in considerable quantities to animals unaccustomed to it. Fed in suitable quantities with corn or other carbonaceous feed, either cottonseed or cottonseed meal ought to be safe and profitable both for the cattle and for the hogs following them. A period of forty days should be a safe one during which to use cottonseed for half of the ration, after the animals had become accustomed to it by degrees. Some have fed made cottonseed meal much more than half the ration with good results, but when corn sells at usual prices it is probable that more profit will result from the ration in which corn constitutes an important element. Whatever is fed good roughage fed to the cattle with the concentrates will be both safe and profitable.

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HOW TO MARK A BALLOT UNDER THE NEW LAW.

An "off year" in politics is one in which no president is to be elected. As Kansas elections are now arranged, i. e., to occur biennially, half of our elections for state and county officers occur in off years. The off year is not infrequently the dread of the party manager because the voter often makes it the occasion for disciplining the managers by voting as the voter pleases.

It is not the purpose of the KANSAS FARMER to either advocate or condemn the voter's views on this question. They are alluded to here only to suggest the reason why party managers expect a large number of other than "straight" ballots at the coming election, and are anxious to have voters thoroughly instructed in handling the ballot under the complications of the new law.

It will be very easy to lose your vote under the new law. On this account the KANSAS FARMER thinks it wise at this early date to call attention to the correct methods of voting. To vote a straight ticket make a cross in the circle and make no other mark on the ticket. It will not invalidate the ticket if you mark also a cross in EVERY one of the squares opposite the names on the ticket you want to vote, but if you mark the circle and a part of the squares on your party ticket leaving one or more unmarked, your ballot will be thrown out.

If you do not wish to vote for every name on either ticket, leave all circles blank and make crosses in the squares opposite the names of every candidate for whom you desire to vote, on whatever ticket you find them, but be such to avoid voting for two candidates for the same office.

If the predictions of the politicians come true, a very large proportion of the votes counted one month hence will be marked according to the last of the above directions.

INDIAN RELICS IN DEMAND.

The curator of the department of archaeology at Phillips Academy, Andover, Mass., writes the editor of the KANSAS FARMER asking assistance in encouraging the preservation of stone, bone, and clay prehistoric forms. He says:

"In your section of the country are frequently found various 'Indian relics.' These have a direct bearing on

Please Tell Me Who Needs My Book.

I ask you for the name of a friend who needs help—that is all. Just send me a postal to tell me the book he needs. No money is wanted. Do that much and I will do this: I will send him the book, and with it an order on his druggist for six bottles Dr. Shoop's Restorative. I will authorize that druggist to let the sick one test it for a month at my risk. If it succeeds, the cost is \$5.50. If it fails, I will pay the druggist myself.

There was never a sick one who could refuse such an offer—and I am very glad to fulfill it. My records show that 39 out of each 40 pay for the medicine gladly. I pay just as willingly when one says that I have failed.

The reason is this: After a lifetime's experience I have perfected the only remedy that strengthens the inside nerves. Those nerves alone operate every vital organ; and no weak organ can be well again until its nerve power is restored. I want those who need help to know it.

For his sake, please tell me some sick one whom common remedies don't cure. * Simply state which book you want, and address Dr. Shoop, Box 529 Racine, Wis. Book No. 1 on Dyspepsia. Book No. 2 on the Heart. Book No. 3 on the Kidneys. Book No. 4 for Women. Book No. 5 for Men (sealed). Book No. 6 on Rheumatism. Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

Advertisement for Montgomery Ward & Co. featuring 'Catalogue No. 71' and the slogan 'Makes Both Ends Meet'. The ad includes several circular illustrations showing people in various settings, such as a family at a table, a person in a field, and a person with a horse. Text describes the catalogue's content (1096 pages, 70,000 illustrations, 17,000 quotations) and offers to send it for 15 cents upon receipt.

the history—or rather pre-history—of America, and as such should be preserved in fireproof buildings for the study and edification of present and future generations.

"I am persuaded that there may be persons who have found some remains of the ancient Indian tribes, 'Mound builders,' etc., and that, possibly, they would be willing to send them to us. We shall be glad to pay express charges on any and all boxes of specimens sent to us, to mention the gifts in our report and to give the donors due credit in our exhibition cases.

"All these axes, pipes, spear heads, clay vessels, and 'strange stones,' should be carefully preserved somewhere, where they may be of service to the public and to science. Archaeology—technically followed—is a new science in the United States and it is more important than the average reader imagines, for these 'stone relics' have a direct bearing on the antiquity of man. I shall be glad to correspond with persons who have 'relics' in their possession."

Water and Crops.

The third annual report of the irrigation investigations of the office of experiment stations, United States Department of Agriculture, made under the direction of Elwood Mead, says that averages of measurements, embracing nearly all of the arid states, show that during the past three years enough water was turned into the heads of ditches during the irrigation season to cover the land irrigated, to a depth of 4 45-100 feet; or stated in another way, 4 45-100 acre feet of water were taken from streams for every acre of land irrigated.

A large part of this water supply was lost in transit through seepage, the leakage being especially great where canals run through sandy or gravelly soil. Measurements at the heads of laterals, showed an average loss in the main canal of 11 per cent. Measurements made at the margin of fields, on six large canal systems, showed that only 42 per cent. of the water turned in at the head gates was delivered to farmers. This large loss through seepage is one of the significant features of those measurements, and shows that better construction of distributing works, is one of the directions in which great improvement is possible.

Another interesting table in the report, shows the value of the crops grown, for each acre foot of water used. They vary from \$1.32 an acre foot to \$122 an acre foot, water bringing the least return when used on alfalfa and the largest return when used in irrigating nursery stock. It also was shown that crops which require irrigation in the last half of the irrigation season have a far greater than those which require irrigation during the first half, the average value per acre of crops, which have to be irrigated in the last half of the season, being \$49.39 an acre, while crops which require irrigation only in the first half of the season have an average value of only \$17.83 an acre, a difference of \$31.56 an acre in favor of late crops. These, however, have to be watered, when streams are low and water scarce. As a rule this water supply can be had only through storage, and the cost of reservoirs had to be charged against the extra value of the

crops. Experience shows, however, the report says, that the storage of water pays farmers and will increase largely the productive value of irrigated lands.

World's Fair in Brief.

Congress, with the approval of the President of the United States, has provided that the World's Fair at St. Louis, in celebration of the Centennial of the Louisiana Purchase shall be held in 1904.

Formal dedication of grounds and buildings, occurs April 30, 1903; Exposition to open one year later.

Approximate cost of the Exposition, \$40,000,000.

Amount raised by citizens of St. Louis, \$5,000,000.

Proceeds from St. Louis city bonds, \$5,000,000.

Appropriated by United States Government, \$5,010,000.

Appropriated by the State of Missouri, \$1,000,000.

Appropriated for United States Government building, \$450,000.

Appropriated for United States Government exhibits, \$848,000.

Appropriation for the Philippine exhibit, \$250,000.

Leading Governments of the world to participate.

All States and Territories of the United States to take part.

Exhibits arranged in fifteen great departments.

Education and Social Economy building, 400x600 feet.

Palace of Art, 336x422, fire-proof, cost, \$945,000.

Electricity building, 525x750 feet; cost, \$399,940.

Textiles building, 525x750 feet; cost, \$319,399.

Liberal Arts building, 525x750 feet; cost, \$460,000.

Manufactures building covers fourteen acres, cost, \$845,000.

Varied Industries building, fourteen acres; cost, \$604,000.

Machinery building covers twelve acres; cost, \$600,000.

Transportation building covers fifteen acres; cost, \$700,000.

Agricultural building covers twenty acres; cost, \$800,000.

Twenty-five acres devoted to Live Stock Exhibits.

Horticultural building, 300x1000 feet; cost, \$200,000.

Forestry and Fisheries building, 400x600 feet.

Mining and Metallurgy building, 525x750 feet; cost, \$500,000.

Government building, 850x200 feet; to cost \$450,000.

Special buildings for Anthropology and Ethnology.

Building and Athletic grounds for Physical Culture.

Acresage World's Fair site, 1,200; value, \$15,000,000.

Washington University buildings used by World's Fair; cost, \$1,500,000.

Exposition will show processes, as well as products.

Missouri building (permanent); cost, \$300,000.

Fraternal Orders building, eighty rooms; cost, \$200,000.

Magnificent landscape effects are planned.

Beautiful fountains, flowers, shrubs and trees.

Hundreds of groups of costly original statuary.

Wonderful electrical effects on grounds and buildings.

Over 20,000 horsepower for Exposition uses.

Tournament of Airships; prizes amount to \$200,000.

Intramural Railway to all parts of the grounds.

ST. LOUIS is situated on the west bank of the Mississippi River, near the Missouri. It is midway between New York and San Francisco, the Gulf of Mexico and the Great Lakes. It has 600,000 population, being the fourth city in size in the United States. It has an area of 62 1/2 square miles, and twenty miles of river frontage; contains 8,000 factories, being the fourth-manufacturing city of the world. Twenty-four railroads center here.

Ample accommodations at reasonable rates for millions of visitors in hotels and in the homes of citizens. Address Bureau of Publicity for detailed information.

KANSAS FARMER'S NEW WALL ATLAS.

The KANSAS FARMER has arranged with the leading publisher of maps and atlases to prepare especially for us a new Wall Atlas, showing colored reference maps of Kansas, Oklahoma, Indian Territory, the United States, and the World with the 1900 census.

The size of our new Wall Atlas is 22 by 28 inches. The outside map shows the flags of the United States as well as the flags of all the nations. In addition thereto is given a list of tables, an exhibit of the products and their values of the United States and the World. One of the maps shows all States, Territories and possessions of the greater United States and facts as to their capitals and the first settlements and in relation to their general government, areas, population, and legislature.

The atlas also gives the growth of our country, showing the population of all towns by States, of 3,000 and over for the census years of 1880, 1890, and 1900.

This grand new census edition atlas also shows for every country on earth, the government, chief executive, area in square miles, population, capital and its population. This excellent educational work should be in every home. It sells for one dollar.

Every one of our old subscribers who will send us two new subscribers at 50 cents each for the remainder of the year, will receive a copy of this splendid new Wall Atlas postage prepaid.

One Fare for the Round Trip

to Boston and return, via Nickel Plate Road, October 7th to 11th, account meeting of Brotherhood of St. Andrews. By depositing tickets at Boston and paying fee of 50c., extended return limit of November 12th may be obtained. Though vestibuled sleeping-cars and first-class service in every respect. Cheap rates to all New England points. Write John Y. Calahan, 113 Adams St., Chicago, for particulars. (No. 49)

When writing advertisers please mention KANSAS FARMER.

Agricultural Matters.

Agricultural Imports of the United Kingdom.

FROM BULLETIN NO. 26, SECTION OF FOREIGN MARKETS, U. S. DEPARTMENT OF AGRICULTURE.

The United Kingdom is the principal market for the surplus agricultural produce of exporting countries. The products of agriculture sent to that market from all sources in 1900 reached the enormous value of \$1,578,000,000, forming 62 per cent. of the entire import trade of Great Britain and Ireland.

The total value of the merchandise imported into the United Kingdom during each of the five years 1896-1900, and the extent to which that merchandise consisted of agricultural produce, will be seen from the following table:

Calendar years.	Total imports. Dollars.	Agricultural—		Nonagricultural—	
		Dollars.	Per ct.	Dollars.	Per ct.
1896.....	\$2,150,063,031	\$1,378,933,618	64.13	\$771,129,413	35.87
1897.....	2,194,932,434	1,393,546,461	63.49	801,385,973	36.51
1898.....	2,289,905,792	1,474,681,428	64.40	815,224,364	35.60
1899.....	2,360,425,665	1,469,924,839	62.27	890,500,826	37.73
1900.....	2,545,545,281	1,577,522,533	61.97	968,022,748	38.03
Annual average, 1896-1900.....	\$2,308,174,441	\$1,458,921,776	63.21	\$849,252,665	36.79

SOURCES OF IMPORTATION.

To this extraordinary import trade in agricultural produce the United States was the principal contributor, furnishing about 33 per cent., or nearly one-third, of the supply. About 43 per cent. came from foreign countries other than the United States. The several possessions and dependencies of the United Kingdom throughout the world together contributed about 24 per cent.

UNITED STATES.

The value of the agricultural produce received from the United States amounted to \$513,000,000, leaving over \$1,000,000,000 worth of such produce to be supplied from other sources.

While the United States already possesses a market of exceeding importance in the United Kingdom, selling to that country more than half of the surplus production of American farms, it will be seen from the figures just quoted that the possibilities of future trade extension there, in competition with other exporting countries, are well worth consideration.

Among the agricultural imports into the British market during 1900 there were comparatively few products in which the United States controlled the larger portion of the trade. Taking such items as had a value exceeding \$10,000,000, of which there were thirty-four in the year under consideration, we find that only nine of them came more extensively from the United States than from the various other sources. These nine items, with the percentage of the total supply received in each case from the United States, were as follows: Lard, 93 per cent.; hams, 89 per cent.; tobacco, 84 per cent.; wheat flour, 83 per cent.; fresh beef, 74 per cent.; raw cotton, 74 per cent.; cattle, 72 per cent.; indian corn, 70 per cent.; and bacon, 64 per cent.

It will be noticed that, with the exception of cotton, Indian corn, and tobacco, the products enumerated are all articles of food. They occupy a most important place with reference to the bread and meat supply of the British people. While other countries are the chief contributors as regards the various food articles that may be properly designated as luxuries, and especially such articles as can in cases of emergency be readily dispensed with, the United States is the source from which the British people procure in large measure those staple food products that are absolutely necessary to the maintenance of life. It is this staple character of the foods in question that causes the peculiar dependence of the United Kingdom on American sources of supply.

The above-mentioned articles that are so largely furnished by the United States comprised in 1900 nearly three-fourths of all the farm produce imported from that source. The residue of the British agricultural imports for 1900 included several products that were received quite extensively from the United States, but in amounts forming less than 50 per cent. of the total, as follows: Wheat, 48 per cent.; oil cake, 46 per cent.; oats, 28 per cent.; barley, 26 per cent.; cheese, 25 per cent.; and tallow, 25 per cent.

Although at present the principal part of the trade in each of these articles goes to competing countries, there is unquestionably abundant opportunity, in the face of this competition, to extend the sale of American products.

Aside from the various leading items to which reference has already been made, the agricultural imports into the

United Kingdom during the year in question embraced nineteen different additional articles with values exceeding \$10,000,000. In the case of these latter articles, the United States supplied only a small portion of the total importations.

Some of the products in which the American export trade is now comparatively small, as, for instance, butter, eggs, wines, oleomargarin, potatoes, and oranges, seem capable under favorable conditions of being produced in the United States in sufficient quantities to warrant much larger exportations.

Less than 2 per cent. of the butter imported into the British market during 1900 was furnished by the United States. For the imports received from other sources the United Kingdom paid over \$83,000,000. These figures suggest large possibilities in the way of extended trade for American butter.

Imports of the United Kingdom classified as agricultural and nonagricultural.

Calendar years.	Total imports. Dollars.	Agricultural—		Nonagricultural—	
		Dollars.	Per ct.	Dollars.	Per ct.
1896.....	\$2,150,063,031	\$1,378,933,618	64.13	\$771,129,413	35.87
1897.....	2,194,932,434	1,393,546,461	63.49	801,385,973	36.51
1898.....	2,289,905,792	1,474,681,428	64.40	815,224,364	35.60
1899.....	2,360,425,665	1,469,924,839	62.27	890,500,826	37.73
1900.....	2,545,545,281	1,577,522,533	61.97	968,022,748	38.03
Annual average, 1896-1900.....	\$2,308,174,441	\$1,458,921,776	63.21	\$849,252,665	36.79

The British market apparently offers the United States abundant opportunity to establish a valuable export business in eggs. The eggs imported by the United Kingdom in 1900 cost over \$26,000,000. Only about 3 per cent. of this sum went into the pockets of American exporters.

During 1900 the considerable sum of \$25,000,000 was spent by the British people for imported wines. Less than 1 per cent. of these wines came from the United States. With the rapid growth of the California wine industry the outlook for a larger export trade in that product becomes brighter.

About \$12,000,000 worth of oleomargarin was imported during 1900 to supply the needs of the British people. While at present the amount of oleomargarin manufactured in the United States exceeds only slightly the domestic requirements, this article could unquestionably be produced for exportation. Of the British imports for 1900 the United States supplied less than 1 per cent.

During the year under consideration the United Kingdom spent nearly \$11,000,000 for imported potatoes. Practically the entire trade went to countries other than the United States. The British market would seem to afford a promising field for the sale of American potatoes. This apparent opportunity to develop a larger export trade in potatoes suggests also the possibility of creating a foreign demand for that important American product, the yam, or sweet potato.

Oranges form another item among the British agricultural imports that could be more largely supplied from American sources. The remarkable development of orange culture in the United States, especially on the Pacific coast, and the recently improved facilities for transportation across the continent, will doubtless result in bringing the American fruit into more active competition with the product of other countries that now supply the British market. During 1900 the people of the United Kingdom spent over \$10,000,000 in the importation of oranges. Less than 1 per cent. of the shipments received came from the United States.

Aside from the products just mentioned, which have been selected as offering some of the most promising opportunities for development in the trade between the United States and the United Kingdom, there are numerous other agricultural products that suggest possibilities in the way of a larger sale in the British market. Many of the articles falling within this class are what are known as perishable merchandise, consisting of products that can not be transported great distances except under refrigeration. The more general introduction of refrigeration facilities on land and sea has greatly increased the opportunities for trade extension in such products, making it possible to forward them in good condition to the seaboard and transport them undamaged across the Atlantic to the British market in competition with similar products that are sent to that market by the less distant countries of Europe. It is in these perishable products, the exportation of which is made possible by modern transportation methods, that the great future development of American trade in the British market may be expected.

FOREIGN COUNTRIES.

FRANCE.

Chief among the foreign countries that compete with the United States in supplying farm produce to the United

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Enough to discourage anyone. Ill health, big doctor bills, no pleasure in life; blue and discouraged. What's the matter? Simply this. You can't work well, play well or sleep well until your body is in good healthy condition, and you can't keep the body in good healthy condition if you allow disease to once get a foot-hold. It is for this reason that a bottle of

Watkins' Vegetable Anodyne Liniment

is so valuable in the house. It is ready when the first sign of cold or chill is felt. A few drops then does what a doctor would charge many dollars to do later. We receive numberless letters like the following:

MANAWA, Wis., July 5, 1901.
I have used Watkins' Vegetable Anodyne Liniment for colds and cramps with very best results.
H. F. ORA.

The Best Remedy made for

Colds, Coughs, Colic, Diarrhoea, Cholera Morbus, Dysentery, Indigestion, Cuts, Burns, Bruises, etc.

An especially strong point about Watkins' Liniment from the farmers' view-point, is that it is equally good for

MAN AND BEAST.

Our agent will furnish you with any of Watkins' Remedies, or if we have no agent in your neighborhood, write to us, and we will see that you are supplied.

GIFT FOR 1903.

We offer a beautiful Cook Book and Home Doctor this year to anyone who will send us his name and address on a postal card. Filled with useful information on everything pertaining to the home. Write to-day. It is free.

THE J. R. WATKINS MEDICAL CO.,
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Kingdom is the great neighboring republic of France, from which in 1900 agricultural imports were received to the value of \$103,000,000, comprising 6.5 per cent. of the total. Large as are the purchases made from France, however, they amount to less than a quarter of what is bought from the United States.

Sugar and wines are the leading articles of importation from France. That country also furnishes large quantities of butter and eggs, as well as fruits and vegetables in abundance. French brandies are imported quite extensively, forming another item of considerable value. Wool is also one of the leading imports from France.

GERMANY.

Next to France, the largest competitor of the United States in the British market is Germany, from which country in 1900 there was imported \$79,000,000 worth of agricultural produce, or 5 per cent. of the total. Sugar, which is the principal factor in the German trade, constituted more than half of these imports. Aside from sugar, the agricultural products purchased most extensively from Germany are eggs, wheat, oats, and oil cake. The wheat and oats, if not also the eggs and oil cake, are doubtless in large part re-exports of produce received originally from other countries, and particularly from Russia.

NETHERLANDS.

The Netherlands supplied 4.4 per cent. of the agricultural produce imported into the United Kingdom during 1900, the value amounting to \$69,000,000. Oleomargarin, or imitation butter, formed the largest item, and sugar the second largest. Among other products that are imported in considerable quantities from the Netherlands should be mentioned butter, cheese, and milk, and also fresh pork and fresh mutton.

