

KANSAS FARMER

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BREEDERS' DIRECTORY.

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HORSES.

PROSPECT FARM.—CLYDESDALE STALLIONS, SHORT-HORN CATTLE, and POLAND-CHINA HOGS. Write for prices of finest animals in Kansas. H. W. McAfee, Topeka, Kas.

BELL & McCURDY,
Bennett's Barns, 1212 West Eighth St.,
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DEALERS IN HORSES AND MULES.
Bring in your horses, or write us what you want or have for sale.

CATTLE.

VALLEY GROVE HERD OF SHORT-HORNS.—For sale, choice young bulls and heifers at reasonable prices. Call on or address Thos. P. Babst, Dover, Kas.

FAIRVIEW STOCK FARM.—Registered Short-horn cattle. Royal Bates 2d No. 124404 at head of herd. Young stock for sale. E. H. Littlefield, Newkirk, Oklahoma.

ENGLISH RED POLLED CATTLE—PURE-BRED.
Young stock for sale. Your orders solicited. Address L. K. Haseltine, Dorchester, Green Co., Mo. Mention this paper when writing.

NEOSHO VALLEY HERD OF SHORT-HORNS.—Imported Lord Lieutenant 120019 at head of herd. Young bulls and heifers for sale. Address D. P. Norton, Council Grove, Kas.

ROCK HILL HERD OF SHORT-HORNS.
An Elbert & Falls "Waterloo" bull and Norton's "Clipper" Scotch bull "Cupid" head the herd. Ten Scotch and Scotch-topped daughters of the great Linwood "Lord Mayor" and several daughters of C. C. Norton's "Imp. Salamis" included. Young bulls for sale. J. F. TRUE, Newman, Kas.
Twelve miles east of Topeka on U. P. railroad.

SWINE.

D. TROTT ABILENE, KAS., famous Duroc, Jerseys and Poland-Chinas.

CENTRAL KANSAS HERD OF THOROUGH-BRED Poland-China hogs. C. S. Snodgrass, Galt, Rice county, Kansas, breeds the best. Stock for sale now. Come or write.

KAW VALLEY HERD POLAND-CHINAS.—The leading and best strains. Pairs and trios not akin. Pigs ready to ship now. Prices low. M. F. Tatman, Rossville, Kas.

POLAND-CHINA SWINE AND LIGHT BRAHMAS.
Burred Plymouth Rocks, Dark Brahmas, Silver L. Wyandottes, Buff Cochins, Buff Leghorns. Eggs, \$1 per setting. A. M. RICHARDSON, Altoona, Kas.

S. F. GLASS, Marion, Kas., breeder of thoroughbred S. Jersey cattle, Poland-China and Large English Berkshire hogs, M. B. turkeys, B. P. Rock and S. C. White Leghorn chickens, peacocks, Pekin ducks and Italian bees.

KANSAS HERD OF POLAND-CHINA SWINE.—Has five choice yearling sows bred to my black U. S. boar, and one Tecumseh boar and thirty-five fall pigs by Model Sanders (2042) by Kiever's Model. They have typical ears and show fine markings. Address F. P. Maguire, Haven, Kas.

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BLACK LANGSHANS EXCLUSIVELY
EGGS \$1.50 for 13; \$2 for 26. A few fine cockerels to sell. J. C. WITHAM, Cherryvale, Kas.

EGGS—75c per 13; White, Brown Leghorns, Black M-L noreas, Langshans, Silver Hamburgs, Partridge Cochins, B. P. Rocks. ZACHARY TAYLOR, Marion, Kas.

B. P. ROCKS, W. WYANDOTTES and R. C. BROWN Leghorns. Eggs from high-scoring yards, \$1.50 per 13; \$2 per 26. P. C. BOWEN & SON, Proprietors, Cherryvale, Kas.

EGGS FOR HATCHING.

P. Cochins, Lt. Brahmas, Barred Rocks, White Rocks, Silver Wyandottes, White Wyandottes, Black Javas, S. C. Brown Leghorns, White Leghorns, Buff Leghorns, Silver Spangled Hamburgs, White Guineas, Pearl Guineas and Pekin Ducks. Eggs, \$1 per 13; \$5 per 100. Guineas and Ducks, \$2 per 15. A. H. DUFF, Larned, Kas.

White Wyandottes EXCLUSIVELY.
EGGS, \$1.00 PER 15.

Also, free with each setting, a recipe for making a cheap Lice Killer Paint. Send for circular.
P.O. Box 60. White 'Dotte Poultry Farm,
Mrs. V. Odell, Prop'r.) Wetmore, Kas.

POULTRY.

SILVER SPANGLED HAMBURG

Eggs, \$1.50 per fifteen.
C. R. CLEMMONS, - WALDO, KAS.

B. P. ROCKS and S. C. B. Leghorns.

My stock has been tested in the strongest competition both west and east. Stock and eggs for sale. Write for descriptive circulars.
GEO. G. WHEAT, 1135 Prospect St., Topeka, Kas

BOSTON '98.—Yes, I have the Single-Comb Brown Leghorn Cock that won first. Probably the best colored Leghorn in the world, and have mated him to world-beater hens. White Plymouth Rocks, Pit Games and Pekin Ducks equally as good. Prizes won everywhere. I challenge any breeder anywhere to sell eggs from as good stock as mine as cheap as I do. Hen eggs, \$2 per 13. Duck eggs, \$1 per 13. W. W. Henderson, 411 Olive street, St. Louis, Mo. J. P. Royall, Supt. of Farm, Bridgeton, Mo.

ROCKS WHITE and BLUE BARRED

Empire, Lash and Conger Strains.

Eight years experience in breeding Rocks exclusively. Five pens—three Barred, two White; all high-scoring birds. They are mated to produce prize-winners. Males score from 114 to 94, by Hewes; females from 89 to 95½. Eggs, 13 for \$1; 30 for \$2; 50 for \$3; 100 for \$5. Write for descriptive circular. Printed recipe for making and using Liquid Lice Killer, 25c. Address:
T. E. LEFTWICH, Larned, Kas.

PURE-BRED FARM POULTRY

AT FARMERS' PRICES. Barred Plymouth Rocks, White Plymouth Rocks, Partridge Cochins, Light Brahmas, Silver Wyandottes, Black Javas, S. C. Brown Leghorns White Leghorns, Buff Leghorns, Silver-Spangled Hamburgs, White Guineas, Pearl Guineas and Buff Turkeys. Single birds, pairs, trios and breeding pens. Our stock is from the leading breeders and prize-takers of the country. Birds from \$1 up. Eggs \$1 per 13; \$5 per 100. Recipe for "Liquid Lice Killer" free with each order. (Enclose stamp.) A. H. DUFF, Larned, Kas.

SWINE.

BOURBON COUNTY HERD BERKSHIRES.

J. S. MAGERS, Proprietor, Arcadia, Kas.
Correspondence invited. Satisfaction guaranteed.

Thoroughbred Duroc-Jersey Hogs
Registered stock. Send for 44-page catalogue, prices and history, containing much other useful information to young breeders. Will be sent on receipt of stamp and address. J. M. Stonebraker, Panola, Ill.

Wamego Herd Imp. Chester Whites and Poland-Chinas.

Mated for best results. Also Barred Plymouth Rock chickens and eggs for sale. Correspondence or inspection invited. Mention FARMER.
C. J. HUGGINS, Proprietor, Wamego, Kas.

T. A. HUBBARD,
Rome, Kansas,
Breeder of
POLAND-CHINAS and
LARGE ENGLISH
BERKSHIRES. Two hundred head. All ages.
25 boars and 45 sows ready for buyers.

Mound Farm Herd of Poland-Chinas.

100 head. Foundation stock, Tecumseh. Boars in service, Tecumseh Joe 1344 S., Chief 13840 S., Butler Wilkes 17764 S., U. S. Tecumseh 17850 S. 15 fall gilts, 30 spring pigs, 30 summer pigs. Inspection and correspondence invited.
H. E. Bacheider, Fredonia, Wilson Co., Kas.

Standard Herd of Poland-Chinas

A choice lot of gilts sired by Ideal U. S. and bred to Tecumseh Chief. Also some good Tecumseh Chief gilts bred to Look Over Me (he by old Look Me Over) and some good fall pigs, both sexes. Write and get my prices or come and see.
WM. MAGUIRE, Haven, Kas.

"HIGHLAND POLAND-CHINAS."

Twenty-five very fancy fall boars, some of which will do to head any herd or to go in any show ring. Sired by Knox All Wilkes 18179 S. and Highland Chief 18334 S. by Chief Tecumseh 2d 9115. No better sires in any herd. Our prices very low if taken at once. One hundred fine spring pigs by same sires.
Plymouth Rock Eggs.
DIETRICH & SPAULDING, Richmond, Kas.

CHERRY ORCHARD HERD

Composed of the BEST POLAND-CHINA Blood Known.

The present offering consists of August, September and October pigs—10 boars and 20 sows—very choice. The stock by or bred to Kiever's Model, What's Wanted Jr., Hildebrecht, Wilkes, Waterloo Chief, etc. For further information address,
W. H. WREN, Marion, Kas.

SWINE.

D. L. BUTTON, North Topeka, Kas., breeder of Improved Chester Whites.

Stock for sale. Farm 2 miles northwest of Reform School

RIVERDALE HERD of Chester White swine and Light Brahma poultry. J. T. LAWTON, BURRTON, KAS., proprietor. All stock guaranteed. I can also ship from Topeka, my former place.

SIXTEEN TO ONE HERD

REGISTERED POLAND-CHINA SWINE.

Herd boars, Gold Standard Wilkes by Guy Wilkes 2d 17777 S. and Ideal Quality by Darkness Quality 2d 14361 S. Brood sows, Tecumseh, Black U. S. and Wilkes. Thirty spring pigs, both sexes, ready to go. Farm two miles north of Welda.
J. M. COLLINS, Welda, Anderson Co., Kas.

Nation's Poland-Chinas.

Fifty boars and gilts for this season's trade. My herd boars consist of Darkness Quality 14361, Princeton Chief 14543, Col. Hildebrecht 37247 and Standard Wilkes. My sows are splendid individuals and of the right breeding. Personal inspection and correspondence invited.
LAWRENCE NATION, Hutchinson, Kas.

POLAND-CHINAS.

Guy Darkness 18292 and Best Nims 19612, herd boars, Sept. '97 boars and gilts for sale. Guy Darkness gilts will be bred to Best Nims for fall farrow. Correspondence or inspection of herd solicited.
S. W. HILL, Hutchinson, Kas.

BLUE MOUND HERD

BERKSHIRE SWINE.

Herd boars, Victor Hugo 41799 (sire Imp.), Barkis 30040 (weight 800 lbs.), Prince Jr. 17th, from World's Fair winner. Choice pigs from five different strains. Also breed Shropshire sheep, M. B. turkeys and B. P. Rock chickens. Write.
Allen Thomas, Blue Mound, Linn Co., Kas.

PURE-BRED POLAND-CHINA SWINE.

Brood sows by Wren's Medium, Hadley M. Washington, Protection Boy, Moss Wilkes Tecumseh (by C. T. 2d), Tanner 19212, a grandson of the famous Hildebrecht, at head of herd, assisted by Prince Darkness, out of Darkness 1st. Corwin Sensation and Darkness 1st are very choice sows. Some October Tanner pigs for sale. Get one for a herd header. Also some One Price Medium 2d pigs for sale. Three young boars ready for service. Write for prices.
J. R. WILLSON, Marion, Kas.

Verdigris Valley Herd Poland-Chinas.

125 head. The best individuals and most popular strains that money and judgment could buy and experience breed. Thirty choice spring pigs, both sexes, by Black Stop Chief 18316 S. he by the great breeding boar Black Stop 10550 S., a son of the World's Fair winner, Short Stop. Write or visit us
WAIT & EAST, Altoona, Wilson Co., Kas.

ESTABLISHED 1882. SERVICE FEE \$50.

KLEVER'S 1ST MODEL

18245 S.
Sired by Klever's Model 14664 S., the \$5,100 king of boars; first dam Gracie Maid (43851), second dam Graceful F. 3d (29670), litter sister to Old Look Me Over 9011, the \$3,600 boar. This gives Klever's 1st Model all that could be asked in breeding and sale ring backing. He is black as ink, low down, deep and broad, extra head and ears. His get follows the pattern perfectly. He will be assisted by other good boars in service on thirty matured sows of modern type and breeding. I sell nothing but tops; keep my knife sharp for culis. Free livery at Roberts' stables.
F. W. BAKER,
Council Grove, Morris Co., Kas.

