

KANSAS FARMER

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How to Improve Kansas Butter

Creameries Should Cease Finding Fault with Patrons, until They have Themselves Remedied Defects over which they have Control

the patron until they have remedied all the defects over which they have control. If the creameries are to remedy these defects they must in future cooperate and consider each creamery's interest, and avoid doing anything that will create lack of confidence on the part of either their fellow creamerymen or the patrons. The men engaged by the creamerymen as district superintendents, if not already thoroughly conversant with all phases of dairying, especially pertaining to the production of first grade cream and the manufacture of butter, should be made to qualify, or give way to men who are competent to do this important work. While there are some of the superintendents doing good work throughout the State, I know from what I have seen that some of the superintendents know nothing of dairy sanitation; at least

their work is of such nature as to justify this conclusion.

Beginning January 1, 1909, the work of the superintendents will be closely watched and reported to the creamery management by the dairy commissioner, in hopes that we may better the present conditions. Each cream-buying station forms a part of the creamery it represents, and if not conducted in such a manner as would be in keeping with the production of the best quality of butter, it reflects discredit on the creamery and discourages the patron in the production of the best grade of cream. Therefore each operator is exercising an influence for either the upbuilding of the quality, or aiding to deteriorate and injure the business. He is also creating confidence or else establishing lack of confidence on the part of the dairy farmer in the integrity of the creamery

that he represents. The cream buyer assumes a very responsible position, inasmuch as he stands between the patron and the creamery to do equal justice to both in the matter of cream testing. My experience during the past year has been sufficient to indicate that seventy-five per cent of the cream buyers are either raising the cream tests with the object of securing trade or for want of knowledge of the test. I am disposed to believe that it is largely for want of knowledge, and therefore recommend that each person engaged in buying cream be obliged to qualify before being permitted to conduct such important work.

In summing up how Kansas butter may be improved, I would say, first, by each patron doing his part to produce perfect cream and delivering it to the creamery while it is still sweet, thereby placing the control of fermentation and the ripening process of the cream, which is essential to the production of best butter, in the hands of the buttermaker, who is trained, or should be, to control and so manipulate his work as to produce the desired results. Second, by the absolute cooperation of the creamerymen and the patrons. This cooperation must come through the man who comes most closely in contact with the patron, namely, the cream buyer. Hence, by only qualified district superintendents being employed, the knowledge of the cream buyer would be improved and he would become a source or channel of education, and by the suggestions of only trained superintendents, the stations would be kept in a sanitary and inviting condition that would exert an influence upon the dairymen in the production of sanitary cream. All cream buyers engaged by creamery companies should be so engaged, as proof of their receiving any rejected cream would disqualify them and this would cancel their position. They should not receive poor flavored, over-ripened cream on any account, as one can of inferior cream is sufficient to deteriorate any amount of cream to which it is added. Let this organized, cooperative, educational manner of conducting dairy business be put into effect by the creameries and aided by a well organized system of instruction, which would require at least six deputy commissioners. This would cost the State annually from sixteen to eighteen thousand dollars. This appears like a very large expenditure, but with such a system in operation the present output of butter could be raised at least three cents per pound, or an actual saving to the dairymen of the State of Kansas of over seven hundred thousand dollars annually. This would furnish the buttermakers of the State with cream of such quality as would encourage each to strive for a superior place in the markets and secure a reputation that would be envied in the sister States. The buttermakers can do much toward this improvement by studying butter-making more closely and applying more scientific and practical knowledge in the art of butter making. Kansas butter is not only defective in flavor, due to bad cream, but is in many cases mechanically wrong. The great bulk of the butter is overworked. I must, however, leave this subject with the buttermakers until some future date.



Maybe you think you are a busy man. You ought to see Coburn.

The question, how to improve the quality of butter has been, and will continue to be, one of the all important subjects of interest to the State and Nation. Upon this important question of quality hinges success or failure, loss or gain, to the dairy interests. The person who arranged the program no doubt had in mind that this important question was one of personal nature when he confined his talk to sunny Kansas, and that any improvement is to be made in the butter of the State, it has to depend on each one any way connected with the business to assume his or her personal responsibility. I doubt, however, if the assigner of the subject had the remotest idea that I would be able to give a solution of the problem, not because of its impossibility, but because the conditions that have been responsible for the deterioration of the quality of our creamery butter still exist until I modestly state that the quality of our butter has gradually become poorer each year until less than fifty per cent scores 90 or above. The question of poor butter has been discussed since butter-making first became recognized as a branch of agriculture, and judging from the reports of the official referee, Mr. Credicott, compiled from the best information that he could obtain, there never was a time in the history of our dairy industry when there was so much need for improvement as at present. On this I believe that all agree; at least I take it from what I know and from the interest that creamerymen are manifesting in this direction that no argument is needed to prove the fact that there is much need of improvement.

I shall, therefore, try to define clearly a course which I believe will have to be pursued in order that some improvement be made. No marked change need be expected in the quality of our butter until the quality of the cream delivered by the patron is improved, and all places where cream is received or handled are kept perfectly clean, and means provided to keep the cream cool until it is delivered to the creamery. The men engaged in buying cream should be qualified to select or grade the cream closely and to instruct the patron how to improve his cream. The district superintendents of creameries have primarily been engaged to secure grade and to create cream-buying stations, until today there are fifty per cent too many stations, many of which are run at an expense to the creamery and are kept in an insanitary condition, operated by men who will accept any kind of cream delivered. It costs more to produce cream that is produced in a cleanly manner, separated by a separator that has been properly cleansed after each skimming, and to cool and deliver the cream while it is still sweet. We are therefore paying a premium for an inferior grade of cream under the present conditions.

The dairy farmers are students of the creamery, and they are producing the quality of cream they have been taught to produce. The creameries should therefore cease finding fault with

WITH OUR CORRESPONDENTS

Balanced Ration for Working Horses and Mules.

Corn chop at my railroad station is worth \$1.10 per cwt. Cottonseed-meal \$1.56; bran, \$1.50; alfalfa-meal, \$1.25. I have Kafir-corn fodder for roughness at present, but later on will feed prairie hay at \$7 per ton. I wish to feed as economically as I can and would be pleased to have you figure out a balanced ration per day for my work horses and mules weighing about 1,000 pounds each. W. A. HARRIS.

Boyd, Okla.

It is generally considered that oats are the standard grain ration for horses. Owing to their high cost they are seldom very profitable to feed and other combinations must be used. Fourteen pounds of oats daily, which would constitute a fair ration for a 1,000-pound work horse or mule, will supply of digestible nutrients 1.23 pounds protein, 6.62 pounds carbohydrates, and .58 pound fat. Now, of the feeds you have mentioned, the following combination will supply you about the same digestible nutrients and considerably cheaper than 14 pounds of oats: 7 pounds of corn chop, 1 pound of the choice cottonseed-meal, and 4 pounds of the alfalfa-meal. This combination will supply the digestible nutrients as follows: 1.36 pounds of protein, 6.42 pounds of carbohydrates, and .47 pound of fat. This you will see very closely approximates the nutrients supplied by the 14 pounds of oats. At prices quoted this ration will cost about 14 cents daily.

With ground Kafir-corn at prices somewhat less than the corn chop, it may be substituted as its feeding value is very close to that of corn. For the roughage part of the ration, good, bright Kafir-corn fodder will do very nicely and will probably not add very much to the cost of the ration. When it becomes necessary to feed the prairie hay as a roughage, the cost will be somewhat increased. It may be possible to decrease in total quantity the concentrated portions of this ration, depending upon the amount of work the horses or mules are required to perform. You can only determine this by observing the condition of the animals from day to day. It will be very advisable to moisten this concentrated mixture before feeding because of the somewhat dusty character of the alfalfa-meal.

G. C. WHEELER.

The Successful and Unsuccessful Farmer.

EDITOR KANSAS FARMER:—They say contentment is a bane to humanity. I know a very old farmer who has lived on a farm for seventy years, and more. For thirty-five years he owned a farm which was removed from his possession on account of a mortgage. Since that time he has been paying rent, moving from one place to another every two or three years, and dur-

ing the last thirty-five or forty years he has paid out enough money for rent to buy a farm and have money left for improvements. As it is, however, this poor old man is today standing 'twixt time and eternity, with only a slender thread to hold him, and as poor as when he first began. He has not been as successful as he might have been. Without putting forth an effort to better his condition, he has plodded along in the same old way,

having a hard row to hoe as the result.

This is a good lesson for many a man. Too often we go about and see folk going on in just the same old way. What is the cause? Contentment. Sir Walter Scott might have applied his verse on morality to contentment with much more significance had he been so inclined. It has done more harm than most any war, and shed the gloom of despair over many

a home where happiness and joy and hope should have reigned supreme.

The old kitchen, with its wide hearth, and the spacious dining-room, seemed grim mockers of what had been when the valleys smiled with waving grain, and flocks and herds adorned the hills. The family there was contented, contented until the truth was battered into them that they were homeless.

In too many instances has this been true. Too many folks have plodded along while nature went on in its capriciousness and they gradually drifted away. True, many of these people have gone to the cities and builded a home and a business that is enviable, but few of them have succeeded in establishing a happier and better existence than that enjoyed on the farm. Too many today are struggling along, even in the country, never thinking about what tomorrow may bring them, whether it be sadness and tears or joy and gladness.

I went back by that old farm not long since. It had been transformed. A new family had come along searching for a quiet place with health and joy as their greatest riches. They bought the old place. That was some three years ago, a year after I had first seen it. The old grape vines were pruned. In the yard some modern roses grew in profusion, shedding their perfume the country over. The garden was splendid with countless vegetables. The old house had been remodeled and renovated and the grounds around it improved. Here and there patches of living green added an attractive feature to the erstwhile dreary view.

A new barn and all necessary out-buildings had been built and the farm completely fenced with woven wire. Improved agricultural implements were found to till the soil. An orchard of apple, peach, pear, plum, and cherry trees was planted. Pure-bred breeding animals are now used on this farm, and the manure is hauled out as soon as it is made and spread with a manure spreader where it is most needed. The best methods possible are carried on and everything is as progressive as one could wish.

All over the country there are thousands of young men who could get out and by a year or two of work and sacrifice obtain for themselves a home which would always be their own without any one to trouble them. But instead of this we see many in these days going on unheeding the years to come and with uncertainties before them when they should be making preparations for another era. There is a pity in one's soul when the consequence of such a course is calculated. It leads to retrogression and finally to the awful truth that one does not possess and cannot obtain a home to shelter a defenseless head.

WM. H. UNDERWOOD.

Ozark, Ills.



Beef to the ears. Two of the kind that are bred and owned by Robert H. Hazlett, Hazard Place, Eldorado, Kan. Beau Brummel 10th has proved himself a remarkable sire.



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Farmers' Week in Kansas Capital

(Continued from last week.)

knowledge of the 70 odd elements. She learns exactness and self confidence as well as ability to know materials, and she will learn the great lesson that good materials will bring best results every time. She learns to demand purity in whatever she buys for her home, and when she comes to providing for a family, she will learn to spend her money to best advantage. When our girl comes to the cooking table she is ready to apply all her knowledge to the preparation of food, because she knows "Whatsoever a man eats that shall he also be."

Training in cooking will give her power to create power in bodies and brains, and to build up such people as can do well the world's work. She studies along with her drawing, the science of planning a house with reference to convenience of every sort that her own work may be made easy. She doesn't have the sink so low it breaks her back to wash dishes in it, nor the hooks in the closets so high she has to climb on a chair to reach them; neither does she make a step between dining-room and kitchen, nor much carving on woodwork where dust may accumulate. She thinks out the utility of every room.

After the house is planned, the sanitation of the home is to be the next study; then the prevention of disease and the accumulation of red blood and healthy tissues, which will make for health and happiness.

With all this the girl learns to take care of herself, and with a trained mind in a healthy body she can accomplish even more than her far-sighted great-grandmother dreamed when she left her beloved home to help make a new State on the prairie.

Is Kansas doing all she can for her sons and daughters? She is doing well I know, but I believe that well is not enough; for after all we have heard about the corn and the cattle, the soil and the alfalfa, no crop means so much to the Kansas farmer as the crop of boys and girls. Give them, then, all the advantages you can. Send out from your centers to the borders of the State all the help for the young people you can, and in the next generation you will see not only individuals that will give Kansas her full rank among the States, but such homes as shall make her the envied of all Nations.

In the last twenty-five years, since Kansas has been doing some special work for her daughters, those same girls have paid richly in the honors they have brought to the State.

One of the best cities on the Atlantic sent to Kansas for a teacher of home-making. In sight of the fog from the Pacific Ocean, a Kansas pupil gives the girls of her classes Kansas ideas.

Within a few miles of the Gulf of Mexico, for seven years, Kansas lessons were given to the pupils of a great school, and there is scarcely a State between that has not heard the old, old story that is ever new, of the need of making better homes and the ways to make home work easier. Kansas girls are telling this story, and the demand for Kansas teachers has never ceased since it began along in the early 80's.

It pays Kansas to do much for these great granddaughters. The debt the State owes to the pioneers will never be entirely paid; but as a payment of interest, the care of these girls of today, may be kept up. The more Kansas does the more she will receive in return.

Some one has asked how long must we be doing for these girls, and I want to answer in the words of Kansas men who were one day standing in a Philippine river, holding a position, with the water to their waists, with their ammunition in their caps, the word came down the line, "How long can you hold the river? how long? how long?" and the cry came back, as from one man, "Till we are mustered out."

Keep on, then, men of Kansas, doing for these granddaughters of your pioneers, and they will pay you back by making such homes that Kansas will not only be 200 miles wide, 400 miles long, a thousand miles deep, but will truly reach to the stars.

The Kansas Good Roads Association. The meetings of this association were not so well attended as they

A GREAT MEETING OF THE MEN WHO "DO THINGS" "OUT THERE IN KANSAS."

should have been. President H. W. McAfee gave the principal paper of the meeting in his annual address. He earnestly recommended the creation of a State highway commission composed of the director of the Experiment Station, the dean of engineering of the Agricultural College and the secretary of the State Board of Agriculture, this commission to appoint a highway engineer for the State.

The following resolutions were adopted:

"Be it resolved by the Kansas Good Roads Association, that we reaffirm our belief that the best interests of Kansas roads demand intelligent supervision by State authority, and we believe that a law similar to the Iowa plan of a highway commission, composed of the director of the experiment station, the dean of the school of engineering or the Kansas State Agricultural college and the secretary of the board of agriculture, constitute such a commission.

"We believe that the office of county surveyor may well be merged with that of county engineer, whose duty it shall be to make plans and specifications for all roads, culverts, bridges, etc., and be competent to give instruction in matters of roadmaking and to

Corn Growing.

PROF. M. L. BOWMAN, OF IOWA STATE COLLEGE, AMES.

Mr. President, members of the Kansas State Board of Agriculture, ladies and gentlemen: I am indeed glad to have the honor to appear upon your program on this occasion. It comes at a time when I can ill afford to be away from our own State; yet I have an exceedingly warm place in my heart for Kansas and upon receiving the kind invitation of your most worthy secretary I could hardly refuse. It was my pleasure to live in this State, in Reno county, for a period of nine years. My parents came out here at a time when some of those peculiar and interesting stories were being circulated as to the conditions existing in this State. I ran across a little poem which will help illustrate this point:

"OVER THERE IN KANSAS."

"Papers had a lot to say, sneerin' like o' Kansas,
Welt it to 'em every day, chuckin' fun at Kansas.
Airjust full of slander darts
From the busy Eastern marts,
'Nuff to break the people's hearts, out there in Kansas.

That's where fierce cyclones are born, on the plains of Kansas.

CORN IN THE UNITED STATES.