ARGENTINA.

Agricultural imports worth \$63,000,000, or 4 per cent. of the total, were received in 1900 from Argentina. Wheat is the product imported most extensively from that source. Another grain that the United Kingdom receives in large quantities from Argentina is Indian corn, or maize. Recently an extensive trade has been developed in fresh mutton, and also a considerable trade in fresh beef. Argentine cattle and sheep are imported quite largely, and to some extent their products—tallow and wool. Flaxseed is another item of considerable importance among the agricultural imports received from Argentina.

RUSSIA.

During 1900 Russia kept equal pace with Argentina as a contributor to the agricultural import trade of the United

Kingdom, furnishing products worth \$63,000,000, or 4 per cent. of the total. Grains occupy an important place among the products received from Russia. In the year mentioned oats were imported more extensively than any other variety. Wheat, barley, and Indian corn followed in the order named. Flax and flaxseed are also leading imports from Russia, and within the last few years an important trade has been developed in butter and eggs.

DENMARK.

From Denmark, which is the leading source of the United Kingdom's butter imports, agricultural produce was received in 1900 to the value of \$62,000,000, or 3.9 per cent. of the total. After butter, the principal item received from Denmark is bacon, and the production of which Danish agriculturists have recently given much attention. In addition to butter and bacon, the Danes are now beginning to send large quantities of eggs to the British market.

EGYPT.


The large amount of cotton supplied by Egypt gives that country a place of some prominence among the sources of the United Kingdom's agricultural imports. In 1900 the agricultural products of all kinds imported from Egypt had an aggregate value of \$60,000,000, forming 3.8 per cent. of the total. The long-fibered Egyptian cotton, which is used so extensively by the British in the manufacture of certain lines of cotton goods, comprises by far the largest part of the trade. Of the remaining imports, cottonseed, another product of the cotton plant, is decidedly the most important.

BELGIUM.

Belgium contributed 2.2 per cent. of the agricultural produce imported by the United Kingdom during 1900, the shipments for that year having a value of \$34,000,000. Sugar, flax, and eggs are the articles received in largest quantities from Belgium. Other items of considerable importance in the Belgian trade are potatoes, butter, and wool. It is to be assumed that the wool furnished by Belgium was almost entirely the product of other countries,

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and probably in chief parts of France and Argentina.

SPAIN.

From Spain agricultural imports amounting in value to \$26,000,000, and forming 1.7 per cent. of the total, were received during 1900. Fruits occupy the most important place among the products purchased from that country. The orange is the fruit imported most extensively, but raisins and grapes are also received in considerable quantities. Next to fruits the principal item consists of wines. Other leading imports from Spain are Spanish onions, esparto, olive oil, and almonds.

ASIATIC TURKEY.

Asiatic Turkey sent to the British market in 1900 \$16,000,000 worth of agricultural produce, or 1 per cent. of the total. Barley forms the largest item among the agricultural imports from that country. Other articles of considerable importance are raisins, figs, and wool.

BRITISH POSSESSIONS.

AUSTRALASIA.

Among the British possessions that contribute to the agricultural import trade of the parent country the Australasian colonies now rank foremost. In 1900 Australasia furnished about 9 per cent. of all the agricultural produce imported by the United Kingdom, the combined imports from the various Australasian colonies having an aggregate value of \$146,000,000. New Zealand, New South Wales, and Victoria are the leading sources, but Queensland and South Australia also make important contributions. Products of animal industry, and particularly of sheep raising, are conspicuous among the importations from Australasia. Wool forms decidedly the largest item in the trade, while fresh mutton ranks second in importance. Butter is also imported quite extensively from Australasia, and so are tallow and stearin. Beef, fresh and cured, forms another item of considerable importance.

BRITISH EAST INDIES.

Next to Australasia, the British East Indies supply the greatest amount of agricultural produce imported into the United Kingdom from its several colonial possessions. In 1900 the value of the shipments received from that source amounted to \$126,000,000, forming about 9 per cent. of the total. A large part of the imports received from the British East Indies comes from Bengal. After Bengal, the most important sources are Ceylon and Bombay.

The principal import into the United Kingdom from the British East Indies is tea. Jute ranks next to tea in importance, while flaxseed stands third and rice fourth. Hides and skins also form a considerable item among the articles of importation.

CANADA.

With the exception of Australasia and the British East Indies, Canada outstrips all other British possessions as a contributor to the agricultural import trade of the mother country. During 1900 the agricultural products received from Canada comprised 4.4 per cent. of the total, their value being \$69,000,000.

Cheese is the item of leading value among the articles supplied by Canada. Other animal products furnished quite extensively are bacon and hams, and butter and eggs. Canadian beef cattle are shipped in large numbers to the United Kingdom, forming one of the principal features of the trade. Canada also sends heavy shipments of grain to the British market, particularly wheat and Indian corn, with oats in smaller quantities. Wheat flour is another important article of shipment, as are also fresh apples.

CAPE OF GOOD HOPE.

Of the remaining British dependencies that send agricultural produce to the markets of the United Kingdom, the Cape of Good Hope is the most important. During 1900 about 1 per cent. of the British agricultural imports came from that source, the value amounting to \$14,000,000. The principal products received from the Cape are wool, ostrich feathers, and mohair.

Late Cultivation of Corn.

EDITOR KANSAS FARMER:—I notice in the issue of September 18, a question of cultivation, from Frank Hogver, as follows:

"I am glad you raise the question in your paper regarding the cultivation of corn, after it is laid by, or after it is too high to be worked by the ordinary two-horse cultivator. A good many of us have had to go after this thing, unaided, and put on our thinking-caps and dig it out as best we could no matter how crude our plans and work. The farmers need instruction along these lines so as to conserve moisture and

save their corn crop of a dry year, more than they need to know of a new breed of wheat or the number of winnings of a great bull. My own plan in lieu of a better is to cultivate corn as many times as possible both ways, with two-horse eagle-claw cultivator. Then go into a field with a one-horse five-shovel cultivator that is used by gardeners a good deal. It costs but \$3.50, has a lever for making it wider or narrower while working, as the rows may need. I hitch the children's pony to an old mower wheel, put one of them on him, and they follow this cultivator. It makes the ground very mellow, between the rows, and comes as near the so-much-talked-of dust mulch as I with my crude machinery can get. I would like to see a hundred letters from a hundred different farmers in the KANSAS FARMER, regarding after cultivation of corn."

Now, Mr. Editor, the best tool I have found so far for above-named purpose is the Planet Jr. one-horse, twelve-tooth harrow, cultivator and pulverizer, which I purchased from our implement dealer, John Mair, in Nortonville. Following is a description in the catalogue:

"This tool is now made with our improved handle braces, which so stiffen the frame and handles as to make it seem twice as strong as ever, while the handles not only change in height to suit everybody, but also, sidewise. This expander is of the latest improved pattern, the same as on No. 8 horse-hoe. It works with ease, yet holds the tool thoroughly rigid. The strawberry-grower finds this tool invaluable, as it works so close and so thoroughly deep or shallow as wanted, without throwing earth on the plants. He uses it to keep the ground loose and clean, and to work up and bed the runners; the round throated teeth lift and turn them aside without injury, ready to root in the mellow soil. Farmers and gardeners use the harrow in deep or close cultivation, or when desiring to work the crop thoroughly, but without hilling.

"Depth regulation.—This is done in the most perfect manner by the combination of the lever wheel and the pulverizer, both of which are easily and quickly adjusted. The foot-lever pulverizer makes this a fine tool for preparing ground for the seed drill or for plant-setting. The hand-levers regulate both width and depth instantly. The tool expands to thirty-two inches, and contracts to twelve."

WILLIAM WORMSER.

Nortonville, Jefferson County.

The Development of Water from the Underflow by Pumping.

PRESS BULLETIN NO. 66, AGRICULTURAL EXPERIMENT STATION.

The experimental work in progress at the Agricultural Experimental Station, Mesilla Park, N. M., was undertaken with the three following points in view:

First, the development of a water supply from the underflow in sufficient quantities for irrigation purposes.

Second, a test of the efficiency and economy of different makes of pumps.

Third, the determination of the cost of irrigating different crops by pumping, under varying conditions of drought.

So far as the test has been carried out some very interesting data has been obtained. One six-inch well 48 feet deep, with a slotted strainer located in a 12 foot gravel stratum, furnished over 800 gallons of water per minute or something over 6400 cu. ft. per hour, (1.77 cubic feet per second.) At the end of a thirty hour continuous run there was no sign of a diminution of the water. During this run 6 3-10 acres of alfalfa were irrigated in 23 hours and 45 minutes at a cost of about \$1.30 an acre for fuel. This field had been irrigated on June 5 with river water but had received no water from that date until irrigated by pumping on July 30, 55 days later. The ground was very dry and cracked open to quite a depth. Since at this season of the year alfalfa is usually irrigated once in from 14 to 21 days, it is quite probable that twice the quantity was required for this irrigation than would have been required under normal conditions. Taking this as probably true, the cost of irrigating alfalfa would amount to about 65 cents per acre under normal conditions of dryness and frequency. It is no more than just that I should add that this run was made with

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For complete description write for beautifully
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OF AMERICA.
TOPEKA, KANSAS.

inferior fuel, and the cost is likely to be less rather than more. Later tests will demonstrate this point more fully. The following figures are based on a cost of about \$2.25 a cord for wood.

Computations from the data obtained from the tests that have been made will no doubt be of interest, though incomplete, and are given below:

Cost of fuel for irrigating alfalfa, covering the surface of the ground:

	Per acre.
1 inch deep.....	.19 1/2
2 inches deep.....	.33
2 1/2 inches deep.....	.49
3 inches deep.....	.58 1/2
2 1-3 inches deep.....	.65
6 inches deep.....	1.17
6 2-3 inches deep.....	1.30

Area that could be irrigated in twenty-four hours, covering the surface of the ground:

	Acres.
1 inch deep.....	42
2 inches deep.....	21
2 1-2 inches deep.....	16 4-5
3 inches deep.....	14
3 1-3 inches deep.....	12 3-5
6 inches deep.....	7
6 2-3 inches deep.....	6 3-10

Size of farm that could be irrigated by running twenty-four hours each day if an irrigation be given to the successive fields every fourteen days, covering the surface of the ground:

	Acres.
2 inches deep.....	294
2 1-2 inches deep.....	235 1-2
3 inches deep.....	196
3 1-3 inches deep.....	176 2-5
6 inches deep.....	98
6 2-3 inches deep.....	88 1-5

Size of farm that could be irrigated by running ten hours each day if an irrigation be given to the successive fields every fourteen days, covering the surface of the ground:

	Acres.
2 inches deep.....	122 1-2
2 1-2 inches deep.....	98
3 inches deep.....	81 2-3
3 1-3 inches deep.....	73 1-2
6 inches deep.....	40 4-5
6 2-3 inches deep.....	36 7-10

Further tests will be made in irrigating alfalfa and the results reported in later Press Bulletins.
September 12, 1902. J. J. VERNON.

Post Check Currency.

Although the Post Check Currency bill failed of passage at the last session of Congress, there seems to be no doubt that the measure can succeed in the coming winter if its advocates throughout the country make their desire known to their Congressmen. The plan of having United States money so printed that the bills of small denominations can be converted into checks payable to order at any postoffice is no doubt familiar to most of the people by this time, as it has been described with frequency and in detail. The convenience it would afford, the losses which it would save to the multitude who have occasion to send small amounts of mon-

ey through the mails, doing away with the trouble of securing money orders, unquestionably would be, in the aggregate, vast. The scheme is so practicable, and so entirely simple, that the wonder is that it was not devised and adopted long ago. Almost every newspaper in the country has commented upon it, and we do not recall one that has found reason for opposing it. Congress should at the coming session pass the bill and give the business public the benefit of a really valuable idea.—Buffalo, N. Y. Courier.

Banner Riding Attachment
For Walking Plows and Listers
Weight 110 Pounds.
The Banner Attachment will work on ANY plow, lister or harrow, and will do the work of any sulky plow. It will cost you \$15 from your dealer, or delivered by us at your station. We want agents. Write for terms and territory.
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WATER ELEVATOR AND
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changes the foul water in a well or cistern to sweet, clear, healthful water, purifies it as no other device or method can. Is a simple, easy, economical pump, fitted to any well or cistern. Steel chain and buckets galvanized after making. Has every desirable feature. Lasts a lifetime. Thousands in use. Price complete, freight prepaid, only \$7.00 where we have no agents, for 10-ft. well or cistern in depth. Add 30c for each additional foot in depth. Catalog free. **St. Joseph Pump & Mfg. Co.,** 805 Grand Av., St. Joseph, Mo., U. S. A.

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Send two-cent stamp for free chart telling how to get both. Address,
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The Stock Interest.

THOROUGHbred STOCK SALES.

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

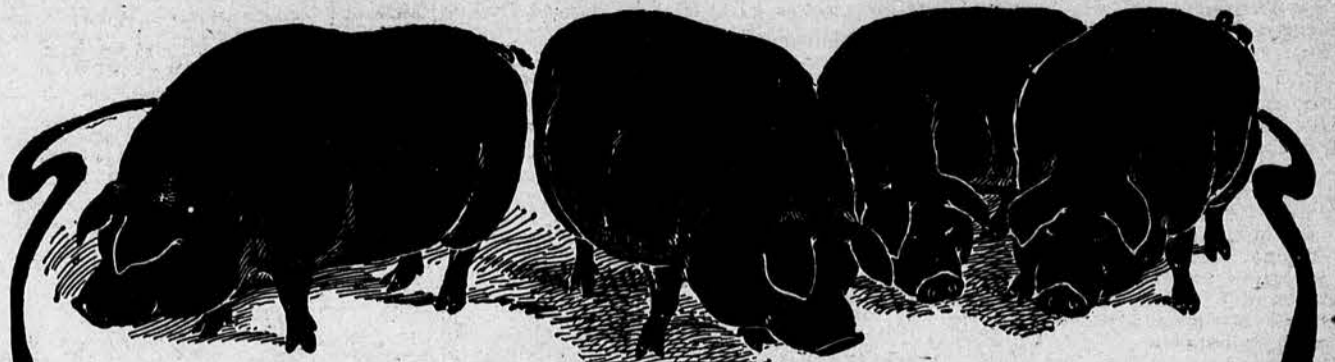
- October 7-8, 1902—J. S. McIntosh, Kansas City, Mo., Shorthorns.
- October 13, 1902—Newton Bros., Whiting, Kans., Duroc-Jersey swine.
- October 15, 1902—Combination sale of Poland-Chinas at Clay Center, Kans., J. R. Johnson, Manager.
- October 18, 1902—J. W. Dawdy, Abingdon, Ill., an D. L. Dawdy, Arrington, Kans., at Galesburg, Ill., Shorthorns.
- October 20, 1902—E. E. Axline, Poland-Chinas, Oak Grove, Mo.
- October 21 and 22, 1902—Herefords at Kansas City, Mo., under auspices of American Hereford Cattle Breeders' Association. (Week of American Royal.)
- October 22-23, 1902—Combination sale of Berkshires, at Kansas City, Mo. (Week of American Royal.)
- October 23, 1902—J. B. Davis, Duroc-Jersey, Fairview, Kans.
- October 20-25, 1902—American Royal Swine sale, Berkshires, and Poland-Chinas, Kansas City Stock Yards.
- October 28, 1902—J. W. Myers, Galva, Kans., Poland-China swine.
- October 30, 1902—F. G. Bates, Bates City, Mo., Dispersion Shorthorn Sale.
- October 31, 1902—J. C. Hall, Hallsville, Boone Co., Mo., at Centralia, Mo., Shorthorns.
- November 1, 1902—Wm. H. Ransom, Wichita, Kans., Shorthorns.
- November 1, 1902—H. M. Kirkpatrick, Farm sale of Poland-Chinas, Wolcott, Kans.
- November 3, 1902—Peter Blocher, Richland, Shawnee County, Kans., Duroc-Jersey swine.
- November 6, 1902—Thos. Andrews & Son, Cambridge, Neb., Shorthorns.
- November 7, 1902—E. T. Letton & Son, Valley Grove Stock Farm, Walker, Mo., Standard-bred trotting horses and Shorthorn cattle.
- November 7, 1902—Manwaring Bros., Lawrence, Kans., Berkshires.
- November 10, 1902—Branstetter, Robinson & Wright, Shorthorns, Vandalla, Mo.
- November 11, 1902—Thos. Andrews, Cambridge, Neb., Shorthorns and Clydesdales.
- November 12, 1902—A. B. & F. A. Heath, and Hon. A. C. Shellenberger, Alma, Neb., 45 Shorthorns.
- November 13, 1902—Geo. W. Berry, North Topeka, Manager, Combination sale of Berkshires, Manhattan, Kans.
- November 13, 1902—Purdy Bros, Shorthorns, Harris, Mo.
- November 14, 1902—Harry E. Lunt, Poland-Chinas, Burden, Kans.
- November 15, 1902—A. B. Mull, pure-bred Poland-Chinas, Iola, Kans.
- November 18-19, 1902—Marshall County Hereford Breeders' Association Sale, Blue Rapids, Kans.
- November 19, 1902—Cooper County Shorthorn Breeders, C. P. Tutt, Secretary, Bunceon, Mo.
- November 20 and 21, 1902—The North Missouri Combination Sale Association, H. J. Hughes, Secretary, Trenton, Mo., Shorthorns and Herefords.
- November 22, 1902—Col. J. F. True & Son, Newman, Kans., and Preston Wyckoff, Rome, Kans., Shorthorns, at Wellington, Kans.
- November 28, 1902—J. R. Young, Richards, Mo., Poland-China hogs.
- November 28-29, 1902—W. P. Harned, Vermont, Mo., and F. M. Marshall, Blackwater, Mo., at Kansas City, Mo., Godoy Shorthorns.
- December 4 and 5, 1902—Herefords at Chicago, Ill., under auspices of American Hereford Cattle Breeders' Association. (During week of International Cattle Show.)
- December 8-9, 1902—J. E. Logan and Benton Gabbert & Sons, Kansas City, Mo., Herefords.
- December 16, 1902—Gifford Bros., Manhattan, Kans., Shorthorns.
- December 19, 1902—Hanna & Co., Howard, Kans., Percheron horses, at Kansas City.
- January 12-17, 1903—C. W. Armour and Jas. A. Funkhouser, Herefords, at Kansas City, Mo.
- January 23-29, 1903—C. A. Jamison, Peoria, Ill., Shorthorns, at Chicago.
- February 3, 4, and 5, 1903—Combination Sale, Wichita, Kans., Percherons, Shorthorns, and Poland-Chinas, J. W. & J. C. Robison, Snyder Bros., and others.
- February 10, 11 and 12, 1903—J. F. Stodder, George Bothwell and others, Shorthorns; also C. A. Stannard and others, Herefords; Oklahoma City, Oklahoma.
- February 17, 1903—Geo. F. Kellerman, Shorthorns, Kansas City, Mo.
- March 3 and 4, 1903—C. H. Garner and M. A. Judy, Aberdeen-Angus cattle, Chicago.

Market Classes and Grades of Cattle With Suggestions for Interpreting Market Quotations.

From Bulletin No. 78, by Herbert W. Mumford, B. S., Professor of Animal Husbandry, College of Agriculture, and Chief in Animal Husbandry, Illinois Experiment Station.

SUMMARY.

1. Learn to distinguish between a market class and a market grade. Speaking generally the market classes of beef cattle are beef, butcher stock, cutters and canners, veal calves, and stockers and feeders. The grades are prime, choice, good, medium, common, and inferior.
2. The names of the various classes indicate the uses to which cattle in those classes are put. The grades refer to quality, condition, and conformation, the relative importance of which factors so far as they influence market values, is indicated by the order in which they have been enumerated, quality being of greatest importance, condition next, and conformation of least importance.
3. Weight has relatively but small influence in determining the grade and price of fat cattle. Quality and condition largely govern both.
4. As a basis for comparison and study of other grades, become thoroughly familiar with the characteristics of prime steers and choice feeders; these are the standard grades of fat cattle and feeders. Fluctuations in the market affect these grades less than others.
5. It is, therefore, more difficult to determine an approximately correct valuation for a lot of low grade cattle than for cattle of higher grades.
6. When practicable follow your consignments to market,—find out the desirable and undesirable characteristics of your cattle from the standpoint of the market.
7. Observe other cattle on the market



Hogs Without Worms

Worms are more prevalent in hogs than in any other animal, and most hog diseases can be traced to the effect of worms. Ninety per cent. of the cases of so-called Hog Cholera are nothing more than intestinal worms. Dr. Hess' Stock Food is sold on a written guarantee to expel these parasites—and even cholera is prevented when Dr. Hess' Stock Food is fed regularly and Instant Louse Killer is sprinkled in the bedding and feeding places. Dr. Hess' Stock Food gives a perfect balance of nutrition to any food, which makes profitable feeding easy. It is a wonderful tonic for all kinds of stock; it keeps hogs in perfect health, with sharp appetite and vigorous digestion.