Mains' Herd Poland-Chinas

Headed by the three grand breeding boars, Model Combination—his sire was J. D. Model, he by Klever's Model 14664 out of McKelvie's Lass 42107; his dam Lady Chief 42919, she by Chief Tecumseh 2d 9115 and out of Ralph's Pet 42788; One Price Chief 33615—she by Royal Chief's Best and out of Bell O. 74594. The sows are all selected and equal in breeding and quality to any. A few sows bred will be offered. Young males and gilts ready. Satisfaction guaranteed.
James Mains, Oskaloosa, Jefferson Co., Kas.

GROUND LINSEED CAKE (OLD PROCESS)

For stock of all kinds. Write for prices. Manufactured by the

KANSAS CITY WHITE LEAD & LINSEED OIL CO., 24th & Broadway, KANSAS CITY, MO.

SWINE.

SHADY BROOK POLAND-CHINAS STOCK FARM.

H. W. CHENEY, Prop., NORTH TOPEKA, KAS.

Cheney's Chief I Know, assisted by Model Hadley, at head of herd. Topeka is the best shipping point and my stock the best kind to buy. When in Topeka call at 1132 N. Harrison St. and be shown stock.

MILES BROTHERS' HERD
Registered Poland-Chinas.

Peabody, Marion Co., Kas.

We have for sale now some choice fall pigs by Miles' Look Me Over and out of a full litter sister to Corwin Sensation, that sold February 2, 1898, at Mr. Wren's sale for \$167.50. Also some nice ones by Hadley Corwin Faultless, and by a son of Chief Tecumseh 2d. We can suit you in quality and price. Write us.

PLEASANT VALLEY HERD

REGISTERED POLAND-CHINA SWINE

King Perfection 4th 18744 S. at head of herd, assisted by Tecumseh Wilkes 12694 S. and Lambing Ideal 14050 S. The sire of last named is Gov. C. by Black U. S. We have for sale an extra fine male of June, 1896, sired by him. We have added several very finely bred sows to our herd. Write for particulars. Address either
W. E. JOHNSON, E. A. BRICKER,
Colony, Kas. Westphalia, Kas.

HIGHLAND FARM HERD

PEDIGREED POLAND-CHINAS.

Herd headed by Corwin I Know, a son of the noted Chief I Know 11992 S. Corwin I Know won second as a yearling at Iowa State fair in 1897. Weighed 600 pounds at 13 months. Assisted by Hadley U. S., a son of Hadley Jr. 13314 S.; dam by Mosher's Black U. S. 25 Brood Sows—Kiever's Model, Look Me Over, Chief I Know and What's Wanted Jr. breeding. Inspection and correspondence solicited.
John Bollin, Kickapoo, Leavenworth Co., Kas.

Kansas City HERD
Poland-Chinas.
W. P. GOODE,
Lenexa, Kas.

SILVER CREEK HERD
SHORT-HORN CATTLE.

Scotch and Scotch-topped, with the richly-bred Champion's Best 114671 in service. Also high-class Duroc-Jersey SWINE. Can ship on Santa Fe, Frisco and Missouri Pacific railroads.
J. F. STODDER, Burden, Cowley Co., Kas

ROSE CREEK JERSEY CATTLE
POLAND-CHINA SWINE

FARM MAMMOTH BRONZE TURKEYS
and Silver Wyandottes are from premium stock. Turkey eggs \$2.50 for 9, Wyandottes \$1.50 for 13. (Farm in Republic Co., Kansas.)
H. WOODFORD, Mgr., Chester, Neb.

PURE-BRED SHORT-HORNS.

I have for present sale thirteen pure-bred Short-horn bulls old enough for service, including my herd bull, Imperial Knight 119669, a pure-bred Cruickshank, which I can now spare. I have also twenty cows and heifers bred or will have calves at foot, all of my own breeding. For sale at reasonable prices. John McCoy, Sabetha, Kas.

DEER PARK FARM.

H. E. BALL, Proprietor.

Registered Jersey cattle. Young bulls and heifers for sale.

Registered Poland-China swine. Young boars for sale.

Farm two miles east of Topeka on Sixth street road.
T. P. CRAWFORD, Mgr., Topeka, Kas.

Agricultural Matters.

THE EXPERIMENT STATIONS.

Editor Kansas Farmer:—I am an every-day farmer, so because a part of my time is given to farm press writings it does not put me in a class of theorists. I recognize the work of the experiment stations and I think that I appreciate much that has been done. I keep in close touch with them, being in personal correspondence with several of the directors and receiving the bulletins both of the national and a number of the State experiment stations. I think I realize something of the great variety of work that has to be done, and I know that the plain, practical farmer must not expect that nearly all will come within the range of his work directly, yet in the end he gets the benefit of much of the scientific study and experiments. But with the fullest admissions on these points, I believe that the stations will admit that they have not done enough in what is generally called practical farming. Without entering into details I think both the station directors and the common farmers will understand what is implied in this.

Your Kansas station is doing work in the line of hog and steer feeding with the various grains, including Kaffir corn, that will be of much interest and value; but with all due deference, it would seem with the abundant means at their control this ought to have been further advanced, for farmers have had to do their

two which were grown here the first two years and then discarded.

Now, I am not saying that there is not much useful information in these wheat bulletins; but it does look to a plain farmer that the gathering of 254 varieties from all parts of the country for one year's test was not as valuable as a selection of a half dozen of the best varieties grown for ten to twenty years in central and west Kansas and north Texas, and thus solve the present pressing question from a source that the average farmer could get seed, leaving the doubtful experiments of wheat from sections entirely different from this to the future.

The real merits of the different sorghums, especially those like Kaffir, the profit or loss of feeding wheat which was so low in price until just recently, and cotton culture were questions that almost every farmer was interested in, and if there is anything in the bulletins that show the station is in advance of the farmer I have failed to see it. The scientific researches are all right, and the Oklahoma farmer is abreast of his neighbor in intelligence; but the burning question is how and with what to make a living in this new and untried country.

Winview, Okla. J. M. RICE.

160 Bushels of Corn on An Acre.

Mr. E. S. Fursman received a premium at the Illinois State fair upon corn which produced 160 bushels per acre, and he furnishes the following statement to the Western Rural in regard to the methods employed in its production, which will

ond plowing was done June 10 with the same cultivator and run about half as deep, and followed the same day with the one-horse smoother, which put the soil in splendid condition.

"After the second plowing I went through and pulled off all the suckers. The third and last cultivation was given July 2, by taking off the shovels and attaching the plank smoother to the corn plow and driving into the plank some No. 40 wire spikes to slightly stir the soil and leave it smooth and level. After it had tasseled I went through and cut out all inferior stalks above the ear. I kept a careful account of the extra time and labor spent upon the one field, and it amounts to \$3.75. The rest of the field, nine acres, will yield about ninety-five bushels to the acre.

"I believe the secret of the success I had upon the one acre was due to the planting of the two kernels of a different variety between the hills, which prolonged the season of pollenization and gave me an ear upon every stalk; (2) the deep cultivation at first, which gave the roots a chance to root deep, and following each plowing with the plank smoother, which left the soil fine and mellow, slightly pressed, which made a perfect blanket to retain the moisture; and (3) to surface cultivation the last time, which did not disturb the roots.

"I believe if I had used this same system of planting twice, crossed the breeds of corn and cultivated all the field the same way, it would have averaged 140 bushels."

Don't plant weeviled beans and peas when bisulphide of carbon in a tightly-

Salt Rheum

Intense Suffering—Could Not Sleep—Cured by Hood's Sarsaparilla.

"I had salt rheum on my arms, which itched intensely and kept me from sleeping. The skin on my hands would crack open. My friends believed I was suffering from blood poisoning. I decided to take Hood's Sarsaparilla. I did not see any improvement with the first bottle but continued with the medicine and after taking five bottles I was completely cured. My hands are now as smooth as I could wish." A. D. HAGEY, Elroy, Pa.

Hood's Sarsaparilla

Is the best—in fact the One True Blood Purifier. Sold by all druggists. \$1; six for \$5.

are prompt, efficient and easy in effect. 25 cents.

rent of land is included in the cost and crops in which such rent is excluded.

Nor is this his worst offense. In each year from 1891 to 1897 the tables from which his figures are drawn expressly state that "rent on part of the land" is included in the cost. Whether this "part" is one-half or one-third of the whole acreage under consideration there is nothing to show. The figures which he presents, therefore, as cost per acre and cost per bushel, include only an indefinite and indeterminate portion of the real charge, and are erroneous to whatever extent the rent is not included.

The compiler of the original tables, however, was intelligent enough to fully appreciate the fact that this partial inclusion of rent invalidated the conclusions reached, so he gave with each table a supplemental statement in which he deducted from the gross figures this rent "part of the land," making it possible to present a perfect showing of cost production exclusive of rent. This showing, which is the only complete one which can be made from this data, is as follows:

Acre.	Bushels.	Bushels Per Acre.	Cost Per Acre.	Cost Per Bushel.
1889.....	1,485	40,000	27.0	\$3.28
1890.....	1,485	33,473	22.5	6.01
1891.....	1,825	42,000	23.0	4.45
1892.....	1,825	51,344	28.0	4.64
1893.....	1,325	60,028	45.3	0.17
1894.....	1,792	41,001	22.8	5.96
1895.....	1,875	76,154	46.6	6.94
1896.....	2,462	109,031	68.6	7.42
1897.....	2,717	111,932	41.1	5.49
Total and av. 16,791	624,963	37.2	\$5.68	15.2

This table has a definite meaning. It shows the cost of growing corn on the farm in question, exclusive of rent. Mr. Davis' table means nothing, because it lumps together fields on which rent was charged and fields on which rent was not charged, and treats the result as though the factors were the same in each case. When Mr. Davis winds up by saying "In fact, we have here the exact, and nothing is left to conjecture," it leaves wide room for conjecture as to what "exact" means in his vocabulary. Certainly land does not rent at 60 cents an acre in Nebraska, and yet that would be the conclusion if his averages were "exact."

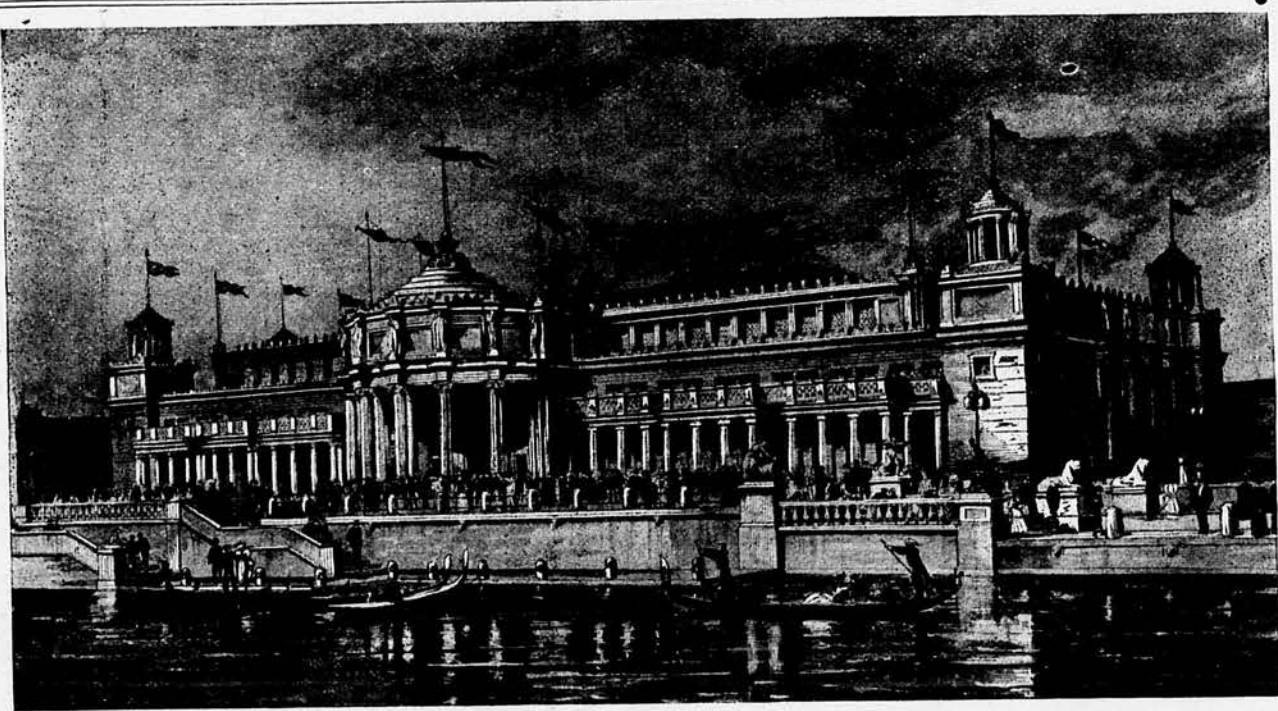
B. W. SNOW.