The Corn Reporting Board of the Department of Agriculture gives the following detailed statistics of the corn crop:

	Yield per acre.			Production (000 omitted).	
	1908.	1907.	10-yr. av.	1908.	1907.
Maine.....	40.5	37.0	35.1	486	444
New Hampshire.....	39.0	35.0	33.7	1,063	910
Vermont.....	40.3	36.0	34.6	2,257	1,980
Massachusetts.....	40.4	36.0	35.9	1,818	1,584
Rhode Island.....	42.8	31.2	31.8	428	312
Connecticut.....	41.3	33.0	36.2	2,395	1,848
New York.....	38.8	27.0	30.0	23,047	16,200
New Jersey.....	38.0	31.5	34.8	10,564	8,757
Pennsylvania.....	39.5	32.5	34.2	55,814	45,922
Delaware.....	32.0	27.5	27.5	6,240	5,308
Maryland.....	36.6	34.2	32.4	23,753	22,196
Virginia.....	26.0	25.0	22.0	48,828	46,025
West Virginia.....	31.2	28.0	26.8	23,962	21,280
North Carolina.....	18.0	16.5	14.0	50,166	45,078
South Carolina.....	14.1	15.1	10.4	29,229	29,807
Georgia.....	12.5	13.0	10.8	66,438	67,538
Florida.....	10.5	11.3	9.8	6,584	7,017
Ohio.....	38.5	34.6	35.1	130,900	117,640
Indiana.....	30.3	38.0	35.1	137,835	168,840
Illinois.....	31.6	36.0	34.4	294,860	342,756
Michigan.....	31.8	30.1	31.9	60,420	57,190
Wisconsin.....	33.7	32.0	33.5	49,674	46,688
Minnesota.....	29.0	27.0	29.5	46,835	43,605
Iowa.....	31.7	29.5	32.5	287,456	270,220
Missouri.....	27.0	31.0	28.5	203,634	241,025
North Dakota.....	23.8	20.0	22.2	3,858	3,080
South Dakota.....	29.7	25.5	26.7	57,677	47,175
Nebraska.....	27.0	24.0	27.1	205,767	179,328
Kansas.....	22.0	22.1	22.5	152,900	155,152
Kentucky.....	25.2	23.2	26.5	84,823	93,060
Tennessee.....	24.8	26.0	22.9	74,747	78,364
Alabama.....	14.7	15.5	13.3	44,835	45,896
Mississippi.....	17.3	17.0	15.5	45,845	42,500
Louisiana.....	19.8	17.5	16.8	33,898	28,000
Texas.....	25.7	21.0	19.2	201,848	155,589
Oklahoma.....	24.8	24.4	25.2	122,239	113,265
Arkansas.....	20.2	17.2	18.9	52,540	43,430
Montana.....	23.4	22.5	22.5	94	90
Wyoming.....	28.0	25.0	26.2	84	75
Colorado.....	20.2	23.5	20.3	2,586	2,608
New Mexico.....	27.0	29.0	24.7	1,161	1,218
Arizona.....	33.2	37.5	24.5	266	300
Utah.....	29.4	25.5	24.9	323	280
Nevada.....
Idaho.....	29.0	30.0	27.1	145	150
Washington.....	25.5	27.0	22.0	332	324
Oregon.....	27.8	27.5	24.6	445	440
California.....	32.0	34.0	30.0	1,600	1,836
United States.....	26.2	25.9	25.6	2,642,687	2,592,320

certify to the competency of road overseers and all road employees.

"We believe that the best interests of Kansas roads would be served by requiring all citizens between the ages of 21 and 60 to pay a poll tax of three dollars (\$3.00) per year in cash.

"We believe that the weed and hedge law should be changed to require the road overseers to cut all weeds and to trim all hedges not so cut or trimmed by the owner before September 1 of each year, the costs of such work to be added to the tax on the property."

All of the old officers were re-elected, as follows: President, H. W. McAfee, Topeka; secretary-treasurer, Albert Dickens, Manhattan; vice presidents, First district, F. A. Kiene, Topeka; Second district, J. T. Tredway, Iola; Third district, E. D. Schermerhorn, Galena; Fourth district, H. E. Richter, Council Grove; Fifth district, George Stevenson, Waterville; Sixth district, J. L. Pelham, Hays; Seventh district, W. L. Kinnison, Garden City; Eighth district, J. W. Robinson, Eldorado.

The next Annual meeting will be held at Fort Scott at such time as may be determined by the officers.

Every word a word of scorn for the folks of Kansas.

Hoppers darkenin' the sun,
Dozens of 'em weigh a ton,
Seems to think its lots of fun crackin' jokes at Kansas.

Now it's come their time to laugh, the folks in Kansas,
Givin' easterners the goff 'bout affairs in Kansas.

Barns a bulgin' out with wheat,
Corn for all the world to eat,
Other crops that can't be beat, over there in Kansas.

Trains a haulin' out the stuff from the plains of Kansas,
Railroads can't get cars enough to empty Kansas.

'Ort to see the farmers grin,
Stroke the whiskers on their chin,
As the cash comes rollin' in, over there in Kansas.

Women singin' songs o' glee, 'bout old fruitful Kansas,
Babies crowin' merrily everywhere in Kansas.

Purty gals a buyin' clothes,
Togin' out from head to toes,
Style—You bet your life she goes, in Kansas.

When the cares o' day is done, on the plains of Kansas,
And the kids begin to yawn, sleepy like in Kansas.

Farmer wipes his glasses, blurred,
Reads a Chapter from the Word,
Then kneels down and thanks the Lord that he lives in Kansas."

The records of the crops of Kansas for the year 1908, as compiled by the Hon. F. D. Coburn, again shows that Corn is King in Kansas. The results

for this year give you credit for over five millions of bushels in excess of that grown in the year 1907, in which year the valuation of the corn crop in comparison with the total value of all cereals gave corn the exalted position of having in value 51.8 per cent of the entire valuation of all the cereals produced within this State. Corn is bound to be one of your chiefest crops, for there is no other grain which can be so economically produced to be fed in conjunction with that other crop which grows so luxuriantly throughout this State, and which, I trust, will be grown to a greater extent in the future. I am referring now to the Queen of Legumes—Alfalfa. If I were drinking a toast to the crops of Kansas, I think it might justly be to King Corn and Queen Alfalfa.

The proposition in which we are chief interested is not the question of more acres in corn, but more bushels from the land which is devoted to the growing of this great crop. In this connection then—are we producing to the full capacity of our land? Is 22 bushels of corn to the acre all that should be expected to be produced from the fertile fields of Kansas? To bring this more clearly before us, let us consider now just how much corn 22 bushels to the acre is; this being the average yield for the year 1908 for this State. There are 3,556 hills made by a 3-foot 6-inch planter; those who plant their corn in check-row in general plan on dropping three kernels of corn to the hill. The results show that on the average we are receiving then just one ear of corn to the hill, weighing a little less than seven ounces, for this amount gives us the 22 bushels. The question is then—if we drop three kernels of corn to the hill and are receiving in return the small amount of a seven-ounce ear to the hill, what has become of the other two kernels which we planted? I realize of course that a large amount of corn in this State is listed; some is drilled. In such cases it is a very general policy to plant from 12 to 16 inches apart in the row, which on the average will give practically the same number of plants per acre as where three kernels of corn are dropped to the hill. Should the plants be 14 inches apart in the row, the number to the acre would then be the same as with checked corn, with a 3-foot 6-inch planter where three kernels are planted per hill. This should bring to our minds very clearly the fact that something is radically wrong.

Not infrequently do we find that just a barb wire fence separates two fields of corn; one of which is producing at the rate of 15 to 25 or 30 bushels per acre, while the other field is producing at the rate of 50, 60, 80 bushels or better to the acre. Various reasons may be offered for this difference, but the greatest reason for a poor yield of corn it seems to me is a poor stand of corn. When we go out into the fields to study the existing conditions where there is such a great contrast in the yield per acre it will in most cases be found that the stand is the important factor. Especially where corn is checked can this study be carried on very effectively. By going out into the field and counting the number of stalks present, where three kernels per hill have been planted, a great lesson can be drawn from the large number of one-stalk hills and missing hills present. We find that it is a very common occurrence for from 8 to 10 hills out of 100 to be absolutely vacant, with a very large number of hills containing but one stalk and again many of the plants to be weak and unproductive. To follow this further, what is the greatest reason for a poor stand of corn? There are times when the insects have bothered, when the climatic conditions are most unfavorable, yet considering all these it will have to be admitted that the greatest reason for a poor stand of corn is poor seed-corn. We have been entirely too slack in the attention which we have paid to the selection of our seed. In fact it is only of recent years that any great interest has been taken along these lines. We have known for years of the different breeds of livestock, but only of recent years have we heard of the Kansas Sunflower corn, the Hildreth, Reid's Yellow Dent, Boone County White, Silver Mine, and many other varieties (Continued on page 7.)

KANSAS FARMER

WITH WHICH IS COMBINED

Farmers Advocate

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SUBSCRIPTION PRICE.—\$1.00 per year; \$1.50 for two years; \$2.00 for three years. The date of subscription will be found on the label of your paper. We follow the usual custom of publications, and conform to the desire of most subscribers, by sending the paper until an order is received to discontinue it. We must be notified in writing when the subscriber desires the paper stopped. Returning the paper is not sufficient as we cannot tell from the label alone what the address is. Both name and address must be given and all arrearages paid.

ADVERTISING RATES.—25 cents per agate line, 14 lines to the inch. Announcements of reputable advertisers respectfully solicited. No medical nor questionably worded advertising accepted. Forms close Monday.

OUR GUARANTEE.—It is our belief that all advertisements in this paper are from reliable persons or firms. To show that we are in earnest in protecting our subscribers we guarantee the trustworthiness of our advertisers under the following conditions: We will make good the loss of any paid up subscriber who suffers by dealing with any fraudulent advertiser in our columns, provided complaint is made to us within thirty days after the transaction. This guarantee means just what it says. It does not mean that we guarantee to settle all trifling disputes between a subscriber and an advertiser, though we offer our good offices to this end. We do, however, protect you from fraud under the above conditions. In writing to advertisers be sure always to say: "I saw your advertisement in Kansas Farmer."

CONTRIBUTIONS.—Correspondence invited on all farm topics, live stock, soil cultivation, grains, grasses, vegetables, household matters, recipes, new and practical farm ideas, farm news. Good photographs of farm scenes, buildings, live stock, etc., are especially invited. Always sign your name, not for publication unless you desire it, but as an evidence of good faith. Address all communications to

KANSAS FARMER COMPANY,
Topeka, Kansas.

It is generally conceded that Kansas ought to have a State Fair. The location of the fair should be determined after the success of the main proposition shall have been assured.

If you have anything on your mind that in your opinion should receive the attention of the Legislature now in session, write about it to the representative or senator who is serving your community. A careful letter from any of the home folks is an important matter.

KANSAS FARMER is requested to inquire if any readers have had experience with "center draft mowing machines," such as the Dain or other makes. How successful are they? How does the draft compare with that of other machines? What is the width of the cut? Give any other information that will interest the practical user.

You can no more have tuberculosis without the tubercle bacilli, the living bacteria (plants) than you can have a crop of corn without any seed in the ground. Confinement in dark, unventilated stables will not give tuberculosis, but it provides much more favorable conditions for the development and spread of the disease after the living germ is present.

Production of coal in the United States in 1908 was considerably less than in 1907. The decrease in the output of anthracite was over 4 per cent while the decrease in bituminous coal was 15 to 20 per cent, ranging from 6 per cent in Utah to nearly 50 per cent in Virginia. The decrease in Kansas was 15 to 25 per cent, attributed chiefly to substitution of gas and oil.

The average examination of a beef carcass by a butcher may not reveal tuberculosis when it is present. It is usually found in enlarged lymph glands along the wind pipe or in the body cavity, liver, lungs, or bronchial

glands. The colonies of tubercles are characterized by yellow or grayish color. These growths contain a cheesy material, often firm and hard, and gritty to the knife, but sometimes, in the more advanced stages, broken down into a creamy pus.

Senator Chas. Curtis is always alive to the best interests of his constituents. As soon as he learned that the only Alfalfa Club on earth had its home in Topeka, he became interested. Through his influence the division of publications of the United States department of agriculture has forwarded to the Shawnee Alfalfa Club for distribution among its members a large number of copies of bulletins 339 reporting the results of the investigations of Prof. G. M. Westgate on "Alfalfa." More than this, he has secured from the department a promise that all future bulletins on alfalfa shall be mailed to the club. Farmers' Bulletin 339 is a comprehensive and most valuable one and will be ready for distribution at the next monthly meeting of the club, which will occur on the afternoon of Jan. 30.

The Fort Hays Experiment Station, in Ellis county, announces some results from its work of seed improvement and distribution, and has limited quantities of seed of the staple farm crops for disposal. The demand for western-grown stocks is increasing year by year, apparently indicative of comparatively better returns from the harder grains which this section of the State produces. While the Experiment Station at Hays has not yet been able to supply all the demand for seed from its crops, the farming public is given every possible advantage so far as climatic conditions permit the maturing of the grains, and the limited facilities the station possesses for handling and marketing the surplus. The growing season of 1908 was favorable to successful yields, with possibly the exception of Macaroni wheat, so the surplus for spring delivery is larger than at any preceding period.

FORESTRY EXPENDITURES AND RECEIPTS.

Listing receipts and expenditures and explaining them in plain English much as a railroad president reports to his board of directors, Gifford Pinchot, forester, has made a retrospect of the work of the United States Forest Service for the fiscal year 1908.

For the administration and protection of the 182 National Forests in seventeen States and territories and Alaska, the Government spent \$2,526,098.02, or about one and one-half cents an acre. Permanent improvements, including the construction of 3,400 miles of trails, 100 miles of wagon roads, 3,200 miles of telephone lines, 550 cabins and barns, 600 miles of pasture and drift fences, 250 bridges, and 40 miles of fire lines cost \$592,169.19.

The Forest Service is one of the branches of the Government where everything is not outgo. Last year the receipts from sales of timber, grazing fees, and permits for special uses of forest resources amounted to \$1,842,281.87, an increase of \$271,222.43 over the 1907 figures. The per acre receipts from the National forests were a little more than one cent, less than five mills under the per acre cost of administration and protection of the forests.

APPLE CULTURE.

A new book on "The American Apple Orchard" by Prof. F. A. Waugh is just now coming from the presses of the Orange-Judd Company. This is just the book we have been looking for. There has been a strong and increasing demand these last ten years for a practical, pointed work on apple culture. Although there are a number of books on general fruit culture extant, they are not sufficiently definite and explicit for the ordinary reader.

Chief prominence is given to modern commercial methods as practised in large and up-to-date orchards, but there is a special chapter also on the family orchard. Methods are discussed, not for their theoretical value, but from the standpoint of the cash profits they will return. The book is pervaded throughout with the author's enthusiasm for fruit growing in general and for the great apple industry in particular. It is well known that great advances have been made in recent years in the practise of fruit growing, and the author's position has given him unusual opportunities for keeping up with all such improvements.

LAW ENFORCEMENT BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.

During the last year the Solicitor of the United States Department of Agriculture prepared and reported 1,174 cases, for violation of law, of which but twenty-two on trial resulted adversely to the Government. A total amount of \$65,783 was turned over to the United States Treasury by reason of these trials in fines, penalties and damages, this being exclusive of the costs. Over half the cases were brought for violations of the 28-hour law, passed two years ago, and prohibiting livestock to be carried for more than twenty-eight consecutive hours without being unloaded for food, water, and rest. Under the food and drugs acts 301 cases were brought; under the cattle quarantine laws, 120; and under the meat inspection act, 46. The malefactors, who for years, had conducted their businesses along lines which infringed these laws when passed, could not for some time make up their minds that the Government was really in earnest. Now, however, the vigorous efforts put forth by the Department to detect and convict violations have convinced real business men that it pays to do business in conformity with the law, and the better class of business men are falling in line and endeavoring to assist the Department in ferreting out illegal practises along their several lines. This is especially true of the pure food law and of the meat inspection law, and the railroads which have persistently violated the 28-hour law, in view of the heavy penalties assessed against them, may be expected soon to pursue the same course.

GOOD ROADS AND FORESTRY.

In his message Governor Stubbs indicates a strong tendency toward industrial and agricultural development and improvement. His address before the Kansas State Board of Agriculture last week was running over with assurance that his administration would support an appropriation for a State fair, that it would urge legislation in favor of a State wide movement for good roads and that during his term of office he hoped to lay a foundation for a State wide forestry policy. This expression is in keeping with the sentiment expressed during his campaign and the favorable comment from various sources indicates that the people of Kansas are in favor of and are standing for these things. The members of the Legislature appear to be in harmony with the administration's policy and it is reasonably sure that within the next sixty days Kansas will have some wholesome legislation directed along each of the above lines.