George Stephenson, Oregon, Mo., says: "Last spring I sold two carloads of hogs that had been fed Dr. Hess' Stock Food, and they topped the market at St. Joseph. I would recommend it to my friends as a money-maker and feed saver."

Nic. New, Arcadia, Ia., says: "I have used different brands of food, but as an appetizer and digester Dr. Hess' Stock Food gives me best results. It is also excellent for worms in hogs."

Dr. Hess' Stock Food

Dr. Hess is a graduate of both medical and veterinary colleges, and his preparations are recognized by these institutions of learning, and prescribed generally by the profession. No unprofessional manufacturer can equal the scientific compound for horses, cattle, hogs and sheep. Sold under a written guarantee, in 100 lb. sacks at \$5.00; smaller packages cost a little more. Fed in small doses. The yellow card in every package entitles the purchaser to free personal advice and free prescriptions for his animals from the eminent veterinarian, Dr. Hess. Dr. Hess' Great Stock Book, on diseases of animals and poultry, the only complete treatise for popular use, consulted and commended by leading veterinarians will be sent free prepaid, if you write what stock you have, what stock food you have fed and mention this paper. Read it and you can master all stock diseases.

C. M. McClain, veterinary surgeon, Jeromeville, Ohio, says: "It is the most comprehensive work for farmers I have ever seen."

H. N. Layman, veterinary surgeon, Lattasburg, Ohio, says: "In my practice I often follow suggestions given in your book."

We also make Dr. Hess' Poultry Pan-a-co-a and Dr. Hess' Healing Powder. Address DR. HESS & CLARK, Ashland, Ohio.

and compare their quality, condition, conformation, and the prices paid for them with the quality, condition, conformation, and price of your own cattle with which you are more familiar.

8. Compare prices for which various lots of cattle have been sold with market quotations, and note what grade of cattle is bringing similar prices.

9. The terms export, shipping, and dressed beef steers are no longer significant of any particular grade of cattle. Several different grades and even different classes are exported, shipped, and used for dressed beef.

10. The most desirable steer for export, for shipping, and for the best grade of dressed beef either for domestic or foreign trade is the same in each instance.

11. The best grade of any class of cattle must be practically above criticism.

12. When cattle grade the best of their class they command a premium on the market. Such cattle usually sell at strong prices and for their full value.

13. Cattle of the lower grades, necessarily deficient in certain particulars, sell at a discount which in many instances is greater than their inferiority demands.

14. Thus it will be seen that the tendency is to spring the market for choice, prime, and fancy grades while the common and medium grades are seldom, if ever, sold for more than they are worth, and many times they do not bring their full value owing to a tendency on the part of buyers to magnify defects of minor importance.

MARKET CLASSES AND GRADES OF CATTLE.

Beef Cattle.—Prime steers, choice steers, good steers, medium steers, common rough steers.

Butcher Stock.—Prime heifers, choice heifers, good heifers, medium heifers, prime cows, choice cows, good cows, medium cows, common rough steers, choice bulls, good bulls, medium bulls.

Cutters and Canners.—Good cutters, medium cutters, common cutters and good canners, medium canners, inferior canners, bologna bulls.

Stockers and Feeders.—Fancy selected feeders, choice feeders, good feeders, medium feeders, common feeders, inferior feeders, feeder bulls, fancy selected, yearling stockers, choice yearling stockers, good yearling stockers, medium yearling stockers, common yearling stockers, inferior yearling stockers, good stock heifers, medium stock heifers, common stock heifers.

Veal Calves.—Choice, good, medium, common.

Texas and Western range cattle. Distillers. Baby beef. Export cattle. Shipping steers. Dressed beef cattle. Stags.

IMPORTANCE OF MARKET CLASSIFICATIONS.

Variations in quality, condition, weight, and age of cattle reaching the Chicago market make it necessary to establish certain classes and grades in order to report market conditions intelligibly through the public press. While the limits and characteristics of these classes and grades are somewhat vari-

able owing to fluctuations in the supply and the demand, they are still distinct enough to permit of classification and definition.

It is evident that the value of a thorough knowledge of the various market grades of cattle is not fully appreciated by a majority of the feeders and breeders of beef cattle. Without a thorough understanding of market and feed lot requirements the feeder is groping in the dark. If he secures a profit it is more the result of an accident than of a definitely determined and intelligently executed plan. Such guesswork is more often followed by loss than by profit.

Those most familiar with the cattle trade agree that there often exist wide differences between the actual selling price of cattle in the market and the previous estimate by the feeders sending them forward as to the prices they should bring. The small feeder, who seldom follows his cattle to market, has a poor chance to learn market conditions and requirements, but the regular shipper has an excellent opportunity to do so. Feeders must rely largely upon the market reports for their knowledge of the condition of the cattle trade. Market reports will always be more intelligible to readers who are thoroughly familiar with stockyards vernacular than to those who seldom visit them; hence, the desirability of frequent visits to the market. Inability on the part of the feeder to interpret correctly market quotations places him at a decided disadvantage either in selling his cattle to a shipper or in shipping to the open market. The hope that this bulletin will aid cattle feeders and those without experience about to engage in the business of breeding or feeding beef cattle on an extensive scale inspired this attempt to classify and explain the various market classes and grades of cattle.

It might appear on first thought that a knowledge of market requirements and the conditions that govern them would be of little interest and of still less importance to the breeder of pedigreed beef cattle. Unless the breeder of registered beef cattle is fortified with such information, however, he is too apt to breed without attaching sufficient importance to the fact that the only reason for the existence of the improved breeds of beef cattle is that they facilitate the economical production of beef of high quality. The first lesson for the breeder of registered beef cattle should be to familiarize himself with the demands of the fat cattle market. It is needless to say that very many breeders have almost entirely overlooked this fundamental consideration. They are breeding Shorthorns, Aberdeen Angus, Galloways, or Herefords because they are Shorthorns, Aberdeen Angus, Galloways, or Herefords and not because they see in these cattle especial fitness for the economical production of beef of high quality. In other words, many lose sight of market requirements.

The breeder of registered beef cattle who long overlooks the ability of his stock to produce animals that will meet the requirements of the open market will find his trade gradually, but surely, slipping away, for the successful breeder of the future will be obliged to meet the demands of a more intelligent public. Beef producers in general wanting registered bulls of some one of the breeds of beef cattle are rapidly acquiring a more critical knowledge of their business, and they keenly appreciate a thoroughly good animal; while the inferior animal, pure bred though he may be, no longer receives serious consideration. Never before in the history of improved breeds of beef cattle have so many breeders turned their attention to a study of market and feed lot requirements as a basis for their breeding operations.

It is hoped that this bulletin will demonstrate the importance of this subject in a way that will influence many to make a careful study of market conditions and lead all to look upon a study of the market as of great importance in the production of meats generally; for what is true of the beef cattle market is also true to a large extent of the sheep and hog markets.

The task undertaken is not an easy one. Some of the perplexities are: First the somewhat variable nature of the different classes and grades due to variations in quality, condition, and visible supply of cattle, and the activity in the dressed beef trade; second, the difficulty of accurately describing animals typical of the various grades; third, the difficulty of securing photographs of average types representing the market grades; and fourth, a lack of uniformity in the classification of the various market grades of cattle and in the use of terms by those intrusted with selling, buying, and reporting the cattle market. Different agricultural journals have different ways of reporting the market, while the same terms are not uniformly used in the same report in referring to the same grades of cattle. In the interest of a more intelligent interpretation of market quotations a fairly uniform classification should prevail in reporting the cattle market. Agricultural journals everywhere will gladly cooperate in bringing about such a condition and all interested in the cattle trade will appreciate approved corrections.

This bulletin is the result of an investigation of the subject by the author at the Union Stock Yards, Chicago, where every opportunity was afforded and every possible courtesy extended by the officials of the Union Stock Yards and Transit Company, Live Stock Commission Companies, and by representatives of the Live Stock Journals. Forty-five of the engravings used in illustrating this bulletin were made from photographs taken in the Chicago Union Stock Yards, forty of which were taken especially for use in this work.

Cattle are handled in the Chicago market according to the following

Sumner County Carnival and Exposition.

For some years past Wellington, the county-seat of Sumner county has been holding a street fair and carnival, with varying degrees of success.

The exhibit of pure-bred horses in the draft-classes was rather small, but the grades showed up strongly as teams for both draft and driving purposes.

The premium list is a peculiar one and provided only for a very few pure bred animals. The exhibitors of pure-bred draft horses were C. Spohr and J. A. Stevens.

Aged bulls, Wyckoff first on Red Royal, Fulton & Hurst, second on McKinley.

Two-year-old bull, Sumpter, first on General Funston.

Yearling bulls, Hummel, first on Liberal. Bull under one year, first, Fulton & Hurst, on bull calf by Grover.

Aged cow, Sumpter, first on Flossie; Wyckoff, second on Miss Gandy; Fulton & Hurst, third on Lady Love.

Yearling heifer, Sumpter, first on Miss Chatty; Wyckoff, second on Red Rose; Hummel, third on Lillie.

Heifer under one year, Fulton & Hurst, first on calf by Grover; Sumpter, second on Nellie Blf; Wyckoff, third on Princess Mary of Shoo Fly.

RED POLLS.

But one herd of this breed was shown and it belonged to S. C. Bartlett, of Wellington. He showed in the aged bull, two-year-old bull, aged cow, two-year-old cow, yearling heifer and calf classes, winning first in each.

Exhibitors: J. G. Dessinger, J. F. Harrelson and Ed. Barnes, all of Wellington.

Harrelson won first on aged bull, Dessinger 1st and Barnes second on aged cow.

HOLSTEIN.

One animal constituted the entire exhibit. She belonged to R. F. Plummer, Wellington, who received first prize.

HEREFORDS.

Two animals constituted the exhibit, both of which belonged to R. F. Plummer, who was awarded first on yearling bull, and two-year-old heifer.

POLAND-CHINAS.

Exhibitors: Col. T. A. Hubbard, Rome, and J. B. Hummel, Wellington. Mr. Hummel was given third prize in aged boar class on Black Diamond, and third in sow pig class on Beauty.

BERKSHIRES.

The writer has attended nine different fairs this fall and been surprised frequently at the absence of the Berkshire breed of hogs. The only explanation of this curious fact, which presents itself, is that this breed is becoming exceedingly scarce, or else that the owners are holding them for the American Royal at Kansas City.

CHESTER WHITES.

But one exhibit was made in this breed. This was a pen of two pigs, owned by C. R. High, Cicero, who was awarded first on pen.

WELLINGTON FAIR NOTES.

Mr. David M. Adams, Rome, who was an exhibitor of horses, is a former resident of Ohio, who seemed glad to have found the land of promise in Sumner county.

On Friday was held the live-stock parade, which showed the prize-winning animals in succession, through some of the principal streets of the town.

Like the fair at Wichita, a large number of the visitors were residents of Oklahoma, and a better natured lot of Western hustlers never get together or get more enjoyment out of life, than when the people of the State and the Territory meet.

of any rowdyism. This is to be especially commended, not because our people are more prone to rowdyism, but because on such occasions there is always more or less lack of restraint, both personal and official, and excesses are sometimes committed by persons who would not be guilty on other occasions.

One of the most tempting exhibits on the grounds, was an exceedingly large and well arranged display of fruits, shown by the Arkansas Valley Horticultural society, with headquarters at Mulvane.

The Arkansas Valley Horticultural Society exhibit was housed in the same building with the exhibit of the Sumner county agricultural products, and shared with it in the merited approval of the visitors.

Col. T. A. Hubbard, Rome, Kansas, who has long been one of the best known breeders as well as a prominent man of the State, is largely responsible for the success of the live-stock exhibit.

The Sumner County carnival and exposition was located in one of the principal business streets, and was so arranged as to occupy the entire street for the distance of two blocks, with an annex of one block on a cross street.

Preston Wyckoff, Rome, whose excellent showing of Shorthorn cattle contributed so much to the success of the live-stock features of the fair, will unite with Col. J. F. True & Son, Newman, Kansas, in holding a sale of a draft from their famous herds, at Wellington, on November 22.

Angus at American Royal.

Tuesday and Wednesday forenoons, October 21 and 22, have been designated as the dates for holding the sale under the auspices of the American Aberdeen-Angus Cattle Breeders' Association, during the American Royal Cattle and Swine Show, at Kansas City, October 20 to 25.

above, are all highly bred Queen Mother females, while the bulls, Roland of Osborne, by Marshall of Estill, a son of Imp. Entwistle and Heather Lad of Osborne by Axtell of Estill, are bulls of this famous Queen Mother tribe, that has produced so many record-breakers and champions.

There are many attractive consignments in this offering, including five imported animals from the herd of M. A. Judy, West Lebanon, Ind.; eight handsome daughters of Royal Eric (sire of the \$2,000 cow, Blackbird of Woodland 4th) from the herd of R. P. MacClement, Olathe, Kans.

Pure-Bred Associations.

The conditions which confront the breeder of pure-bred live-stock are, like those in many other classes of business, of such a nature that he must either eat or be eaten. He must unite with his fellows in the same business for their mutual protection and advancement, or he must be a competitor of every other breeder, as well as a contestant with the buyer.

It is now proposed to organize a county association in Franklin County, which shall include all the pure breeds of cattle. It is found in this county that there are a great many breeders, especially of Shorthorns and Herefords, who have as yet but small sized herds, from which they could not individually make a sale.

Some of the best known and finest herds of Shorthorn and Hereford cattle are to be found in this vicinity. It has been suggested that a meeting of interested parties should be held in the office of Mr. Carey M. Porter, Secretary of the Franklin County Fair Association, Ottawa, for the purpose of completing a county improved live-stock breeders' association.

For a Federal Quarantine Line.

One of the important items that came up for consideration at the meeting of the Sanitary Boards, held at Wichita during fair week, was the question of the federal quarantine line and the open season for the coming year.

"We recommend to the Department of Agriculture that the quarantine line remain the same as last year, with the exception that the counties of Moore and Bledsoe in the State of Tennessee be placed above said line, after being examined and recommended by an agent of the Bureau of Animal Industry."

Advertisement for A. J. Tower Co. featuring the slogan "ALL SIGNS FAIL IN A DRY TIME THE SIGN OF THE FISH NEVER FAILS IN A WET TIME." Includes an illustration of a fisherman and text: "THE FISH as a sign has a history. This is told in an interesting booklet which is yours for the asking." "OUR GOODS ARE ON SALE EVERYWHERE."

"We recommend that cattle below the federal quarantine line be allowed to be moved to points above the said line within the States of Texas, Kansas and the Territory of Oklahoma, between November 1 and December 31, 1902, and to points within the States of Virginia, North Carolina, Tennessee, and Missouri and the Territories of Arizona and New Mexico between November 1 and January 31, 1903, under regulations provided by those States and Territories. Provided that no such movement of Southern cattle shall be allowed into any of these States and Territories unless proper local regulations are enforced."

"All cattle from the quarantine district destined to points outside States and Territories above named may be shipped without inspection between November 1 and January 31, inclusive, and without restriction other than that may be enforced by local authorities at points of destination."

"We recommend that cattle from the two northern tiers of counties of Arkansas be admitted into the State of Missouri by inspection from February 1 to March 31, 1903."

TRANSPORTATION OF TICKY CATTLE.

The following resolutions regarding the transportation of tick cattle was adopted: Resolved, That a permit to ship or drive Southern cattle as natives during the inspection period should be recognized as valid by the B. A. I. when such permit is issued by an authorized agent of the State to which the cattle are destined."

Second—Whereas, Because of the danger of tick fever (Southern cattle fever) being carried to points north of the United States quarantine line by cars used in the transportation of infected Southern cattle between points south of the quarantine line, therefore

Be it resolved, That we recommend that the Department of Agriculture require cars used within the quarantine district for the transportation of cattle originating in this district before being brought north of the United States quarantine line for any purpose, to be disinfected according to the requirements of said department, of cars used in shipping Southern cattle to points north of the line for immediate slaughter; provided, that the rule shall not apply to cars used in transporting Southern cattle to points north of the quarantine line for immediate slaughter."

Clay Center Combination Sale of Poland-China.

This week's Farmer contains the announcement of the combination Poland-China sale at Clay Center, Kans., October 15. Mr. Johnson writes us that he has inspected every hog that goes into this sale and says that it will consist, without doubt, of one of the grandest lots of individuals ever sold in the State at one time. They will be the cream selected from nine of the leading herds of the West, some of the breeders having as high as 200 to select from.

This stock will not be loaded with fat as is frequently the case with animals at sales of this kind. The gentlemen making this sale invite every breeder to be present whether they wish to buy or not. Catalogues may be had by writing J. R. Johnson, manager, Clay Center, Kans.

Premium Uniformity at the Fairs.

One of the most perplexing things, which a breeder who desires to exhibit at county and other fairs has to contend with, is the extreme lack of uniformity in the premium lists. At the county fair, the average exhibitor of pure-bred live stock, is the owner of a small or medium-sized herd which of necessity limits him in the number of animals that he can profitably fit for the show ring.

While it is true, that the board of man-

Horticulture.

Cold Storage for Apples.

The New Hampshire Experiment Station publishes the following experience with cold storage:

On November 20, 1899, a number of barrels of apples were shipped to one of the Boston cold-storage houses. Beginning with February two barrels were taken out each month until July, and examined. The fruit did not receive any extra care and was representative of apples as ordinarily purchased at that time of year on the open market. It was found that the apples could not safely be allowed to remain after April 1, as they decayed rapidly after that date. The prices at time of shipment ranged between \$1.25 and \$2 and on April 1 they brought \$3.50 to \$4.25.

On October 27, 1900, a second shipment of apples were sent to cold storage with the following results: Prices when put in storage \$1.25. On April 23 ten barrels sold for \$34. Expense, carting 50 cents, commission 8 per cent, \$2.72. Net proceeds, \$30.73, or \$3.08 per barrel. Freight and cold-storage charges must be deducted from this amount. The storage rates were 10 cents per barrel per month, or for the season ending May 1, 35 to 50 cents, according to the number of barrels. The freight charges can easily be found out according to the location of the individual.

The greatest care in handling and placing the fruit immediately into cold storage pays for the extra trouble. One must understand that cold storage will simply retard and not prevent entirely the spread of decay. If the fruit is in prime keeping condition on entering it is likely to come out in proportionately as good condition.

Where apples were placed in brine and cold air storage, the cold air gave the best results.

From an examination of the prices paid in the fall and those paid on April 1 for the past six years, the results show that there has been a sufficient increase to warrant the extra expense of storage in every case and on the average the practice has resulted in good profit.

Upon examination each month it was shown that the greatest amount of decay was found in the bottom of the barrel as taken out or the headed end as packed. A very large proportion of these were also within six inches of the bottom, showing that much care is needed in not over-crowding and bruising the fruit when packing, if the fruit is to be stored.

The reasons that cold storage apples do not keep long after taking them out are that the temperature is so much higher and conditions are far more conducive of decay in the spring. Where the fruit was taken out in the winter months and given spring conditions, as placing them in a warm greenhouse, they decayed equally as quickly.

Our recommendation would be to pick the fruit relatively early, a trifle earlier than the common custom. Use only the best grades for storage, and pick, grade and ship the same day if possible. The sooner the fruit is in storage after it is picked and cooled down to an even low temperature, the better it keeps. Do not expect impossibilities of cold storage. It never makes an ill-shaped apple shapely, an unsound fruit sound, a wormy apple perfect, or a pale, sickly, immature fruit bright-colored. The apple can not be expected to increase in size or overcome rough, careless treatment it perchance may have received before going in. With a proper knowledge of the conditions carefully complied with, there seems to be no question but what the practice of placing apples in cold storage can be recommended.

Fall Planting of Strawberries.

A thing that is worth doing is worth doing well, says the old adage. Of all things this applies to the fall setting of strawberry plants. One who plants in the fall almost always does so with a view of getting a crop of berries the next spring. To insure this happy result the conditions must be right. For, while the strawberry plants like cool weather and even cold weather short of the coldest, it cannot grow when the ground is actually frozen. Therefore, we must aid it to make all possible growth before heavy freezing sets in and to extend its root growth.