A good cheese will stand up square and have an even-colored, not mottled, rind. A cheese with a soft, porous interior will sometimes have this outside appearance, so the flavor cannot be altogether determined by outside examination. By pressing the rind with the finger tips the interior of a cheese can be judged. If it yields readily under the pressure of the fingers, and the rind breaks or does not spring back readily when the pressure is withdrawn, the cheese is a soft article, caused by insufficient cooking of the curd, a lack of acid, or both. At best it will have an insipid flavor, which, as the cheese becomes older, will become off. A cheese which feels so hard that the rind cannot be pressed in is either sour, salted too heavily, cooked too much, skimmed, or is suffering from a touch of all these complaints combined.

When the currant becomes well established it will bear every year for a long number of years. Set strong one-year plants.

Among the Ozarks,

The Land of Big Red Apples, is an attractive and interesting book, with views of south Missouri scenery. It pertains to fruit raising in that great fruit belt of America, the southern slope of the Ozarks, and is of interest to fruit growers and to every farmer and homeseeker looking for a farm and a home. Mailed free. Address J. E. Lockwood, Kansas City, Mo.



Mines and Mining Building at the Trans-Mississippi Exposition, Omaha.

own experimenting with Kaffir much of the time since its introduction.

Our Oklahoma station has been changed so often in its management in its brief history that much permanent work could not be done, so we wish to be careful not to attach blame where it is not due. Farmers came to Oklahoma poor, starting their farms as an experiment both as to soils and crops. Two years afterwards the station commenced work on one of these farms. The writer of this commenced a year later on the sod. But of course large bodies move slowly, and let us allow a year for this and say we had an even start, though they would have the advantage of three years' experience of neighboring farms, as it was located in the old part of the Territory and I was twenty miles from any neighbor but what was likewise situated—just starting on the sod. We have had five years of experience and experimenting. Now if there is a leading question connected with general farming, fruit planting or stock feeding that we as even settlers with scarcely a dollar did not have to experiment with and settle so far as practicable before the experiment station issued any results of tests, then my memory fails me.

For instance, wheat is one of the leading crops in the Territory. The first bulletin on wheat was issued October, 1893, containing report of test of 254 varieties, only three of which, so far as I can learn, have been sown in this county; neither of our three leading varieties were tested. In 1894 there was a test of fifty-one varieties, none of which have been grown in this county, so there was nothing to compare with. I have no report as to the tests of 1895. For 1896, among the seventy-one varieties are

be of special interest, as it goes into the details of the matter:

"The land was the common prairie soil; the acre was one of a ten-acre field which was seeded to clover in 1894; laid in pasture during 1895; received during the summer a good dressing of stable manure; was broken up and had a crop of corn in 1896. This particular acre received a light dressing of well-rotted manure last spring about the last of April; the stalks of the crop of 1896 were raked and burned on the ground. The ground was plowed the first week in May with a three-horse sulky plow, about five inches deep. The whole field was prepared alike and planted May 12 with a common two-horse planter, and check-rowed three feet six inches by three feet six inches, dropping three kernels in a hill.

"I used Early White Mastodon corn, a very large early corn. I followed the planter with a heavy smoother, or clod-crusher, to mellow the ground and retain the moisture. As soon as the corn was up so I could see the hills, on this one acre I planted by hand, between the hills planted by the planter, two kernels eight inches apart and sixteen inches from the hills, of Boone County White.

"When the corn was up about five inches high I went over the acre with a hand-hoe, only slightly working around the young plants and thinning the hills to two stalks. I plowed it the first time May 28, with the common two-horse, two-shovel cultivator, which I ran as deep as possible, and followed it the next day with a one-horse smoother which I made of two planks just wide enough to fit in between the rows. I put weight enough on this to crush all lumps level and press the soil to retain the moisture. The sec-

covered vessel, in which the seed has been placed, will kill the weevil. Put the carbon in a saucer on top the seed.

Cost of Raising Corn.

Editor Kansas Farmer:—The corn crop tables prepared by the Standard Cattle Co. furnish valuable contribution to the stock data relative to the cost of growing corn.

Mr. Davis is a melancholy example of great ability to collect statistical data coupled with marked inability to comprehend it. In his examination of the tables referred to he wholly fails to perceive the limitations which are definitely set forth in each independent tabulation. After stating that "the several factors of cost are presumably as exact as would be those of great steel or cotton manufacturing corporations," he presents the following statement as a summary of the tables to establish the cost of growing corn on this farm:

Acre.	Total Bushels Grown.	Bushels Per Acre.	Cost Per Acre.	Cost Per Bushel.
1889.....	1,485	40,000	27.0	\$3.28
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1897.....	2,717	111,932	41.1	6.54
Total and av. 16,791	624,963	37.2	\$5.68	15.9

The first two years, 1889 and 1890, do not include any allowance for rent, and yet in the above statement Mr. Davis includes them for direct comparison with years in which rent is a factor, and in reaching the figures which he presents as averages for the period he indiscriminately lumps together crops in which

The Stock Interest.

BEEF-MAKING ON A LARGE SCALE.

The following description of successful beef-making establishments in Kansas are from the pen of C. C. Georgeson, formerly professor of agriculture in Kansas State Agricultural College:

THE FOWLER RANCH.

"This ranch has been noted for years past, first for the superior quality of the pure-bred Herefords raised there by the late Mr. George Fowler, of Kansas City, during the '80's and the beginning of the '90's, and more recently for the high-class beef steers which are marketed from it. It is now owned by Mr. G. A. Fowler, the son of the above-named gentleman. The writer is indebted to Mr. W. J. Tod, manager, and partner in the feeding business, for the facts and figures here offered. The townsite of Maple Hill is located on and belongs to the ranch. Altogether the property comprises some 9,000 acres, so disposed as to resemble the bodice and skirt of a gigantic female figure, the railroad forming the belt, and the station and town the buckle. This naturally makes two divisions of the ranch. The headquarters are located on the east division, which contains some 6,000 acres, while the west ranch, which is only half as large, is fitted out with appliances for the handling of its share of steers, among them being a combined corn crib and mill—a structure that is a model of its kind, and concerning which more may be said in a later issue. Mill creek, a never-failing stream of remarkably clear water, meanders through the ranch for upward of three miles. This stream is bordered by a considerable area of bottom land, about 1,000 acres of which are under plow, and devoted chiefly to corn raising. The size, situation and general character of the ranch especially adapt it to become the fattening ground of a large number of steers, and some 5,000 to 6,000 head are handled there in the course of the year. A few of these are natives, but the vast majority of them are purchased from ranches in Texas and Colorado, the brands now on hand being chiefly 'Matadors' and 'J's.' It is a principle in the business of the ranch not to handle inferior stock—a principle settled not on sentimental grounds, but on the practical basis that inferior stock brings inferior returns, while the cost of feed and labor is no greater in fattening good cattle than poor ones. As a consequence the steers the writer saw there were, with but few exceptions, high-grade beef cattle, the get of Short-horn or Hereford sires, and evidently out of cows with large percentages of the blood of those breeds. Indeed, many of them could not be told from pure-breds for aught that could be discovered in size, form or feeding quality.

"The system followed in fattening must of necessity be more or less flexible, to adapt it to the varying seasons and conditions; but the leading features are about as follows: The contracts for range steers are placed some nine months or a year ahead of the time of delivery. The cattle are for the most part brought to the ranch in October or November. The poorest feeders among them, those which will not give the best response in growth and fat for feed and care, are cut out at once and fed off as soon as possible. The best cattle, on the other hand, are dehorned and kept for nearly a year in order to give them a chance to make a good growth on pasture, which after all is the cheapest feed a steer can get and at the cost the most effective. They are wintered on a ration consisting of fifteen to twenty pounds of corn-and-cob meal daily per head, according to age and size, with good prairie hay ad libitum. They are turned on pasture May 1, where they so far fatten that sixty days in the feed lot in the early fall will put them in prime condition for market. The value of the pasture being duly appreciated, care is taken that the range is not overstocked; on an average only one steer is allowed to each four acres of pasture. When these Western steers arrive on the place they are wholly unacquainted with corn; but by feeding them shock corn they learn to eat it in a week. On the corn and hay ration above mentioned they will gain an average of 150 pounds during the winter, and will gain 200 pounds more on pasture from May to August inclusive. Mr. Tod never feeds grain on pasture. He maintains that it does not pay, and this conclusion is undoubtedly correct. Careful experiments at three different experiment stations in feeding steers grain on pasture have resulted either in financial loss or but small pay for the grain fed.

"Cattle on full feed get about four pounds cottonseed meal and four pounds bran with all the corn-and-cob meal they

will eat, which is about thirty pounds or more for the average steer. When possible not more than 150 to 200 head are fed together. There were 2,200 head on full feed the first week in December, on this ranch, and 1,000 head had already been finished off and marketed at that date.

"The cattle which are put on full feed soon after their arrival on the ranch are not dehorned, as it would put them back too much, but all stock cattle are dehorned. This is not done, however, earlier than November 1 nor later than March 1, dry and pleasant weather being chosen. It may be remarked in passing that on the Fowler ranch the horns are always sawed off, never sheared; the latter method causes too profuse bleeding. Some 600 head were being dehorned at the time of the writer's visit, and he can testify that with the saw in the hands of an expert operator three-year-olds lost their horns in ten seconds after the head was placed in position.

"The adaptation of the ranch to feeding is in most respects ideal. The fact that there is a shipping station near its center is a very great advantage; it reduces the hauling of feed shipped in, and the driving of cattle shipped on or off the ranch, to a minimum. Mill creek, besides affording water and bottom lands, is bordered with timber and furnishes many natural shelters among the hills and bluffs in which to feed the cattle in winter. Large areas of excellent hay land furnish all the hay needed—which is upward of 2,000 tons. Improvements supplement these natural advantages. A number of pumps and windmills have been put up at various points in the pastures to save the cattle traveling too far for water; and some tanks for the collection of surface water have also been constructed to the same end. There is a large elevator and mill at the station, for the storing and grinding of feed, and there are cottages at various points occupied by married employees.

THE ADAMS RANCH.

"The other ranch referred to is that of Mr. H. G. Adams. His residence and ranch headquarters are located about a mile and a half to the northeast of the station. What has already been said about the natural advantages of the region applies, of course, also here. Mr. Adams also operates on a large scale. There is a section of excellent land in the home farm, and he controls several thousand acres more. Mr. Adams feeds some 2,800 to 3,000 cattle in the course of the year, and the method of handling them differs but little from that already described. He buys high-grade Panhandle or Colorado steers which are brought to the ranch in the fall or late summer. The thriestest stock is wintered on hay and a half ration of grain, and then pastured until August. He begins to full feed from the 1st to the 15th of August, and most of his fat steers are marketed by the 1st of November. The full feed consists of from twenty to twenty-six pounds of corn meal, four pounds of linseed oil meal and four pounds of bran daily per head, along with all the hay they will eat. Mr. Adams feeds less cottonseed meal and more oil meal than is fed on the Fowler ranch, and he also uses more straight corn meal and less corn-and-cob meal. He grinds the meal fine, and he finds it difficult and costly to do so when the cob is ground with it. The stock cattle are fed on shock corn while it lasts, and when it is gone they get fifteen to twenty pounds of cob meal per head daily with hay until turned to grass. Besides those now on the ranch he has quite a large bunch on pasture in the Panhandle which will be brought home next fall. Mr. Adams believes that good cattle make the best profit, and he selects those which show breeding and quality in preference to the cheaper grades. The get of Short-horn and Hereford sires predominate in his corrals. A bunch of two-year-olds, some 250 in number, were particularly fine cattle. Most of his cattle are from the famous 'JA' ranch in the Panhandle."

Live Stock Interests and the Exposition.

Editor Kansas Farmer:—Owing to the fact that many reports have been circulated regarding prizes in the live stock department of the Trans-Mississippi exposition, a meeting of the stockmen of Nebraska and of the United States will be held in the chapel of the State University in Lincoln on Thursday evening, May 12, 1898, at 8 o'clock, for the purpose of considering the attitude of the exposition toward the live stock interest and the attitude of the stockmen toward the exposition.

A full attendance of all interested is hoped for, as it is believed a large and representative gathering at this time will be of great benefit to all concerned.

C. H. ELMENDORF, President.
Lincoln, Neb., April 30.

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GOOD painting costs no more than bad painting—in fact, it costs less. Good painting is done with Pure White Lead and Pure Linseed Oil. Bad painting is done with any of the mixtures of Barytes, Zinc, Silica, Whiting, etc., etc., which are often branded and sold as "White Lead," "Pure White Lead," "Tinted Lead," "Colored Lead," etc., etc. You can avoid bad painting by making sure that the brand is right. (See list of brands of White Lead which are genuine).

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National Lead Co., 100 William St., New York.

Sheep Department.

Conducted by J. CLARENCE NORTON, Moran, Kas., to whom all letters should be addressed.

SHEARING SHEEP.