A bill has been introduced asking for an appropriation of \$100,000 for a permanent State fair. The author of the bill has wisely failed to provide for the location. The location is to be determined after an appropriation has been secured. Kansas must have a fair. A Legislature, such as now in session, will locate the fair wisely and the people of the State will accept the location determined upon. Several good roads and forestry bills have been introduced. In each case the bill provides for a commission to administer such legislation as is secured. It is on the point of commissions that KANSAS FARMER desires to see the Legislature to move slowly and advisedly. Commissions cost money and not always do they administer wisely.

One bill introduced provides that the forestry work be placed under the direction of Secretary Coburn and it is our recollection that one good roads bill provides for that, and Secretary Coburn is to be responsible for that work also. While KANSAS FARMER knows that Secretary Coburn would be the right man to direct a good roads and forestry movement it is also known that he has neither the strength nor the time to give to the work. As secretary of the Kansas State Board of Agriculture he has one full grown job on his hands and the State of Kansas cannot afford to divert his attention from his present important work. KANSAS FARMER is in favor of paying Secretary Coburn \$5,000.00 for the work he is now doing. The service he gives Kansas is worth \$5,000.00 a year and he ought to have that salary. But, we believe he is worth that money as Secretary of the State Board of Agriculture and we do not desire to see him burdened with side issues, as an excuse for increasing his salary.

It is to be hoped that the present Legislature will be as liberal as possible in its appropriations for the Kansas State Agricultural College. At this institution for years a considerable amount of work has been done with the limited funds at hand in the matter of road improvement and in solving forestry problems. Good roads and forestry are peculiarly industrial and agricultural and are legitimately within the scope of the agricultural college. Instead of creating new commissions why is it not sensible and economical to grant the Agricultural College funds to be used specifically for road improvement and work in forestry? At the college are experts in each of these lines and with greater funds than have heretofore been available the service desired could be more economically secured and more efficiently rendered than by any other means, through commissions or otherwise.

The attention of Governor Stubbs and legislators is respectfully called to the fact that the Kansas State Agricultural College has already done much work in matters relating to dirt, oiled, and macadamized roads and bridges and culverts. Plans have been made and furnished free to county commissioners, township trustees, and road supervisors; special meetings have been held in many counties and the subject of good roads has been placed on the program of hundreds of farmers' institutes. This year it is on the program of all institutes except in the extreme western counties. College men who have studied the "good roads" question discuss it and literature has been sent to all local speakers on the subject. This year the subject has been subdivided one man talking on "Drainage," another on "Bridges," another on "Hills and Grades," and another on "The Road Drag."

A bulletin is now being prepared and will be mailed to 20,000 farmers' institute members in Kansas that will cover the whole subject of road making, dirt roads, macadamized roads, bridges, culverts, concrete, stone, iron, wooden, etc. A bulletin is being prepared by the engineering department and will be published by the institute department. All now needed is a few thousand dollars a year to employ a special highway engineer to work with the county engineers and commissioners and others, prepare plans and go out to the different communities that want improved roads and help start the work.

Is it not unbusinesslike and a waste of money for the State to own a big farm at Manhattan and then 4,000 acres at Hays and also maintain other "forestry" farms? If the State wants to own all these farms why have separate management? Who is better fitted to direct the forestry work of the State than the experiment station horticulturist of the Kansas State Agricultural College? The institute department of that institution has carried on a crusade for three years on "Forest Planting" at hundreds of institutes and college men and Government men have preached the gospel of tree-planting. For thirty years trees have been planted at the station at Manhattan and for eight years plantings have been made at the Hays City branch and carefully cultivated and watched until the forestry department knows pretty well what trees to recommend. Give the forestry and institute departments at the college one-half what a forestry commission would cost and much greater returns will come.

THE KANSAS MAGAZINE.

A little over a third of a century ago a publication of surpassing merit had a brief career under the name Kansas Magazine. The literary excellence was universally recognized. The mechanical execution was up to the times. The lament over the necessity for suspension of publication for lack of sufficient earnings to pay for printing has never ceased in Kansas. Finally the good year 1909 has witnessed the launching of a new publication under the name "Kansas Magazine." It is characteristically Kansan with a big sunflower on the first cover page. The drawings are by C. A. Seward. They are in the coming style of open pen work and are adapted to illustrate the leading articles. There are some good half-tones of prominent Kansas people, of the Kansas University football team, and of the state house. The contributors for the first number are: William Allen White, "Certain Voices in the Wilderness;" Victor Murdock, "The False

Divisor;" Tipton Cox, "Opportunities for Young Men in Business;" Esther M. Clark, a poem; Fred S. Jackson, "The Oath of a County Attorney;" I. T. Martin, "Quakers in the Governor's Mansion;" Chloe Matteson, "Kansas Soldiers' Memorial;" Walt Mason, "Short Grass Eclogues;" Whitney Tucker, "Can Kansas Compete with Standard Oil?" W. H. Carruth, a poem; Ned Tassaire, "Shallmar;" Griffin Ordway, "Kansas-Missouri Football Game;" Theodore Lindberg, "Music in Kansas;" and H. J. Allen, "A Civilization of Fifty Years." A poem by Noble Prentiss is reprinted.

It is stated prominently on the cover that the magazine is devoted exclusively to Greater Kansas.

The price is 15 cents the copy and the magazine is worth the money. It is published by Kansas Magazine Co., Wichita, Kans. The advertising patronage is good.

There is surely talent enough interested to write two or three good magazines every month. Kansas will expect the publishers to put vitality enough in the work to make the venture a financial success as well as the assured literary and artistic success which it is, and to perpetuate its life to the advantage and gratification of readers both now and in the years to come.

DO KANSANS FULLY APPRECIATE SECRETARY COBURN?

The question as to whether Kansas is niggardly in the matter of the salary allowed the Secretary of the State Board of Agriculture is just now receiving a great deal of attention from the newspapers of the State. It is occasionally suggested that \$2,500 is large enough salary for the Secretary. Generally, however, the press urges that the salary is not commensurate with the duties of the office, and particularly with the service rendered by Mr. Coburn.

Agriculture is by far Kansas' greatest interest, and we must have the best man obtainable at the head of this department. It would be an easy matter to find many politicians who would gladly serve the State for the present salary, but it would be hard to find another man of Mr. Coburn's ability or fitness for the place, who would consider the salary for a minute. Possibly Kansas feels secure in the retention of her present Secretary, since he refused the United States Senatorship, paying \$7,500 yearly; frowned upon a cabinet position which pays \$7,500, and turned down other offers of \$5,000. There are many agricultural papers in the country that would pay Mr. Coburn \$5,000 a year to assume the editorship of those papers.

To all these offers he turns a deaf ear, and simply because he is wrapped up in his work as Secretary of the Kansas State Board of Agriculture. It just suits Coburn, and Coburn was just cut out for the place.

We pay the Governor \$5,000, the president of the State Agricultural College \$5,000, and the chancellor of the State University \$5,000, and yet the service they render the State is not more valuable than that of the Secretary of Agriculture.

It is not a question whether \$2,500 is a good salary. It surely is a good salary, but it is not an adequate compensation for the service given. Mr. Coburn has been of inestimable service in establishing and maintaining our present enviable standing in the country as an agricultural State, and in reestablishing our credit in the East and elsewhere, and by his persistent and favorable exploitation he has attracted large capital to the State, and brought in the homeseeker of the desirable sort.

No other official of the State has his "stuff" so widely circulated and copied. This choice advertising would cost the State thousands and thousands of dollars if it had it to buy.

He has made the position of much greater usefulness than the mere requirements of the statutes, and his love for the work has made him sacrifice positions paying twice the salary. He has spent the best fifteen years of his life in the service of the State. He is the only official in the State specially representing the farming interests. The State should recognize the value of his work, and show its appreciation of his long and faithful service by paying him a salary in keeping with the importance of his position and of the great benefits he has brought to the State.

MILLIONS FOR INDUSTRIAL EDUCATION.

An industrial educational measure, known as the Davis bill, is before Congress and is being vigorously pushed in the hope that it may be passed before the expiration of the present Congress on March 4. Following is a summary of the provisions of the bill:

1. Beginning July 1, 1912, it provides a main appropriation annually of 10 cents per capita to each State for industrial education in secondary schools, a total of about \$9,000,000 yearly for the United States from the National treasury.

2. Instruction to be given in mechanic arts and home economics in secondary schools of towns and cities with above 2,000 population.

3. Instruction in agriculture and home economics to be given in 300 to 400 agricultural secondary schools, one in each district of not less than five nor more than fifteen counties.

4. A branch of the State Experiment Station to be organized at each agricultural secondary school.

5. The use of the National appropriation is restricted to distinctive studies in agriculture, mechanic arts, and home economics in the respective schools, the States and school communities being required to pay for buildings and for all general studies.

6. Each incorporated city, town, or village with more than 2,000 inhabitants will receive 10 cents per capita for instruction in mechanic arts and home economics in secondary and continuation schools.

7. The total rural and village population will receive 10 cents per capita for instruction in agriculture and home economics in agricultural high schools, practically one in each congressional district.

8. Each State will receive one cent per capita annually, to be used by its State normal schools to prepare teachers to teach vocational subjects. This fund becomes available in 1909. The Governor may accept this fund until the Legislature meets—a total of about \$850,000 yearly for the United States.

9. Each State is required to divide its territory into districts of not more than fifteen counties nor less than five counties, and to establish in each a high or secondary school of agriculture and home-making, with a branch of the State Experiment Station.

10. Each State and Territory will receive one-fourth as much money (about \$1,150,000) for branch experiment stations on its agricultural high school farms as it receives for these schools; and is required to appropriate for the use of these branch stations at least as much as the United States Treasury provides.

11. Separate schools for colored people may be established as each State decides, fair division of the money being made to both races.

12. It is provided that States having small population shall have at least one agricultural high school and a teachers' training fund for one State normal school.

13. Each school receiving money must make a report to the Governor to be transmitted to the federal authorities charged with the administration of the law.

14. The Secretary of the Interior is charged with the general administration of the law, and under cooperation with the Secretary of Agriculture and the Secretary of Commerce and Labor and the respective States, he will coordinate the work under this law in the various States and public schools affected by it. (The United States Commissioner of Education would naturally have charge of this work.)

15. The Secretary of Agriculture will assist in relation to instruction in agriculture and home economics, and the Secretary of Commerce and Labor will assist in relation to instruction in mechanic arts.

Twelve Weeks for 15 Cents.

In order to introduce KANSAS FARMER to progressive farmers, we send it 12 weeks for 15 cents to any one who does not now take it. This offer is made as a trial offer only. We depend on our subscribers to make this special offer known to their friends and neighbors.

A boy thinks more of a sore toe than of all the rest.—Agricultural Advertising.

A bad workman may be able to make a good promise.—Agricultural Advertising.



A Genuine SURETY BOND GUARANTEE with every roll of Congo.

So many guarantees are given nowadays that to a certain extent they have lost their value; but the one which accompanies each roll of Congo is different from all others.

It is a genuine Surety Bond backed by the National Surety Co., one of the largest and best known Surety Companies in this country. It protects you absolutely.

It is a distinct, clear-cut guarantee, and any man who desires the best roofing

for his money, and wants the same backed by a reputable house as well as by a Surety Bond, can do no better than invest in Congo.

Samples will be sent for the asking, and we know if you test it thoroughly, as a roofing should be tested, there will be no hesitation on your part in securing it quickly.

Further information, samples, etc., on request.

UNITED ROOFING AND M'F'G CO.

537 WEST END TRUST BLDG., PHILADELPHIA, PA. CHICAGO. SAN FRANCISCO.

IN THE LEAD

For 1909

The 1909 Model U. S. Cream Separators

retain all features that have given them their great reputation for durability and efficiency, and have several improvements that make them even to a greater extent than ever before, the ideal machine for dairymen who are posted and who demand the best. And by intensifying the circuitous and tortuous currents of the milk in its passage through the separator bowl, we have been able to

Greatly Reduce the Diameter of the Bowls

which makes them operate easier than ever and still retain their great milk capacity.

Notwithstanding most manufacturers were complaining all last year of dull times and small sales the UNITED STATES SEPARATOR had one of the largest sales in its history and since this fall season began, sales are larger than last year.

Do not forget that the United States has beaten every separator in endurance tests and holds the WORLD'S RECORD.

No dairyman can afford to purchase a cream separator until he has first examined the construction and operation of the

1909 Model

Sales agents in nearly every dairy section. If no agent in your town, write direct to us for Catalog No. 91 and we will also quote prices. We have distributing warehouses in every dairy section in the United States and Canada.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

The Collar Filled with Air A God-Send to Horses

It's Horse Sense

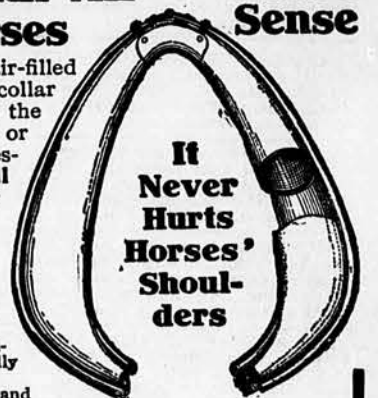
Your own good sense will tell you that the air-filled collar is the one that's really humane. The collar always, everywhere accommodates itself to the horse's shoulder. With any kind of a pull or strain, with any position of the horse, the pressure is distributed and applied evenly to all parts of the shoulder. That's why no other collar in the world is the equal of

THE SILL PNEUMATIC HORSE COLLARS

There can be no sudden jerks or shocks or constant pressing or rubbing upon certain spots to make horses' shoulders sore. Horses pull heavier loads because shoulders never pain them. Galls and sore shoulders actually heal while horses are working.

The Sill Pneumatic Collar is always soft and pliable, and is strong and cool. It makes sweat pads absolutely unnecessary. Its extra quality, thick rubber tube is practically indestructible, as it is enclosed in canvas and protected by outer leather covering which has been specially treated to render it heat, sweat and moisture-proof. You need the collar that prevents and heals sore shoulders. Write for FREE circular giving particulars today.

The Sill Pneumatic Collar Co. 22 Front St., Savannah, Ill.



FARMERS EXCHANGE COLUMNS

CATTLE.

\$50 BUYS a registered yearling Red Polled bull. Females at reasonable prices. Wilkie Blair, Girard, Kan.

FOR EXCHANGE or sale—Red Polled bull King Edward 10564; gentle and prolific. W. E. Barker, M. D., Chanute, Kan.

FOR SALE—Two nice Red Polled bulls, eight and twelve months old, full blood and recorded. I. W. Poulton, Medora, Kan.

TWO YEARLING JERSEY BULLS, registered, good individuals, out of good dams; sired by Ingomar of Mento, who was out of Rose Kinlock. Price \$60 and \$75. F. O. Chesney, Victor Bldg., Kansas City, Mo.

SHORTHORN BARGAINS—Having decided to hold a public sale of Shorthorns about the middle of March I will not offer Frisde Wayne 232531 or calves of his get at private sale. H. H. Hedderman, 710 Polk St., Topeka, Kan.

SWINE.

FOR SALE—Poland China spring boars and open gilts at \$15 each. Bred sows at reasonable price. A. M. Jordan, Alma, Kan.

BARGAINS—Sows bred to Greater by Spelbinder \$15 to \$25. Fall pigs \$7. Shipped on approval. Dobetter Farm, Cullison, Kan.

FOR SALE—A fine 2-year-old boar sired by the great Meddler 23, a splendid breeder of large, uniform litters; price \$40, or will trade him for two choice early spring gilts bred. Address, W. A. Hill, Grand View, Mo.

HORSES AND MULES.

50 HEAD of pedigreed Duroc bred sows, mostly out of a son of Kant Be Beat, cheap. Charles Dorr, Osage City, Kan.

FOR SALE—One finely bred jack, 8 years old, black with white points. His get are fine. E. I. Johnson, Winfield, Kan.

FOR SALE or trade—2 registered stallions, one a Percheron the other standard bred. Extra good individuals and breeders. F. T. McKee, Blue Rapids, Kan.

FOR SALE—Black French draft stallion, registered, 10 years old, 1650 pounds, sound, sure; will guarantee every way; fine disposition, nice to handle. Three hundred for quick sale. A snap. Box 19, Wayne, Kan.

FOR SALE—One black pedigreed standard bred stallion, Patriotta 41836, weight 1250 lbs.; best breeding, two crosses with Wilkes and with Nutwood. I will trade for Percheron stallion, jack or real estate. Address S. A. Baughman, Marysville, Kan.