The three prerequisites to this end are good plants, good planting and good soil. The well grown, well rooted plant has already much of the size necessary to enable it to sustain a good crop of fruit. Besides it already has the vitality which will enable it to grow much faster in proportion to its size than a small,

weak plant. Properly set, the plant grows faster than if it had not been transplanted at all.

I will begin with the soil. It is, of course, better to have a rich soil to begin with—one in which the fertilizing properties have become thoroughly incorporated with the soil, a part of the soil itself. The ideal conditions are where the land has been made rich for a prior crop, like Irish potatoes or spring or summer trucking of some kind. Plants are easier to live and quicker to grow off on such land than when a great deal of manure of any kind is applied just before planting.

Cottonseed-meal is by long odds the best and safest manure for young plants, especially in the fall. Being of the vegetable origin it does not fire or burn, even when coming in contact with the roots, like mineral or animal-fertilizers. Then it is quick enough and yet not so soluble as to be quickly lost unless at once appropriated by the plants, like nitrate of soda.

An endless number of implements are used by different people to open the hole to set plants—spades, trowels, hoes, knives, etc. Armed with any of these implements a man can open holes fast and well. In these holes the plants should be set, spreading the roots out as much fan-shape as practicable, and the dirt pressed firmly around the roots, care being taken that the hole is well filled from the bottom up.

To grow off at once the plants must not be set too deep, while if set too shallow they will be apt to die. The right depth is that which covers and hides all the roots after the dirt is packed down around them.

If stable manure is to be used a good way to apply it evenly around and between the plants is a top dressing in November or later. Little if any of its properties are lost by exposure in cold weather. Instead they are washed into the soil within reach of the plant roots, which appropriates them at once. Thus used they also answer a good purpose as a mulch to lessen the heavy and lifting effects of heavy freezes.

In a garden-bed when extensive culture can be given to obtain big results, the plants can be set much closer, say, ten inches apart, in the rows, the rows

HIS WAR RELIC

Not an Envidable One Was That of this Young Veteran of the Spanish-American War.

Charles J. Draper, of South Shaftsbury, Vt., who served in Company D., Fourth Pennsylvania regiment during the Spanish-American war, brought home with him a relic which caused him a great deal of misery. He tried to rid himself of it but was unable to do so until a friend came to his aid with what proved to be a valuable suggestion. Mr. Draper tells of it as follows:

"During the encampment in Georgia I became very ill, probably from impure water, poor food and the climate. After eating even the lightest food I would bloat to a great extent. My bowels were in a very serious condition and my heart was so weak that a few minutes' walk would exhaust me. I could only just drag myself around and sometimes I would have to stay in bed for a few days. I was treated in Georgia and in Porto Rico by our company surgeon and later by the doctor at home. They both told me it would be months before I could expect to see any improvement.

"I had been in this state of misery for about four months when a friend recommended Dr. Williams' Pink Pills for Pale People. He had been benefited by them and thought they might help me. I began taking them and felt renewed in three days. I took them for two months and they made me well and strong. I keep the pills by me all the time though I have had no need of medicine for a long while."

Stomach trouble and nervous debility always yield readily to the potent influence of Dr. Williams' Pink Pills for Pale People. These pills 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, palt and sallow complexions and all forms of weakness either in male or female. Dr. Williams' Pink Pills for Pale People are sold by all dealers, or will be sent postpaid on receipt of price, fifty cents a box, or six 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.



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SEEDS

eighteen inches apart, with a two-foot walk-way between each three rows. Manure can be applied as a top dressing as in field culture.

The Miami County Nurseries, of Louisville, Kansas, issue a book on a strawberry culture that covers the above points and additional ones very thoroughly and it will pay all interested in this branch of horticulture to write for a copy.

Storing Sweet Potatoes.

The principal causes of loss from rotting are heat and moisture. Therefore, in order that they may be cured before cold weather sets in they should be dug soon after frost strikes the vines and proper facilities afforded for airing, thus removing the surplus moisture.

CRATES FOR STORING.

Crates are very convenient for storing; they also afford excellent facilities for ventilation. A crate fourteen inches square and twenty-two inches long in the clear will hold a little over two struck-bushels. The sides and bottoms may be constructed of refuse slats from a sawmill, proper spaces intervening for airing purposes. Good stuff will be required for the heads.

A POTATO HOUSE.

A good potato house, constructed a suitable distance above the ground, is considered better for storing sweet potatoes than a cellar, the latter being too damp. The house should be provided with a double floor and double walls, a space of about eight inches intervening, which should be well packed with dry sawdust. A single floor overhead with sawdust placed thereon to the depth of about a foot will answer.

The distance between the floors may be eight feet in the clear; the other dimensions to suit the quantity of potatoes to be stored.

The house should be provided with two doors, one in each end, 2 1/2 by 5 ft., both opening outward. Sliding doors should also be provided to work on the inside of the house, thus forming an air chamber between each pair of doors. The house should be covered and the gable end closed in the usual way.

At digging time the crates should be placed here and there and the potatoes gently placed therein. The sun should not be permitted to shine on them any more than can be helped. The crates may be placed in a wagon and hauled to the potato-house. The crates may be placed in tiers therein, three or four deep, so arranged that the air will circulate freely between them. A good space should be left between the bottom crates and the floor. A pathway of convenient width, leading from one door to the other should be left. During fair days, when not too cold, the doors should be left open, but kept closed during damp, rainy days. When the potatoes have been properly cured, which will be by or before cold weather sets in, the doors should be permanently closed. They should be opened occasionally and if the walls be found damp they should be left open sufficiently long for airing purposes.

After the potatoes become sweet there is not much danger of damage from moisture.

In case you have not a proper house and wish to build one the crates can be stored in some outhouse or other room, until the house can be built; care, however, must be taken that the potatoes at no time are subjected to a temperature below 45 degrees.

Potatoes sometimes become diseased from continuous planting in the same ground and commence rotting before they are dug. Such potatoes cannot be expected to keep well.—Byran Tyson, in American Gardening.

Plant Bulbs Now.

If it desired to have the best results from a display of bulbs in the coming

I. W. C. T. Stands for Illinois Wire Cotton Tie, the best tie ever devised. In point of economy has no equal. It combines strength and durability, ease and rapidity of application, and is adapted to any press. No breakage and the wire never slips, hence the greatest density is maintained. Endorsed by Ginners, Compressers and Exporters. Write for circular and prices.

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50 Different Bulbs all for 30c.

By mail with cultural directions, for garden or pots.
1 Golden Sacred Lily. 3 Iris, 3 sorts.
2 Tulips, 1 double, 1 single. 3 Sparazie, 3 sorts.
3 Narcissus. 3 Alliums, 3 sorts.
3 Belgian Hyacinths. 3 Tritecia, white star.
3 Grape Hyacinths. 3 Saxifrage, double white.
3 Giant Crocus. 3 Giant Ranunculus.
3 Star of Bethlehem. 3 Spanish Iris.
3 Oxalis, 3 sorts. 3 Freesia, mixed.

All different colors, and fine flowering hardy bulbs. Also Free to all who apply, our elegant Fall Catalogue of Bulbs, Plants and Seeds, for Fall planting and Winter blooming. Choicest Hyacinths, Tulips, Narcissus, Crocus, Lilies, Plants, Shrubs and Fruits. New Winter flowering Plants and Bulbs, Crimson Daisy, Blue-Coleus, Cardinal Freesia, Branching Tulip, etc.
John Lewis Childs, Floral Park, N. Y.

spring, not a moment must now be lost in getting the beds prepared and bulbs planted. In bulb-culture, as with everything else, perhaps even to a greater degree, there is nothing like taking time by the forelock. The rationale of planting the bulbs well before the winter sets in is that the warmth still remaining in the soil, together with the moisture, induces a strong deep root growth and the newly planted bulbs secure a strong hold on the ground and become thoroughly established, actually beginning to feed themselves too before the winter sets in, when, of course, all life is suspended. Therefore, wideawake horticulturists plant bulbs at this time.

Whatever work the bulb can be induced to accomplish now, before the winter, is so much added strength in the spring; not to speak of the gain in time. By the end of November it would be well to have all the fall planting of bulbs completed. Naturally soil where bulbs are to be put must have free drainage—in other words, the beds should be deep, the soil mellow and cultivated to a good depth, so as to insure a clear passage of excess of water.

If the bulbs or the roots which have developed find themselves in stagnant moisture it cannot be otherwise than injurious even if it does not result fatally. For the amateur cultivator it may be well to remind them of a very convenient rule for the planting of bulbs—that is, to put them their own depth below the surface of the soil.

In the case of lilies we prefer planting deeper still. Some of the greatest successes that we have seen in growing lilies have resulted from an accidental extra deep burying of the bulb.

In places where the soil is of a clayey nature, or where alternations of temperature are likely to occur during the winter, it would be well perhaps to cover the bed with light litter or leaf rubbish after the bed has been frozen. This will keep the conditions at standstill. Nothing can give more satisfaction than an abundant wealth of bulbous-flowers in the early spring, but it is too late to do anything to attain this result if the present fall season is allowed to pass.—American Gardening.

When writing advertisers mention **Kansas Farmer.**

The Young Folks.

Conducted by Ruth Cowgill.

CASE OF THE FOUR-LEAF CLOVER.

Her sisters shunned her, half in fear
And half in pity: "'Tis too bad
She is not made as we, poor dear!
Four leaves instead of three she had.

Said Dr. Bee: "Her case is rare
And due to influence parental.
To amputate I would not dare,
The operation might be fatal.

"With rest and care and simple food,
She may outlive both you and me;
A change of scene might do her good."
One bag of honey was his fee.

"Take me! Take me!" The clovers cry
To a maid bending wistful-eyed.
With gentle hand she puts them by,
Till all but one are passed aside.

Before her sisters' wondering eyes
Her leaves with kisses are told over.
"At last! At last!" the maiden cries,
"I've found you, little four-leaved clover."
—Oliver Hereford.

David—A Character Sketch.

David, perhaps, is rather a small subject for a sketch, being put 8 years old, and those who are ignorant of the variations in child character and incredulous of the long, long thoughts of babyhood, may deem him unworthy the dignity of a characterization.

We call him the Irrepressible, for no rebuke is stern enough to dim the brightness of his grin and no punishment is crushing enough to still for more than a moment, his voluble chatter and the accompanying free-hearted giggle. Indeed, such slight misfortunes as a maternal spanking, or a paternal shaking, seem but to add to his enjoyment of the same forbidden pleasure next time.

He is no respecter of persons in the family circle. He treats the grave pater familias with the same tolerant good nature that any little street Arab elicits. "David," said the pater, sternly, "are you going to do that again?" "No-y, my bo-y," answered David. One evening, chancing to pass his father, as he sat in a low chair under the light, his aquiline nose sticking out invitingly, David gave it a passing tweak. This was rather much for paternal patience, as may be imagined, so the young culprit had to stand in the same spot, with arms stiffly at his sides, for half an hour. This seemed to appeal to his sense of the ludicrous, and he giggled in his sleeve for five minutes. At length, and at irregular but frequent intervals thereafter, a long-drawn sigh would be manufactured. "Aint' it a half-hour yet?" would come the question plaintively. "No," sternly. Then "Te-he-he," the irrepressible giggle invariably followed.

Only once have I seen his jollity submerged by reprimand or punishment, and then I fear it was not repentance that caused the tears. It was the first week of school for him. The one great and important lesson which mother had endeavored to impress upon him was that he must be a good boy in school and come directly home as soon as released. He listened to warnings and admonitions with the good-natured and absent-minded silence which he reserved for such occasions, and sometimes arrived in good time, more frequently from fifteen minutes to an hour late. This tardiness he explained by saying that he was simply discovering new routes home—one, he described as a fine line, taking you first about as far away from home as you ordinarily had to come toward it.

But in an evil day a circus came to town, and, as fate would have it, arrived a little after school closed at noon. This was an opportunity not to be slighted, so, in company with another young hopeful whom he called "that kid, you know," he followed the wagons to the show grounds, and there came upon so many novel and fascinating sights that all thought of dinner, home and mother fled, and the search-party found him with hands in his pockets happily absorbed in watching preparations for the circus. This was a serious matter to his anxious family—he must be impressed with the enormity of his offense. "David, sometimes bad men are with these shows, who steal little boys and take them off and are not kind to them." "Huh," thoughtfully. "Well, there wasn't any men where we wuz, only some big boys puttin' up the tent poles—say those poles wuz as big as telephone poles—and those fellers wanted us kids to help put 'em up—they said 'boys' and there wuzn't any other boys."

"David, we were very uneasy about you," solemnly.

"Huh," with a little apologetic chuckle, climbing up on his mentor's knee. Then sweetly, "Say—you musn't

get worried about me. I'm always all right"—this last grandly. "Say, I'm going to see the parade this afternoon—me and the kid is going."

"No, indeed, you are not. You were a naughty boy."

"There—didn't you hear those bells? They're having dinner now. I saw them cooking their dinner. They built a fire, you know, and cooked something in a kettle," and thus went the conversation, happily for his part, hopelessly otherwise. At length, however, the enticing strains of the circus band floated toward him and all the other boys rushed off, and all the bewildering, witching excitement of circus day makes itself heard and felt. For one brief moment, David's misfortune overwhelmed him and tears filled his eyes and sobs shook his little frame. Five minutes later he was gaily digging a well in a mud puddle, and incidentally piling enough upon his person to merit another rebuke from his long-suffering mother.

This is the bad-boy side. There is another side, the poet soul, which is revealed only to a chosen few, kindred spirits who can feel as he feels, who can see as he sees. To such he tells where the fire-flies get their light, what the man in the moon is like, what the flowers dream while they sleep through the winter, what the fire-imps do as they dance in the open chimney.

There is nothing more entertaining than the fancies of a small boy, when he consents to reveal them to you.

The Conquerer of Mexico.

Hernando Cortez was a great man. It was in the sixteenth century that he lived. He came to newly-discovered Mexico, a land rich and prosperous, filled with a dark people, numerous and intelligent, and conquered it. The early Mexicans worshipped the sun, and for a long time it had been a tradition among them that the great God of the Sun, beautiful and tall and fair, with golden hair, unlike their own small and dark people, was to come to them from the sun and teach them all the arts of peace.

When Cortez sailed to their shore in his great strange ships, himself tall and fair, they took him for their long-awaited god, and received him joyfully. Cortez, first burning his ships, that his men might fight with more desperate energy, since they must win or die, seized the king, his benignant host, in his own palace, and keeping him captive extorted from him vast treasures of gold and silver. He had no easy task to vanquish so numerous a people, but he conquered. Among his many enterprises, was the founding of a sugar plantation, which is still in existence and in the possession of his descendant, Fernan Cortez. A very interesting sketch of this plantation appeared in the Louisiana Planter, from which we quote.

"ATLACOMULCO."

"There is one spot that the northern tourist should visit and take time to be leisurely in so doing. The great sugar plantation of Hernan Cortez, established by the Conquerer, lies at an hour's easy ride from Cuernavaca, a few hundred feet below the city.

"Atlatcomulco with its vast and massive hacienda buildings was founded when the world was younger; Elizabeth was on the throne of England. The great Armada sailed from Spain while these fields were green with cane; and while the sun of Mexico looked down on this estate Spain's huge fleet was dashed to pieces on the northern coast of Great Britain. Elizabeth was quarreling with Mary Queen of Scots, the gloomy Philip was ruling his empire with all the force of his strong character. The years pass and the beginnings of English settlement in the new world are made. The seed of the great republic that is to be, and which is destined to hold so much of Spain's vast empire, is sown amid harsh conditions in North America. Early Americans are fighting French and Indians in the backwoods of America while the crops are gathered and the cane ground here at Atlatcomulco. The scroll of European history unfolds while the cane is growing, always growing, on this great estate. Napoleon comes to his splendid power and falls, and ever tranquility reigns in this quiet spot of earth.

"How solidly Cortez built his great colony, and how long it endured in peace! One forgets that Mexico, or New Spain, the 'colonia amada,' the pet colony of Spain endured nearly 300 years without war, viceroy peacefully succeeding viceroy, and the whole body of Spanish custom and tradition remaining permanent and undisturbed here. Mexico has the reputation of revolution, of political unrest, yet she had, perhaps, the longest peace of any country on

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earth, fully 300 years of serene existence!

"Sometimes one comes to think that the influence of those gently brooding centuries is what makes the charm, the deep and fascinating charm of this bright land. Rest and serenity got into the Mexican character. And when you see this vast estate still held by the heirs of the conqueror; its fields yielding good revenue year after year, the record of the long centuries of profit undisturbed, a sense of the permanence of things Mexican comes upon you.

"The Spaniard has reconquered this little state of Morelos where he has most of the sugar estates. It is the 'reconquista' so much talked of in the press. Mexican youth complain that they find no favor with the newer lords of the soil, who send to Spain for rosy-cheeked Austrian lads who come over here to live among the cane and palms, far from their windy mountains and forgetting, as the years go by, their wintry weather full of snow and cold blasts. Here you find, on the estates, Spanish 'administradores,' or managers, often with Mexican wives. The next generation will be Mexican, for the climate will transform the children of the most energetic Spaniard into creoles.

"Place 10,000 young Americans here, let them take wives of the country, and the third generation will be tropical Mexicans. This powerful sun overhead is the inescapable transformer, and character as well as physique is made over.

"The early Spaniards in Mexico were marvelous men; their energy was phenomenal. They built great roads, threw great bridges over ravines and rivers, established schools and housed them nobly in massive stone edifices, built numberless cathedrals and churches, erected public buildings that still endure as good as when new, and left a permanent impress on Mexico. Hernan Cortez, of whom one must think here in the city of his winter pleasure, was no common man."

FOR THE LITTLE ONES

TEN LITTLE TOES.

Baby is clad in his nightgown white,
Pussy-cat purrs a soft good night,
And somebody tells, for somebody knows,
The terrible tale of ten little toes.

Right Foot.
This big toe took a small boy, Sam,
Into the cupboard after the jam;
This little toe said, "Oh, no! no!"
This little toe was anxious to go;
This little toe said "Tisn't quite right;"
This tiny little toe curled out of sight.

Left Foot.
This big toe got suddenly stubbed;
This little toe got ruefully rubbed;
This little frightened toe cried out "Bears!"
This little timid toe, "Run upstairs!"
Down came a jar with a loud slam;
This little teeny toe got all the jam!
—Clara G. Dolliver.

A Little Girl Who Did as She Pleased.

Once—oh, a very long time ago—there was a little girl who grew tired of minding her mother. "Oh! mother, she said, one day, "Why can't I do as I please?"

"You ought to love your mother so much that would would want to please her," answered her mother, gravely. "But if my little girl is tired of obeying me, she need not. For to-day you may do just as you please. Do not ask me about anything at all that you wish to do."

"Oh, you dear, good mother," said the little girl, throwing her arms about her mother's neck. "Oh, I shall have the best time I ever had."

So she ran out doors and sat down

under a tree, to think what she wanted to do. "I'll put on my beautiful blue dress that mother lets me wear only on Sundays, and then I'll go to see Nellie Jackson who has such dear little ponies to ride and such fine apple trees to climb and—yes, I'll go down to the store and buy some candy—all the candy I want." So she ran to her room and put on the dainty dress.

"Mamma," she said, coming to her mother with her dress ready to fasten. "Would you wear my best hat to-day or the old blue one?"

"Do just as you please, my dear," said mother. "And a girl who is too big to please her mother is big enough to fasten her own dress."

Somehow, this did not sound pleasant and the little girl threw herself upon the floor and cried angrily. Mother left the room, and she, finding that crying did no good, got up and tried to fasten her dress. She could not reach the buttons but finally managed to fasten it at the neck so that it would at least stay on, though it did not look pretty, at all. At length, putting on her best hat, she started off to see Nellie Jackson. On the way she ate some wild grapes that she found which she knew her mother would not approve of but they were delicious and she remembered that she could do as she pleased, so she ate a great many of them, and her pretty dress was dreadfully stained when at length she started on.

Arriving at Nellie's house she asked at once to see the ponies, and soon the two little girls were tearing all over the farm on the ponies' backs. It was great fun until Nellie's father saw them dashing through his peach orchard and sternly told them to let the ponies go and try to behave like ladies. Both girls felt ashamed and our little girl said she was going home and invited Nellie to go down to the little store that stood not far distant from her house. So they ran down the road and arriving at the store, bought all the different kinds of candy to be found at that store. Neither little girl had any money, and when the storekeeper told them that it was 40 cents and that they must pay for it or leave it they looked at each other a moment, then put the tempting bag upon the counter and went out, crying.