The shearing of sheep is an annual event that cannot be put off, and the product gives the farmer the first clean cash of the season, and comes at a time when he needs it very much. I employ a traveling shearer to shear my flock, and every year, about April first, he puts in an appearance with his work suit tied up in a neat bundle, together with oil-stone and three sets of heavy shears. In the south part of the State he begins work about March 15, and continues shearing till the Merino flocks of the western part are all sheared—about the last of June. The price is about 5 cents per head, but as my sheep are large, often weighing 250 pounds, he charges me 6 cents per head. A floor of clean boards is laid in the spare driveway in the hay barn, and a bunch of sheep are run into a small pen in the sheep shed close at hand, and under the same roof.

My sheep are all through lambing by March 20, and the danger of hurting a ewe is not so great as when the lambs come later. I take my shepherd's crook, adroitly catch a ewe by the leg, and gently catch her around the neck and walk her in onto the shearing floor. The shearer sets her up on end and begins work at the neck. While he is shearing her I take down on my book the number of her ear tag, and trim her feet with my knife, for, as we have no sand or rocks here, the hoofs need trimming once a year. Should we neglect this, serious results would follow.

After the sheep is sheared she is put on the scales and her weight marked down; thus by a brief reference to the previous record I can, at once, make up my mind whether she shall be killed for mutton or allowed to breed another year. If the ewe is intended for mutton a mark of red paint is put on her back, which will show all summer, and is a very easy distinguishing mark.

The fleece is then laid on the box that compresses it, tied up and weighed and credited to the sheep that produced it. Another is then caught, and the shearer has by this time sharpened his shears and is ready for one. Now, suppose ewe No. 100 weighs 160 pounds, has no lamb, and the book shows her to be 6 years old, and her record as a shearer is not quite up to the average, she is marked for mutton; while, should the next one show 120 pounds, with a set of twins for every year, and a twelve-pound fleece, she is kept breeding as long as she does well. This is a survival of the fittest, and the scientific way to cull.

A wool box is made by cutting up a nine-foot board, twelve inches wide, into three pieces of three feet each. The middle piece is cut in three equal pieces and the ends attached to the middle section by hinges. The outside boards are also hinged to this middle piece. The box is spread out on a table and the fleece put on it, with the outside of the fleece uppermost, and the ragged edges turned in. Before this is done the wool twine is placed on the box. Only wool twine is used, and as it generally costs less than the price of wool, we do not begrudge the twine, as it is sold by

weight along with the wool. A string is carried three times across, and three times lengthwise of the box, and when the fleece is ready, the two side boards are turned up and fastened together at each end by a piece of iron that has its ends turned down. The ends of the middle board of the box are now turned up, and the irons slipped along towards the fleece, until they drop down into notches made for them, when they hold the box rigidly in place. The tying is now carefully done and the fleece is ready to put in the wool sack.

The wool sacks are large gunny bags that hold 200 pounds of wool. An iron hoop is sewed into the mouth of the bag, often simply using large spikes as pins, two corn cobs dropped in and each one tied up in a lower corner to serve as handles to lift the bag with. The hoop is now suspended between two poles so the bottom of the bag will clear the ground and the wool is tramped in until full, when the hoop is removed and the bags sewed up, leaving a hand hold at each side of the bag. The whole is then weighed and marked and is ready to send to St. Louis for sale.

St. Louis always has proved to be our best wool market. I got cheated out of about \$50 one season by a wool firm that had always before treated me well, and, of course, had to change to another firm.

About a month after shearing the sheep are dipped with Cooper's sheep dip, and we never have any ticks, and the sheep do not rub their wool off.

Any new invention has to fight its way through a strong barricade of public prejudice, and it is so with the shearing machines. As yet machine shearing is a new thing, and, like most new inventions, has not met with popular favor. It is generally conceded, though, that the objections are more on account of inexperienced workmen than the fault of the machines. It is claimed by some that the shearing is too close and leaves the sheep in poor condition to be turned out on the ranges. Their hides are left unprotected against the sun and the result is that the sheep have become blistered, to the damage of the next season's clip. It is furthermore claimed that the cost of installing a plant is too great to make the introduction of machines profitable, and yet notwithstanding all this we believe that these objections will be overcome in time and that machine shearing is bound to intervene.

For nearly half a century Quinn's Ointment has been used with great success. It was purchased some ten years ago by Messrs. W. B. Eddy & Co., who have been advertising it to quite an extent, in order to place it within the reach of all horse owners. For curbs, splints, spavins, windpuffs and all blemishes it is said to have no equal. It is endorsed by Hon. J. I. Case, Wisconsin, Messrs. Miller & Sibley, Pa., W. B. Fasig, New York, M. L. Hare, Indianapolis, and hosts of others. It has unquestionable merit and if any of our readers have horses afflicted with curbs, splints, spavins, windpuffs or other blemishes, write to W. B. Eddy & Co., Whitehall, N. Y., for circulars and information. It is sold at most drug stores, but if you cannot obtain it, it will be sent by mail upon receipt of \$1.50 for regular size, smaller size 50 cents.

SHEEP THYMO-CRESOL is a non-poisonous preparation that kills instantly all Ticks, Lice, and Scab Mites, or other parasites. Produces a healthy skin, promotes the growth of wool. Sample 10 and 50 cents by mail postpaid. Address **LAWFORD BROS., Box M, Baltimore, Md.**

TICKS

WEEKLY WEATHER-CROP BULLETIN.

Weekly Weather-Crop Bulletin of the Kansas Weather Service, for week ending May 9, 1898, prepared by T. B. Jennings, Section Director.

GENERAL CONDITIONS.

A cold, wet week, the ground being well saturated in all parts of the State, the heaviest rains falling in the southeastern counties. On the 5th snow fell in the central counties of the western division from two to four inches deep, but rapidly melted. On the 6th and 7th frost occurred in the western counties, that of the 7th extending to the Missouri river; damage slight.

RESULTS.

EASTERN DIVISION.

Rains have stopped work in all parts, washed out some planted corn, buried the listed corn, and in the southern counties overflowed creek and river banks, damaging crops on bottoms. Wheat is progressing well, and is beginning to head in the extreme south. Corn that is up is not improving fast as the weeds; much rotting in ground. Oats, flax and grass growing slowly. Upland fruits all right; bottom fruits falling. Frost in central and northern counties, but no damage.

Allen county.—Wet week; river and creeks out of banks; no farming done.

Atchison.—Cold and wet; no farm work; grass and grain growing slowly; much replanting will be done.

Bourbon.—Too wet and cold for farming, rainiest week of the season; oats growing slowly, grass more rapidly.

Brown.—Corn planting stopped by rain; wheat growing rapidly; pasture good; fruit trees blossoming full; potatoes doing well.

Chase.—Cold, wet week; crops injured some by soil washing; wheat, oats and pastures doing well.

Chautauqua.—Too wet for work; grass, oats and corn growing rapidly; wheat beginning to head; fruit on upland all right.

Coffey.—Too wet to work; wheat getting rank; grass short; much corn yet to plant; canker worm on apples and plums; flax looks well.

Douglas.—Corn rotting in ground; wheat doing well, cold and wet checks chinch bugs and the too rank growth of straw; corn that is up turning yellow.

Elk.—Too rainy for work; some late-planted corn will have to be replanted.

Franklin.—Too wet for farm work; oats,

is not doing well—too cool and wet. Much corn washed out in Butler. Fruits doing well. But little damage by frost.

Barber.—Work retarded by rain; corn coming up and looks well; all crops doing finely; grass fine, cattle in excellent condition.

Barton.—Cold, wet week; good for wheat, not for corn; everything will grow fine with warm weather.

Butler.—Cold and wet; much corn washed out, will be replanted; small grain doing well; grass growing slowly.

Cloud.—Wheat and oats in splendid condition; fruit trees looking well; pastures in good shape.

Cowley.—Small grains doing well except on overflowed bottoms; too cold and wet for corn; listed corn damaged by heavy rains.

Dickinson.—Cold, cloudy and wet; wheat looks well; corn about half planted; frost 6th and 7th, no damage.

Edwards.—Showery and cool; vegetation made poor growth.

Harper.—Wheat and pastures doing well, but corn backward—too cool and wet.

Harvey.—Too wet; corn looking bad; oats doing fine; grass growing slowly.

Kingman.—Wheat and oats looking immense; cold for corn, some replanting to be done; stock on pasture.

McPherson.—Rains stopped corn planting, some drowned out; wheat fine; oats fair; grass backward yet.

Marion.—Oats, wheat and grass the only crops doing well; fruit all right; too wet for corn planting; light frost, no damage.

Mitchell.—Cool and wet; wheat in fine condition; corn mostly planted, some up; fruit prospect good; garden truck in market; frost, no damage.

Ottawa.—Too cold for corn and gardens; favorable for wheat; hard on stock; corn planting progresses slowly; oats not doing well; some apples in full bloom, others none.

Pawnee.—Cold and wet; fine for oats and wheat, hard on corn and fruit; frost, no damage.

Phillips.—Plenty of rain; everything in fine condition.

Reno.—Wet, cold week, no work; wheat in fine condition; oats poor; some corn up, but too cold to grow; strawberries blooming slowly.

Republic.—Cold, cloudy and wet; wheat in fine condition; frost, but fruit not injured.

Rush.—Cool and wet; favorable for wheat, unfavorable for corn and chinch bugs; oats doing well.

ing flesh fast; calf crop extra large; frost damaged fruit some, wild fruits all right.

Scott.—Cold and wet; four inches snow on 5th, ice on 6th; wheat good stand but growing slowly; grass plentiful; much barley sown and looks well.

Sheridan.—Ground thoroughly soaked; small grain fine; corn planting delayed; light frost on 5th.

Sherman.—Wet, cloudy week; wheat good except some injured by winds; corn planting half done; grass good.

Thomas.—Wheat in good shape where a good stand; corn coming up, and still planting; oats and barley looking fine; range grass fine; frost on 6th; trees beginning to leaf.

Trego.—Splendid week on grass and grain; corn mostly planted; sorghum for hay sown; fruit safe, not hurt by frost of 6th; several young colts perished during last day of rain.

Wallace.—Plenty of rain; ground in fine shape; crops not blown out are looking fine; corn coming up; alfalfa looking fine; grass doing well and cattle improving; snow on 5th, frost on 6th and 7th.

Nature's Compass Signs.

The many different methods to determine the cardinal points while on the mountains, in both heavy timber and small bush, or upon the featureless expanse of a great marsh, are exceedingly numerous and reliable enough for all practical purposes during an everyday life in the bush, unless a very long journey is to be made, which would require a number of days and would make it necessary to hold on a very fine point while walking so long a distance.

We will first take note of the coniferous trees—pines, firs, spruce, cedars, hemlocks, etc. The bark of these is always lighter in color, harder and dryer on the south side of the tree; while it is in color much darker, is also damper and often covered with mold and moss on the north side. The gum that oozes out from the wounds, knot-holes, etc., is usually hard and often of beautiful amber color on the south side, while on the northern side it remains sticky longer and gets covered with insects and dirt, seldom drying out to more than a dirty gray color.

On large trees that have rough bark, especially during the fall and winter months, the nests and webs of insects, spiders, etc., will always be found in the crevices on the south side. A preponderance of the large branches will also be found on the warmest or southern side of the tree. Also the needles of all the above-mentioned trees are shorter, dryer and of a yellowish green on the southern side, while they will be found longer, more slender and pliable, damper to the touch and darker green in color on the north side. The cedars and hemlocks, as if trying to outdo the others, also bend their slender tops of new growth toward a southern sky.

The hardwood trees are equally as communicative, and have all the characteristics, as far as regards their trunks, as the coniferous trees, except the absence of gums; but this is more than made up by the fungous growth of mold and mosses that is very noticeable on the north side of these trees.

The edges of rocks, which may be part of stupendous mountains, or merely occasional cropping out here and there in the woods, or, perhaps, some great boulder alone by itself a silent witness to the glacial period, all alike testify to the effect of light and shade. The sunny side will usually be bare, or at most boast of a thin growth of harsh, dry kinds of mosses, that will only grow when having the light; while the northern side will be found damp and moldy and often covered with luxuriant growth of soft, damp mosses that love the shade, while every crevice will bear aloft beautiful and gracefully waving ferns.

The forest floor on the sunny side of hills, ridges, clumps of trees, bushes, big rocks, etc., is more noisy under the footfall than on the north side of such places, where the dead leaves and litter are soft and damp, holding more moisture than in places exposed to the light of the sun.

In an open country nearly void of timber, clumps of small bushes during summer will furnish all the conditions found to exist among the leaves of the trees, being equally sensitive to light and shade as are the monarchs of the woods. The landscape green, with moving grasses and beautiful to the eye which feasts on the countless numbers of wild flowers, representing every form and hue known to the flowery kingdom, also furnish a reliable guide for locating the cardinal points, as most wild flowers, especially the long-stemmed varieties, hide their faces from the north, and, like the sunflower, turn toward a southern sky.—Detroit Free Press.