SEEDS AND PLANTS.

SEED CORN—Get Trent's seed corn book. Winner of first prize in Kansas show for 3 years in succession. S. G. Trent, Hiawatha, Kan.

250 STRAWBERRY PLANTS \$1—In three choice varieties. Fruit trees and small fruits at wholesale prices. List free. John F. Dayton, Waukon, Iowa.

WANTED—Everybody who is interested in first class seeds of any kind to write for our new catalogue, which is sent out free of charge. The Barteldes Seed Co., Lawrence, Kan.

WANTED—Alfalfa, red clover, timothy, English blue grass, millet, cane, milo maize, Jerusalem corn, brown dourra and other seeds. If anything to offer, please correspond with us. The Barteldes Seed Co., Lawrence, Kan.

WILD BIRDS.

WANTED ALIVE—Big, white whooping cranes, blue sandhill cranes, wild swans, wild geese, wild ducks, partridges, quail, prairie chickens, wild turkeys, fow squirrels, white and black squirrels, otters, beaver, etc. Dr. Cecil French, Naturalist, Washington, D. C.

MISCELLANEOUS.

WANTED—Indian and old relics. All kinds. Madison Cooper, 410 Court, Watertown, N. Y.

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Farmers' Week at Kansas Capital.

(Continued from page 3.)

which are today being produced throughout the corn belt. We have thought nothing of going out and paying from one hundred dollars on into the thousands for good stock to put in our herds, realizing that to produce animals of a desirable type we must breed from those of good individuality and breeding. Yet, how often have we planted our corn without having the assurance that it was of strong and vigorous germinating power. I wonder if we have all stopped to think how little corn it takes to plant our fields. A bushel of seed corn will plant from six to seven acres. A 40-acre field requiring about six bushels, or in other words on an average of about 12 ears of corn being all that is necessary for the planting of a single acre.

The Iowa Experiment Station sent out to the farmers of that State an invitation to send in corn to the Iowa State College where a test would be made free of charge and a reply made as to its germinating power. In the securing of these samples of corn we asked that two kernels each be taken from 100 ears. The aim being to get an idea as to the strength of the seed throughout the State. Some over 3,000 replies were received. The corn was all tested with the result that we found 60 per cent of it to be good, 19 per cent of it weak, and 21 per cent of it refusing to even sprout. The corn was considered good only when the stem sprout and root sprout came strong and vigorous; should they come slow or one failed to come we termed it weak; in case neither sprout appeared, it was called bad. What would a test of this kind show? It would show that on the average 100 acres of corn would be grown to produce that which should be received from 60 acres, or in other words that unless very careful attention should be paid to the testing of the seed we would be growing on the nine millions of acres devoted to corn in the State of Iowa, a crop which should be produced on six millions of acres. The problem then that confronts us is, how can we eliminate the weak and worthless seed and know when we go out to plant our corn next spring that we have corn of strong germinating power. We cannot tell with our knife. We may be able to distinguish that which is frozen by the black or cheesy appearance of the embryo, but how can we tell with our knife whether or not a kernel of corn will produce a strong, vigorous stalk or a weak one. This can only be determined by giving the seed an opportunity to send forth its sprouts. If they come strong and vigorous it may well be kept; otherwise it certainly should be discarded. Sometimes we have planted 100 kernels out in the garden. However, from such a test we were unable to eliminate the weak and worthless seed and it may be said that should 90 kernels out of the 100 come fairly strong we consider that our seed corn was above the ordinary and yet we might expect before ever we planted our corn that one acre out of ten would produce nothing; that ten acres out of one hundred would produce nothing. Why? Because ten per cent of our seed corn was worthless to start with, yet it seemed a small amount, just 10 kernels out of 100 kernels refused to come; still that signified one-tenth of our seed. The seriousness of this may be brought very forcibly to our attention when we realize that but twelve ears of corn are necessary for the planting of an acre. Every poor seed ear the farmer uses costs him between four and five bushels of corn. What then is the remedy? I would answer, the individual ear test. This test may be very economically carried on by every farmer. It can be done along in February when other things are not pressing on the farm, and it will be found that enough seed can be tested in a single day for the planting of from 20 to 30 acres, including the time that is needed for putting the corn over and examining it when it has been given time to sprout.

The method of testing each ear is very simple. First, the ears are laid out on the floor (the attic, granary, or some other suitable place being desirable for this work), the butts of the ears even with a crack, a couple of nails driven at the end of each row, and six kernels of corn taken out of each ear and placed at the butt of the ear from which they are taken. First a kernel is taken from the butt, then one from the middle and then one from the tip, turning the ear each time

so as not to take the kernel out of the same row. Then turning the ear over three kernels are taken as before from the other side of the ear. These six kernels will be a good representative of the strength and vigor of the ear in question. Then take the germination box which may be a plain box six inches deep, in which has been placed a couple of inches of wet sawdust, sawdust which was first put in a gunny sack and allowed to soak for half an hour in warm water. Then see that the surface of the sawdust is smooth and even. Place on top of the sawdust a cloth the size of the box which has been ruled in checker fashion, then each one of the squares should be numbered. Place the six kernels of corn lying at the butt of ear No. 1 in square No. 1, and the six kernels of corn lying at the butt of ear No. 2 will be placed in square No. 2, and the six kernels at the butt of ear No. 3 in square No. 3, etc. Take the six kernels of corn from each ear and place them in a square in the box, the number of the square corresponding to the number of the ear. Then take another piece of cloth the size of the box, dampen it and lay on top of the kernels. The kernels should be placed with germs up. The rest of the sawdust in the gunny sack may be placed on top of this cloth, gunny sack and all.

The box should now be put away where the temperature will be favorable and in from six to seven days' time it should be examined. Take the box over to the corn which is still lying on the granary floor, or in the attic, as you left it, and see if the kernels of corn which were taken from ear No. 1, 2, 3, 4, etc., show strong and vigorous. Be sure that both the stem stalk and the root stalk appear. The root stalk appears first and often the root stalk which comes out near the tip of the kernel will look strong when the stem stalk which is the thicker sprout and which comes up near the cap of the kernel will not be appearing, or may be coming very weak. Unless the stem stalk and the root stalk are coming strong and vigorous, and all six kernels coming likewise, the ear should not be used for seed.

A bad ear of corn means an average of about 250 vacant hills, so it is indeed a very serious matter if we retain a poor seed ear. In the examination of the germination box, those ears which show weak in the germination should be pulled back about half way. Do not pull them clear out of the row, as by doing so you are liable to lose the order of the ears.

Now after examining each ear and having pulled back those that appeared weak in the germination box, then take out those which have been pulled back half way. These we cannot afford to use for seed.

We are now ready to prepare our corn for the planter. First, we will shell off the butt and tip kernels; then we will shell each ear separately, running it through a hand sheller and catching the kernels in a pan, and before the sheller we will have three boxes, one marked "large kernels," one marked "medium sized kernels," and one marked "small kernels." If the kernels from ear No. 1 are large kernels, put them in the box marked

"large kernels." Those ears which are of medium sized kernels, put in the box marked "medium sized kernels," and those ears which are of small kernels put in the box marked "small kernels."

It is not enough to test our seed corn, but we must also grade it, that the planter may drop it evenly. With the ordinary planter in general use, it will be found that the planter plate which will drop three of the large kernels will drop four of the medium size and often as many as six of the small kernels. So let us find a planter plate that will drop three of the large kernels at a time and another planter plate that will drop three of the medium size and another that will drop three of the smaller ones at a time. We can afford to have a planter plate for each grade of kernels.

IMPORTING SEED CORN.

Do not import seed corn. There is no seed corn so adapted to your locality as that seed corn which has been grown there for a period of years. Corn will not run out if it is properly selected. If you have not enough seed corn of your own, go to one of your own good neighbors who has paid attention to the selection of good seed corn, but the sure that the corn is always given a careful germination test. Should you desire to bring in some new corn, do not attempt to plant your entire field with it, but merely a small patch. In the experiments which have been carried on in different portions of our State, we find that we do not secure as great a yield from imported seed corn as we do from that seed corn that has been grown in these localities and has become acclimated to the conditions.

SEED PATCH.

We could profit greatly by selecting the fifty or sixty strongest ears in the germination box and planting them on some three-acre patch to themselves, or to the south or southwest portion of the main field would be desirable. These ears should be the first seed corn planted in the spring and at tassel time we should go through this three-acre patch and cut out all the weak stalks, barren stalks, and suckers. Then when we come to go out in the field the latter part of September to pick the early ears from this three-acre patch, we would know something more about the father of the ear, as well as the mother, for the weak stalks and barren stalks do not forget to shed their pollen, even though they do not produce an ear. Cutting them out will eliminate this trouble. The stalks should be cut before the pollen flies. Corn is our labor crop, and he who pays attention to the selection of his seed ears, tests their vitality, then grades the seed and calibrates his planter plate, so that it will drop the kernels of tested seed accurately, will receive great reward for his toil.

Every farmer tests his seed in some way. If each individual ear is not tested before planting time, it certainly is tested by the time we pick the corn from the field. It is indeed much more profitable to use a small germination box for the testing of seed corn than to use a 40, 80, or 100 acre field. In general it may be said that the farmer does not dignify his own occupation to the extent that he should.

It used to be said of a boy that if he was unable to do anything else of importance in this world he could still make an exceptionally good farmer. Those times have passed. It is now being recognized that if there is any man who must put his head into his business it is the farmer. The days of cheap lands are waning. The \$15 and \$20 per acre land of but a few years ago is now selling at \$80 and \$100, and in many instances even more. Where we once saw the broad fields of green pastures we now see in this State the waving fields of oats, wheat, barley, rye, and corn, and it is being very generally recognized that there is no more honorable vocation than that of tilling the soil. It takes brains to be a good farmer.

"The farmer's trade is one of worth, He's partner with the sky and earth, He's partner with the sun and rain, And no man loses for his gain. Men may rise and men may fall, Yet the farmer, he must feed them all."

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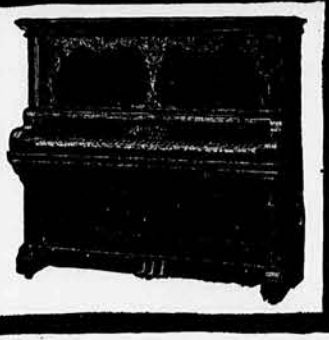
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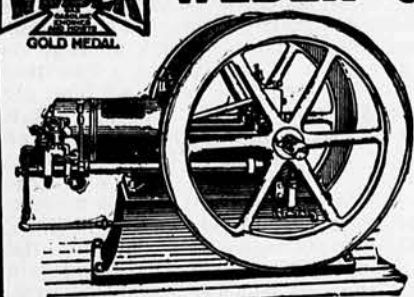


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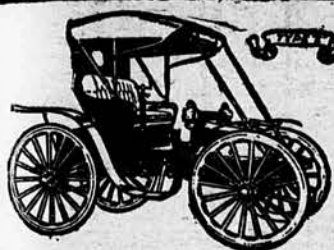
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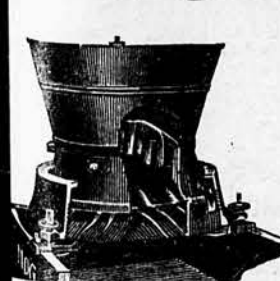
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Cane Hay for Stock—Kafir-Corn or Milo Maize.

I have some cane hay that is two years old. It is nice and bright. Will it be injurious to stock? I have heard that after standing over summer it would sour. Which has the best feeding qualities, Kafir-corn or milo maize? Mapleton, Kan. J. F. D.

I have never heard of cane hay which has been kept over being injurious to stock. Of course after being kept as long as this, the juice will be pretty thoroughly dried out and in all probability will have soured to some extent. It is far less valuable for feeding purposes than cane which has been fed out before the first of January of the season grown. The fact that cane hay contains considerable of the natural juices of the plant adds to the value as a fall or early winter forage. This quality of succulence is valuable for animals over and above the actual nutrients contained in the feed. Cane which has been kept as long as this of course has lost this succulent value and for that reason would be much less desirable for feeding.

No experimental data have been secured as yet regarding the comparative feeding value of Kafir-corn and milo maize. Tests are now being conducted at the Hays Experiment Station, which will undoubtedly throw some light on this point. From the composition of the milo maize and its general character, I should expect it to have practically the same value as Kafir-corn, which is not far behind Indian corn for feeding purposes.

G. C. WHEELER.

Pasture or Forage for Hogs.

I have sows and pigs and want to raise more, but have got to flet something besides buffalo grass until I can get alfalfa sown and old enough to pasture. Will rape grow on buffalo sod broke next April or May, or is there anything that will beat it on sod? I have old ground but the sod is next to dwelling and therefore much handier. Please advise if policy to try to raise forage crop for the hogs on sod or use old ground and what will be most likely to do best to tide me over until the alfalfa gets ready to take care of them. O. I. F. Nekoma, Kan.

Although swine are not ruminant animals, you will find that it is absolutely essential to have pasture or forage or something of the kind in order to raise them profitably. There is nothing better than alfalfa, and you certainly should get some seeded for pasture as soon as possible if you expect to produce pork at a profit. I would not advise you to attempt to grow rape unless it is on low ground abundantly supplied with moisture. The rape plant thrives best on fairly rich soil and in a comparatively cool climate. It germinates at a low temperature and will grow early in the spring. I would hardly expect it to succeed, however, on new ground.

Any of the spring cereals as oats, barley, spelt, or wheat which do well in your vicinity will supply good spring forage for swine. Later in the spring soy-beans or cow-peas might be sown, although these plants require soil to be in better tilth and might not do so well on the sod. Sorghum and Kafir-corn may be used for later summer pasture with good results. It will undoubtedly thrive under those conditions and while not nearly as good as alfalfa for pasture, will supply a large amount of green forage which will be far better than no pasture. It is an excellent plan to sow some rye or wheat in the early fall for pasture. This will give green feed at a time when nothing else has started, furnishing pasture both late in the fall and early in the spring. It might be wise to sow a small proportion of Canadian field-peas with the spring cereals already mentioned. These field-peas germinate at low temperature, consequently will start early in the spring along with oats or barley, and being legumes, furnish a forage richer in protein than the cereals. A mixture of these might be made up including some corn and sown at the rate of about 1½ bushels per acre. These mixtures including a legume, as the Canadian field-pea, are commonly called succotash mixtures and make valuable forage for all classes of stock. G. C. WHEELER.

A mule reasons with his hind feet, but he makes himself understood.—Agricultural Advertising.

A smile makes a deeper impression on the other fellow than a frown.—Agricultural Advertising.

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DAIRY



The Oklahoma Dairymen's Association has just held its second annual convention at the Agricultural College at Stillwater. J. E. Nissley, of Guthrie, well known as a leader in dairy organization during the early days of the industry in Kansas, is president of the Oklahoma association.

The Moisture Limit in Butter.

Replying to an inquiry, Prof. E. H. Farrington of the University of Wisconsin explains that the per cent of water and the per cent of moisture in butter are the same thing. Some persons use the first term and others the second. The present law states that butter containing over 16 per cent water must pay a tax of 10 cents per pound, since it is classified as adulterated. It is quite necessary that butter makers be absolutely sure that the butter they are making does not exceed the 16 per cent limit.

For the benefit of those who have not the means of testing their product for percentage of moisture, Professor Farrington suggests that they need have no fear of exceeding the 16 per cent limit if they will wash the granules of butter with cold water at about 50 degrees F., allowing the butter to stand in this water until the granules become hard and firm. Then after draining off the water, wash and allow the butter to stand in the churn some time until it drains rather dry. Sprinkle the salt over this and give it the usual amount of working. Excessive moisture is held in butter that is soft and not thoroughly drained.

What He Knew.

The New Zealand Dairyman tells of an old dairyman who reluctantly let his boy take a short course in an agricultural college was listening with some amusement to the ideas the lad had absorbed. Finally he exclaimed: "What do you youngsters and your professors know about cows anyhow?" "Well," said the boy, "what do you know about them yourself?" "I know a good deal about 'em. Haint I lived with them all my life?" "Yes," but I'll bet you a new hat you don't know enough right now about our own cows to tell which ones are paying us and which ones are not."