"Come home with me," said our little girl. "I can do just as I please, and we'll find something to do that is fun."

So they went home and first thing they went to the pantry and opened a can of jam, which was very good, and they ate—oh, ever so much! Then they climbed up onto the little back kitchen porch and slid down the slanting roof. By this time their clothes were a sight, and when our little girl saw her dress all ruined, she felt sorry and began to cry. This was the third time that day that she had cried. She usually was too happy to cry often.

"I'm going to get down from here," she said, and started down.

"I shall slide down," said Nellie, and first thing she knew she came co-fump! onto the ground. It was rather rough, but it looked so funny that our little girl tried to too, but for some reason she fell heavily instead of sliding as Nellie did, and her arm doubled up under her, and when mother came at her cry, and picked her up, she found that the poor little arm was broken. Our poor little girl had a sorry time then. And it was weeks and weeks before she could play as she had before. One day when she was sitting with her mother, her arm carefully bandaged up, she said, "I'd much rather mind you, mama, than do as I please. I didn't have a good time at all, that day."

The Home Circle.

ROCK ME TO SLEEP.

Backward, turn backward, O Time, in your flight.
Make me a child again just for to-night!
Mother, come back from the echoless shore,
Take me again to your breast as of yore;
Kiss from my forehead the furrows of care,
Smooth the few silver threads out of my hair;
Over my slumber your loving watch keep—
Rock me to sleep, mother—rock me to sleep!

Backward, flow backward, O tide of the years!
I am so weary of toil and of tears—
Toll without recompense, tears all in vain—
Take them, and give me my childhood again!

I have grown weary of dust and decay—
Weary of flinging my soul-wealth away;
Weary of sowing for others to reap—
Rock me to sleep, mother—rock me to sleep!

Tired of the hollow, the base, the untrue,
Mother! O mother! my heart calls for you!
Many a summer the grass has grown green,
Blossom'd, and faded, our faces between,
Yet with strong yearning and passionate pain,
Long I to-night for your presence again.
Come from the silence so long and so deep—
Rock me to sleep, mother—rock me to sleep!

Over my heart, in the days that are flown,
No love like mother-love ever has shone;
No other worship abides and endures—
Faithful, unselfish, and patient like yours;
None like a mother can charm away pain
From the sick soul and the world-weary brain.

Slumber's soft calm o'er my heavy lids creep—
Rock me to sleep, mother—rock me to sleep!

Come, let your brown hair, just lighted with gold,
Fall on your shoulders again as of old;
Let it drop over my forehead to-night,
Shading my faint eyes away from the light;
For with its sunny-edged shadows once more
Haply will throng the sweet visions of yore;

Lovingly, softly, its bright billows sweep—
Rock me to sleep, mother—rock me to sleep!

—Elizabeth Akers.

The Mental Outreach of Women.

MISS FLORENCE LONGNECKER, PAOLA, KANSAS.

READ BEFORE MISSOURI VALLEY HORTICULTURAL SOCIETY.

Woman's place has always been an important one, this no one denies. Whether directing a household or a kingdom, at the head of a family or an army, as legal counselor, as spiritual advisor, as wife and mother, whatever the requirements of her position, they have always been faithfully fulfilled. And yet for some reason, which we are not prepared to state, there has always been more or less discussion over her intellectual ability, or her lack of it, and the wisdom and propriety of her developing and using the faculties she might possess.

HER EDUCATION.

Some authorities have recommended that her education be confined to reading, writing, and music, some have believed that she might add arithmetic, others have protested against her pursuing studies that could be of no use to her in the home, her only legitimate field of action. The probable result of teaching girls the same subjects which their brothers learned was long supposed to be domestic and social disaster.

HER POSITION IN LIFE.

Woman much occupy a subordinate position, cultivate such graces of manner as are most admired, and leave the solution of all knotty problems and weighty questions to man, whose natural endowments fitted him to cope with them.

One of George Elliott's characters is represented as saying, "Women are quick but shallow, and cannot go far into any subject." This idea was for many centuries the prevailing one, but in spite of it ancient and modern history furnish countless examples of womanly wisdom which seem to prove that the contrary is true.

We are told of women whose counsel was sought, and of some who proffered the same, the record being that her suggestions were usually acted upon, with satisfactory results.

HER JUDGMENT.

Women whose tact, judgment, and nobility of character compelled recognition in public life have never failed to appear, even when the life of women in general was one of seclusion. Such was Esther whose influence over royalty saved the lives of her countrymen. And we have reasons for believing that Ahasuerus was less tractable than the majority of the husbands who attend these horticultural picnics too. Such were Miriam and Deborah and Abigail.

Such was Florence, Nightingale. Such were the women of every age whose influence aided every good work the world has undertaken. It is said that during the French Revolution, "Political schemes were wrought out, not in the cabinet of a statesman, but in the salon of a lady." That "the power of the women was felt in every public act, and that they were the head and soul of all the intrigues of the time."

THE WOMAN PATRIOT.

Of the women whose patriotism and courage so aided the colonists during the American Revolution we need not speak. Their deeds have been the theme of song and story from that day to this. We wish to notice some of those belonging to a later period however, because their achievements indicate that a change in the relative positions of woman and the world has gradually taken place.

A WOMAN'S OPPORTUNITIES.

Not that she has exchanged home influence and social prestige for the turmoil of public life, not that she is excused from the duties of home and society. But it has been found that in connection with these, she can do several other things and do them well. Many women are obliged to maintain a home by their own efforts. To enable them to do so with greater ease the trades and professions have one by one been opened to admit them. There was a time when a literary woman was forced to assume a masculine nom de plume, in order to sell her productions. Now the only question to be decided is that of merit. Mrs. Browning had she lived, would have been a strong rival of Tennyson. The strength and pathos of Mrs. Stowe's writings, the ringing enthusiasm of Julia Ward Howe's, the wit of Marietta Holly's, bear witness to the literary range of some American women. Many women have been the assistants of literary men who owe much of their success to the wise counsel and help of wife or daughter. It is said that without the aid of his daughter Ethel, who has some reputation as a writer herself, John J. Ingalls could not have accomplished nearly so much work as a lecturer, as he has done. The wives of Bayard Taylor and Henry Ward Beecher were their best assistants. There is a story told of a decision which was given recently in the U. S. Supreme Court, being reversed when the judges after consulting their wives discovered that their definition of sauce was incorrect.

HIGHER EDUCATION.

Since women have been admitted to most of our leading colleges, and the fact has been established that they compare favorably with men in their work, no protests against their higher education are heard. Indeed it appears that a majority of the graduates from the schools of the United States are girls, and that it is the boys who will soon contend for equality. The masses are rapidly becoming educated. (That is, the women.)

Women practice medicine and law, they deliver lectures. They are devoted ministers and missionaries. Mrs. Livermore's father, it is said, used to say mournfully, "If you were only a boy, Mary, what a preacher you would have made," little dreaming that she might become one since she was only a girl. Ability without opportunity is useless. Gen. Grant would probably never have been known, had not the civil war revealed his power. Knowledge must precede practice, but alone gives skill.

WOMAN'S INFLUENCE.

So women are reaching out to the uttermost parts of the earth, their influence touching every nation, instructing, guiding, helping as they never have done before, not because they have more ability than the women of other times but because they have better opportunities for work. Women now are engaged in almost every line of business as a matter of course. She may publish a paper, operate a farm, have charge of a store, a telegraph office, or anything else she may choose without comment. And what a ruler she is. Queen Victoria's reign has been a benediction to England, and to the world at large. Woman rules in social life, and whenever a high standard of morality is established in society, a corresponding standard must follow in politics. "Home rule" is a principle which most men support part of the time. Whether they do or not, no other work compares in importance to that which is done there. None is so enduring, none so fraught with possibilities for good or evil.

THE W. C. T. U.

We must not forget the noble women who are reaching to so many hearts through the agency of the W. C. T. U.

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and other organizations of a similar character; nor that the "coming man" is under the influence of women during most of the years of his school life. The position of woman is an index to the character of a nation. Some one has said, "It is reserved for America to show to the world the rarest excellence of woman in the exercise of the largest and truest liberty the world has ever known."

I quote also from a private letter written by a brave little Kansas girl who is now teaching in a mission school in Chili. "If we would appreciate our schools, our country, and our civilization, we must go to some place like this." Living in this land of "modern chivalry," where the mental and moral qualities of women are so highly valued, the responsibilities of American womanhood are proportionately great.

But we may be sure that her power will be used in the future, as in the past, to benefit humanity and that every added privilege will be claimed but as another chance for extending her territory in the field of useful labor.

Reading.

EDITOR KANSAS FARMER:—A great many people realize how great an agent literature has been for the improvement of the public intellect; yet how many fully understand the enormous amount of evil disseminated throughout the world, by the agency of the press. The press is the medium through which the character of our whole body politic is shaped and formed.

We know there are many people who can not read, and a still larger per cent who are careless and indifferent, and read very little. In this class are to be found those who spend many precious hours of life perusing novels, and reading matter of a sensational nature, which is detrimental to a calm reflective condition of mind. To read and assimilate thoughts of others, is a very simple matter; but what of the results? Until a thing is brought before us, we have no conception of it; therefore can not be influenced by it. But let it once be made known and we never can be entirely released from its influence. Thus our moral nature is debased or ennobled to the extent we read, and a person surely is drawn into the actual association corresponding to the class of reading he peruses.

We know, as there are classes and distinction among people, so there are in regard to literature. "As a man reads so is he," is almost invariably correct. People who read, are the teachers of the human race in the broadest sense, and through them must a people advance or decline.

How important, then, that our choice of reading matter be such as will instruct the mind to something high, pure, and elevating; something that is practical and beneficial, that will teach us how to grasp and overcome the obstacles of life with greater ease. A great many people are looking for assistance; are watching for ways by which they may be better clothed, fed,

and warmed. The common people do not read enough. The busy tradesman, the artisan, mechanic, and factory employees, complain of lack of time. The banker, financier, and speculator, are too "busy." The market reports are all that attracts their attention. The farming class are also short on time, at least a good part of the year; but it seems to me it is more important for the farmer to read than for the others, if we make any distinction. And especially is this true of farm papers. Take the circulation of some of our best strictly "farm papers" and see what a small circulation they have, compared with numbers of magazines and story papers. We do not condemn reading stories, but we do know a person, especially a farmer, should understand the art of production from the soil in a manner to procure the best results.

In our opinion agriculture is the noblest profession existing and is the father and life of all. Farm papers are the text books of fresh, every-week investigation and study. The sum of care and perseverance, the impressions born by mingling with and learning the secrets of nature. The farm paper is the greatest teacher of all. Its influence is stupendous, and results never ending. Subscribe for it and carefully read it. It will do you good. It will show you many secrets which by experience would be costly. By all means read, read something good, and never forget the farm paper.

L. A. WELD.

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A Lever to Lift a Race.

The intelligent efforts of a man to lift his race to the higher plane of civilization interest all right-thinking people. In a general and indefinite way it has been understood that Booker T. Washington is doing something for the colored people of America and of Alabama in particular. The cosmopolitan character of his "Tuskegee Normal and Industrial Institute" is little realized. The "Bureau of Nature Study for Schools and Hints and Suggestions for Farmers" has recently issued a leaflet from which some idea of the practical nature of the work may be inferred. Following is an excerpt from this "Farmers' Leaflet:"

THE FORAGE CROP.—BY G. W. CARVER.

"Make hay while the sun shines," is a proverb which may have a double meaning this year, at least we are too apt to think of its meaning in more ways than one. The sun has been shining so constantly and hot it seems now that this growing season will not give us a grass or forage crop of any kind worth much to the farmer. Yet with good rains from now on till frost a good forage crop may be housed by the industrious, wide-awake farmer. Many of our farmers are so busy marketing their cotton during the fall months, they overlook many tons of grass which go to waste right at their doors. Hundreds of dollars leave our cotton belt section every year for hay that could be saved at home, better, sweeter, and more nutritious than much of that we have shipped to us.

VALUE OF CRAB GRASS.

Our crab grass, of which we have several varieties, is among the most nutritious known. Comparing it with timothy hay, chemical analysis shows the following: Of fat formers, in timothy, we have forty-eight pounds for every one hundred pounds of dry hay, and eight pounds of that which makes milk and muscle. In crab grass we find forty-five pounds to the one hundred of fat formers and eleven pounds of that which makes milk and muscle, making a difference of three pounds of fat formers in favor of timothy, but three pounds of muscle and milk formers in favor of our crab grasses. The muscle and milk formers determine largely the value of a food as the fat formers can always be quickly and easily supplied. In short, our crab grass is a much better hay than the timothy which we are constantly shipping in. I rode for a distance of sixteen miles through the country a few days ago and the thing that impressed me most was the numerous tufts of timothy hay scattered and growing on either side of the road from Tuskegee to my destination, showing that the farmers were neglecting their own valuable and nutritious crops and sending their hard-earned money to the West for an inferior article. It is time now to call a halt and save every bit of it. Indeed many fields would yield better returns to the farmer in hay than in cotton.

TIME TO CUT.

All grasses intended for hay should be cut when they are in bloom or when the seeds are just beginning to form. Choose favorable weather and dry with as little rain or dew falling upon it as possible. As soon as dry, stack or send to market. If stacked out of doors, great care should be taken to see that it is well done. Frequently rake the stack down with a garden rake as the work progresses. This will remove the loose hay and otherwise assist the stack in shedding water more readily. The top should be covered with boards, bark, canvass, or coarse grass. This will protect the good hay.

What are lamp chimneys for? MACBETH'S are for comfort, light and economy.

My name on every one.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

MACBETH, Pittsburgh.

KINDS OF FORAGE TO SAVE.

Nearly or quite all of our wild grasses make good hay and may be ranked as follows as to their feeding value: Crab grass, which includes all of the crow and goose foot varieties. The Johnson grass which yields heavily on rich land and makes an excellent quality of hay if cut before the stems become too woody. All of the marsh grasses make good hay if cut before they become too coarse and woody. Broom-sedge makes a fine quality of hay that is greatly relished by stock if cut when the seed stems just begin to form. Corn-fodder, pea-vines, and sweet-potato vines must not be overlooked. The pea-vines and corn-fodder should be cut or pulled and cured in the usual way; housing the same carefully when dried. Sweet-potato vines have almost as high a feeding value as pea-vines. They should be cut before the frost fall on them and thrown across racks to dry when they may be stored the same as pea-vines. They will of course turn quite black but this does not injure them.

If every farmer will save his hay properly he will realize before the maturity of the next crop that the time spent in this way pays well.

Look for the Beautiful.

The magazine "Success" is sometimes criticised as taking too material a view of life. Here, however, is something refreshing for those who are interested in something besides the endless chase after dollars:

"Why, Mr. Turner," said a lady who had been looking, with the artist, at one of his wonderful landscapes, "I can not see those things in nature. 'Don't you wish you could, madam?' inquired the artist.

The world is full of beautiful things, but very few have the power to discern them.

Fortunate is the person who has been trained to perceive beauty in everything; he possesses a heritage of which no reverses can rob him.

There are some people who, like the bee, gather honey from every flower, extracting sweetness even from a thistle, while others seem to distill bitterness from a clover blossom, a lily, or a rose. The difference between men lies in their early training or their habitual attitude of mind.

Every soul is born responsive to the beautiful, but this instinctive love of beauty must be fostered through the eye and the mind, or it will die. The craving for beauty is as strong in a child of the slums as in a favorite of fortune. "The physical hunger of the poor, the yearning of their stomachs," says Jacob A. Riis, "is not half so bitter, or so little likely to be satisfied, as their aesthetic hunger, their starving for the beautiful."

A life that has been rightly trained will extract sweetness from everything; it will see beauty in all things. Every sunset, landscape, hill, mountain, and tree will reveal some new charm of nature. In every patch of meadow or wood, in every leaf and flower, the trained eye will see the beautiful; the cultured ear will hear melody in the babbling brook and harmony in the sighing winds.

There are superb personalities that go through life extracting sunshine from what to others seems but darkness, seeing charm in apparent ugliness, discerning grace and exquisite proportions where the unloving eye sees but forbidding angles and distortion, and glimpsing the image of divinity where less beautiful souls see but lost and degraded human being.

Yet it is a heritage possible to all who will take the trouble to begin early in life to cultivate the finer qualities of the soul, the eye, and the heart.

It is said that the most disgusting object, if put under a magnifying glass of sufficient power, would reveal beauties undreamed of; so, even in the most unlovely environment, in the most cruel conditions, there is something of the beautiful and the hopeful, when viewed through the glass of a trained and disciplined mind.

A beautiful character will make poetry out of the prosiest life, bring sunshine into the darkest home, and develop beauty and grace amid the ugliest surroundings.

It is not circumstances, so much as the attitude and quality of the mind, that give happiness, contentment, and divinity of service.

\$100.00 Cash Prize for a Name.

For the new Daily Limited train to California to be placed in service November 1, 1902, by the Rock Island System and Southern Pacific Company, via the El Paso Short Line. The competition is open to the public and conditions involve no fees of any kind. For circular of instructions, address at once John Sebastian, Passenger Traffic Manager, Rock Island System, Chicago.

THE WEAR OF RUBBER BOOTS AND SHOES DEPENDS UPON THE RUBBER IN THEM.

There is absolutely no wear in any of the other ingredients of which they are composed. Every time the quality of Rubber Boots and Shoes is reduced 10 per cent., the durability is reduced over 20 per cent. because there is only one way to cheapen them, and that is to leave out Rubber and put in its place other things that have no wearing quality whatever. This cheapening process has been steadily going on for the past 40 years.

THE BUCKSKIN BRAND

OF RUBBER BOOTS AND SHOES are made of real rubber—and one pair of them will outwear two pairs of the standard first grades now on the market. Try a pair and be convinced. Made in Duck Boots, Duck rolled edge Overs for Socks, and Felt Boots and in Arctics and light rubber shoes. Insist on getting the BUCKSKIN BRAND. None genuine without the word BUCKSKIN on the top front of the legs of the boots and the bottoms of the shoes. If your dealer does not keep them write us and we will see that you get them either through some dealer in your town or from us direct. We will also send you a very interesting pamphlet profusely illustrated, which describes the making of Rubber Boots and Shoes from the gathering of the rubber to the finished goods.

MONARCH RUBBER CO., 560 Bittner St., ST. LOUIS, MO. NOT MADE BY A TRUST.



An actual test of a 3-inch strip cut from the sole of the Buckskin Boot. Note the elasticity and strength. Only the best Rubber will stand a test like this. Weight of boy and swing 110 lbs.

Furniture

The Largest and Most Complete Stock of Furniture, Carpets, and Stoves in Kansas at the Lowest Prices.

We Sell the Celebrated Buck Stoves and Ranges

FREIGHT PAID TO ANY POINT IN KANSAS.

EMAHIZER & MILLS Successors to GEO. W. MOFFETT, 533 Kansas Avenue, Topeka, Kans.

\$25.00 To California

and to Prescott, Phoenix, and many other points in Arizona.

On sale daily during September and October.

Liberal stopovers in California permitted on these tickets.

Tourist sleepers and free chair cars daily.

Personally conducted excursions tri-weekly.

If dissatisfied with your present condition why not investigate the splendid advantages offered in California.

Santa Fe

T. L. KING, Ticket Agent, Dep o. or T. M. JAMES, JR., 830 North Kansas Ave.

WHEN WRITING ADVERTISERS MENTION KANSAS FARMER.

Protection Against Plant Diseases and Insects.

PRESS BULLETIN NO. 85, OKLAHOMA EXPERIMENT STATION.

Plant diseases and insects are doing so much damage to the orchards and gardens in Oklahoma [and Kansas] that it has become necessary to protect the plants by some artificial means. The method of destroying the diseased and wormy fruit and foliage is of great value if persistently carried out. This can not be done in so thorough a manner, however, as to destroy all the diseases and insects present, and a few left over and those that will come from neighboring farms will produce a dangerous number next year. The cheapest and most practical method of protecting plants from diseases and insects is spraying. The ideal method is to spray thoroughly and then destroy all diseased fruit, leaves, and trash about the orchard and garden. Either method is good when used alone and the value of each is greatly increased when used together.