Heat a hog when the stomach is full and you will make a sick hog. At least it will have no appetite.

New blood every year is the way to make swine breeding the most profitable.



Every woman should realize that her health is like a bank account. At the outset she has so much deposited to her credit in the bank of health. If she draws out more than she puts in she will soon overdraw her account. An overdrawn account in the bank of health means one of two things, a life of hopeless suffering or an early death.

The woman who neglects her health in a womanly way is making big drafts on her account with the bank of health and will soon be a physical bankrupt. Disorders of this description wreck a woman's general health quicker than anything else in the world. They soon transform a healthy, happy, amiable woman into a weak, sickly, fretful and despondent invalid. They utterly unfit a woman for wifehood or motherhood. For all disorders of this nature Dr. Pierce's Favorite Prescription is the best of all medicines. It acts directly on the delicate and important organs concerned in maternity, giving them health, strength, vigor and elasticity. It relieves pain, allays inflammation, checks debilitating drains, and quickly subdues all other symptoms. It at once stops the dragging pains and sinking spells, the nervousness, the digestive disturbances and other complications that arise from the same cause. Taken during the months of expectant maternity, it banishes the usual discomforts and makes baby's advent easy and almost painless. It insures the new-comer's health and a plentiful supply of nourishment. Thousands of women have testified to its marvelous merits. An honest dealer will not suggest an inferior substitute for the sake of extra profit.

Treatment of Blackleg.

It is less than three years since the Pasteur system of preventive vaccination for blackleg in cattle was introduced into the United States. It was not new, as it had been practiced most extensively and successfully in Europe for no less than nine years, but was unknown to the cattle owners of this country. Investigations made on the other side by many prominent American cattlemen satisfied them that the vaccine was what it claimed to be, namely, a preventive of blackleg. During the year 1895 the Pasteur Blackleg Vaccine was used experimentally in nearly every State in the West, and with so much satisfaction that the vaccination of cattle to prevent blackleg is to-day become almost universal in the Western country.

The Pasteur system—or, better still, the Pasteur Blackleg Vaccine—has many things to recommend it. The prevalence of blackleg and the incurability of the disease when established, make preventive measures imperative. The vaccine is easily and quickly administered, is perfectly harmless, but does prevent the inoculated animal from being attacked with blackleg. Last, but not least, it is cheap—in fact, so cheap that it is very much cheaper to vaccinate a hundred head of cattle than it is to lose a single calf from blackleg.

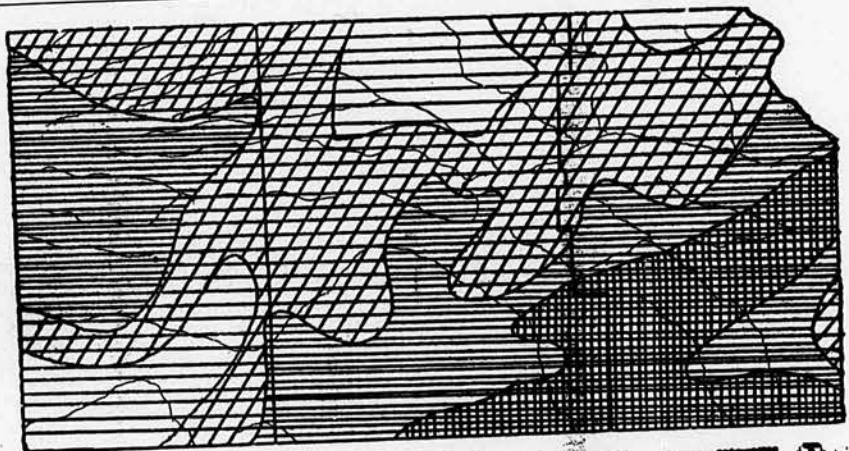
Kansas stockmen appreciate the benefits of vaccination, as we are informed that since the Pasteur Vaccine was introduced, a little more than a year ago, over 20,000 head of cattle have been successfully treated with Pasteur Vaccine and protected against blackleg. So successful has real vaccine proved to be that all kinds of drugs and remedies long since discarded as useless have reappeared under the name of vaccine. It would be well to be careful to see that the genuine preparation is obtained and used, the manufacturers being the Pasteur Vaccine Company, whose headquarters in the United States are located in Chicago.

The Indiana Farmer claims that a horse will do more work and keep in better condition on old hay than it will on new.

Hogs should not be turned into low, wet pasture.

Ottawa Chautauqua Assembly,

Forest Park, Ottawa, Kas., June 13 to 24, 1898. Tickets on sale June 11 to 24, inclusive, at one fare, \$1.50, for round trip, good for return until June 27, 1898. If proximity of station to grounds and perfect train service are inducements, your ticket will read over the Santa Fe. Ask W. C. Garvey, Agent, A. T. & S. F. Ry., about it. W. J. Black, G. P. A.



The Apiary.

Conducted by A. H. DUFF, Larned, Kas., to whom inquiries relating to this department should be addressed.

Bee Moths.

Editor of the Apiary:—We take the Kansas Farmer, and I notice the articles on bee-keeping, but have not noticed anything in regard to the bee moths. We have bees, and at present I am satisfied that they have moths in the hives. I would be pleased to know how to get rid of them.

MRS. E. A. M'PHERREN.
Republic, Kas.

The most effective remedy for moths in bee-hives is to introduce Italian bees to them. The Italian bees are proof against moths, and since the introduction of this race of bees the bee-keeper has no more fears of the moth worms as far as his bees are concerned, or rather the hives of comb that are occupied with bees. The native bees of this country are susceptible of being overpowered and destroyed by moths, and especially so when they get down weak. In earlier days this was the greatest enemy the bee-keeper had to contend with.

Usually a good strong colony of bees of any kind are not in danger of being destroyed by moths, but if we have the native bees and they are thus affected and the combs in the hives are infested with worms, we should cut out and remove all parts of the comb containing such, as best we can, and then build the colony up in strength. If they have a good fertile queen and a fair amount of bees, we can by feeding them get them to breed rapidly and build up strong so that there is but little danger of moths.

Moths are but little thought of at present when the movable frame hive is in use, and we have Italian bees. Italian bees never become so weak that they do not repel moths, it matters not what kind of hive they are in; but the native bees, especially when in old box hives, very frequently fall a prey to moths. When bees are kept in frame hives and manipulated as they should be, moths seldom get in work that proves of much damage, even with native bees. Some years ago a large number of different kinds of moth traps were invented to be used in connection with hives to exterminate them, but of late years there is nothing of the kind in existence, as the Italian bees and the movable frame hive ended the moth pest among bees.

Moths are still troublesome to some extent yet, but they get in their work only on empty combs that are not occupied by the bees. Those who keep many bees are usually supplied with a quantity of surplus combs that are carried over from one year to another, and if these are not looked after closely they are in danger of being destroyed by the moth worms. Such comb may be inclosed in tight boxes and fumigated with burning sulphur occasionally during warm weather, and thus kept perfectly safe from their ravages.

Queen Cells.

Editor of the Apiary:—Can you tell me how I can tell the queen cells from other cells? I can find the queen bee, but I do not know enough about bees to be able to find the cells which contain the young queens.

Burrton, Kas. J. T. LAWTON.

There is usually but one short period in the season that queen cells are found in the hive, and that is during the swarming season. Some seasons bees do not swarm at all, and as a consequence do not have queen cells. Under two conditions bees have queen cells in the hive. One is in swarming, and the other is that when a queen dies or is lost the bees will form queen cells to rear another queen, providing they have brood from which to rear one. In this case the queen that has died must have left some eggs in the combs, or brood that is not more than four or five days old, and from which bees can select a small number and proceed to transform them into queens.

Queen cells may be produced at any time, and are thus produced in queen rearing. On removing a queen from a colony the bees will at once start queen cells. In this case they produce these queens from worker brood, or eggs that were deposited in the ordinary worker cells and would otherwise have been hatched into worker bees had not the bees made a change by constructing a queen cell around this brood, and also changing the food of the larva.

Queen cells are quite different from other cells. The queen cell does not

remain permanent, as do others. What are called queen cell cups may be found on the comb at any time, as this part of the cell remains. These little cups found about the edges of the comb are similar to the cap of an acorn and may be imitated by pressing a little ball of wax over the rounded end of a pen-holder. These cells are scattered here and there around the edges of the comb, and seldom on the face of it unless the surface is uneven.

When the swarming season approaches the queen will deposit eggs in these queen cell cups. The eggs remain in the cell three days, the same as others, and then hatch into larvae, at which time the bees begin to increase the size of the cell, and furnish a liberal supply of food of such consistency that it is fed only to young queens, and is called "royal jelly" by bee-keepers. The size of the cell is gradually increased as the larva grows, until about the eighth day, at which time the larva has reached its stage of maturity, when the cell is sealed over. These queen cells when completed will average about an inch in length, some shorter and some longer in appearance, owing to the amount of surplus wax added to some and not to others, unaccountably. The queen cells point downward, and in appearance they resemble the hull of a peanut, and if you go peanut hunting among the combs in a hive of a strong colony about swarming time you will doubtless find queen cells.

A good prosperous colony will perhaps construct about a dozen queen cells preparatory to swarming; in some cases not more than half this number, while in extreme cases they may have twenty-five, and in one instance I counted thirty. Some queen breeders now furnish those little queen cell cups fastened on strips of wood running longwise of the frame. The cups are molded from beeswax and put in place, and the egg is transferred to them, when they are given to a queenless colony, and thus a large number of cells are produced.

Yearbook of Department of Agriculture for 1897.

The Yearbook of the Department of Agriculture for 1897 is now in the hands of the Public Printer and will be ready for distribution some time during the present month of May. This book is a volume of 792 pages and has been constructed on somewhat different lines from previous issues, and in accordance with plans laid down by the present head of the department. All papers contributed by the chiefs of bureaus, divisions and offices of the department were selected by the Secretary himself after the titles of the various papers had been submitted to him by these officers. It also contains an article from each chief having charge of a special branch of the department work, setting forth the relation of the work of his bureau, division or office to the farmer.

The Yearbook is divided into four main parts. The first consists of the annual report of the Secretary of Agriculture for the fiscal year 1897 and covers the operations of the department for the year.

Under the general title, "Work of the Department for the Farmer," the second part contains the papers describing the work of the several bureaus and divisions. There is a great diversity shown in the nature of this work, and each chief, in his own way, points out the service which his branch of the department undertakes to render to the farmers of the country.

The eighteen miscellaneous papers, which form the third part, were prepared by the chiefs of bureaus and divisions and their expert assistants. They cover a variety of subjects and illustrate the extent and variety of the scientific work of the department. Their titles are as follows:

"Popular Education for the Farmer in the United States," by A. C. True, Ph. D.

"Every Farm an Experiment Station," by Ervin E. Ewell.

"The Fruit Industry and Substitution of Domestic for Foreign-Grown Fruits," by William A. Taylor.

"Birds that Injure Grain," by F. E. L. Beal.

"Lawns and Lawn Making," by F. Lamson-Scribner.

"Object Lesson Roads," by Roy Stone.

"Hybrids and Their Utilization in Plant Breeding," by Walter T. Swingle and Herbert J. Webber.

"The Needs and Requirements of a Control of Feeding Stuffs," by E. W. Allen, Ph. D.

"Some Interesting Soil Problems," by Milton Whitney.

"Additional Notes on Seed Testing," by Gilbert H. Hicks and Sotheron Key.

"Some Edible and Poisonous Fungi," by Dr. W. G. Farlow.

"The Present Status of Flax Culture in the United States," by Chas. Richards Dodge.

"Leguminous Forage Crops," by Jared G. Smith.

"Utilization of By-Products of the Dairy," by Henry E. Alvord, C. E.

"Danger of Importing Insect Pests," by L. O. Howard, Ph. D.

"The Agricultural Outlook on the Coast Region of Alaska," by Walter H. Evans, Ph. D.

"Agricultural Production and Prices," by George K. Holmes.

"Rainfall of the Crop Season," by A. J. Henry.

The fourth part is the "Appendix." This part includes the organization of the department, a list of agricultural colleges and stations, a list of the department publications for the year, data on feeding, fertilizing, fungicides; tables showing the number and value of farm animals, the acreage and value of the principal crops, the imports and exports of agricultural products, transportation rates and a record of the weather condition throughout the year.

The publication contains forty full-page plate illustrations, including twenty-one lithographs, and forty-five text figures.

The edition of the Yearbook is 500,000 copies, 470,000 of which are by law reserved for the exclusive use of Senators, Representatives and Delegates in Congress, and 30,000 are allotted to the Department of Agriculture. This allotment is consumed in the distribution to crop correspondents and others co-operating with the department or rendering it some service. Very few copies, therefore, are available for miscellaneous distribution, and applicants generally will be obliged to apply to Senators or Representatives in Congress.