"Yes, I do. All our cows are good cows—not a mean one in the bunch. I don't keep any but good cows." "Well, we'll just test them out and see about that. And we'll see at the

same time how much you know about your own cows."

The boy was not sure that he was right, for the cows looked good, but the test was made, and to the old man's astonishment the boy showed him figures to prove that four cows out of the thirty on the place were money-losers and three others were merely swapping dollars for him. He had a pretty good herd, but this was enough to "show him."

The boy got the hat and the old gentleman figures that it was a cheap hat no matter what it cost.

This is an old story—but it is not a work of fiction. It was true in this case. And it is true in thousands of cases that those who think they know all about their own cows have something to learn, and that something may be a vital fact. It pays to test and know about cows.

Buying Tuberculosis.

Many a man has unwittingly bought tuberculosis in the purchase of animals to recruit or improve his herd of cattle. Dr. H. L. Russell, dean of the Wisconsin College of Agriculture, gave some striking examples of this in addressing the conference on tuberculosis at the University of Illinois, in substance as follows:

A Wisconsin dairy herd of forty-six head, all appearing healthy, were sold to divide the interests of landlord and tenant, the former retaining eighteen head of what he thought the most valuable animals, and the latter buying three. The herd was dispersed to twelve persons, eleven of whom thus introduced tuberculosis into their herds, for thirty-two of these cows were found to be infected, the tuberculin tests being given by State veterinarian, E. D. Roberts. None of these animals showed any outward appearance of the disease and no one suspected its presence at the time of the sale. The post-mortem examinations showed it had made only slight headway. However, it had begun to spread in the five months following the sale. Its accidental discovery was most timely, to prevent the spread of infection from the twelve centers.

And that is the story of how it happens right along. We didn't have tuberculosis a generation ago because we were not buying from the outside. We have been seeding the disease by the interchange of stock. In the early stages it was spread by the pure-bred stuff. The speaker knew of one such herd which had spread tuberculosis to sixteen other herds in four States. One man lost \$3,000. The public auction has been a still more potent fac-

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tor than private sales in thus spreading death and destruction, until now our grade herds are in worse condition than the pure-bred cattle.

Out of 363 diseased herds found in Wisconsin tests, 263 herds or more than 72 per cent, had acquired the disease by purchase. What more positive or extensive proof could one want of the spread of tuberculosis through the interchange of animals from herd to herd?

When a man buys a tuberculous animal he could better afford to take it out and knock it in the head than to take it into his herd and let it spread the disease.

The practical lesson growing out of this knowledge is, never buy cattle to take into a herd unless they are tested or subject to the tuberculin test.—Arthur J. Bill for Illinois Farmers' Institute.

If it were churned, the cream of society wouldn't even produce good oleomargarine.—Agricultural Advertising.

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"The so-called gravity separator is not to be recommended. Any deep setting-can will give just as good results. The cold water spoils the skim milk for calf and pig feed. The system is no new one, just an old one explained in a different way, but really as old as the dairy business. Get a Tubular Separator."

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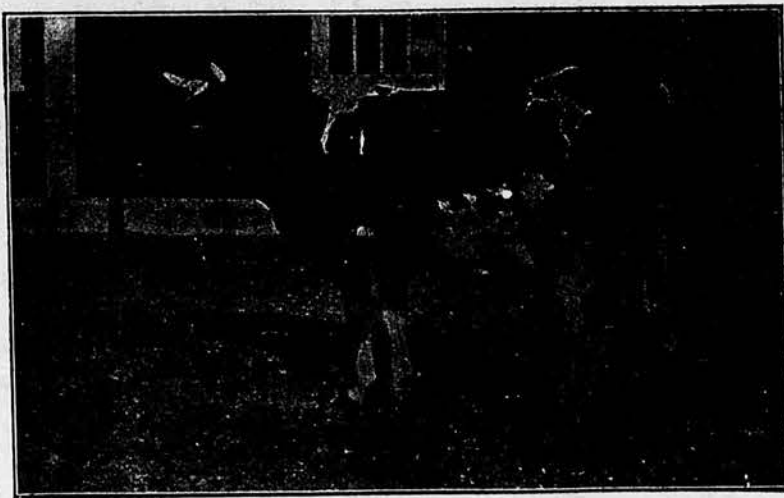
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A remarkable year's official record, when age of animal is considered, has just been completed by the two-year-old Guernsey heifer, Dolly Dimple, owned at North Easton, Mass. In twelve months this heifer produced 14,009 pounds of milk and 703.33 pounds of butter-fat.

Since the completion of the above year's work, this heifer has dropped her second calf and in an official seven days' test, December 8 to 14 inclusive, she gave 444 pounds of milk and

22 pounds of butter-fat. It is doubtful if there is a better seven day record for any animal of any age and on equal feed of any breed.

The cow consumed during the week's test feed as follows: Hay, 70 pounds; silage, 105 pounds; roots, 140 pounds; beet pulp, 63 pounds; bran, 12.6 pounds; pea meal, 8.4 pounds; Ajax, 8.4 pounds; ground oats, 12.6 pounds; gluten, 12.6 pounds; oil meal, 8.4 pounds; alfalfa meal, 8.4 pounds; cottonseed-meal, 8.4 pounds; hominy, 4.2 pounds.

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HORTICULTURE

Spraying With Whitewash.

Editor KANSAS FARMER:—Will you please give me, through the columns of your paper, instructions for changing an ordinary spray pump, such as is used in spraying orchards, so as to use it in whitewashing out-buildings and also tell me how to make the spray. I want it principally for use in the hen house.

WALTER W. KRONE.

Sycamore, Kan.

For whitewash, use an ordinary round nozzle. The fluid may be spread into a fan-shaped discharge by placing the thumb partly over the opening in the nozzle. A piece of tin is sometimes attached to one side of the nozzle and bent partly over the opening in such a way as to spread the whitewash properly. No change is necessary in the pump. The whitewash may be made in the usual way. If not free from lumps it should be strained through a screen.

Cultivating Orchards.

In a paper read before the recent Spokane, Wash., apple show, Mr. C. L. Smith described intensive methods used in cultivating orchards. It is believed that these methods would generally be successful anywhere in the West.

Apple trees as well as corn, require cultivation in the right manner and at the proper time. If to such cultivation is supplemented an application composed of lime and potash, where these elements are deficient, the results cannot be otherwise than satisfactory. Mr. Smith said:

"The percentage of large apples may be grown with very little cultivation; but the grower who neglects to cultivate well every year will often fail to secure marketable fruit the very seasons when prices are the best. The most successful orchardist is the one who gives thorough cultivation every year. The past season has been the driest for many years, and yet where cultivation was thorough and intelligent, the results were satisfactory. In one orchard, 16 years old, we secured over 60 per cent of four-tier apples of such varieties as Baldwin, Greening, Spitzenburg, and Ben Davis. This orchard was plowed early in April, the plowing being done deep in the center of the rows, eight to ten inches, and four to five inches close to the trees. The ground immediately around the trees was then dug over with a mattock, then disked crosswise of the plowing twice, then run over with a clod-crusher, then harrowed; thereafter it was harrowed every week from May 1 to August 15, altogether making nineteen cultivations at an expense of \$6.50 for man and team per acre and \$2 for hand work, a total of \$8.50 per acre. While this might seem at first glance a little too expensive and intensive, the results more than justified the economy of the continuous cultivation, as in other orchards where all the conditions were the same and the cultivation the same, except that one disk and three harrowings were omitted, this saving of \$1.25 in expense caused a loss of \$50 per acre in the value of the fruit. Another orchard of the same age, the same varieties, the same soil, was disked twice and harrowed twice and produced only 10 per cent of marketable fruit.

"The soil, from October to April, should be rough and loose to catch and hold the moisture; from April to October maintain continuously a fine dust mulch over the entire surface. If this is done there will be no weeds.

"When the soil inclines to run together when wet, and bak hard when dry, it lacks humus. If barnyard manure is available, it is the best and readiest means of supplying the humus. The best methods of applying this is by top-dressing during the winter. If the manure is not available use a cover crop, preferably vetch and winter wheat. When this is done, the spring plowing can safely be delayed until the first week in May, but not later, unless it should be a very cold, wet season. Turn under the cover crop good and deep, and immediately follow with the disk twice or three times, then harrow continually every week until August 15. If because of rainy weather, which does sometimes happen, or if from any other cause, the ground gets hard or weedy, disk and clod-crush until the

surface is a fine dust, free from weeds, and then maintain the dust mulch by continuous harrowing. When a cover crop is to be used, seed it at the last cultivation, as near to the middle of August as practicable."

Corn at the Hays Experiment Station.

Editor KANSAS FARMER:—W. S. Marion, of Dodge City, asks for a reply through your paper to several questions concerning corn at the Ft. Hays Branch Experiment Station, as to varieties, yields, soil, preparation, date of planting, etc.

Most of the 1908 crop of corn here was planted between April 28 and May 10. In 1907, however, after a severe frost May 26, we re-planted as late as June 6 and secured good results.

We have only the season's experience with winter treatment of soil for corn growing. Upon upland, one-half of a field was double-disked in February before the windy season, which prevented the "blowing" of soil to great degree and also conserve some moisture; the crop yielding heavier on this ground than upon the undisked land. Upon bottomland, near creek and with some timber protection, little benefit was apparent from the February treatment, although the double-disking gave slightly better results than did plowing or listing.

The yield of Pride of Saline corn on bottom land varied from 52 to 68 bushels per acre; the listed showing up better than the surface planted. Upon upland, the same corn gave these yields: Winter-disked and listed, 25.5 bushels per acre; not disked, but listed, 21.5 bushels per acre; not disked, surface planted, 14.5 bushels per acre.

The Minnesota No. 13 corn, a small, 90-day type of yellow corn, yielded (on bottom) deep plowed: 25 bushels and listed: 22 bushels per acre.

C. K. McCORMICK,

Supt. Ft. Hays B. Experiment Station.

Experience With Tiling.

Editor KANSAS FARMER:—For the benefit of R. B. Williams and others interested in tiling the different kind of soils I would say: First, it is not advisable to put tiling too deep in any kind of soil, as it has a tendency to drain the under-ground moisture away from the growing crop. In heavy, hard soils, such as clay and gumbo, we would advise putting the tiling not over 18 to 20 inches deep as it will drain the top and surface water much sooner than put in deeper, and not over four to five rods apart for the laterals. In the more loose porous soils tiling may be put not more than 30 inches deep. These depths have given the best results in all of my experience of the many thousands of tiling I have laid. My reason for not putting tiling any deeper than herein stated, is that the moisture will be needed in the dryer seasons of the year—for the growing crops. You drain the surface much quicker than with deep tiling and leaves the soil in a much better condition with more life and fertility for cropping. You will get great benefit the first year, and much more the second year, as the water must have time to form its natural course toward the tiling. course toward the tiling.

Huron, Kan. B. F. MOWAN.

Corn is king of the cereals. Last year's corn crop in the United States was valued at \$1,616,145,000, while the wheat crop was valued at \$771,547,000. It is a mistake to suppose that this crop is chiefly important in what is known as the corn-belt. The fact is that the value of the corn crop per acre is greater in New England than in the so-called corn States, for not only is the price per bushel greater there than in the West, but the cultivation is more thorough and it may be added, much more costly. The value of corn ensilage is beginning to be better understood in the Eastern States than it was formerly, and this is increasing attention paid to the corn crop.

An optimist is a man who advertises umbrellas when the sun is shining.—Agricultural Advertising.



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POULTRY



Judge Shellabarger, West Liberty, Iowa, has been engaged as one of the judges at the next State Poultry Show, the second week in January, 1910. The secretary is in correspondence with other judges to complete the trio of experts that is required to judge the show.

The effect of the warm weather upon the egg supply is soon exemplified or at least it was so in the writer's poultry house, for as soon as the cold weather ceased, the hens commenced to lay in great shape. This admonishes us to see that our pens are mated for the season, for the hatching period will be upon us before we are aware of it.

Speaking of the hatching season, it is not always advisable to set the first eggs that are laid by the hens, for the chances are against them being fertile. What the cause of the infertility is, it is hard to tell. Some say it is because the hens are too fat, but whatever the cause, it is well to wait till the hens have laid a dozen or more eggs each before setting the incubator.

A correspondent wishes to know where the next State Show is to be held. This has not yet been determined upon. The new board of managers will meet the latter part of July, when the towns desiring the show, can through their representatives, state the advantages of their particular locality for holding the show there, and the board will be governed accordingly.

Another important item in the feeding of fowls is plenty of good, sharp grit, and especially is this necessary when the fowls are penned up and have no access to any kind of stone or gravel. Grit enables a fowl to prepare its food for digestion; it is the hen's teeth; and if deprived of it,

the food remains unground in the gizzard till it softens and falls to pieces. This makes very slow work and imperfect digestion. Plenty of hard, sharp grit should be before the fowls at all times or good food will be wasted for want of grinding material to utilize it.

At this time of year the hens need something in the shape of animal food more than anything else. They are naturally worm and insect hunters but there are none to hunt during cold weather and something to take their place must be provided if eggs are wanted. Of course the best thing is fresh meat or fresh cut bone and meat. The next best is meat scraps or meat meal. Skim-milk either to mix with their mash or to drink at will, is very good for laying hens and will help towards a meat ration. Next to animal food in winter, the hens need green food and when cabbage or beets or turnips are scarce, scalded alfalfa leaves will take their place to a great extent.

The reason why table scraps are so much recommended for chickens is because it is a balanced ration. The chickens like it because there is a variety of food in it. Meat, bread, vegetables, everything necessary for egg-production. If plenty of table scraps could be procured no better feed could be found for poultry, but the supply is restricted, of course, and only a few fowls can be benefited therefrom. If, however, poultry raisers would try and vary the food that they give their fowls, in conformity to the ingredients found in table scraps, it would materially increase the contents of the egg-basket and redound to the health of their flocks. It is the one steady diet of corn, corn, and nothing but corn, that falls on the appetite of the farmer's fowl and causes the egg supply to fall off.

Charcoal has an important place in the feeding of poultry and granulated charcoal should be within the reach of fowls at all times. While charcoal has no strict nourishing properties, yet it is a powerful absorbent and will correct many disorders of the digestion, thereby keeping the health of the flock in good condition. If wood is burned in the household, the wood ashes thrown where the fowls can pick at them will generally furnish all the charcoal that is necessary. Corn on the cob may be put in the oven till thoroughly charred and then fed to the hens and thus be a source of health and food at the same time.

Some of this advice may seem old and trite and to some breeders unnecessary, so also to the seasoned traveler seems the calling out, by the brakeman, of the names of the different stations as the train approaches them. But he must do it, not for the benefit of the traveler who knows just when and where to get off, but for the lone man or woman who might happen to go past their destination without a word of warning. So our advice is intended for those who need it; but say, you old fellows, who know it all, do you always provide plenty of grit and charcoal for your fowls? You may know that they need it but do they get it? That's what we are here for, to remind you that your grit box is empty and to tell the other fellow that his fowls are suffering for the want of artificial teeth.

The Deluge.

Enclosed you will find check in payment of our poultry ad for three issues. We have had a flood of inquiries. Thanking you for all your favors we are, etc.—Eagle & Son, Melvern, Kan., Jan. 21, 1909.

No man's quarrel is good enough to make your own.—Agricultural Advertising.

It's a wise boy who learns what he ought not to know.—Agricultural Advertising.

Many a pleasant flow of language is interrupted by an idea.—Agricultural Advertising.

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John Brennen, Auctioneer.
Jesse Johnson, Fieldman for this paper.

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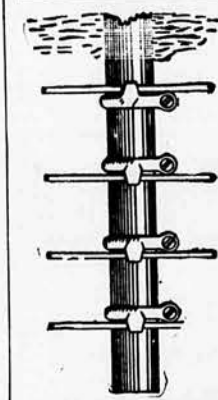
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THE YOUNG FOLKS

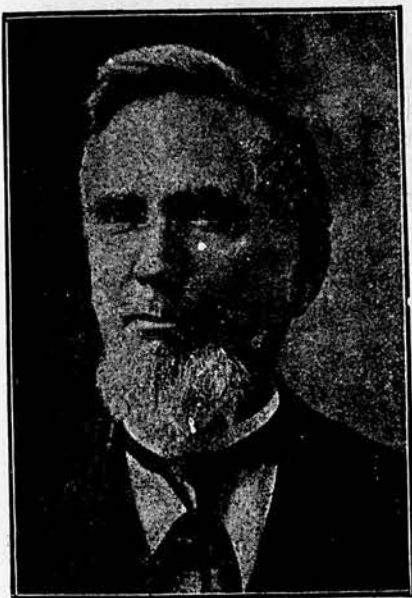
When Judge Wellhouse Was a Boy.
RUTH COWGILL.