Spraying solutions are divided into two general classes. Those designed to prevent the attacks of fungus diseases are called fungicides, and those designed to destroy or prevent the attacks of insects are called insecticides.

FUNGICIDES.

Fungicides protect the plants by preventing the fungus diseases from gaining a foothold on the plants. The solutions are composed of materials that destroy the germinating spores where it comes in contact with them. The copper and sulphur compounds are the most effective materials used in these solutions. Most of the fungus diseases of plants that can be prevented by spraying reproduce by means of two kinds of spores. One kind of spore is produced in the spring and summer and germinates soon after maturity. If the spore finds lodgment on tender growing parts of the plant and a favorable amount of heat and moisture is present germination and growth immediately follow. If these spores do not soon germinate they lose their vitality. This process of germination, growth and fruiting goes on during the spring and summer. Late in the season another kind of spore is produced, which is capable of passing through the winter and germinating the following spring. The germinating spores send the roots directly into the tissue of the plant, unless it is a surface-growing fungus, in which case the roots spread over the surface of the plant. If the plants are covered with a good fungicide when the spores germinate the spores will be killed.

INSECTICIDES.

There are two general classes of insecticides. The first class of mixtures contains some poisonous substance that kills the insects when it is eaten with the foliage or fruit on which it has lodged. Paris green, London purple, and white hellebore are the poisonous materials most commonly used in these mixtures. These mixtures are effectual in destroying only those insects that eat the foliage or fruit of the plants, and are harmless to the insects that suck the juice of the plant.

The other class of insecticides kills the insect by coming in contact with the body. Kerosene emulsion, whale oil soap, and pyrethrum powder are the most common materials used in these mixtures. Mixtures of this class are used to destroy those insects that suck the juice of the plant and can not be destroyed with poisons. The poisonous insecticides may be mixed with fungicides and applied all in one spraying, but other insecticides must be applied separately.

NO HARM TO PLANTS.

The fungicides and insecticides, if properly prepared and applied, have no effect upon the plants. If the mixtures

are not correctly prepared and applied they do not form the desired protection to the plants and may damage the foliage and fruit. There is never enough poison on the well-sprayed fruits and plants to alter their value for food. Most fruits are pared before eating and all sediment of the spraying material removed. In the case of fruits that are not pared before eating, as grapes, a person would have to eat from 350 to 500 pounds to get a small dose of poison. It will always injure the sale of such fruits, however, if there are any signs of a spraying material on them when placed on the market.

SPRAY PUMPS.

There are several kinds of spray pumps on the market that can be purchased for \$3 to \$12 that will do all the work on the average farm. The best form of pump for the ordinary farm orchard is a compact, strong, barrel pump. It should have a good-sized air chamber and be capable of throwing a good quantity of water with great force. The working parts should be made of brass and if all parts of the pump that come in contact with the liquid are of brass the life of the pump will be greatly increased. Agitator attachments can be purchased as a part of the pump or as separate machines. These attachments are very convenient but are not necessary; the agitation of the liquid may be done with a board, by hand.

The pumps should be supplied with about fifteen or twenty feet of one-half or three-quarter inch rubber hose for each nozzle attached. A good length of hose will save a great deal of time and trouble about reaching all parts of the trees and vines.

THE NOZZLE.

The nozzle should make a fine spray and be able to throw it several feet. There are two well-defined groups of nozzles now in use. The first group forms the spray by forcing the liquid against an obstruction at the outlet of the nozzle. These nozzles throw a fan-shaped spray and most of them can be adjusted to throw a very fine spray or as coarse a spray as may be desired, or even a solid stream. These nozzles are easily opened and cleared of any clogging material that may lodge in them, by adjusting them to throw a solid stream. This form of nozzle is best adapted for general use.

The second group of nozzles gives the liquid a strong rotary motion just before it leaves the nozzle. This causes the liquid to form a funnel shaped spray. These nozzles form a very fine spray and for applying liquids that are not liable to clog are a very good form.

THOROUGH WORK.

The spraying must be well done if it is to be of any value. Slipshod work will never pay. It is just so much time and material used and still the plants are not protected. The liquid must be applied in the form of a very fine mist or spray. If the liquid is thrown on the plants in large drops it collects and runs off, but if thrown on in a fine mist the foliage and fruit can be wet on all sides and but little liquid reach the ground. The liquid must be applied from every direction so that all parts of the foliage and young shoots will be wet. If the top of the tree is very dense the nozzle should be held in the center and the spray thrown in every direction. The work can not be done in a hard wind. The side of the plant next to the wind will be washed and the opposite side show little signs of the spray. The greater the power applied to the pump the better the form of spray thrown by the nozzle.

SPRAYING A PREVENTIVE.

Spraying is a preventive and not a remedy. There are a few fungus diseases that can be destroyed by spraying but they can also be prevented by the same operation. The damage done by a disease or insect can be repaired only by the plant itself, and such work as can be done to protect it from further damage is about all that can be done for it. The spraying should be done early and the protection made complete before the diseases and insects appear. The first spraying should be done in the orchard, vineyard and berry patches just before the growth starts in the spring. The second application should be made ten days or two weeks after the first and the third about two weeks after the second. If the orchard or vines are badly infested a fourth application should be made about two

Secretary Coburn's Great Books.

SWINE HUSBANDRY.

A practical manual for the breeding, rearing, and management of swine with a chapter on swine diseases and their remedies.

A Book Without a Rival. The Standard Authority.

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ALFALFA.

Practical information on the production, qualities, worth, and uses of Alfalfa in the United States and Canada. No single crop has so much interest and value for the Kansas farmer.

Worth Many Times Its Cost. Cloth Bound, Postpaid 50 Cents.

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weeks after the third. If an application is followed immediately by a hard rain the application should be repeated as soon as possible. If this plan is followed and the work well done with properly prepared mixtures there will seldom be any need of further attention in this direction during the season. The solutions used in these sprayings should be a combined fungicide and insecticide, preferably Bordeaux mixture and Paris green. If the above directions are followed they will meet the requirements for preventing about 90 per cent of the common tungus diseases and insect pests. There have been a great many spraying calendars published giving long lists of diseases and insects with specific directions for preventing each one. A careful examination of these calendars shows that a large majority of the treatments recommended are covered by those given above.

PREPARATIONS.

The Bordeaux and Paris green mixture is prepared as follows: Dissolve 4 pounds of copper sulphate (blue vitrol) in 2 or 3 gallons of water by placing the sulphate in a sack and suspending in the top of a jar or tub of water. Do not put this in tin or iron vessels as it will rapidly dissolve them. Before mixing dilute this to about 20 gallons. Slake 4 pounds of fresh lime by adding a small amount of water and after slaking is finished add about 20 gallons of water. Stir the lime and water thoroughly and strain before mixing. Pour these two solutions into the barrel or tank at the same time and stir vigorously while mixing. This may be diluted to 50 gallons and is the Bordeaux mixture. Make about one-fourth of a pound of Paris green into a thick paste with water and then add it to the Bordeaux mixture and stir thoroughly and the mixture is ready for use.

Suggestions to the Kansas Legislature.

EDITOR KANSAS FARMER:—Kansas contains just 107 counties. There is probably an average of ten townships to a county, and eight or ten school districts to a township, making 107 counties, 1070 townships and say 10,000 school districts in the State. She has one of the best State Agricultural Colleges, and the best State Board of Agriculture of any of the States. Her colleges and agricultural experiment stations, are doing as much for the education and benefit of her farmers, as those of any State. Her Agricultural College will soon be able to turn out a thousand graduates in a single year, men and women who are equipped with the most scientific discoveries and developments, for the benefit of the farming interests, both in the kitchen and in the field. Now, why not have one of the graduates of the State association as a superintendent of agriculture in every county in the State, one in every township as a township superintendent, and one as a superintendent of agriculture in every school district. Let each of these superintendents have an experimental farm in the district he superintends. These experiment stations should all be equipped with apparatus for taking the temperature of the atmosphere, four or more times in each twenty-four hours, the rainfall, the changes and velocity of the wind, so that the superintendent in each school district can keep the farmers posted as to everything going on in the State that it is for their interest to know. By an analysis of the different soils in the school districts, a record of the atmospheric changes, the rainfall, and a statement of the different systems of farming, it would soon be learned what was best suited to each farm in the State.

Another matter of interest. There are elevations on every farm in the State, where, at a moderate expense, a farmer could build a dam or scrape out a place, varying in size, for a pond of permanent water, or a small lake where

surplus water could be stored, which if not suitable for irrigating the soil, would, by evaporation, saturate the atmosphere with moisture, which would greatly increase the rainfall.

Again, let every farmer in the State set out forest trees about these points and wherever they can to shade the ground and prevent or check the high and hot winds, and in this way conserve and greatly increase the growth of vegetation. By such cooperation, we could, in a few years, make Kansas a veritable forest of trees, lakes, orchards, and gardens. This suggestion put in operation, together with Campbell's system of cultivating the soil, would develop the most practical system of irrigation and profitable farming of any country in the world. On my ranch at Medicine Lodge, I would like to start a township or a county experiment station of that kind. (Dr.) E. P. MILLER. Medicine Lodge, Barber County.

Oil Cure for Cancer.

Dr. D. M. Bye Co., the eminent Cancer Specialists, have cured hundreds of cases with their wonderful Combination of Oils, originated and perfected by them. It is no experiment, but the result of 30 years' experience. Now in successful use eight years. Convincing evidence set forth in their new book which can be had for the asking. Address Drawer 505, Indianapolis, Ind.

Deafness Can Not Be Cured

By local applications, as they can not reach the diseased portion of the ear. There is only one way to cure Deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that can not be cured by Hall's Catarrh Cure. Send for circulars, free.

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

Advertising Facts.

A little booklet has come to hand which is one of the handsomest things of its kind ever published, showing reproductions both in black and white and colors, of advertising placed by Lord & Thomas, the famous advertising agency of Chicago, for their various clients, many of whose products have become household necessities throughout the country. The booklet is of particular interest because of the character of the work shown, and will prove of great interest to anyone who advertises, but by far more interesting and startling are letters given therein from each of the Chicago papers, showing that the Lord & Thomas Agency placed more advertising in their own city than any other firm. The remarkable growth of this house is the greatest testimonial yet given advanced advertising methods.

New Use for Refined Paraffine Wax.

A new and important use for refined paraffine wax seems to have been discovered by a prominent resident of Ohio, living near Lancaster, who had two trees badly damaged by storm, one being a maple and the other an apple. In each case a large limb was broken down from the trunk, but still attached to it. The limbs were propped up and fastened securely with straps, very much as a broken leg might be fastened with splints, and then melted refined wax poured into and over on the cracks. The "surgical operation" was entirely successful. The paraffine prevented the escape of the sap, kept out the rain, prevented the depredations of insects, and the limbs seem thus far to be perfectly re-attached to the trees.

Getting Double Profit.

Are you getting double profit from your corn crop? With the increasing demand for fat cattle, it behooves every corn-grower to utilize the entire crop, ears, stalks, and all. Shredded fodder is an excellent feed for cattle, and is in high favor wherever tried. On page 966 of this issue we show a farmer who is getting double profit from his corn crop, and readers of Kansas Farmer should write for "King Corn," a profusely illustrated booklet which contains full particulars as to the best methods of securing double profit from the corn crop.

THE SHARPLES SEPARATOR,

with Tubular bowl, is guaranteed to yield the farmer a 6% greater profit on his investment than any other separator will yield.

It gets more and better cream.
It makes more and better butter.
It takes less time and labor.
It turns more easily and cleans more easily.
It requires less oil and fewer repairs.



all because it is so simple in construction and so perfectly made. Get free catalogue No. 165 SHARPLES CO., West Chester, Pa. P. M. SHARPLES, Chicago, Ill.

You can have a Sharple's before you pay for it.

In the Dairy.

Conducted by D. H. Otis, Professor of Dairy Husbandry, Kansas Experiment Station, Manhattan, Kans., to whom all correspondence with this department should be addressed.

Shall Dairymen Raise Heifers?

J. W. WHITE.

To those engaged in dairying, the question of raising the heifer calf often presents itself, and is often decided to the detriment to the dairy interests. Some contend that they have enough to do without bothering with the calves, and either dispose of them immediately, or keep them just long enough to return a small sum when sold for veal. Others claim that they can purchase milch cows for less money than it costs to rear their own calves to a profitable age.

The profitable cow must be of a dairy type, or a near approach to it, and to secure such an animal, it is necessary to use a sire of known dairy ancestry, followed by a careful selection of heifers of his get from the best cows in the herd.

Another very desirable quality of a dairy cow is a gentle disposition and ease of handling, which can be best secured through hand rearing accomplished by kind treatment at all times, and it is the skim-milk calf on the dairy farm that is most apt to receive such treatment.

It is a well established fact that the milk producing capacity of a cow, depends upon the care and feed she has received during her early life. To develop capacity the young animal should not be fed too much fat-forming food, but should rather be provided with such material as will develop good constitution accomplished with a large digestive system. These qualities can best be developed at the dairy farm, where skim-milk furnishes a cheap and desirable feed to use in the early stages of the process, to be followed by such other feeds as the dairyman has found to be most valuable for his older animals.

The hard-working dairyman might well stop and consider if it is not better to keep less cows and devote more time to the rearing of his choicest heifers upon the skim-milk and other cheap foods that tend to develop a more desirable cow for his future use.

The question of the cost of rearing a heifer to a profitable period, as compared with the price paid for a cow of same age and quality has not received as much attention at the importance of the subject merits. Data are given in Hoard's Dairyman, of May 1, 1896, upon the cost of keeping a heifer to the age of two and a half years at which time she would be expected to be producing enough to pay for her expenses, and perhaps be returning some profits. It is based upon the value of food consumed, and at prices then prevailing in the Eastern states, it would cost \$25.00 to raise a dairy type heifer to the productive age, which was assumed to be at two and a half years. But as all feeds are higher there than in the west, it is safe to estimate the cost in ordinary years to be about \$20.00. Many dairy-men aim to have the cow drop her first calf at two years, so the cost up to a productive age might be a little less than \$20.00.

It is not often possible to buy a good young cow for \$20.00, so the item of cost is in favor of the home-reared calf; while the profitable returns are still more favorable for the home-grown cow as she is accustomed to her surroundings, and will not be so liable to injury from the changes that are necessary in the case of the purchased one.

It is evident that if we have a herd of good dairy animals, the cheapest and surest method of keeping up quality, is to rear the best heifer calves to take the place of those cows that from time to time are obliged to retire from active

service, while if our purpose is to build up a good-dairy from common cows, the only possible method that will be a success is to raise the selected heifers from the best cows bred to a dairy sire.

Cleanliness in Milking.

In his dealings with his tools, his sheep, his horses, and himself, the farmer is usually careful in respect to cleanliness. He cleans up his tools as a matter of habit. He allows the sheep to follow the inbred laws of cleanliness. He carries his horses, and regularly cleans out their stalls. He washes his own hands as far as the wristband, and his face and neck as far down as the collar button.

When he comes to milk the cows and feed the hogs and the poultry, it is lamentably different. This is sad; for it is known that disease germs revel in filth.

If you have been an observer, you have seen him sit down to milk, and spend several minutes in picking off dried scales of filth from the teats and udder, so that he could get a "clean hold." When the filth is not yet fully dry it becomes necessary for him to wipe the udder dry with a wisp of hay. The result of this performance may be seen by looking into the strainer after the milk has passed through it. Now and then you will find a man who has climbed up the ladder of civilization a few steps, and who, going into his dairy barn in the morning when the very air is reeking with the steamy odors of the filth in the gutter behind the cows, steps carefully over and washes the udder of the cow with water that he has brought in the milk pail. After this he drains into the gutter, among the other liquids, whatever water may have been left over or dripped back from the washing process. Then he milks, and the creamy whiteness of the foam in the pail is accentuated by the greenish drops that exude from the interstices between his fingers, and drop, one by one, into the foaming milk pail.

Were he more civilized he would first remove all the droppings from the udder and wheel it away to the compost heap, far out into the barn yard; and, then, before beginning to milk, wash the udder and dry it with a clean cloth. The next step is to turn the hose on the cement floor of the gutter and wash away all the filth remaining, and all the smell of it.

Does some one suggest that country barn-yards and cow-lots have no such fixture? Probably they do not, but the chances are that they have acres of clean grassy sod, where the cows can be milked without the necessity of "cleaning up." The aeration of the milk, which follows, which must follow, will then be of more service: for the "cowey" smell of the milk can then have room to blow away.

Having safely come so far, that part of the milk to be sold is in fairly good shape, if it not kept in cans too tightly closed before it reaches the customers. That portion intended for the use of the family is still in danger of being mistreated: for the ignorant farm hand may take it down in some cellar that is poorly ventilated and set it down in uncovered pans where the smells coming from rotting cabbage and turnips will seek for a hiding place in the very best absorbant to be found. As an absorbant, a pile of damp corn cobs is not half so efficient as good, sweet, fresh milk. Foul smells from decaying roots in the cellar are not intended to odorize milk. Their use in the work is to escape up the cellar stairs into the sitting room, the closely shut parlors, the dining room, and the bed rooms, so as to produce disease by "some mysterious dispensation of Providence."

To speak of cleanliness in the hog pen and the hen house would demand more space than is allowed for this article.—The Prairie Farmer.

Standard Milk and Cream.
SUMMARY OF BULLETIN NO. 74, FROM THE ILLINOIS AGRICULTURAL EXPERIMENT STATION.

Half of the milk produced in Illinois is sold by weight or measure without regard to its composition or food value. Milk containing a high per cent of fat is not only worth more for food, but it costs more to produce than milk containing a low per cent of fat and its price should be governed by its food-values and not by its bulk.

By standard milk and cream is meant that which has been brought to a certain known composition thus establishing a true basis for valuation. Nearly all milk used for direct consumption is sold by measure alone regardless of its food value.

Frequently one quart of milk contains twice the food value of another, yet both sell for the same price. No other commodity is bought and sold with such disregard of its food value. All milk should be sold according to its composition, and milk intended for direct consumption should be standardized, not only that its exact composition may be known but also that definite commercial grades of milk may be established with corresponding values.

Since fat in milk is the most valuable constituent, the other solids remaining fairly constant, standardizing is a comparatively simple matter. All that is necessary is to add or remove a certain amount of butter fat.

A law requiring the standardization of milk and cream sold for direct consumption, would result in justice to both seller and buyer.

Such a system would be no more difficult to control than the present one of minimum limits.

Milk for direct consumption should not only have a standard of values but of cleanliness as well and should be produced under rigid inspection.

No subject is of more consequence to the people for the standard point of both economy and health, than that

DE LAVAL CREAM SEPARATORS

For twenty years the World's Standard
Send for free catalogue.
The De Laval Separator Co., 74 Cortlandt St., N. Y.

milk should be produced under rigid inspection laws. Such a system would be of as much advantage to the better class of dairymen, as to the consumer.

Drying Off Cows.

S. M. TRACY, IN FARMERS' BULLETIN, NO. 151.

The cow should "go dry" a month or six weeks before she is expected to calve. Some cows are such persistent milkers that it is impossible to dry them off; but such cases are rare, and can usually be prevented if the young cow has the right treatment after her first calf. If she does not show a strong inclination to go dry when within two months of the time she is expected to drop a calf, her feed should be made as light as will keep her in fair flesh, she should be given little or no grain feed, and the milking should be done less thoroughly. Occasionally a cow will be found which will persist in giving milk through the entire gestation period, and in such cases the only thing to be done during the last month is to milk her sufficiently to prevent the udder from becoming caked or inflamed.

(Continued on page 979.)

BUTTER MAKERS
make better butter and more butter by using the
KNEELAND OMEGA CREAM SEPARATOR
simple, cheap, efficient. Easily cleaned. Free from repairs. Guaranteed to suit or money back. Send for Free book, "Good Butter and How to Make it." The Kneeland Omega Creamery Co., 26 Concord St., Lansing, Mich.



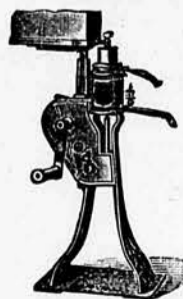
- Are you milking any cows?**
- Are you hauling milk to a skimming-station?**
- Are you making butter?**
- Are you patronizing a cheese factory?**
- Are you perfectly satisfied with your present market?**
- Did you get as much in August as we paid?**
- Are you getting as much now as we pay?**
- Do you want all you can get?**
- Are you within 500 miles of St. Joe?**
- Are you hunting the best market in the West?**

Write to the "Pioneers" of the system that pays the highest price

Blue Valley Creamery Co.,
St. Joseph, Mo.