Women With Nerves.

The Rural New-Yorker has printed several letters on the question of the nervous temperament and how it may be best controlled. The editor had requested some of the readers of the paper to give some advice (not medical) on the subject, and the suggestions offered have been very good. Annie L. Jack writes with both sympathy for suffering and understanding of the treatment required, and especially advises change of work and scene. She says:

"James Freeman Clarke said, 'I do not know any more blessed influence for one harassed by the care of business or the turmoil of difficult duties than the immense peace of nature.' Emerson represents a man going out of a meeting of excited reformers, and the stars looking down on him and saying: 'Why so hot little man?' A month spent among the great mountains of Colorado and the vast regions of Arizona would be likely to quiet the nerves of most of us.

"Yet it is a matter of temperament and of Christian faith. Dr. Clarke's own nature was calm and untroubled. I have been a guest at his house, and have seen how tranquil and full of quiet was his temperament, even through troubles and cares, but it was inborn grace and good temper. But a woman, and one all nerves, to whom the falling of a spoon or fork is a torture, who lives all the time in the country where a deadly quiet is broken only by some gossip who comes to tell her that she is terribly falling, and didn't her mother die just about her age? Ah, pity her! No books or flowers can still those nerves or cure that constant ache in the top of her head! Mrs. Stowe said of this large class of nervous people who need wisdom and lack the will power to control their nerves that they need to cultivate the habit of silence toward men and speech toward God.

"In the country a great deal of blame must fall on the constant indoor life that women lead—its monotony and isolation. I have myself been told when I have spoken of getting out of doors in bad weather, 'Why, I am sure you get exercise enough!' Yes, any woman who has heavy babies to lift, and cooking to do for her family, gets plenty of a certain kind of exercise; but it is not the bracing air of outdoors, the variety that men get, if only drawing wood or calling at the blacksmith's. Many arguments are used for and against the bicycle for nervous people, but one thing is certain. That any one who can command a gentle horse and saddle, and takes rides through the country, has a tonic and nerve restorer not to be despised. But, then, wouldn't any country woman be supposed to be wasting her time, and think of the work left undone in her absence? Ah! these ruts; how hard they are to get out of! No wonder she envies her city cousins whose fathers and husbands are expected to provide for them,

and do not question or pout when they take exercise in calling or shopping!

"An entire change—city to country, or country to city—will often divert a semi-invalid and make home seem brighter on returning. But the bodily health must be the first consideration. A bath is a great restorer, rubbing the body with a coarse towel while using water slightly warmed at first. The diet should be fish, mutton broth, green vegetables and acid fruits, cocoa and milk, plenty of eggs and cream, with light puddings, and raw oysters. Thus the blood is helped, and that network of tingling nerves strengthened. Get out of doors, suffering one; if you cannot walk, then drive, and divert your mind with the panorama of field and sky and tree by the wayside, if nothing else. Get fresh, pure air into the lungs, and new life into the overtaxed nerves. Avoid stimulants of every sort; they are a delusion and a snare. Let will power be brought into force to induce quiet.

"Some one once asked me what to do to induce sleep. 'Read a chapter in the Bible, say your prayers, lie down quietly, and think of nothing.' Sleeplessness wears on the nerves, and one would better not begin to think of past or future worries when trying to woo nature's sweet restorer."

Preserving Strawberries by the Sun's Rays.

"While the sun-preserved fruits require time and patience, they are, without doubt, much to be preferred to those cooked over the fire," writes Mrs. S. T. Rorer, on "Strawberries in Thirty Ways," in the May Ladies' Home Journal. "In the country, where a hot-bed is at command, the work is easily done. Stem strawberries carefully without bruising; put them into a wire basket, which plunge down into a pan of cold water and drain thoroughly. Weigh the strawberries and to each pound allow one pound of granulated sugar. Select large stoneware plates, make them very hot either on top of the stove or in the oven; sprinkle over a layer of granulated sugar and cover this closely with the berries. Cover with glass and stand in the sun's hottest rays. Move the dish as the sun changes its position. At 4 o'clock bring them in and stand aside in a closet or cool place. Next day put them out again in the sun; by this time they will no doubt have become clear, almost transparent, and thoroughly soft, but perfectly whole. Lift each berry carefully with a fork and put into a tumbler or bottle. Boil the sirup over the fire for a few minutes until it thickens; strain, cool and pour over the fruit."

B. P. Hanan, of the Arlington nurseries, Reno county, Kansas, reports in a letter of the 9th inst., that it is raining slowly again and that corn is a very poor stand and yellow.

It is now said by the Eastern houses that the wool buyers have been called in from the West. The market has been in an unsettled condition for a long time and the war scare has caused further disturbance, the result being that there is no demand for the staple.

Some people whose fields are weedy and buildings are all to pieces can tell a beautiful story of how to be a model farmer.

Have plenty of good pasture for the pigs. That is the cheap way of making hogs.

Perhaps the contrary animal thinks you are an unreasonable creature.

All preparations for the season's work should now have been made.

Kills the Germs.

Bannerman's Phenyle Disinfectant and Germicide has been tested by many leading stock breeders as a preventive to hog cholera and other diseases among hogs and poultry. It has the endorsement of all users from results obtained through its use. Price, 25-pound pail, \$3.50; 5-pound can, \$1. Address Bannerman & Co., Chicago, Ill.



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Send One Dollar to C. E. KITTINGER, Ipswich, S. Dak. For ten rennets, with complete instruction for making and curing cheese at home with such simple apparatus as most farmers now have. Full cream factory cheese the kind made, and your money refunded if you fail.

The Home Circle.

"O MARY, GO AND CALL THE CATTLE HOME."

O Mary, go and call the cattle home,
And call the cattle home,
And call the cattle home,
Across the banks o' Dee;
The western wind was wild and dank wi' foam,
And all alone went she.

The creeping tide came up along the sand,
And o'er and o'er the sand,
And round and round the sand,
As far as eye could see;
The blinding mist came down and hid the land,
And never home came she.

O, is it weed or fish or floating hair—
A tress of golden hair,
O' drowned maiden's hair—
Above the nets at sea?
Was never salmon yet that shone so fair
Among the stakes o' Dee.

They towed her in across the rolling foam—
The cruel, crawling foam,
The cruel, hungry foam,
To her grave beside the sea;
But still the boatmen hear her call the cattle home
Across the sands o' Dee.
—Charles Kingsley.

THE PHILIPPINES.

Though the Philippine islands are rightly classed as Spanish possessions, Spain has never possessed them to a degree sufficient to influence the character or the social conditions of the vast mass of their inhabitants beyond impressing a certain proportion of them with a faint understanding of Catholic Christianity.

In very truth, the Spaniards have never had a masterful grip over anything more than the towns and villages which have sprung up at their bidding and just so much additional land as was necessary for their troops to stand upon. Their rule is a mere exotic. It has only continued because the natives, many tribes of whom have never been conquered, have not possessed sufficient power of organization to plan a successful revolt. The tribes in the northern parts of the island of Luzon have always been independent, while in Mindanao and Sulu the Spanish authority has never reached further than a day's march from the garrisons.

Nothing could be more infelicitous than the name which has sometimes been applied to Luzon, "the Cuba of the East." Cubans, whether loyal or insurgents, are absolutely a Latinized race. Havana is a Spanish city. But Luzon is an Asiatic island and Manila, its capital, is a merely fortuitous assemblage of Asiatic people brought together through the enterprise of a small fraction of a European contingent, wherein the Spaniards predominate in numbers and the Anglo-Saxons in influence.

In the summer months, during the greater part of the day, the heat is so intense that the Europeans frequently tumble over with heat apoplexy. Even the Spaniards do their business in the early hours, whiling away the heat of the day in sleep. Late in the afternoon Manila begins to awake.

The Escolta, or principal street, is crowded with loungers of all ranks and colors, each with a segarito stuck pen-like behind the ear. Caromattas, a species of two-wheeled hooded cabriolets peculiar to the natives, crowd the roadway, together with the buggies and open carriages of the foreign element. The Spanish carriages have a certain picturesque but barbaric gorgeousness, the harness being thickly laden with silver ornaments, while the coachman wears a curious hat of turquoise shell, bound and filleted with silver.

At sunset the various tobacco stores close, and their thousands of employees pour out into the streets. They form a motley, yet effective, feature among the wayfarers, with their cotton suits, big pink checks, or of the color of lemon, lilac, chocolate, yellow or green—combinations which harmonize charmingly with their rich, dusky skins under the mellow light of the afternoon.

The Malay girls are usually very pretty, with languishing eyes, shaded by long lashes, and supple figures, whose graceful lines are revealed by their thin clothing. In fine weather their bare feet are thrust into light gold-embroidered slippers. In wet weather they raise themselves on high clogs, which necessitate a very becoming swinging of the haunches.

There is not a bonnet to be seen. Women of the better classes affect lace and flowers, those of the lower wear their own hair flowing down their backs, in a long, blue-black wave.

All classes, without exception, wear over the stiff starched kerchiefs, which decorously cover the bosom, a crucifix and a relic of some sort, in a bag. Jewelry is profusely worn. Every woman sparkles with bracelets, ear-rings and chains. Many of the males are similarly caparisoned. The reason is not far to seek.

Thieves are many and houses insecure. It is better to carry your property about with you than have it at the mercy of the robber.

Dinner is at half past 7. After that meal the crowds tend to accumulate in the Luneta, a long grassy space between the ancient city and the sea. Here, against a background of venerable moss-grown wall, are stationed a multitude of vehicles filled with bejeweled and beflowered ladies, illumined by rows of petroleum lamps, while on the middle space of grass two streams of men flow up and down, listening to a military band—men in brilliant uniforms, or in white trousers and jackets and bright waist sashes and wide sombreros. The peasants mix freely with the upper classes, brightening the scene with their white kerchiefs and chess-board cottons. Children run laughing in and out among the groups.

Everybody smokes. Cigarettes at fifteen for a cent are in chief favor with the natives. Cigars at \$1.50 a hundred are in favor with the foreigners. All the street cars are peripatetic smoking saloons. Even the women "light up" as soon as their fare is paid.

A Manila street car has other peculiarities. It is usually drawn by a single pony managed by two drivers. One beats the pony and the other holds the reins and blows a tin horn. On the rear platform stands a pompous conductor, who collects a copper all around every time the car passes a section post. These section posts are somewhat less than a mile apart. The conductor is particularly careful to look after the due balance of the car, fore and aft. He will not allow more to stand on one platform than on the other. If there are eight in front and six in the rear, or vice versa, somebody has to stumble through the car from the heavier end to the lighter. This precaution is necessary to prevent derailments. Other precautions still more necessary are omitted: Thus, a woman carrying a little smallpox patient is as welcome as any one else.

The handful of Englishmen resident in Manila are mostly bachelors, eager upon making their pile and returning to pleasant surroundings. These take up their quarters in a large house at Sampalag, which is club and boarding house combined, or in "chummeries" established in adjacent buildings. The few former benedicts of British birth who have married there, with the intention of settling down, have been forced to make their selections from the Spanish population. Native-born English women would find existence in Manila a dreadful ordeal.

None of the Philippine islands offers any inducements to the temporary sojourner, save in natural beauty of scenery. The government is mediaeval, and foreigners are discouraged as much as possible. Owing to the tedious custom house regulations the obligation of every person to procure and carry on his person a document of identity, the requirement of a passport to enter and another to leave the islands, the absence of railways and hotels in the interior, and the personal insecurity and difficulty of traveling, the Philippines have not been favorite resorts of tourists and globe trotters. Probably not 15,000 Spaniards, or people of pure Spanish blood, have even a passing residence throughout its whole extent. Indeed, of the 8,000,000 that inhabit the Philippine islands, all the foreigners whatsoever, whether European or Chinese, do not altogether make up a hundredth part.

Two races of aboriginal inhabitants are the chief occupants of the islands. The least important is a race of little negroes, with woolly heads and sooty skins, whom the Spaniards call Negritos. The other and more considerable are a brown-complexioned people, with long, lank hair, who are closely akin to the Malays. They are subdivided into many varieties, all with the same general character, but with tribal differences. Thus, the Ilocos occupy the northern division of the archipelago, the Tagals the center and the Visaians the south. Of these three sub-races, the first named is the largest and sturdiest in physical build, but of lower mental average and of less general adaptability than the others. The second, a smaller-statured, darker-complexioned, sinewy race, is distinguished above all others for energy of character, intelligence and perseverance. The Visaians are the gentlest and handsomest. Derived from or ingrafted in these three main branches are many lesser sprays. Some, especially in north and central Luzon, owe their differentiation, if reliance can be placed in the testimony of bodily lineaments and historical evidence combined, to a strong infusion of Chinese or Japanese blood on the one side and Polynesian or Papuan on the other.