[This is the first of a series of articles to be published every two weeks on the youth of men and women who have become well known in Kansas.]

There is a certain grand old man who has helped to make our State a prosperous and God-fearing commonwealth. So nobly has he done, in fact, that he has earned for himself a royal title and we call him the "Apple King." Yet he is not haughty and he numbers many of the common people among his friends, one of whom I have the honor to call myself. And this is how it happens that I can tell the story of his boyhood. For he told it to me one day, just because I was interested, and I think he will not mind if I tell it over again.

Fred Wellhouse was born on a farm in Wynee county, Ohio, and lived with his good father and mother and an older brother. There was also a cousin, a girl 7 or 8 years older than he, who lived with them, and was very good to him when he was little.

He was only four and one-half years old when he started to school, and



FRED WELLHOUSE.

that was a big day for him. He wore a new suit, all new from collar to garter, and he felt greatly elated, walking along under the care of his twelve-year-old cousin. They had to cross a shallow stream upon a narrow plank for a bridge, and in mid-stream the little fellow fell in. It was the saddest hour of his life. He thought life could offer him no greater woe, that no one ever had so great a sorrow, for he had to turn back homeward, instead of to that wonderful goal of his dreams, the school-house. To this day he remembers how he stood in the road, "boo-hooing" and looking both ways, toward the school-house longingly, and toward home in the exasperated submission to the inevitable.

He had better luck the next day, however, and reached the schoolroom successfully. Yet on that very first day he received a whipping, the first of a hundred or so in the next few weeks before the weather grew too cold for the little mite to go out. The schoolmaster was an old man whose name was "Betts" and whose theory of school discipline was contained in the venerable proverb, "Spare the rod and spoil the child." He lived up to his principle consistently and Fred has very distinct remembrances of his long stick.

The school-house was a little log building. At a distance of some three or four feet from the floor a wide space was left all around the room between the logs, in which window glass was set. The children's desks were fastened to the walls around the room just under the windows so that they sat with their backs toward the middle of the room while they were studying and writing. Fred's cousin and her seat-mate were very good friends and doubtless got into a good deal of mischief. At any rate the master saw fit to chastise the seat-mate one day, but his stick was too long and the cousin received the sharp cuts from the end of it, while the culprit was little hurt; but she being punished, wept, while the cousin saw the funny side and turning her mischievous face sideways, grinned the school girl's comical, wicked grin. This was too much for Fred, who giggled out, and then took

his turn under the long stick.

Ten years later when grown into a large, manly boy of fourteen, he met his old teacher in a store in Akron, near which his family had moved in the meantime.

"Do you know Uncle Billy's boy, Mr. Betts?" the storekeeper said. (Fred's father was affectionately called Uncle Billy by his neighbors.) "This is Fred," the storekeeper went on.

"No, I don't know him," answered Mr. Betts.

"Well, you've whipped me many a time," remarked Fred.

In the summer when Fred was five he asked his father for an axe.

"What do you want an axe for?" asked his father.

"To chop wood."

So his father bought him a little axe somewhat larger than a hatchet.

"Father, I am going to chop wood. How much will you give me for it?" he asked.

"We-ell," said his father considering, "I guess about a cent a cord."

"All right," said the young laborer, and went out to the woods. He found a tree which had fallen, rotted to the core. This struck him as a good piece to begin on, so he set to work and got along prosperously. At last he had seven piles and the business having grown monotonous he went off to play. But by supper time he approached his father with a demand for his wages.

"How much did you chop, my boy?" asked his father.

"Seven."

"Let me see them," said the father, incredulously.

So Fred led him to the piles.

"Pretty small cords," said the hired man who had come with them.

"Yes, and I am a pretty small chopper," answered Fred, conclusively.

His father thereupon paid him seven cents and for two days he was the proudest small boy in two counties. He carried the money around in his pockets, jingling it continuously. At last his father said, "Why don't you loan your money, Fred?"

Fred had the idea that if he loaned money he would have to pay the borrower for taking care of it, so he asked, "Why?"

"To get interest," said his father, and then went on to explain to the child how money could earn money.

"Sometimes people need money very much, and then they will pay any one for the use of theirs. Then when you want it again they have to get it for you."

This seemed to Fred a pretty good arrangement, so he asked his father how much he could get for the loan of his seven cents.

"Ask your brother," said the father, "he is studying arithmetic and can figure it out for you."

When he found out it would be only about one-half cent a year he decided it would be too little, and he would rather buy something.

"Well," said the father, "I need money badly and I will give you a little more interest than that. I will give you a cent for the use of it for a year."

Thus the transaction was concluded and at the end of the year, six-year-old Fred had eight pennies, instead of seven.

Fred grew rapidly in body and mind under such wise training and at the age of twelve was a large, well grown, and strong lad, able to drive a team and handle a plow.

One day he was working with a team and wagon at some distance from home and on his way thither had the misfortune to break the king-bolt of his wagon. He saw nothing for it but to leave the wagon and go for another bolt. So he unhitched the team and led them home. His father met him at the door.

"Why, what's this? What are you here for without the wagon?"

"I broke the king-bolt."

"Let me see it. Yes, that is the king-bolt all right. Well, give it to me. Now you go and bring the wagon home."

"But it is broken. It will come apart," expostulated the boy.

"Never mind that," persisted the father. "Take the horses back and bring that wagon home."

There was nothing for it but to do as he was bid. But he knew his father well enough now to be sure that he meant something by all this, and all the way back he kept thinking and planning how he might get that wagon home. He thought perhaps a wooden

king-bolt would do and the more he thought of it the more he thought it would do. Reaching the place at last where he had left the wagon, which was near a neighbor's house, he was accosted by the neighbor himself.

"Got back quick with your king-bolt, didn't you?"

"I haven't it," said the boy. "Father sent me back without it and told me to bring the wagon."

"Oh, he did, did he?" laughed the man, who knew his father very well.

"Yes, I've been wondering if a wooden bolt wouldn't do."

But the man would not help him with advice. "If you think a wooden one will do, why there is the wood pile and there is the axe and you are welcome to both." And he sat on the fence whistling and evidently enjoying himself while Fred chopped out a bolt and whittled it with his strong pocket knife to fit. All the time Fred grew surer that this wooden makeshift would do, and he fitted the impromptu bolt into its place, hitched his horses and drove merrily home. The wooden bolt not only did to get home with but it lasted two weeks, it being inconvenient to go to town for one before that time.

This wise father died when Fred was fifteen, and his brother only a year or two older, but thanks to his training they were manly, efficient boys, quite capable of managing his business. The older brother attended to the elevator while Fred managed the farm, and in two years the two brothers had lifted a heavy mortgage, which the father had left. So highly did his neighbors think of Fred that when he was only sixteen he was allowed to vote in local matters, his mother being the largest tax payer in

the district, and he being her representative.

He was married when nineteen, being in ability older than most boys of twenty-one or twenty-two.

When he was twenty-five he moved to Indianapolis and bought a half interest in an agricultural paper, but it did not pay as well as he had expected and he grew tired of indoor work, being accustomed to outdoor life, so in 1859 he sold out and came to Kansas, settling in Leavenworth county where he has lived ever since.

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The Kansas Farmer, Topeka, Kan. Each pattern 10 cents.

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RICH MEN'S CHILDREN

By Geraldine Bonner.

(Copyright 1906 by the Bobbs-Merrill Company.)

(Continued from last week.)
euchre, only helped to accentuate the comradeship which leagued them together in defensive alliance.

The days that were so long to others were to them of a bright, surprising shortness. Playing solitaire against each other on either side of the fireplace was a pastime at which hours slipped by. Quite unexpectedly it would be midday, with Cora putting her head around the doorpost and calling them to dinner. In the euchre games of the afternoon the darkness crept upon them with the stealthy swiftness of an enemy. It would gather in the corners of the room while Cora was still heated and flushed from her efforts to instruct Willoughby in the intricacies of the game, and yet preserve that respectful attitude which she felt should be assumed in one's relations with a lord.

The twilight hour that followed was to Dominick's mind the most delightful of these days of fleeting enchantment. The curtains were drawn, a new log rolled on the fire, and the lamp lit. Then their fellow prisoners began dropping in—the old judge stowing himself away in one of the horsehair arm chairs, Willoughby and Buford lounging in from the war, Mrs. Perley with a basket of snow from his rounds, and the doctor all snowy from his readings had expanded from the original listener to this choice circle of Antelope's select. The book chosen had been Great Expectations, and the spell of that greatest tale of a great romance fell on the snow-bound group and held them entranced and motionless round the friendly hearth.

The young man's eyes passed from face to face, avoiding only that of the reader bent over the lamp illumined page. The old judge, sunk comfortably into the depths of his arm chair, listened, and cracked the joints of his lean, dry fingers. Willoughby, his dogs crouched about his feet, looked into the fire, his attentive gravity broken now and then by a slow smile. Mrs. Perley, after hearing the chapter which describes Mrs. Gargery's methods of bringing up Pip "by hand," attended regularly with the remark that "it was a queer sort of book, but some way or other she liked it." When Cora was forced to leave to attend to her duties in the dining room, she tore herself away with murmurous reluctance. The doctor slipped in at the third reading and asked Rose if she would lend him the book in the morning "to read up what he had missed." Even Perley's boy, in his worn corduroys, his dirty, chapped hands rubbing his cap against his nose, was wont to sidle noiselessly in and slip into a seat near the door.

The climax of the day was the long evening round the fire. There was no reading then. It was the men's hour, and the smoke of their pipes and cigars lay thick in the air. Cut off from the world in this cranny of the mountains, with the hotel shaking to the buffets of the wind and the snow blanket pressing on the pane, their memories swept back to the wild days of their youth, to the epic times of frontiersman and pioneer.

The judge told of his crossing of the plains in forty-seven and the first Mormon settlement on the barren shores of Salt Lake. He had had encounters with the Indians. He had heard the story of Olive Oatman from one who had known her, and listened to the sinister tale of the Donner party from a survivor. Bill Cannon had "come by the isthmus" in forty-eight, a half-starved, ragged lad who had run away from ungenial drudgery on a New York farm. His reminiscences went back to the San Francisco that started up around Portsmouth Square, to the days when the banks of the American river swarmed with miners, and the gold lay yellow in the prospector's pan. He had worked there shoulder to shoulder with men who afterwards made the history of the state and men who died with their names unknown. He had been an eye witness of the blackest of California tragedies, the lynching of a Spanish girl at Downsville, had stood pallid and sick under a pine tree and watched her boldly face her murderers and meet her death.

The younger men, warmed to emulation, contributed their stories. Perley had reminiscences bequeathed to him by his father who had been an alcalde in that transition year, when California was neither state nor territory and stood in unadministered neglect, waiting for congress to take some notice of her. Buford had stories of the vicissitudes of a strolling player's life. He had been in the Klondike during the first gold rush and told tales of mining in the North to match those of mining on the "mother lode." Willoughby, thawed out of his original shyness, added to the nights' entertainments stories of the Australian bush, grim legends of the days of the penal settlements of Botany Bay. Young Ryan was the only man of the group who contributed nothing to these Sierran Nights' Entertainments. He sat silent in his chair, apparently listening, and, under the shadow of the hand arched over his eyes, looking at the girl opposite.

But the idyl had to end. Their captivity passed into its third week, and signs that release was at hand cheered them. They could go out. The streets of Antelope were beaten into foot paths, and the prisoners, with the enthusiasm of children liberated from school, rushed into open air diversions and athletic exercise. The first word from the outside world came by restored telegraphic communication. Consolatory messages poured in from San Francisco. Mrs. Ryan, the elder, sent telegrams as long as letters and showered them with the prodigality of an imprisoned gratitude on the camp. Perley had one that he could not speak of without growing husky. Willoughby had one that made him blush. Dominick had several. None, however, came from his wife and he guessed that none had been sent her, his remark to Rose to "let her alone" having been taken as a wish to spare her anxiety. It was thought that the mail would be in now in a day or two. That would be the end of the fairy tale. They sat about the fire on these rare evenings discussing their letters, what they expected, and whom they would be from. No one told any more stories; the thought of news from "outside" was too absorbing.

It came in the early dusk of an afternoon near the end of the third week. Dominick, who was still unable to walk, was standing by the parlor window, when he saw Rose Cannon run past outside. She looked in at him as she ran by, her face full of joyous excitement, and held up to his gaze a small white packet. A moment later the hall door banged, her foot sounded in the passage, and she entered the room with a rush of cold air and a triumphant cry of:

"The mail's come!"

"Perley got a letter from your mother," she said suddenly, "that he was reading in

a corner of the postoffice, and it nearly made him cry."

There was no answer. She waited for a space and then said, projecting the remark into the heart of the fire.

"Yours must be a most interesting letter." She heard him move and looked quickly back at him, her face all gay challenge. It was met by a look so somber that her expression changed as if she had received a check to her gaily as unexpected and effectual as a blow. She shrank a little as he came toward her, the letter in his hand.

"It is an interesting letter," he said. "It's from my wife."
Since those first days of his illness, his wife's name had been rarely mentioned. Rose thought it was because young Mrs. Ryan was a delicate subject best left alone; Dominick, because anything that reminded him of Berney was painful. But the truth was that, from the first, the wife had loomed before them as a figure of dread, a specter whose presence concealed the something exquisite and uplifting each felt in the other's heart. Now, love awakened, forcing itself upon their recognition, her name came up between them, chilling and grim as the image of death intruding suddenly into the joyous presence of the living.

The change that had come over the interview all in a moment was startling. Suddenly it seemed lifted from the plane of everyday converse to a level where the truth was an obligation and the language of polite subterfuge could not exist. But the woman, who hides and protects herself with these shields, made an effort to keep it in the old accustomed place.

"Is—she well?" she stammered, framing the regulation words most unconsciously. "She's well," he answered, "she's very well. She wants me to come home."

He suddenly looked away from her and, turning to the chimneyplace, rested one hand upon it and gazed down at the logs. A charred end protruded and he pushed it in with his slippered foot, his down bent face, the lips set and brows wrinkled, looking like the face of a sullen boy who has been unjustly punished. An icy, invading chill of depression made Rose's heart sink down into bottomless depths. She faltered in faint tones:

"Well, you'll be there soon now."

"I don't know," he answered without moving. "I don't know whether I shall."

"You don't know whether you'll be home soon? The roads are open; the postman has come in."

"I don't know whether I'll go home," he repeated.

The snapping of the fire sounded loud upon the silence that followed. The thrill of strong emotions rising toward expression held them in a breathless, immovable quietude.

"Don't you want to go home?" said the young girl, her voice was low and she cleared her throat. In this interchange of commonplace sentences her heart had begun to beat so violently that it interfered with the ease of her speech.

Dominick leaned forward and dropped the crumpled letter into the fire.

"No, I don't want to. I hate to." To this she did not reply at all, and after a moment he continued: "My home is unbearable to me. It isn't a home. It's a place where I eat and sleep, and I'd prefer doing that anywhere else, in any dirty boarding house or fourth rate hotel—I'd rather."

He stopped abruptly and pushed the log farther in. The letter was caught up the chimney in a swirl of blackened scraps.

"But your wife?" said Rose.

This time her voice was hoarse but she did not know it. She had lost the consciousness of herself. It was a moment, the deepest she had so far known, and all the forces of her being were concentrated upon it. The young man answered with deliberation, still not moving.

"I don't want to see my wife. We are—we are—uncongenial. There is nothing but unhappiness between us."

"Don't you love her?" said the girl.

"No, I never did," he answered.

For a moment neither dared speak. They did not look at each other or stir. They hardly seemed to breathe. A movement, a touch, would have rent the last thin crust of reserve that covered what were no longer unsuspected fires. Dominick knew it, but the girl did not. She was seized by what to her was a sudden inexplicable fear, and the increased, suffocating beating of her heart made her feel dizzy. She suddenly wished to fly, to escape from the room, and him, and herself. She turned to go and was arrested by Cora's voice in the hall:

"Say, you folks, are you in there?"