WHY DO PROGRESSIVE DAIRYMEN BUY THE U. S. SEPARATOR?

Because they know that they will have one then that possesses more of the qualities that go to make up a perfect cream separator than any other make.



That the U. S. Skims Cleaner is an established fact, it having proved its superiority in this point at the Pan-American Model Dairy, where it made the **World's Record** of .0138 for an average of 50 consecutive runs, which has never been equalled by any other make of separator in the world.

That the U. S. is more durable is being shown daily in dairies all over the country by those who have used other makes, but who are now using the U. S.

That the U. S. is more simple is easily seen by everyone who has eyes.

That the U. S. is the safest, with its gears all enclosed, everyone can understand.

That the U. S. is easy to operate is testified to by its users.

For more reasons and copies of letters from hundreds of users certifying to the truth of the above statements, write for our special Dairy Separator catalogue.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

The Poultry Yard.

Three Hundred Hens.

The pullets were pure line-bred, high-class Brown Leghorns, hatched during the last half of April, and selected October 15 from about 600. First, all undersized and otherwise objectionable specimens were quickly discarded. Then about 200 of the choicest, highest-scoring birds were picked out to reserve for breeding, exhibition and sale. Then 300 of the largest left, all choice, healthy, well-matured birds were promptly dubbed of three-fourths of comb and wattles, a dash of alum water applied to prevent excessive bleeding, and there was no loss. Next day they were put into their permanent homes in flocks of fifty each, with no males, and with free range; the houses were about forty rods apart, and placed by running water. An egg-stimulating diet was started as soon as combs were fully healed, and by November 1, plenty of eggs were coming in. The actual cost to this point was, probably not over forty cents per head, but as they possessed a selling value of fifty cents each, I have figured them so in the account of this lot, November 1. From that date, all eggs, were credited at actual price received, which was five cents more than market quotations, and food charged at cost.

WINTER QUARTERS.

On the first fall of snow, after the ground was frozen, the houses were drawn to winter quarters, a warm sheltered location between hills, and were placed not more than two rods from each other, facing the South as before. Six inches of dry gravel was then put in the floor of each house, which was rather small for fifty fowls, and would hardly do for larger breeds, being only ten by fifteen feet; but all of it was clear for scratching, and the fowls were allowed to go out all winter on mild days whenever there was bare ground.

WINTER FEEDING.

From December 1 to March 15, the very first thing done for the hens in the morning was, before daylight, after the fire was started under the cooker, to give them an eight-quart pail of mixed grains, such as the coarse part of sifted cracked corn, wheat, buckwheat, oats and barley, which was scattered into the straw and chaff which covered the floors on top of the gravel. Immediately after this the drinking fountains were partly filled with warm water, using two pailfuls in all. All this took but about twenty minutes and the man attended to the fire as well. We considered this a very important part of the care, as it brought the hens into exercise as soon as they came off the roosts, instead of moping around, cold and hungry, while waiting for a warm breakfast, and gorging themselves with the same; then drinking excessively as is always the case when the hot mash is the first thing given. They will scratch vigorously for the meager morning allowance, drink and scratch again, until the last kernel has been found. Meantime the hot mash is being properly prepared, and the attendant has his own breakfast. The regular morning mash consists of mixed ground grains of all kinds fed to poultry, and cooked vegetables of some kind. There was no fixed rule, but varied so that no consecutive meals were exactly alike, except in the matter of potatoes, which were always our staple. We used the small ones, which ranged in price from fifteen to twenty-five cents per bushel, always washed clean and boiled or steamed until just done, then immediately mashed, adding at the same time the grains which were previously mixed, salted and peppered, and meat scrap; egg food, sulphur, etc., added as being fed at the time. We used sulphur once in two weeks, three pounds for 300 hens; cayenne pepper daily, which we bought in bulk at thirty-eight cents per pound pure; beef scraps quite freely, say twelve quarts for 300 hens, except on mornings when fresh beef was fed, which was twice a week.

THE MIXING.

As potatoes are mashed, which is best done in a long box with a hoe, add just what grain the steam and moisture will wet up, and when through, leave in one end of box covered over about half an hour. The grain will cook and swell some in that time, and a small amount of bran or meal will be needed to bring to the crumbly, dry state desirable for feeding, and should be added only as fast as used. We never feed quite all that would be eaten, and gave it in V-shaped troughs on the floor, and they were hung upon nails on the sides of the houses after using. Twice a week, for all our laying stock, beef heads

boiled until the meat fell off from bones, and meat and liquor well mixed in were added to our mash. We also added chopped onions often, and skim-milk nearly every two days, though we fed the latter mostly to our growing stock, not having all we wanted to go around. There is no stock that pays better than poultry to feed milk to.

GREEN FOOD.

The next thing done was to give the daily allowance of green food, usually two or three small loose cabbages to each house, suspended about two feet from the floor. A light sprinkling of plaster was put over droppings on platform, under roosts which were cleaned off entirely once a week, and kerosene oil poured over roosts and bearings, the roosts inverted. Old litter on floor was removed weekly, and replaced by fresh about six inches deep, small amounts of chaff, however, being put in nearly every two days, and one bushel of fresh gravel dumped on each floor weekly. Oyster shell, grit, and crushed bone were kept constantly in a box on the side wall. The hens found all the dusting places they wanted in the corners and all along the sides. At noon, drinking fountains were replenished with warm water, and mixed whole small grains scattered into litter all over floor. At roosting time, what whole corn would be readily eaten was given in the troughs, and eggs were gathered, drinking fountains emptied, and shutters closed. We did not have a sick or drooping hen in this lot, even with the high-feed egg-forging, but that was due to strong, perfectly healthy stock, and cleanliness in keeping, as well as preventive measures taken. Douglas Mixture, as well as asafetida, was often used in the drinking water, and the food was all good. The pullets in coming to winter quarters were nearly all laying, and were kept at it through the cold weather by the exercise and internal heat with stimulating as well as nutritious, egg-making diet. No artificial heat was used, but plenty of sunlight through the glass in south side of houses; they were kept warm at night, also, by closed shutters over all glass and door, and also closed ventilators in severe weather.

TO THE RANGE AGAIN.

Early in March, the houses were placed far apart again, by running water and free range. Being non-sitters, the hens laid quite well all through spring and summer, getting insect food after May 1, and by August being about ready to let up for a rest and early moult. We quickly fattened and dressed them, having young stock that needed the quarters, and not considering these birds so forced desirable to keep longer. They had given us an average of 186 eggs each in nine months, and probably would not have run it up to more than 220 at best in the next three months. They came to the block in good time for mountain hotel trade, and were really as good as spring chickens, being plump and tender, three and one-half pounds each, and brought us eighteen cents per pound.

COST AND RETURNS.

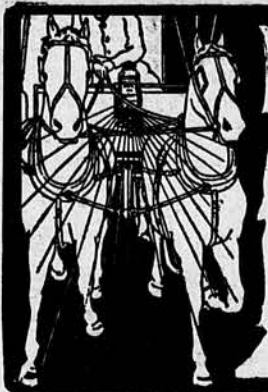
So we have the following summary statement:

Dr.	
To 300 pullets, Nov. 1, 6 mo. old at 50c.....	\$ 150
To feed 9 1/2 mos., cost per hen, \$1.75.....	525
To care 290 days at 40c.....	116
To balance, profit.....	700
	\$1,491

Cr.	
By 186 eggs, 1 1/2 doz. per hen, average price, 28c, \$4.34 per hen, 300 hens.....	\$1,302
By 1,050 lbs. poultry dressed at 18c.....	189
	\$1,491

Average profit per hen 9 1/2 months, \$2.33 1-3. No credit was given for droppings worth, probably, twenty-five cents per hen, but they are considered as an offset against our personal supervision of care, etc. The same man worked fifteen years for us at fifteen dollars per month and board. The time he used on the 300 represented only about one-fourth of his labor, so forty cents per day more than covers that item. I do not consider \$2.33 per hen by any means the limit of profit, as much better may be done with smaller flocks, I having once cleared over fifty dollars on twelve Light Brahmas in twelve months, by raising only two broods of chicks, and much better still with five Langshans.—Vick's Family Magazine.

\$23.30 Chicago to New York and Return via Nickel Plate Road, on October 3, 4, 5, and 6, with return limit leaving New York October 14, 1902. Three trains daily, at convenient hours. Vestibuled sleeping cars, American Club Meals, ranging in price from 35 cents to \$1.00, served in dining-cars en Nickel Plate Road; also meals a la carte. Chicago depot, Harrison St. and 5th Ave. City Ticket Office 111 Adams St. Phone Central 2657. Write John Y. Calahan, General Agent, 113 Adams St., Chicago, for particulars. (No. 51)



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A. H. DUFF, Laredo, Kans.

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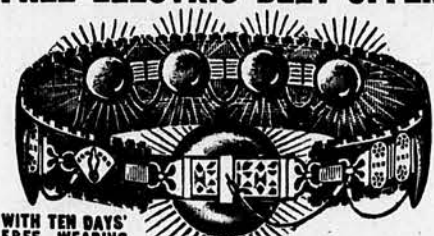


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Grange Department.

"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

The Grange Press.

Albert M. Cornell, lecturer of the Pennsylvania State Grange, in an article published in the Farmers' Friend urges that the Grange press be not neglected. In part he says: "It is pleasing to read of those things one is interested in, and by reading of such often one becomes more interested, as they come to have more knowledge of such subjects, as are especially adapted to their desires, so it becomes apparent that one should strive to select such topics to inform and interest themselves in as may be of greater usefulness to themselves and those with whom they may associate, therefore it is at once seen the importance the Grange press is to not only the individual Patron, but to the general welfare and progress of the order.

"Some one has recently said: 'Reading makes a full man, writing an accurate man, and speaking a ready man.' These are three essential points that the Grange is so well qualified to develop among our people, and the second and third are two that farmers in the past have been deficient in and doubtless is one of the causes why those of other callings have been more largely called or chosen to fill public positions of trust.

"A store house may be filled with treasure, and so long as the key is turned it is of no benefit, but loose the lock and make the contents available then results appear, thus with the mind, ever fill it full of good and valuable matter, then make it available and not like the store house, but the more that is given unto others the greater the amount retained.

"It is the intention at this time to call attention of all fellow State officers to what we believe to be of importance for the 'good of the order,' namely: Strive to do more for the Grange press.

"You have all attended those good Grange meetings where the work all seemed to move on not in a set, mechanical way, but seemed to flow as it were, from the hearts of the members, come spontaneous without special effort. So let the communications come to the Grange press that we all may have one of those good meetings each week 'on paper.'

"Kindly consider this a personal invitation from the lecturer to contribute a few of your good thoughts for publication for the 'good of the order' at least once a month.

"Let us make the Grange press what it should be and all will move on to a greater degree of success than now exists. It can be done easily, but not by one nor by every one waiting for the other to act first, but by all acting in concert. That word 'all' is a very important 'quantity' in matters pertaining to cooperation, in all the various forms we find the principles at work at the present time and what our people have suffered that we could not have learned more of its value years ago and only now we can catch but a slight beam of light as compared to the bright radiance of the future, that may yet be brought about through organization, education, and cooperation.

"Do not neglect the Grange press."

How to Make Literature Most Effective in the Grange.

Literature is the record of intellectual achievements and includes all human knowledge unless it be the exact sciences. The world's storehouse of thought and knowledge is freely open to every human being whom the Creator has endowed with mental capacity. Experience proves, however, that in order that literature may be made effective in the Grange, or anywhere else, it must be pursued along well-defined lines and according to some well-devised system.

To read or study loosely, or in a general way, will always result in small profit as compared with what is possible. The world is full of books, and

life is too short to permit one to read any considerable part of them.

The primary injunction of the Grange is towards concentrated effort, and nowhere is this feature of our order more necessary than in the field of literature. Wise choice is, therefore, of first importance. The degree to which literature may be made effective in the Grange depends in large measure upon the lecturer, not only upon his culture, but upon his tact as well. The office of Grange lecturer is not a sinecure. The lecturer should study his flock, become acquainted with their tastes and measure the ability of each member.

In many of our subordinate granges are college-bred men and women, in a larger number are men and women who have had superior advantages; these should in all cases be drafted for the position of lecturer. These have been over the road and are supposed to have found the key to a successful quest in the field of literature.

"The destruction of the poor is their poverty," and "to him that hath shall be given," is applicable in this connection. The first requisite in a search for knowledge, is a knowledge of the sources of information.

It is not only the province, but the duty of the lecturer in the assignment of work or topics, to suggest the literature bearing on that topic. The sun's rays diffused over the earth create warmth and light, but the same rays focalized by the aid of a sun glass and directed steadily upon a given point results in fire, so to wander aimlessly in the field of literature may prove delightful, but, save for recreation, will not be as valuable nor effective as a systematic study.

This much for the strenuous side of my topic. But "all work and no play makes Jack a dull boy," and the call of the lecturer must not always be a call to work. Music has its literature, the play has a literature, and the strains of music and the sounds of mirth should be often heard in the Grange hall.

The hope of our order lies in the young men and women of the farm. Yea, in the children, and the Grange hall should be an attractive place to be. It is a safe place for the young and it must be an inviting as well as a profitable place. Each program should carry something of value, but do not expect the young to work all the time; even we who are older tire of constant work, while if it is required the young will be driven away.

If a straw can tickle a man (or a boy) it is an instrument of happiness. I was impressed with this at a recent field meeting where the State master had spoken at some length without monopolizing general attention. A song was announced under the name and style of "My Father's Comical Mule;" at the conclusion of the first stanza by a male quartette, the large audience of two thousand pressed to the stand, and boys, girls, young women with their beaus, middle-aged people, and even old men were standing with mouths agape to drink in not only the fine melody, but the ridiculous words as well. The literature of the song could not be said to be of a high order, but it was tremendously effective, so much so, that the mass of humanity was only relieved by the announcement that a learned judge would be the next speaker.

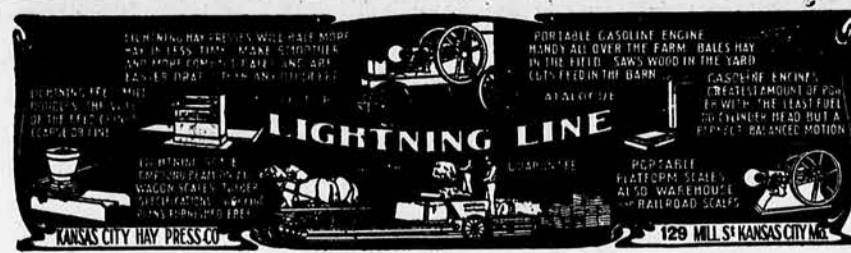
"Variety is the spice of life," and farmers enjoy it as well as anybody. This is written on the wing and without seeing Bro. Mendenhall's article which it is intended to discuss, and so is as a venture, but I can not close without an injunction to Patrons everywhere to remember that if literature is to be made effective in the Grange we must make use of Grange literature.

The Bulletin is adding to our literature in every issue and deserves the support of every loyal Patron; other papers carry Grange departments and bring to us rich stores each week. As a result of all this effort our order is building up, slowly it may be, but up, and our banner is being carried forward to victory.—F. A. Derthick, Master Ohio State Grange, in Grange Bulletin.

The School not All.

President Schurman of Cornell University, did the cause of education a real service at the Minneapolis meeting of the National Educational Association, by emphasizing the fact that the school is only one—though a very important one—of the educational institutions of the country. There is a tendency among school men, to overestimate their own importance in the educational field. They are very likely to forget that other educational forces have great influence in making the educated man what he is.

"School," said President Schurman,



"is generally looked upon as the sole instrument of education. My opinion on the other hand, is that the function of the school must be supplemented by other influences—church, society, political affiliations, and all great human institutions. These influences cooperate with the function of the school in the dissemination of knowledge and the education of youth."

In the country, the Grange is one of the great educating influences. Let any competent persons compare two agricultural communities, in one of which an active Grange has existed for a dozen or more years, the other during the same time having been without a Grange or other organization and then answer if there is not a striking difference in the people of the two communities. One will show the narrowing influence of isolation and the lack of culture which is the mark of isolation. The other will show superior intelligence and familiarity with present-day affairs. One will be found to be a backwoods neighborhood, the other wide-awake and progressive.—American Grange Bulletin.

The Kansas State Grange.

The thirty-first annual meeting of the Kansas State Grange will be held at Lyndon, Osage County, Kansas, commencing the second Tuesday in December, 1902.

The membership of this meeting is composed of delegates elected in accordance with art. 2 of the constitution of the Kansas State Grange.

ARTICLE II.

Section 1. The legislative part of the State Grange shall be composed of delegates as shall be elected annually, as provided in Section 2.

Section 2. Each Grange shall elect one delegate at large, and one additional delegate for each twenty members or fractional part thereof equal to fifteen, at the first regular meeting in September, who shall meet on the third Saturday in October, at the county seat, or such place as may be designated, and elect from the Fourth Degree members of said county, one delegate at large, and one alternate. Provided, said county has one Grange in good standing on the books of the State Grange, and also one additional delegate and one alternate for each three hundred (300) members in the county, or fractional part equal to one hundred and fifty (150). Provided, there be only one Grange in the county, in which case the Grange may elect the delegates direct.

Section 3. The membership in each county shall be determined by the Secretary of the State Grange, who shall report the same to the Deputy in each county, or, where there is no Deputy, to the Master of the senior Grange in the county.

Deafness Can Not Be Cured

By local applications, as they can not reach the diseased portion of the ear. There is only one way to cure Deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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bargain you ever saw or heard of, pay the railroad agent OUR SPECIAL OFFER PRICE, \$11.12 and freight charges, less the \$1.00 sent with order, (or \$10.12 and freight charges.) This stove is made in our own foundry near St. Louis, and shipped direct from foundry. The freight will be about 50 cents per 100 miles. This stove is size 8-18; the oven is 18x16x10x4; top is 36x23; height, 28 1/2 inches. Made from the very best pig iron. Very large flues, cut tops, heavy cut centers supported by posts, heavy covers, heavy linings, large bailed ash pan, slide hearth plate, nicked outside oven shelf, combination pouch and boiler door feed, oven door kicker, nickel plated panel on oven door and front door, nickel plated door knobs, aluminum lined oven doors. The Acme Marvel is furnished with a lifter, scraper and shaker for removing the ashes from under oven, fitted with a large porcelain lined reservoir, furnished on a handsome Rococo pattern base, beautifully nickel trimmed, one of the handsomest stoves made. Burns anything, coal, coke or wood, anything used for fuel. Every stove is covered by our binding guarantee and safe delivery guaranteed. Always state which kind of fuel you wish to burn. The Acme Marvel made in our own foundry from the best material money can buy, by the most skilled mechanics, and our \$11.12 price is less than dealers pay at wholesale. Order at once. Write for Free Store Catalogue. Address, SEARS, ROEBUCK & CO., CHICAGO, ILL.

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Drying off Cows.

(Continued from page 976.)

Any milking during that month, beyond what is absolutely necessary for the health of the cow, causes a strain on the vitality of the calf, is encouraging a bad tendency, and should be avoided.

Dairy Notes.

The average New York market for the week ending September 27 was 22 3/4 cents.

There is no question about it. The best and most paying business to which a young man is called today in Kansas is the dairy business.

The butter business is now an established one, wholly in the hands of the dairyman. There is no longer any danger by the fraud of olio manufacture.

The question of a market for your butter is settled. Now the question of quality will wholly govern the price.

Every farmer with a hand separator owes it to himself and the State to keep his cream in good, clean and as wholesome condition as possible before delivery to the creamery.

The farmer who tries to reduce the expenses of his dairy past the limit of prudence; who underfeeds; who tries to save in poor and cheap shelter; who makes few cream deliveries or who has not a separator; who tries to save time and hurriedly cleans his utensils; is the enemy to his profession.

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We have hundreds of similar testimonials of cures in desperate cases from grateful patients who have tried many cure-alls, doctors' treatment, and different methods of operation without relief.

Ninety per cent of the people we treat come to us from one telling the other. You can have a trial sample mailed free by writing us full particulars of your case.