The Spaniards classify all the Philippine islands under three religious groups—the infelices, or infidels, who have held to their ancient heathen rites;

GOLD DUST

THE BEST WASHING POWDER

the Morros, or Moors, who retain the Mohammedan religion of their first conquerors, and the infinitely larger class of indios, or Roman Catholics.

An important though numerically small element in the population of the larger cities are the mestizos, or half-breeds, the result of admixture either between the Chinese or the Spanish and the natives. These mestizos occupy about the same social position as the mulattos of the United States. They will not associate with people whose skins are darker than their own, and they cannot associate with the whites. But they are the richest and most enterprising among the native population.

In all the towns and larger villages of the Philippines the chief municipal control, subject to the approval of the Spanish Governor at Manila, is nominally in the hands of a "captain," a native of the place, who is elected in accordance with immemorial custom, for a two years' service, from among the villagers themselves. But in effect the most important personage is the cura, or parish priest. He is in most instances a Spaniard by birth, and enrolled in one of the other of the three great religious orders, Augustinian, Franciscan or Dominican, established by the conquerors. At heart, however, he is usually as much, if not more, of a native than the natives themselves. He is bound for life to the land of his adoption. He has no social or domestic tie, no anticipated home return to bind him to any other place.

The villagers are devout children of the church which they have adopted, though often the superstitions of the earlier life peep through the outward semblance of Catholicism. Ancestor worship is one of them. The virgins, saints and martyrs of Roman hagiology are merely placed at the head of the unseen kingdom which previous to their recognition had already been well tenanted by their own ancestors and relatives. Abnormal practices and beliefs still exist and smoulder on throughout the archipelago, despite the efforts of the priesthood to obliterate them. But, as a rule, the Catholic church has shown its wonted wisdom in adopting and engrafting upon its own ceremonial all popular religious or social customs that were not intrinsically repugnant to it.

Next to the church, the greatest Sunday and holiday resort in a Philippine village is the cockpit, usually a large building walled like a coarse basket and surrounded by a high paling of the same description, which forms a sort of courtyard, where cocks are kept waiting their turns to come upon the stage when their owners have succeeded in arranging a satisfactory match.

It is claimed that many a respectable Malay paterfamilias has been seen escaping from amid the ruins of his burning home, bearing away in his arms his favorite bird, while wife and children were left to shift for themselves.

One of the worst features about cock fighting, outside of its innate brutality, is the betting, universal among the spectators of the game. The sums staked are often very high, and their payment, which is rarely shirked, may involve the ruin of the loser.

In general, the conflict does not last long. In from two to five minutes after the set-to one or other of the birds is pretty sure to be either killed or badly wounded by steel spurs. Until this happens the utmost quietness is maintained among the hundreds of half-naked spectators, closely packed together in the broiling afternoon heat. There is not a hint of disorder or disturbance. Intense interest is shown only by outstretched necks and eager looks, as well as by muttered exclamations at the various stages of the fight. At the end, of course,

the winners break into noisy joy, in high spirits at pocketing the money, which is heard clinking on all sides.

The diet of the Philippines has something to do, undoubtedly, with their gentle and non-aggressive qualities. They eschew opium and spirituous liquors. Their chief sustenance morning, noon and eve is rice. The rice crop seldom fails not merely to support the population, but to leave a large margin for export. Famine, that hideous shadow which broods over so many a rice-subsisting population, is unknown here. Even scarcity is of rare occurrence. In the worst of years hardly a sack of grain has to be imported.

It is this very abundance which stands in the way of what the world calls progress. The Malay, like other children of the tropics, limits his labor by the measure of his requirements, and that measure is narrow, indeed. Hence it is often difficult to obtain his services in the development of the tobacco, coffee, hemp and sugar industries, which might make the archipelago one of the wealthiest, most prosperous and most discontented portions of the earth's surface.—New York Herald.

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The Young Folks.

THE SONG OF THE DRUM.

Do you hear my summons hammer thro' the crackle and the clamor,
Do you feel my throb and thrill?
When I meet the smell of powder, oh, my merry note grows louder,
And my songs shall not be still.
Follow, each beside his fellow, 'neath the vapors gray and yellow,
Wildly cheering, sternly dumb,
And rumble, rumble, rumble, when the smoke-wreaths toss and tumble,
You shall hear the rolling drum. Follow the drum!

Men forget their fears and follies as they face the blinding volleys,
And the young recruits they come,
With their simple sunburnt faces, from the quiet country places,
To the call of me, the drum.
Come, plowboy lad and carter, and your life-blood freely barter
For the bullet sure for some,
And rattle, rattle, rattle, through the din and roar of battle,
You shall hear the rolling drum. Follow the drum!

When the boys that follow fast there, drop aside and fall at last there,
From the surging lines of red,
Then no more of pomp and ruffle; my notes awhile I muffle,
And I moan and mourn the dead.
But the losing battle needs me, and the whistling bullet speeds me;
Through the reeling ranks I come,
And clatter, clatter, clatter, where the broken regiments scatter,
You shall hear the rolling drum. Follow the drum.
—Pall Mall Gazette.

WASHINGTON'S LEAP.

In 1775 there lived in a Virginia town a rich and eccentric old farmer whose daughter was the loveliest maiden in all the locality. The beautiful Annette was 18 years of age and had many suitors for her hand and heart. On her 19th birthday the old man invited all the youth of the village to a grand hay-making frolic.

"Now, my lads," said the old man, after the banquet was some time over, "I've got something to say to you. It seems that a good many of you have been casting sheep's eyes on my Annette. Now, boys, I don't care anything about money or talents, book learning or soldier larning. I can do as well by my girl as any man in the country, but I want her to marry a man of my own grit. I got my old woman by beating the smartest man on the eastern shore. Now, listen; I've taken an oath that no man shall marry my daughter without jumping for it. There you are, boys; yonder's the green, and here's Annette. The one who jumps farthest on a dead level shall marry her this every evening."

This peculiar address was received with great applause, and more than one youth, as he bounded away for the arena of trial, cast a glance of anticipated victory upon the lovely prize as she stood blushing beside her father.

Soon all was in readiness. The signal was given and the young competitors stripped off their coats.

"Edward Grayson, seventeen feet!" cried one of the judges. The youth had done his utmost, but it was clear that he had little hope.

"Dick Bouden, nineteen feet!" Dick, with a little laugh of satisfaction, replaced his coat and joined the onlookers. "Harry Preston, nineteen feet, three inches!"

"Well done, Harry!" shouted the spectators. "You tried hard for the acres and the homestead."

"Charlie Simms, fifteen and one-half feet!"

He turned away crestfallen. It was clear he had no chance to win the fair prize. Then came Henry Carroll—handsome, athletic and confident. He cast a swift glance at his sweetheart and at the villagers, and then, with a gleam of triumph in his eye, he bounded forward. "Twenty-one feet and a half! A magnificent leap!" cried the judge. "Hooray for Harry Carroll!"

Hands, hats and handkerchiefs were waved wildly by the delighted villagers, and the eyes of the happy Annette sparkled with joy.

Now, just before Harry had leaped, a stranger had entered the throng unperceived. He was a tall, gentlemanly young man in a military undress frock coat, who had at that moment arrived on horseback before the inn. He was just in time to witness Carroll's great leap.

The man's handsome, free and easy address at once attracted the eyes of the maidens, while his manly and sinewy frame, in which were happily united symmetry and strength, called forth the admiration of the young men.

"Mayhap, sir stranger, you think you can beat that," said Charlie Simms, remarking the manner in which the newcomer scanned the arena. "If you can outleap Harry Carroll you beat the best man in the colonies."

"Is it for amusement you are pursuing this pastime?" inquired the youthful

stranger, "or is there a prize for the winner?"

"The sweetest prize man ever strove for," answered the judges. "Yonder she stands."

The stranger cast a respectful glance at the blushing maiden, and his eyes looked admiration.

"Are the lists open to all?" he asked. "All, young sir," replied Annette's father, with interest. "If you will try, you are free to do so. Here is my daughter, sir; look at her and decide."

With a smile the newcomer threw off his coat, drew his sash tighter around his waist and stepped forward. All hearts stood still as the young man bounded forward.

"Twenty-two feet and an inch!" The judge's words were received with murmurs of surprise and wonder. Not without a feeling of pity for poor Harry, all crowded around the new victor, offering him their congratulations. Resuming his coat, the stranger sought with his eye the fair prize he had, although namelessly and unknown, so fairly won. She leaned upon her father's arm, pale and distressed.

Poor Harry Carroll stood aloof, admiring the stranger for his ability, but hating him for his success.

"Annette, my pretty prize," said the victor, taking her passive hand, "I have won you fairly, but I think there is a favored youth among the competitors who has a higher claim than mine. Young sir," he continued, turning to the surprised Harry, "methinks you were the victor in the lists before me, and as such, with the permission of this worthy assembly, you receive from my hand the prize you have so well and honorably won."

The youth sprang forward and grasped the stranger's hand with gratitude, and the next moment Annette was weeping from pure joy upon his breast. The place rang with the acclamations of the delighted people, and amid the excitement the newcomer withdrew, remounting his horse, and rode briskly out of the village.

That night Harry and Annette were married. Several years later Harry Carroll became Col. Harry Carroll. One evening the Colonel was sitting on the piazza of his handsome country house, when a courier rode up and announced the approach of General Washington and suite, who would crave the Colonel's hospitality for the night.

That evening at the table Annette, now the dignified, matronly and still handsome Mrs. Carroll, could not keep her eyes from the face of the illustrious visitor. "I suspect, Colonel," said the General, "that Mrs. Carroll thinks she recognizes in me an old acquaintance, but I have become, by dint of camp-fire and hard usage, too unwieldy to leap again twenty-two feet one inch, even for so fair a bride as one I wot of."

George Washington was indeed the handsome young athlete whose mysterious appearance and disappearance in the native village of the lovers is still traditional.—Selected.

Gen. Fitzhugh Lee.

There has been so much interest manifested in Cuban affairs and our Consul General thereto by our young people that we publish a brief sketch of his life, from the Detroit Journal:

"Gen. Fitzhugh Lee was born at Clermont, Va., November 19, 1835. He entered the military academy at West Point at the age of 16 and graduated in June, 1856. He stood at the head of his class in point of horsemanship. Appointed second lieutenant in the Second United States cavalry. Fought the Indians in Texas in the command of Maj. Earl Van Dorn. Wounded by an arrow which entered between his ribs and thereby nearly lost his life. At another time in a hand-to-hand encounter where neither had a chance to use his weapons, by a trick of wrestling known as the Virginia back heel, threw the Indian to the ground and killed him. When the Civil war broke out Fitzhugh Lee was instructor in cavalry tactics at West Point. Resigned and offered his services to the State of Virginia. Served first on the staff of General Ewell. Next as lieutenant colonel, First Virginia cavalry. Made the raid with Gen. J. E. B. Stuart around McClellan's army in front of Richmond. Promoted to colonel, and then brigadier general in Stuart's command. In 1863 was made commander of one of the two divisions of Confederate cavalry—the other commander being Wade Hampton. Next commander of cavalry, Army of Northern Virginia, 1863, rank of major general. Was with Stonewall Jackson at Chancellorsville. At Winchester, September 19, 1864, 'Sheridan twenty miles away,' had three horses killed under him and was severely wounded. The last fighting done by the Army of Northern Virginia was the cav-

alry charge headed by Fitzhugh Lee at Farmville, a few miles from Appomattox, April 8, 1865, where he was successful in driving back our cavalry under General Crook. Went back to business like a good citizen after the war was over. Married in 1871, at Alexandria, Miss Ellen Barnard. Lives at Lynchburg and has five children, two sons and three daughters. Wrote the life of Gen. Robert E. Lee. Is a nephew of Robert E. Lee. Sometimes is confused with Gen. W. H. Fitzhugh Lee, his cousin, the second son of Gen. Robert E. Lee.

"Was appointed by President Cleveland, April, 1896, Consul General at Havana, to succeed Consul General Williams, who was apathetic in cases affecting the rights of American citizens in Cuba. Cleveland wanted a man who could stand up before the Spanish Captain General Weyler and check him. He had just such a man in Fitzhugh Lee. There has been no nonsense with our citizens in Cuba since Fitzhugh Lee took charge of affairs there.

"He is, to use the vernacular, 'good stuff.' Is in thorough touch with the Cuban military leaders. Has the respect and confidence of Spanish authorities, who look upon him as an honorable and just man, who can't be bamboozled nor frightened. Speaks Spanish with considerable facility. Is a good campaigner and has informed himself perfectly about the geography and physical characteristics of the island, its resources, the temper of the people, and everything a military commander and representative of the United States ought to know.