Cora's visage followed her voice. She thrust it round the doorpost, beamingly smiling under a recently applied coat of powder.

"Do you want to tackle a game of euchre? Mr. Willoughby and I'll lay you out cold unless that British memory of his has gone back on him and he's forgot all I taught him last time."

They were too bewildered to make any response. Rose gathered up her coat and dropped it again, looking stupidly from it to the intruder. Cora turned back to the passage, calling:

"Here they are, Mr. Willoughby, all ready and waiting for us. Now we'll show them how to play euchre."

Before Willoughby appeared, responsive to this cheerful call, Cora had pulled the chairs round the table and brought out the cards. A few moments later, they were seated and the game had begun. Cora and her partner were soon jubilant. Not only did they hold the cards, but their adversaries played so badly that the tale of many old scores was wiped off.

The next day the first movements of departure began. Early in the afternoon Buford and Judge Washburne started for Rocky Bar in Perley's sleigh. The road had been broken by the mail carrier, but was still so deeply drifted that the drive was reckoned a toilsome undertaking not without danger. Perley's two powerful horses were harnessed in tandem, and Perley himself, a mere pillar of wrappings, drove them, squatted on a soap box in front of the two passengers. There were cries of farewell from the porch and tapings on the windows as the sleigh started and sped away to the dimming jingle of bells. A sadness fell on those who watched it. The little idyl of isolation was over.

(To be continued.)

It is the unexpected that happens, because the expected gets there without happening.—Agricultural Advertising.

J.G. PEPPARD BUYS AND SELLS

MILLET, CANE, KAFFIR, POPOORN, SEED CORN, ALFALFA, TIMOTHY, CLOVER AND ALL FIELD AND GRASS SEEDS OF KINDS

1101 to 1117 West 8th, Near Santa Fe St., KANSAS CITY, MO

Plant Kansas Alfalfa

Longest Lived, Hardest, Most Productive and Valuable Forage plant known. Barteldes Seed Co's KANSAS grown "SUNFLOWER BRAND" is best, cleanest, and purest obtainable. Three to four crops per year of splendid hay. Free 100 Seed catalog, complete list of seeds. Free booklet on Alfalfa. Write now for them. Request Catalog H. Special Premiums Mammoth Collections Garden Seeds.

THE BARTELDES SEED CO., Lawrence, Kans.

Branches at Denver, Colo., and Oklahoma City, Okla.

SEED CORN

New Prosperity and all the best varieties of choice, selected, thoroughly tested seed corn, which have yielded 75 to 815 bushels per acre. Costs only 25 cents per acre for seed. Large, descriptive catalog of Seed Corn and all kinds of Farm and Garden Seed mailed free if you mention this paper. Iowa Seed Co., Des Moines, Iowa.

SEED CORN

FREE TO FARMERS—By special arrangement Ratekin's big 1909 seed catalogue, with a sample of "Diamond Joe's Big White" seed corn that made 133 bushels per acre, will be mailed free to every reader of this paper who is interested in the crops they grow. This big book tells how to make the farm and garden pay. It's worth dollars to all who plant or sow. Write for it and mention this paper. The address is Ratekin's Seed House, Shenandoah, Iowa.

ACORN BRAND Contains the essential quality necessary to produce profitable crops. Ross Brothers Seed House

SEEDS

Kansas grown Alfalfa Seed and Seed Corn. Write for descriptive seed book.

311 E. Douglas, Wichita, Ks.

FRESH Write for Catalog today ITS FREE TESTED SEED

Tested Seed THE KIND TO PLANT MY NEW SEED BOOK I want everybody who plants Seed to have a copy of It is an elegant book, by far the best I have ever issued, giving complete and accurate descriptions of my TESTED SEED. Over 1000 Varieties, 800 fine illustrations of Vegetables, Field and Flower Seeds, Roses, Plants, Shrubs, Poultry and Bee Supplies. You need this book. Shall I send it to you? IT'S FREE! Zimmerman Seed Co. 623 Quincy St., TOPEKA, KANSAS

SEND a postal card today for our big 14-page catalog of genuine seed business. This is not our regular annual garden catalog—but this bargain book of new selected and critically tested Seeds, Plants, Shrubs, Vines, Bulbs, Fruit and Fancy Trees is intended to introduce our regular seeds, etc. These bargain prices hold good as long as the supply lasts—therefore, don't delay—send today for bargain list and make your selection. ARCHIAS' SEED STORE, Box 17, Sedalia, Missouri.

Seeds that are O.K.

Billion \$ Grass SEED COSTS BUT 90c PER ACRE Most wonderful grass of the century, yielding from 5 to 10 tons of hay per acre and lots of pasture besides. It simply grows, grows, grows! Outfit today and in 4 weeks it looks for the mower again, and so on. Grows and flourishes luxuriantly everywhere, on every farm in America. Big seed catalog free or send 10c in stamps and receive sample of this wonderful grass, also of Spelts, the cereal wonder. Barley, Oats, Clovers, Grasses, etc., etc., easily worth \$10.00 of any man's money to get a start, and catalog free. Or send 14c and we add a sample farm seed novelty never seen by you before. JOHN A. SALZER SEED CO., LeCrosse, Wis.

GARDEN SEEDS FREE! Two Packets for Trial.

We send two regular sized packets of our superior Garden Seed, your selection, and our Big 1909 Seed Manual absolutely Free to all new inquiries. We are anxious to increase our number of customers and have you become acquainted with our Guaranteed Seeds is the reason we make this generous offer. If you give our Seeds a trial, we are sure you will become one of our pleased customers. Write today for our Big 1909, 100-page, illustrated Seed Catalog. A.A. BERRY SEED CO., Box 205, Clarinda, Ia.

SEEDS THAT GROW Best quality Garden, Flower and Farm Seeds, Alfalfa, Clover, Seed Potatoes. We will send free with catalogue a pkt. of new lettuce seed "May King" the best head lettuce ever introduced. German Nurseries, Box 55 Beatrice, Neb.

HEALTHY TREES AND SEEDS —grown on new land—therefore hardy, sound and free from disease. Prices absolutely the lowest. No agents. Forest tree seedlings \$1.25 per 1000 Apple 7c and up. We pay freight. Largest Nursery Catalog free CALDWELL NURSERIES & SEED CO., Box 22 FAIRBURY, NEB. \$1.25 ONION SEED \$1.25 and up. Write for free samples for testing. Complete Garden Manual, Free. FIELD SEED CO., Box 55, Shenandoah, Iowa.

Evergreens

that will grow for you. 15,000. Arborvitae. Specimens for yard or hedge. Specialty of ornamentals for landscape purposes.

Farrar Nurseries, Abilene, Kans.

Greenwood Co. Nursery Eureka, Kan.

We have to offer for spring delivery, apple, pear, cherry, plum, peach, apricot, quince trees, grapevines, blackberry, raspberry, strawberry, gooseberry and currant plants, rhubarb, asparagus, hardy shrubs, roses, cat-tails, black locust, Russian mulberry, y, maple and hedge. If in need of any nursery stock write us. J. W. HINSHAW, Prop.

40 CONCORD GRAPE VINES \$1 Well rooted, VINES \$1 bards, good bearers, healthy. All are true-to-name. Order grape-vines here, also 20 budded peach trees for \$1; 8 budded cherry trees for \$1. With free catalog we enclose due-bill for 25c. FAIRBURY NURSERIES, Box L, Fairbury, Neb.

Garden Huckleberry

A delicious, cultivated fruit producing clusters of berries as large as a grape, grown from seed the first year. Easily takes the place of wild huckleberry. Sure crops and a big yield. Requires only same care as tomato vines. Supplies fruit while waiting for others to ripen. Send 10 cents for packet of seeds and fine illustrated Seed Book—everything in seeds for farm, field and garden. GRISWOLD SEED CO., 201 S. 10th St., Lincoln, Neb.

25 Grape Vines FREE

This is to introduce our new method of selling. Nursery Stock by mail direct to user at prices that cannot be equaled. Send us your name and address for free catalog and full particulars how to get 25 grape vines FREE. No catch scheme, simply a fair and square offer. Address Iowa Nursery Co., Dept. 54, Des Moines, Iowa.

Bargains in Farms, Ranches, City Property

SANFORD BROS.
Bargains in LOTS and other CITY PROPERTY
REAL ESTATE DEALERS
MANHATTAN KAN.

FARM BARGAINS.
240 acres 3 miles from McPherson, first class improvements all new, 10-room house, large barn and outbuildings, fenced and cross fenced, 205 acres plow land, balance pasture. Price \$71 per acre. Easy terms. McPherson and Loan Co., McPherson, Kan.

Dickinson Co. Bargains.
We have many nice homes for sale at very reasonable prices. Write us for free list. Please mention this paper. Briney, Autz and Danford, Abilene, Kan.

OSBORNE COUNTY LAND.
A postal card brings big free pictorial farm list.
Payton Bros., Osborne, Kan.

H. C. SWEET, STOCKTON, KANSAS.
Great Bargains in Farms and Ranches.
Write me for new list and particulars.

FOR EXCHANGE
Hotel 23 rooms, corner lots, steam heat, or will sell for \$4,000. Also 180 acres land, 70 in cultivation. Good orchard, 4-room house, fine water. Six miles from Bennington, Kan. Price \$3,200. Come and see us. J. H. BOYLE, Bennington, Kan.

TO TRADE.
\$10,000 stock general mdse. for farm. Also \$8,000 hardware stock to trade for farm. A first class, up to date brick plant, at a big bargain, or will trade for land. See or address
REZIN IAMS,
Box 237, Clay Center, Kan.

Zimmerman Irrigated Lands
The Cream of the Pecos Valley. Now open. All river-front sections. The best alfalfa and fruit lands in America. Sold in 40-acre tracts, which will provide a permanent annual income of \$1,000 or more annually. Price \$35 to \$40 per acre on 5 years' time, without interest or taxes, including perpetual water-right, 50 cents per acre as first payment. Address
THE HEATH COMPANY,
628 Jackson St. Topeka, Kansas

Don't Lose Sight of This Snap.
225 acres level bottom land, 3 miles from Clay Center, Kan., 25 acres pasture, 20 acres meadow, 6 acres alfalfa, balance good plow land, 65 acres of growing wheat, 7 room dwelling almost new, good cellar, granary and corn crib with driveway, frame barn, good well and mill, good bearing orchard, 1/4 mile to school, R. F. D. This farm will stand investigation. No better soil in the state. Price \$18,000.
NORDSTRUM-HEUSTED REALTY CO.,
Clay Center, Kan.

Good Dairy and Hog Farm

160 acres joining city limits of Wichita, Kansas, all in grass, well fenced, an abundance of good water can be had at 15 feet deep; 1/2 of this land will grow good alfalfa and corn, balance fine pasture and meadow land. A snap for a short time for \$7,500 with terms.

The Nelson Real Estate & Img. Co.
137 N. Main, Wichita, Kan.

MISSOURI FARMS for SALE.
Everman has a farm for every man. Write for description and price list.
John W. Everman, -:- Gallatin, Mo.

Poland China Bred Sow Sale Circuit

Thursday and Friday, February 11 and 12

80 Head.---Forty Tried Sows and Forty Spring Gilts.

Catalogs ready

Lemon Ford's Offering

Thursday, February 11

40 HEAD. 20 IMMUNE TRIED SOWS AND 20 SPRING GILTS 40

Mr. Ford's Poland China herd is one of the established herds of the Solomon Valley. It is two miles out from Minneapolis, where the sale will be held, and is favorably known because of the popular blood lines it contains and the high quality of its individuals.

The offering on the above date is an exceptionally strong one. Twenty head of the offering are immune tried sows that Mr. Ford is selling to reduce the herd and not for a single fault. Among them one Expansion sow that is big and smooth and a good brood sow generally. Others are by leading sires of up-to-date breeding. The spring gilts are mostly by old Trouble Maker, the full brother to the great Meddler of world wide fame. Those not by him will be bred to him as is a majority of the offering. Everything not bred to him is safe to the service of either Three Cheers or Major, two other sires of merit. Catalogs ready. Breeders stop at the Stratton Hotel in Minneapolis.

Auctioneers: Col. John Brennen, Col. G. W. Barker, Col. Bob Barker. J. W. Johnson will attend this sale.

LEMON FORD,

Minneapolis, - - - Kansas

D. A. Wolfersperger's Offering

Friday, February 12

40---Head. 20 Tried Sows, 20 Spring Gilts---40

This offering of 40 bred sows is Mr. Wolfersperger's first attempt at selling at auction and he has selected from his splendid young herd some of the very best things he had that he might be able to make a creditable showing for his herd. The 20 tried sows are all of them in the prime of their usefulness and are bred to the very best advantage to one or the other of his great herd boars. The 20 gilts have been selected and mated to the best advantage and are indeed a nice lot of well grown out, smooth young sows that will be profitable investments. Everything is bred to Mr. Wolfersperger's herd boar, Impudence E. L. by old Impudence, and Hurry On by old On and On. The sale will be held at the farm adjoining Lindsey station, which is four miles from Minneapolis and two miles from Lemon Ford's Farm, where his sale will be held the day before. Catalogs ready. Breeders stop at Stratton Hotel in Minneapolis.

Auctioneers: Col. John Brennen, Col. Geo. W. Parker, Col. Bob Parker. J. W. Johnson will attend this sale.

D. A. WOLFERSPERGER,

Lindsey, Kansas

COMBINATION DUROC JERSEY BRED SOW SALE

AT COLLEGE PAVILION Manhattan, Kans., Tuesday, February 9, 1909

G. M. HAMMOND'S CONSIGNM'T

Eleven tried sows, 12 fall yearlings and 9 spring gilts, granddaughters of Ohio Chief, Crimmon Wonder, Gold Finch, Model Chief, Missouri Wonder, Red Raven, Tip Top Notcher, Joe Folk, Pilot Wonder 2d, Field Marshall, Jr., and other noted sires. All bred for spring farrow to the prize winner, Chief Tatarax, Wonder Chief, his litter brother, G. W.'s Carl Colonel, and King's Model by King of Colonels 2d.

JNO. W. TAYLOR'S CONSIGNM'T

Nine sows and gilts, granddaughters of Proud Advance, Tom Watson, Tip Top Notcher 2d, Climax, Ohio Chief, Buddy K. 4th, Brighton Wonder, Oom Paul 2d, and other good sires.

K. S. A. C. CONSIGNMENT

Five tried sows and 6 yearling gilts, granddaughters of Kant Be Beat, Auction Boy 3d, Worton's Decree, Proud Fancy, and others. All bred to Wonder Chief, litter brother to Chief Tatarax.

A great offering selected from three good herds. For catalog write Geo. W. Hammond, Manhattan, Kan.; John W. Taylor, Edwardsville, Kan.; Kansas State Agricultural College, Manhattan, Kan. Auctioneer, L. R. Brady. Jesse Johnson, Fieldman. Send him bids.

GEO. M. HAMMOND, Manhattan, Ks., JNO. W. TAYLOR, Edwardsville, Ks., K. S. A. C., Manhattan, Ks.

FIELD NOTES

FIELD MEN.

O. W. Devine.....Topeka, Kan.
Jesse R. Johnson.....Clay Center, Kan.
J. W. Johnson.....Beloit, Kan.

PURE BRED STOCK SALES.