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Located in the Indian Territory, for which titles can pass. Consisting of 80-, 160-, and 200-acre tracts convenient to railroads. Good farming land—some in cultivation. Prices from \$11 to \$20 per acre. Address

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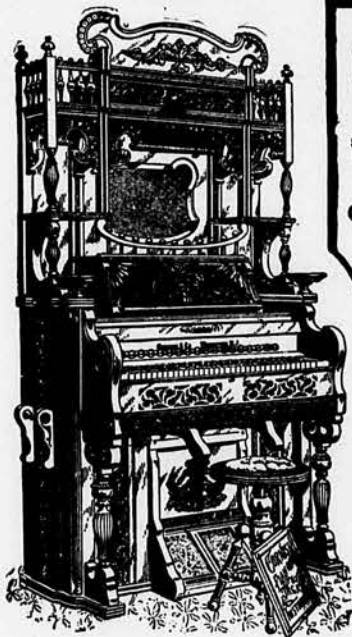
An Opening for Young Men.

There is no business in Kansas or the whole country which offers better chances for money making to the young man than the dairy business. With cheap feed and the very highest prices for butter, there is a splendid chance for a young man with a little capital and some energy to make a good sum of money every year.

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You have the grit and the cows. We have the money for your cream. We trade on the basis of the New York market, the highest and most stable in the country. We are paying two and one-half cents below that market for butter-fat in cream and milk delivered at our stations, less actual cost of running the station.

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When you buy a Cornish Organ on the Cornish Plan you receive an organ—exquisite in tone, of beautiful design and finish, and of finest action—at factory price without dealers' profits added, and you buy it with the clear proviso that if you are not satisfied after 12 months' trial we will take it back and refund every cent you have paid out for organ or freight with interest at six per cent.

CORNISH CO., Washington, New Jersey.

NATIONAL ENCAMPMENT G. A. R. Washington, D. C., \$26.75 and Return SANTA FE. Tickets on sale October 2d to 5th inclusive, good returning October 14th, except by depositing ticket, it can be extended to leave Washington as late as November 3d. Liberal stop-over privileges allowed. Special Kansas Train For the benefit of old soldiers and their friends will leave Topeka 4.30 p. m. Thursday, October 2d and will run through to Washington without change via the Santa Fe to Chicago, Big Four to Cincinnati, and Chesapeake & Ohio to Washington. This train will be composed of the finest equipment, consisting of free chair cars, tourist and standard sleepers, double berth in tourist sleepers from Topeka to Washington only \$3. A stop of two hours will be made in Indianapolis to enable old soldiers to visit the soldiers' and sailors' monument.

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Special Want Column.

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

CATTLE.

FOR SALE—Two good Shorthorn bulls. Sim Bros., Wakarusa, Kans.

FOR SALE—A. J. C. C. Jerseys. Male calf, a great grandson of the great Pedro, out of a granddaughter of Pedro's Royal Marjoram, second dam a granddaughter of Pedro. Heifer calf, a granddaughter of Exile of St. Lambert, out of a granddaughter of Pedro. Heifer calf of Pedro and Combination blood and yearling heifer by a grandson of Pedro. Four-year-old cow of St. Lambert-Laudseer blood due December 31 to a grandson of the great Exile of St. Lambert. Three-year-old cow sired by a strongly bred Combination bull. All solid fawns. Geo. W. Maffet, Lawrence, Kans.

FOR SALE—My herd bull, Baron Knight 134946, got by Gallant Knight 124488, four years old, dark red, weight 2,200 pounds; also four Scotch-topped bulls from eight to twelve months old; all red. I also have a few cows and heifers for sale, and a fine lot of Light Brahma cockerels. J. P. Engle, Alden, Rice Co., Kans.

FOR SALE—2 double standard Polled Durham bulls and 3 Shorthorn bulls. A. L. West, Garnett, Kans.

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

FIVE HEREFORD BULLS FOR SALE—Never used in a herd, they are in fine fix, at a bargain for cow men. O. L. Thistler, Chapman, Kans.

FOR SALE—Six good Shorthorns bulls, four of them straight Cruickshanks; prices reasonable; now is your chance to get a good individual. H. W. McAfee, Topeka, Kans.

SWINE.

PUBLIC SALE at Topeka, Dec. 11, 1902. V. B. Howey of Topeka, will sell 50 head of pure-bred Poland-China and Duroc-Jersey swine. A number of Jersey cattle and Shire-bred mares and horses.

FOR SALE—Winners for Kansas City. One yearling boar, one yearling sow. Poland-China quality unsurpassed. John D. Ziller, Hiawatha, Kans.

A BARGAIN—Three fall Poland-China boars, 40 spring pigs; popular breeding, extra feet, legs, hams, backs, heads, and ears, slick, straight, black coats. G. W. Harman, Ridge, Kans.

IT IS WELL TO REMEMBER that the great hogs Perfect I Know, Chief Perfection 2d, Ideal Sunshine, Top Chief, I Am Perfection, Gold Chief, King Perfection, and Perfect Perfection are all grandsons of the old hero Chief Tecumseh 2d, whose get have taken 95 per cent of all the State Fair ribbons the past ten years. I have for sale four grandsons of Chief Tecumseh 2d fit for immediate service, one out of a granddaughter of Missouri's Black Chief, second dam by Hadley Jr. A second out of a granddaughter of Look Me Over, second dam by Hadley Jr. A third out of a granddaughter of One Price, second dam by World's Fair Hadley. The fourth is out of a daughter of Chief I Know. Geo. W. Maffet, Lawrence, Kans.

REGISTERED POLAND-CHINAS—\$5 each. Choice Shorthorns cheap. P. H. McKiltrick, McCracken, Rush County, Kans.

YORKSHIRE SWINE for sale. Walter Titworth, R. F. D. No. 3, Cherryvale, Kans.

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SHEEP FOR SALE—Ten extra choice Shropshire rams and 15 ewes, all eligible for registry. Inspection and correspondence invited. C. S. Harrington, Valley Center, Kans.

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FOR SALE—Registered Shropshire rams and young ewes of choice quality and the best of breeding. E. S. Kirkpatrick & Son, Wellsville, Kans.

SHEEP—Wanted to buy 500 young ewes, or would take a flock on shares. Have plenty of feed, good range. Eighteen years' experience handling sheep in Kansas. The best of references can be given. J. R. Brown, Stockholm, Okla.

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AMERICAN MERINOS—Modern, smooth. Entire flock sheared in May; 21 pounds average. A few rams for sale at a reasonable figure. L. C. Walbridge, Russell, Kans.

REGISTERED SHROPSHIRE—A choice lot of ewes, lambs, and rams for sale. Olin Tempin, Lawrence, Kans.

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FREE 200 printed farm and ranch descriptions in 5 counties, 50 m. from K. C. Prices, maps, statistical book. Write G. Winders, Ottawa, Kans.

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FARM FOR SALE—A. M. Coleman's farm, situated six miles northwest of Topeka, contains 320 acres; a fine farm. For terms, address W. M. Coleman, R. F. D. No. 3, North Topeka, Kans.

FOR SALE—160-acre farm, extra good corn, wheat, and grass land, good improvements. A. E. Cornet, Rural Route 4, Lawrence, Kans.

FOR SALE—Good alfalfa, corn, and wheat land in the banner stock county of Kansas. Write the Verdigris Valley Land Company, Quincy, Greenwood Co., Kans.

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WHOLESALE PRICES! One million fruit trees and plants. List free. Baldwin, Nurseryman, Seneca, Kans.

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FOR SALE—\$75 will buy a weanling trotting stallion standard-bred, sired by Mount Oread out of Casino by Patches Wilkes, second sire Appamantus out of Frankie Lyons by Mambrino Patches, third sire Allendorf out of Alma Mater by Mambrino Patches, fourth sire Onward out of Old Dolly by Mambrino Chief, fifth sire Geo. Wilkes. First dam by Appamantus (as above), second dam by Jerome Eddy 2:18 1/2, third dam by Clark Chief 89 (son of Mambrino Chief). Both dam and granddam are strong-moving, speedy mares. Geo. W. Maffet, Lawrence, Kans.

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FOR SALE CHEAP—Pedigreed Scotch Collie pups. W. H. Richards, V. S., Emporia, Kans.

WOOL WANTED—Will pay highest market price for wool. Bales for sale. Topeka Woolen Mill Co., Oakland, Kans.

PATENTS.

J. A. ROSEN, Patent Attorney, 418 Kansas Avenue, Topeka, Kansas

The Stray List.

Week Ending September 18.

Miami County—L. Flanagan, Clerk. HOGS—Taken up by P. J. Harrington, in Paola tp., at the waterworks, one mile north of Paola, August 23, 1902, four head of hogs—two black sows, one weighing about 125 pounds, the other about 75 pounds; also two pigs, about three months old.

Week Ending September 25.

Marion County—Ira S. Sterling, Clerk. SOW—Taken up by W. P. Hunter, in Doyle tp., (P. O. Florence), August 19, 1902, one black sow, weight 200 pounds, short tail.

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PILES

can be cured by the use of DANIEL'S SURE PILE CURE.

Two Weeks' Treatment sent postpaid to any address for 25c.

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Hereford, Short-Horn, Galloway, Aberdeen-Angus Cattle—Berkshire, Poland China Swine

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100 Short-Horns Sell Oct. 23-24 For Catalogues address B. O. Cowan, Asst. Secy., Springfield, Ill.
50 Galloways Sell Oct. 23 For catalogues address R. W. Park, Secy., 224 Live Stock Exchange, Kansas City, Mo.
100 Aberdeen-Angus Sell Oct. 21-22 For catalogues address W. C. McGavock, Mng'r., Mt. Pulaski, Ill.
150 Berkshires Sell Oct. 21-22-23-24 For catalogues address Charles F. Mills, Secy., Springfield, Ill.
200 Poland Chinas Sell Oct. 21-22-23-24 For catalogues address Frank D. Winn, Secy., Mastin, Kans.

Excursion Rates on All Railroads

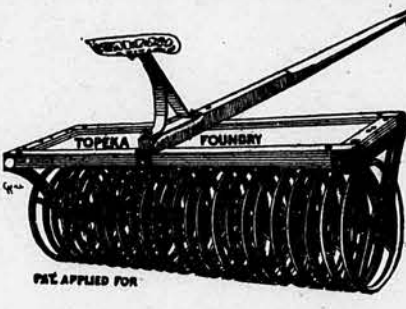
What the Best Farmers in the State Are Saying About Our Packer.

Topeka, Kans., April 18, 1902. I note the advertising of your Packer and Roller. I have no doubt whatever of its excellence and have no doubt if a thousand of them were in use for each one that is now used, Kansas would be the gainer thereby. Yours with good wishes, F. D. COBURN, Sec'y State Board of Agriculture.

North Topeka, Kans., February 20, 1902. As to the value of your Pulverizer and Packer, words will not give to it the merits that it deserves as a farm implement. The only reason every farmer does not use one, is because they do not know their value; especially in this dry soil of Kansas, where we have so much wind and sunshine; the land is apt to blow away from home. I bought one of your tools two years ago and it is in good shape yet, and is in use every time a roller is needed. I am a firm believer in good plowing and surface cultivation and lap listing, and there is no implement equal to the Packer on the farm. Wishing you success, Yours truly, JOSHUA BROWNING.

Topeka, Kans., August 28, 1902. We have used one of your Packers during the present season. It does good work. Would not do without it. Yours truly, WELLSHOUSE & SON, (Apple King), (Used on Wakarusa Farm)

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At Low Rate of One Fare for the Round Trip. To points in Illinois, Michigan, Indiana, Ohio and the following territory east thereof. All points west of and including Toronto, Suspension Bridge, N. Y., Niagara Falls, N. Y., Tonawanda, N. Y., Buffalo, Dunkirk, Salamanca, Erie, Pa., Pittsburg, Bellaire, Ohio, Wheeling, W. Va., Parkersburg, W. Va., Charleston, W. Va. Tickets on sale October 2d to 5th inclusive, good for return passage leaving destination as late as November 3d. For further information relative to rates, sleeping car reservations, connections, etc., address T. L. KING, C. P. & T. A., Topeka. T. M. James, N. Topeka.

For Sale: Alfalfa Seed A limited amount of orders filled promptly. Correspondence and orders solicited. 100 Choice Poland-Chinas For Sale New—100 pigs, sired by Foster's Perfection 27752 and I Know Perfect 48263. Also 25 fall gilts mostly bred for early spring farrow and a few for fall farrow. These gilts are the get of Kansas One Price, Ho est Abe, and I Know Perfect. Will sell a few yearling sows by U. S. Perfection. Address W. E. NICHOLS, Sedgwick, Kansas. O'LAUGHLIN & WEBER, Lakin, Kans.

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Anxiety 4th females with Edwards 113325 (at head)
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Bacchalaureate 81587, bred by Guggell & Simpson, at head of herd. Write for prices now.
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Imported Alberta 2d blood. Boatman 56011 at head of herd. A few excellent, young bulls for sale.
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Three of them, 3 years old, balance 10 to 20 months, in good, serviceable condition, by Cruickshank and Scotch-topped sires. This is the best and evenest lot of bulls we ever raised. Prices moderate.
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Poland-Chinas and Large English Berkshires.
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Imp. Price Lovely 155860 and Scotland's Charm 127284
IN SERVICE
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YOUNG BULLS FOR SALE
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\$1,000 buys a good one from us this fall. It pays you to buy one now as you get him cheaper and keep out competition. Don't pay a big price for a horse, but come and see ours and get a good one for less money than a small importer can possibly sell for. Our stables are across the road east of the Burlington Depot.
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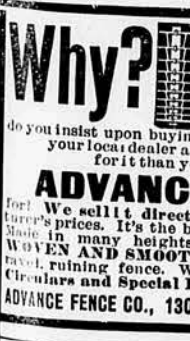
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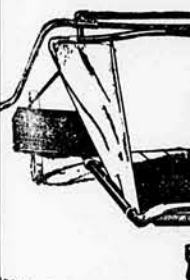
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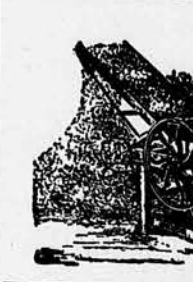
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Herd headed by Ottawa Chief 28289. Choice young pigs, sired by Tecumseh H. and Sweepstakes, for sale. Quality the best. Prices right. J. R. KILLOUGH & SONS, R. R. No. 6, Ottawa, Kans.

Grand Combination Sale

....OF....

POLAND-CHINA SWINE

....AT....

Clay Center, Kans., Wednesday, October 15, 1902.

60 head of Spring Boars and Giltts will be sold, tops from the herds of the following breeders: C. M. Garver & Son, Abilene, Kans.; O. B. Smith & Son, Cuba, Kans.; J. M. Baker, Narka, Kans.; C. M. McKeever, Hubble, Neb.; J. G. Hutchinson, Esbon, Kans.; John Crawford, Lebanon, Kans.; H. G. Sims, Smith Center, Kans.; Chas. Morrison, Phillipsburg, Kans.; W. R. Dowling, Norcatar, Kans. No such opportunity to secure the cream of the breeder's art from these hardy Western herds will be offered again this season. Every breeder can find something in this offering that he needs. Come and inspect stock whether you intend to buy or not. Sale under cover at 1 o'clock p. m.

Auctioneers: COL. J. N. HARSHBERGER, COL. JOHN BRENNAN, COL. SAM LANGWORTHY.... For Catalogues, address J. R. JOHNSON Manager, CLAY CENTER, KANS.

MAMMOTH STOCK SALE!

300 HEAD HIGH-GRADE HORSES AND HEREFORD CATTLE

I will sell at Public Auction, at the Topeka Stock Yards, at the foot of Jefferson Street, 2 blocks east of Wolff Packing House, on TUESDAY, OCTOBER 7, 1902.

- 10 head cows, some fresh.
- 10 2-year-old heifers, springers.
- 50 head 2-year-old steers.
- 100 head 1-year-old steers.
- 25 head 1-year-old heifers.
- 50 head steer calves.
- 25 head heifer calves.
- 1 bay mare, 5 years old, 1,200 pounds.
- 1 bay mare, 5 years old, 1,100 pounds.
- 1 gray mare, 8 years old, 1,300 pounds.
- 1 bay mare, 6 years old, 1,100 pounds.
- 2 bay mares, extra good drivers.
- 1 sorrel horse, saddler and driver, 4-yr-old.
- 1 roan horse, 9 years old.
- 1 sorrel horse, 7 years old, 1,400 pounds.

These cattle are mostly high-grade Herefords, and dehorned. An extra good lot. Horses are all broke single and double. Sale at 1 o'clock sharp. TERMS.—Nine months time at 4 per cent interest from date of sale. Four per cent off for cash. Cattle will be cared for free of charge until noon of day following sale. Col. Geo. R. Hungate, Salesman. HUGH A. HODGINS.

PUBLIC SALE

I will sell at Public Auction, at my farm, one mile north of Toronto, Kans., on Wednesday, October 15, 1902

130 HEAD OF HIGH-GRADE CATTLE 130

CONSISTING OF 42 steers from 1 to 2 years old, 40 cows, 20 2-year-old heifers, 10 yearling heifers, 25 calves, 1 registered Red Polled bull, 1 pure-bred Durham bull, 10 head of horses and colts, 6 head of 2-year-old mules, 6 head of jennets—good as can be found—1 Spanish jack, 1 Percheron stallion, 40 hogs. My farm is also for sale. TERMS OF SALE:—12 months' time will be given on approved bankable paper to draw 7 per cent interest if paid when due, if not paid when due, to draw 10 per cent from date of sale. Lunch stand on the grounds. Sale begins at 10 o'clock. FREEMAN & WOOD, Auctioneers. A. H. MARTIN, Toronto, Kas.

CLOSING OUT SALE

....OF....

Standard-Bred Horses

At Val ey Grove Stock Farm, 6 Miles North of Walker, Mo.,

Friday, November 7, 1902.

The offering includes Silver Simmons 2.16% (grandson of Simmons 2.28), Eagolyte 29215 (son of Onward 1411), to be sold privately, 8 mares by Onward 1411, 6 mares by Norval 2.14%, and 15 weanlings, yearlings, 2-year-olds, and 3-year-olds by Silver Simmons 2.16% and Eagolyte, out of these Onward and Norval mares. Transportation furnished to and from farm. Lunch on grounds. For Catalogues, address Col. R. L. Harriman, Auctioneer. E. T. LETTON & SON, Walker, Vernon Co., Mo.

Axline's Annual Fall Sale

....OF....

Poland-Chinas

WILL BE HELD AT

OAK GROVE, MO.,

MONDAY, OCTOBER 20, 1902.

The consignment will be rich in breeding, and superb in individuality. There will be 68 head, about equally divided as to sex. They are out of matured dams, and by such noted sires as Chief Perfection 2d, Corrector, Ideal Sunshine, Winning Sunshine, Chief Eclipse, R.'s Perfection, Missouri's Black Perfection, and the \$1,000 Corrected. Send for Free Catalogue giving full description and pedigree of each individual. Send bids to either Auctioneer, in care of Axline

E. E. AXLINE, R. F. D. OAK GROVE, MO. No. 17.,

Jas. W. Sparks, D. P. McCracken, H. O. Correll, W. D. Ross, Judge Chinn, J. N. Harshberger..... Auctioneers.

GREAT BERKSHIRE SALE!

TO BE HELD AT

Stock Yards Pavilion, Kansas City, Mo., October 20, 21, 22, 23, 24, 25, 1902

WITH THE

American Royal Cattle and Hog Show BY THE American Berkshire Association.

Great Attractions Assured in the way of Liberal Prizes and Large Prices at this Royal Show and Public Sale of

BERKSHIRES.

Get ready to exhibit at the big Berkshire show. Get ready to sell hogs at the big Berkshire sale. Get ready to attend the big Berkshire show and sale.

Six grand national exhibitions of beef cattle and hogs at same time and place, viz: Shorthorn cattle, Hereford cattle, Galloway cattle, Angus cattle, Berkshire hogs, Poland-China hogs. The cash and special prizes offered said breeds have never been equaled, and exceed \$30,000.00—Thirty Thousand Dollars—\$30,000.00.

Excursion rates on all railroads. 150—Top Bred Berkshires—150 will be sold in connection with the great shows named above from the leading herds of Illinois, Indiana, Missouri, Kansas, Iowa, Texas, etc. The great bargains of the season in Berkshires will be secured at the above sale.

For sale catalogue write at once to Secretary American Berkshire Association.

CHARLES F. MILLS, Springfield, Illinois.

Superintendent of Sale, Geo. W. Jessup, Rockville, Ind.; Superintendent of Show, June K. King, Marshall, Mo.; Committee in Charge, N. H. Gentry, Sedalia, Mo., C. A. Stannard, Emporia, Kans., Charles F. Mills, Springfield, Ill.

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