Shorthorns.
Feb. 16—J. W. Knowles & Son, Craig, Neb.
Feb. 17—J. E. Stodder, Wichita, Kan.
Feb. 19—J. W. Lamb, Holton, Kan.
Feb. 23—C. M. Garver, Abilene, Kan.
Mar. 8—F. M. Gifford, Wakefield, Kan., at Clay Center, Kan.
Mar. 8—Elmwood Shorthorns at Wakefield, Kan.
Mar. 11—Jas. T. McCulloch, Mgr., Clay Center, Kan.
Mar. 13—D. E. Reber, Morrill, Kan. Sale at Hiawatha, Kan.
Apr. 24—Brown County Shorthorn Breeders' Association, Everett Hayes, Mgr., Hiawatha, Kan.
June 10—C. S. Nevius, Chiles, Kan.
Herefords.
Feb. 23-24-25—C. A. Stannard, Mgr., Emporia, Kan. Sale at Kansas City, Mo.
Feb. 24—J. M. Williams, Home, Kan.
Mar. 3-4—Dispersion sale of Cornish & Patton, at Osborn, Mo., to settle Patton's estate.
Mar. 9-11—R. T. Thornton, Mgr., Kansas City, Mo.
April 27—Samuel Drybread, Elk City, Kan.
Feb. 22—S. C. Bartlett, Perth, Kan.
Berkshires.
Feb. 18—Combination at Yates Center, G. A. Laude, Mgr., Rose, Kan.
Poland Chinas.
Feb. 2—F. A. Dawley, Waldo, Kan.
Feb. 4—W. W. Martin, Anthony, Kan.
Feb. 10—Schneider & Moyer, Nortonville, Kan.
Feb. 10—W. W. Wheeler, Harlan, Iowa.
Feb. 10—Albert Smith & Son, Superior, Neb.
Feb. 10—Lemon Ford, Minneapolis, Kan.
Feb. 11—C. S. Nevius, Chiles, Kan.
Feb. 11—Lemon Ford, Minneapolis, Kan.
Feb. 12—R. E. Maupin, Pattonsburg, Mo.
Feb. 12—Geo. Wedd & Son and C. S. Nevius at Spring Hill, Kan.
Feb. 12—D. A. Wolfersperger, Lindsey, Kan.
Feb. 13—C. E. Tennant, New Hampton, Mo.
Feb. 13—Thos. F. Walker, Alexander, Neb., at Fairbury, Neb.
Feb. 15—L. W. Berkey, Louisburg, Kan.
Feb. 17—John Book, Talmage, Kan.
Feb. 19—J. C. Larrimer, Wichita, Kan.
Feb. 18—J. E. Bower, Talmage, Kan.
Feb. 18—J. W. Lamb, Holton, Kan.
Feb. 18—A. W. Shriver, Cleveland, Kan.
Feb. 19—J. C. Larrimer, Derby, Kan. Sale at Wichita, Kan.
Feb. 20—A. R. Enos, Lost Springs, Kan.
Feb. 20—H. L. Faulkner, Jamesport, Mo.
Feb. 20—W. C. Topliff, Esbon, Kan.
Feb. 22—J. L. Darst, Huron, Kan.
Feb. 24—Dietrich & Spaulding, Ottawa, Kan.
Feb. 25—H. H. Harshaw, Butler, Mo.
Feb. 25—Harshaw & Charters, Butler, Mo.
Feb. 27—C. H. Picher, Glasco, Kan.
Mar. 2—W. T. Fitch, Minneapolis, Kan.
Mar. 9—C. A. Cowan, Athol, Kan.
Mar. 10—A. P. Wright, Valley Center, Kan.
Mar. 13—W. A. Davidson, Simpson, Kan.
Mar. 26—Geo. M. Hebbard, Peck, Kan. Sale at Clearwater, Kan.
April 10—H. N. Stacy, Iuka, Kan.
Sept. 30—Mrs. Wm. Brite, Pierce City, Mo.

TOO LATE TO CLASSIFY.

FOR SALE—One registered Hereford bull. A fine individual. Wm. Kurtenbach, Herington, Kan.

FOR SALE—800 catalpa posts, large, smooth, 4 to 5 inches at small end, 7 feet long. R. R. Rush, Quenemo, Kan.

FREE CATALOG OF SEEDS—1 cent and up per packet. Send name and address to H. M. Gardner (Seed Grower), Marengo, Neb.

FOR SALE—A harness and buggy business in the best town in Kansas. Other business reason for selling. L. R. Brady, Manhattan, Kan.

PERCHERON, Belgian and Shire stallions. New importation. Imp. horses \$1,000. Home bred draft stallions \$300 to \$650. Hart Bros., Osceola, Iowa.

AGENT WANTED for every county to do roofing. Make \$150 per month. Write for full particulars. Petro-Fitch Paint Co., Granite Bldg., St. Louis, Mo.

THREE GOOD DRAFT STALLIONS to trade for western land, or will trade for oil machinery; also trade one for auto runabout. W. H. Drinkern, Beloit, Kan.

25 DUROC JERSEY boars, spring and fall and 50 gilts sired by a good son of Kant Be Beat, open or bred to Golden Rule or King Orion. Price low. A. G. Dorr, Osage City, Kan.

FOR SALE or trade at a bargain, a registered Tamworth male hog, two years old. An excellent individual and breeder. J. G. Troutman, Manhattan, Kan. This ad will not appear again.

SEE the Empire Separators—Different Styles—Different Prices—All First Quality. Write for Free Book or See the dealer NOW. EMPIRE CREAM SEPARATOR CO., Chicago, Ill. Bloomfield, N. J.

WANTED—Representative farmer in every neighborhood to represent the old reliable Aetna Life Insurance Co. of Hartford, Conn. You can make money during your spare time. S. E. Barber, 700 Kansas Ave., Topeka, Kan.

FOR SALE—Imported Percheron stallion, weight 2100. One registered Percheron stallion coming two years old. One registered Percheron mare. These animals are all high class and will be priced right. Address P. O. Box No. 321, Manhattan, Kan.

WANTED—An up-to-date man who understands scientific methods, to raise garden stuff and poultry on shares. Good place to live, only 3 miles from Atchison, and 1½ miles to street car line and amusement park. Address Box 384, Atchison, Kan.

FOR SALE—One registered black Percheron stallion, No. 47792, 4 yrs. old, weight 1900, sound and gentle; can show colts. JACKS—2 extra large Tennessee jacks, black with meaty points, 15½ and 16 hands high, weight 1050 and 1100; extra heavy bone; best of feet; good head and ear; 4 and 6 yrs. old; sound; quick performers and sure foal getters; can show some of the best colts in the state from this stock. J. P. & M. H. Malone, Chase, Rice Co., Kan.

Duroc Jerseys
Feb. 4—J. E. Jones, Clyde, Kan.
Feb. 6—G. M. Hammond and K. S. A. C., Manhattan, Kan.
Feb. 6—W. E. Moneysmith, Formoso, Kan.
Feb. 9—H. Metzinger, Caldwell, Kan.
Feb. 9—Thompson Bros., Garrison, Kan.
Feb. 10—T. E. Goethe, Leonardville, Kan.
Feb. 15—J. A. Rathbun, Downs, Kan.
Feb. 15—H. E. Fisher, Danville, Kan.
Feb. 15—John M. Morrison, College View, Neb.
Feb. 16—G. W. Colwell, Summerfield, Kan.
Feb. 16—J. A. Rathbun, Downs, Kan.
Feb. 17—R. G. Sollenburger, Woodston, Kan.
Feb. 18—E. M. Myers, Burr Oak, Kan.
Feb. 18—B. W. Weldemier, Mgr., Cameron, Mo.
Feb. 28—A. B. Skadden & Son, Frankfort, Kan.
Feb. 23—Wm. Sutter, Liberty, Neb.
Feb. 24—James M. Williams, Home, Kan.
Feb. 24—R. B. Marshall, Willard, Kan.
Mar. 17—Pearl's Golden Rule gilts bred to Bonny K. and other great boars. Pearl H. Pagett, Beloit, Kan.
Mar. 9—Samuel Drybread, Elk City, Kan.
Mar. 10—T. I. Woodall, Fall River, Kan.

O I C
Feb. 19—Isaac Briggs, Minneapolis, Kan.
Feb. 22—S. C. Bartlett, Wellington, Kan.

Horses
Feb. 16—J. C. Robison, Mgr., Wichita, Kan.
Feb. 22—J. C. Bartlett, Perth, Kan.
Mar. 12—D. E. Reber, Morrill, Kan. Sale at Hiawatha, Kan.

Jacks and Jennets.
Mar. 1—W. J. Finley, Higginsville, Mo.
Mar. 2—L. M. Monsees & Sons, Smithton, Mo.

Combination Sales.
Feb. 10-11-12—Improved Stock Breeders' Association of the Wheat Belt, sale at Caldwell, Kan., Chas. M. Johnston, Mgr.
Feb. 19—Mitchell County Breeders' combination sale, Beloit, Kan. J. P. Cooke, Mgr.

Feb. 16-17-18—J. C. Robison, Mgr., Towanda, Kan., at Wichita, Kan.
Feb. 17-18-19-20—Mitchell County Breeders' combination sale, Beloit, Kan.

Feb. 18—Combination at Yates Center, G. A. Laude, Mgr., Rose, Kan.
Mar. 2-3—Stock show and combination sale, F. S. Kirk, Mgr., Enid, Okla.

Holstein-Friesians.
Feb. 9—Henry C. Gillesman, Station B, Omaha, Neb., sixty head at South Omaha.

W. W. Martin Sells Poland Chinas.
Some of the very best specimens of Poland China brood sows will be offered at Anthony, Kan., Feb. 4, 1908. W. W. Martin believes in doing things right and notwithstanding the fact that he has been breeding only a few years, he has built up a herd that any breeder should be proud to own. We predict that it will be only a few years until Mr. Martin will be classed among the very best breeders in Kansas with a herd equal to the best. He is a young man with ability and a pleasing manner. His herd boar, Lord Bacon, was sired by Corrector 2d and has been pronounced by many good judges to be one of the good sons of that great sire. Among the brood sows offered in this sale will be Keep On blood, R's Grand Chief, Mischief Maker, and almost all the popular blood lines. Look up his advertisement on another page and arrange to attend this great bargain day sale. Remember the date, Feb. 4, and Anthony, Kan., the place.

C. O. Anderson, the Duroc Jersey breeder of Manhattan, Kan., writes that his herd is in fine shape and that he has now for sale a fine bunch of spring gilts that are bred for March and April farrow. He has sold all of his fall gilts and has thus disappointed several people who have visited his farm recently for the purpose of securing that kind. These gilts that he now offers are well grown out as they were fed with a view to future usefulness. They have plenty of alfalfa pasture in season and were fed a good balanced ration which keeps them in the best of condition. On January 20 Mr. Anderson received the fourth order for two bred gilts from Jno. McPherson of Dalhart, Texas, within a year. Mr. McPherson showed a boar pig he bought from Mr. Anderson and won first prize and also a second prize on a gilt bought from him. At the head of the Anderson herd is Gold Finch Jr. 3085, he by old Gold Finch 7549 who was never defeated in the show ring. Gold Finch Jr. is a grandson of Lincoln Top 5527, sweepstakes winner at Nebraska state fair, 1907. The gilts now offered for sale are bred to Gold Finch Jr. Write your wants to Mr. Anderson.

The Armour-Funkhouser combination sale to be held at the Kansas City fine stock pavilion, Kansas City, Mo., February 9 and 10, 1908, will give every one a great opportunity to make a selection from as fine a lot of cattle as the eyes of any breeder has ever seen. Many of the offering are descendants of prize winners and show animals, and any one wishing a herd header, or any one starting anew in the Hereford cattle breeding business, will find this lot one of the best ever presented to the public, from which to select the right kind of individuals. It has been the aim of Mr. Armour and the estate of James A. Funkhouser to provide their sale from year to year with cattle that will exceed, in both quality and breeding, the offering provided for the sale of the previous year and with this point in view they have been very successful. Mr. Armour's offering consists of 25 cows and six bulls. Among the cows is one, Armour Mischief, imported, sired by the noted English bull Aaron, the rest being his own breeding, sired by his noted herd bulls, imported Majestic, Bell Metal, Armour Anxiety and Ten Strike. The six bulls are sired by Majestic and Armour Anxiety. Without a single exception they are herd headers, ones that will produce show cattle. The public can readily realize the breeding and individuality of these bulls, being the sons of imported Majestic, which is without the least doubt, the greatest bull heading a herd in this country; and Armour Anxiety (home bred), also the sire of many fine animals. Twenty head will be consigned by the Funkhouser estate, all of which are cows bred by the late Mr. James A. Funkhouser, and sired by their noted herd bulls, March On 6th, Onward 18th and Alto Beau 8th. This herd consists of March On and Onward blood mostly, which is considered by the largest breeders the finest strain existing. The nine bulls are sired by March on 6th and Onward 18th, and for breeding and individuality they will touch the top. Jones Brothers of Council Grove, Kan., will also add 12 cows and eight bulls to the sale. These cows are mostly descendants of Lincoln 2d (first in the two-year class, and reserve senior champion bull in the American Royal Show, 1899). One bull, Lincoln 73, and cow, Purity, are out of Armour Nalad 12th, the dam of the famous Armour Rose, sold by Mr. Armour for \$2,500. The sire of the other animals is Mornington, a descendant of imported Majestic, Mr. Armour's present herd bull. The cows are all bred to their noted herd

bull, Rupert. R. T. Thornton will contribute six cows and six bulls to this sale. His herd contains Anxiety and Kansas Lad blood, and most of his offering are sired by his noted herd bull, Hero. Much care has been exercised in selecting this bunch of whitefaces for this sale, and for breeding and individuality they are hard to beat. Dr. Logan is selling three bulls in the Armour-Funkhouser combination sale, sired by Young Beau Brummell. Beau Folly, dropped September 4, 1906, dam, Folly by Joshua, is a bull of exceptional individuality and quality. This calf is the right age to show in the two-year-old class this year. Another calf, sired by Young Beau Brummell, dam, a very fine Corrector bred cow. This calf was shown last year only once and stood third in his class. This bull has magnificent head and horns and is good enough to head the best herd in this country. Sunset Champion the other bull is also sired by Young Beau Brummell. This calf is combination of breeding of rare excellence. Anxiety 4th's blood on one side joined with the very best prize winning blood of England. The dam of this calf is Kensington Cheesvat from the herd of Admiral Brittain, one of the greatest English Hereford breeders. Mr. Armour imported this cow into this country and she was sold to Dr. Logan for \$1,000. Two cows and three fine young bulls will be offered by Geo. J. Sayer, Chicago, Ill. These animals are part his own breeding and part Mr. Armour's breeding, and are very fine individuals.

Single or Double Disc, Which?

We have before us a copy of the Dakota Farmer under date of March 15, 1908, and have read with much interest what the readers of that paper have to say as to their experience with grain drills, having single discs and double discs. Some users declare in favor of one style and some are just as enthusiastic in the praise of another. Now, this is a question that every farmer must decide for himself, simply because no one is so well acquainted with his seeding conditions as the man who operates the drill. If the ground is hard and trashy, the single disc drill will work best. Should it be loose soil, the double disc opens a seed trench that cannot be excelled by any other style.

The Hoosier Disk Drill which is

30 Packets Seed Free

\$1.50 worth, Complete Garden FREE, postpaid, or same value in Roses or Flowers. Our illustrated catalog of Salamander Corn, 40 lb. oats, Pure Grasses, Finest Potatoes, Fresh Garden and Flower Seeds describes varieties. What seeds do you want? Please write and mention this paper. J. B. AEM-STRONG, Shenandoah, Iowa.

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The kind that produce results. Field, Garden and Flower, Northern Grown and true to name. Special prices on Onion Sets, and Onion Seed. Poultry Supplies of all kinds. Orchard Spray Pumps, Arsenals of Lead for spraying. Write for our Catalog No. 13.

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We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.
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CLAY CO., KANSAS, LANDS—160 acres, 5 miles from Clay Center, 7 room house, good wells with wind mill, big barn, mow and hay fork, 20 acres alfalfa, 65 acres wheat goes with farm, level land. Price \$9,200. 80 acres, 4 miles from Clay Center, all farm land, 20 acres alfalfa, fair improvements, good well and orchard. Price \$4,500. Write me about these. W. C. Barth, Clay Center, Kan.

BIG BARGAIN—Wheat and cattle farm, 720 acres, three sets improvements, plenty good water, all under fence, crop goes with place if sold before February 15. Write owner, John Linn, Otis, Kan., R. D. 1.

SPECIAL BARGAINS—80 acres 3 miles from Clyde, second bottom, \$50 per acre, 160 acres near Green in Clay Co., 80 undrained, well improved, \$50 per acre, 180 acres pasture near town, \$3,500. Write for first large list. Walter Nelson, Clyde, Kan.

For Sale

109 acres, well improved farm, 3 miles southwest of Emporia, Kan. two story 7 room rock house with fine very large evergreen trees in front; large barn and implement house, chicken houses, good orchard; 40 acres good cultivation land, also fine tame hay pasture, native hay meadow, about nine acres fine large timber. This land is worth \$100 per acre but if sold soon will sell for \$9,000.

Mrs. Lizzie B. Griffith, R. 3, Emporia, Kan.