"Is a Democrat and placed his resignation in the hands of President McKinley a year ago. President McKinley sent him back to Havana, fortified by the President's cordial commendation as being the right man for the place. If the President has all confidence in Fitzhugh Lee, so has the country. You can bank on him as being all right, with all the courage and horse sense needed to fill the place properly as the representative of the United States."

Leaning Tower of Pisa.

Pisa seems like a sleeping city, as she lies so quietly and silently along the two borders of the river Arno. She fell asleep several hundred years ago, after she had struggled valiantly for her independence and had won renown during the fierce contests between the Guelphs (partisans of the Pope) and the Ghibellines (partisans of the Emperor). Though Pisa has long since forgotten the days of her greatness, the world cannot forget them when it looks upon that wondrously beautiful group of four marble-white buildings standing apart in the sacred corner—the Cathedral, the Baptistery, the Campo Santo (or burial ground), and, what interests us most of all, the remarkable Campanile, so well known as the "Leaning Tower." This famous tower was built in 1174. Its construction is peculiar; there is in the center a hollow brick tube or cylinder; around this plain round tower the architects built eight stories of open galleries, with beautiful, slender columns of white marble supporting semi-circular arches. The general effect is one of great delicacy and lightness, a fairy-like tower of wonderful grace. The summit is 179 feet from the ground. As you all know, the tower leans thirteen feet out of the perpendicular, and looks as if it would surely fall over at any moment; but, as the center of gravity is still within its base, it is as safe as if it were erect. The foundations were probably imperfectly built at the start, for the tower began to lean before it was half finished, and we can see where at one point the builders tried to bring it back as much as possible to the vertical line by making the columns on the low side higher than the others. The walls, too, are strengthened with iron bars. Fancy the consternation of the architects when they saw their beautiful tower leaning over, and the foundations sinking in the ground! It requires very steady nerves to carry us to the top, and we find ourselves clinging to the wall when we are on the leaning side.

This is what Charles Dickens says about the tower in his "Pictures From Italy." "In the course of the ascent to the top the inclination is not very apparent; but at the summit it becomes so, and gives one the sensation of being in a ship that has heeled over through the action of an ebb tide. The effect upon the low side, so to speak, looking over from the gallery, and seeing the shaft recede to its base, is very startling, and I saw a nervous traveler hold on to the tower involuntarily, after glancing down, as if he had some idea of propping it up."

When we reach the summit we must not forget that this is where the great astronomer Galileo watched the stars,

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experimented on the fall of bodies and studied the law of gravitation. Here, too, in the upper story, hang the six bells, the largest of which weighs more than 12,000 pounds. The bell-founders of Pisa had a wide reputation for casting bells of beautiful tones, sonorous and harmonious. They lavished on them all their art and their talent.

The Pasquarea (the Paschal bell), the most famous of the Pisan bells, the one which was tolled when criminals were taken to execution, is ornamented with the figure of the Virgin and the devices of Pisa, and has a rich, full tone.—St. Nicholas.

The Pay of Trained Nurses.

"The average sum paid to pupil nurses is \$10 a month for the first year, and \$14 a month during the second year," writes Elizabeth Robinson Scovill on "The Life of a Trained Nurse," in the May Ladies' Home Journal. "The remuneration varies in different institutions. In a few training schools the nurses are paid nothing. After graduation head nurses in hospital wards receive from \$20 to \$30 per month; superintendents from \$500 to \$1,200 a year. District nurses, who are employed by various churches, societies, and sometimes by private benevolence, to work among the sick poor, receive about the same salary as a head nurse in a hospital, exclusive of board. "Private nurses receive from \$15 to \$25 a week. They have to pay the rent of a room to use as headquarters, and their earnings are more or less precarious. It is rare for a nurse to be employed all the time, and her work is so arduous that it would be impossible for her to stand the strain of continuous work."

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for their CHILDREN while TEETHING, with PER-

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and take no other kind. Twenty-five cents a bottle

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Special reading notices, 25 cents per line.
Business cards or miscellaneous advertisements will be received from reliable advertisers at the rate of \$5.00 per line for one year.
Annual cards in the *Breeders' Directory*, consisting of four lines or less, for \$15.00 per year, including a copy of *KANSAS FARMER* free.

Electros must have metal base.
Objectionable advertisements or orders from unreliable advertisers, when such is known to be the case, will not be accepted at any price.
To insure prompt publication of an advertisement, send cash with the order; however, monthly or quarterly payments may be arranged by parties who are well known to the publishers, or when acceptable references are given.

All advertising intended for the current week should reach this office not later than Monday.
Every advertiser will receive a copy of the paper free during the publication of the advertisement.

Address all orders—
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Send Kansas Farmer Co. \$1.20 and get one year's subscription to your State agricultural paper and Rand, McNally & Co.'s "War Atlas," containing sixteen pages of colored maps—Cuba and Havana harbor, Philippine islands and China, West Indies, Spain and Portugal, North America, United States, Europe, and one page showing flags of all nations.

The cold, wet weather which prevailed late in April and continued into May has doubtless rotted a good deal of the planted corn. There is yet ample time to plant and make a crop in Kansas, and it will be well if in addition to a practically assured great wheat crop we produce a record-breaking corn crop. The world will next year need a lot of food from Kansas.

The clean side of politics received a notable impetus last week when Hon. J. D. Bowersock, of Lawrence, was nominated for Congress. The writer knew Mr. Bowersock as a student at the Iowa State University when we were both younger than now. The sturdy, honorable, diligent youth has made an enviable record as a man of business whose great success has been well earned. As a Congressman it will be impossible for him to do other than follow the course of fidelity to principle which has characterized his entire life.

The Kansas Farmer is interested in good government, and while not in politics, is necessarily a good deal interested on the outside. It is, therefore, with much pleasure that we learn that Hon. T. A. McNeal has consented to become a candidate for the nomination of his party for State Senator from Shawnee county. Mr. McNeal—Tom McNeal, everybody calls him—is a man of great ability, a clean man politically and an exemplary citizen in every way. He has had ample legislative experience and has always been a credit to his constituency. There should be no doubt about his nomination and election.

A Topeka man identified with the breeding interests of Kansas has received a letter from an official connected with the Omaha exposition to the effect that the department of exhibits, as well as the whole executive committee, are much concerned about the question of cash premiums to live stock exhibitors, which as originally planned was to the amount of \$35,000, but at the present time they feel they are unable to guarantee that amount unless successful in raising further funds, which is now being proceeded with. In any event they have decided to give as much in the way of cash prizes as possible, and hope to announce later that they may give the amount originally intended.

It is suggested that the only reason why Joseph Leiter does not put May wheat up to \$2 per bushel is that it would break the speculators who have contracted to deliver the wheat to him, while by holding the price at about \$1.50 to \$1.70 most of them will be able to pay him for wheat enough to fill their contracts. At the close of the deal he will have both their money and the wheat, while, should he ruin them, he might have only the wheat. Leiter's tactics have been a complete innovation on those of the market wreckers who have fattened at the farmers' expense. By buying immense quantities of wheat for

delivery at a somewhat distant future date he has obtained such influence in the market at date of delivery as has enabled him to make prices high at delivery. These prices have been obtained by the farmer who sells only on delivery.

THE WAR SITUATION.

The uncertainties of a state of war prevail at the time of closing the forms for this week's Kansas Farmer. The unparalleled achievement of the United States fleet in Manila bay, Philippine islands, is no longer a matter of doubt. With a few good modern fighting ships—far from the most formidable of our navy—Commodore Dewey rode into what might easily have been presumed to be a death-trap, and without the loss of a man or a ship and with only eight slightly wounded and with only insignificant damage to his craft, destroyed the Spanish Asiatic fleet, leaving not a single boat afloat. He then destroyed the land batteries which were likely to do him harm, captured the navy yard and blockaded the port. The President and Congress, on behalf of the country, have extended the thanks of the entire people of the United States to officers and men for their splendid achievement, which is easily the most brilliant in the history of naval warfare.

At this writing, Admiral Sampson, with six ships, two of which (the Indiana and the Iowa) are of the first class, is trying to find the Spanish Atlantic squadron. The ocean is picketed with fleet vessels on the lookout for the enemy. An engagement is expected and will doubtless have taken place before these lines reach the reader. Should the Spanish fare as badly on the Atlantic as they have fared on the Pacific Spain will disappear as a naval power and the subsequent removal of Spanish misrule from Cuba will be swiftly effected.

The volunteer army of the United States is getting rapidly into fighting trim. The call for 125,000 men might be duplicated each three months for a year with a probability that the places would be filled with alacrity.

On destroying Spain's power in Cuba the course of the United States is tolerably clear. We will hold a strong hand on elements of disorder in the island until a stable republican government shall have been established. Under the Monroe doctrine we will always protect the republic of Cuba from Old World aggression. No doubt the rich resources of Cuba will attract men and money from the United States until the population of the island will, not unlikely, be more American than anything else. But we have declared officially that we do not desire to annex Cuba, and by that declaration we are bound until we shall have changed our mind.

The case of the Philippines is far different. We started to free Cuba, and as an incident of the war we have on our hands more than 1,200 islands situated more than 6,000 miles from our shores and only 500 from the coast of Asia. In this case we are bound by no declaration, because we made none. The oppressions of Spain had caused a tremendous insurrection in the Philippines, and at this moment the city of Manila is besieged on the land sides by a foe to Spain in whose hands no Spaniard's life or property would be regarded for a moment. The city is said to have provisions but for a few days' supply. We will send an army of occupation, but it is probable that the Spanish garrison

will suffer the city to be bombarded before it will surrender.

The people of the Philippines are variously estimated by different authorities from 4,500,000 to 8,000,000. The original natives are a type of negroes of a low order. They occupy the mountains and less favored portions and are reported to still practice cannibalism in some of the islands. Later comers are the Malays from Borneo. Among these the Roman Catholic religion has been propagated successfully. They are still far from enlightened. Mixed Chinese and Malays are called mestizos. The Europeans are Spanish, French, English and some others.

No one seems to think the insurgents capable of governing the islands. Any one of several European nations are anxious to acquire the Philippines, but the jealousy among them is so great that the "concert of Europe" would doubtless be turned into discord of war should the United States sell or trade or otherwise turn them over to any European power. It is a case in which we have caught the bear and cannot let it go. If we shall establish a government there which shall promote the welfare of the islands, give stable conditions, protection for life and property, and shall promote education and intelligence, we shall perform a valuable service to humanity for which we shall be amply repaid from the revenues of the islands without resorting to any of the expedients of robbery which have characterized Spain's relations with the people.

OUR NAVY AND OTHERS.

The table of the navies of the world given in this number of the Kansas Farmer is interesting at this time. It is from "The New Revised Encyclopaedic Dictionary."

The class designated as armored ships, as applied to the navy of the United States, includes 11 armored battleships, 2 armored cruisers, 1 ram, 6 double-turreted monitors and 13 single-turreted monitors. Of the armored battleships, the Maine was destroyed in Havana harbor, the Kearsarge and Kentucky are nearing completion, and three others are not far advanced, so that we have in service of these only the Indiana, the Iowa, the Massachusetts, the Oregon and the Texas. Of these the description of the Illinois (not yet in commission) may be taken as typical. It is, in brief, as follows: Length on load water line, 368 feet; extreme breadth, 72 feet; mean draught, 23½ feet; type of engine, twin screw, vertical triple expansion; normal coal supply, 450 tons; bunker capacity, 1,200 tons; number of torpedo tubes, 4; armor, sides 16½-inch, turrets 17-inch, barbettes 15-inch, slope of deck 5½, flat of deck 2½; complement, 50 officers and 535 men; displacement, 11,000 tons; speed, 16 knots per hour; cost \$3,750,000; batteries, heavy guns, 4 13-inch breech-loading rifles, and 14 6-inch breech-loading rifles; secondary battery, 16 6-pounder rapid-fire, 4 1-pounder rapid-fire, 4 Gatling guns and 1 field gun.

We cannot take the space necessary for descriptions of even one of each class of vessels composing the navy. But the brilliant victory won in Manila bay by Commodore—now Admiral—Dewey, last week, will interest the reader in a description of his flagship at least. This, the Olympia, is of the class of unarmored steel ships, and is described thus: Length of load water line, 340 feet; extreme breadth, 53 feet; mean draught, 21½ feet; type of engine, twin screw,

vertical triple expansion; normal coal capacity, 400 tons; bunker capacity, 1,093 tons; torpedo tubes, 6; armor, slope of deck 4½, flat of deck 2; complement, 34 officers and 395 men; displacement, 5,870 tons; speed, 21.6 knots per hour; horse power 17,313; cost, \$1,796,000; batteries, heavy guns, 4 8-inch breech-loading rifles and 10 5-inch breech-loading rifles; secondary battery, 14 6-pounder rapid-fire, 6 1-pounder rapid-fire and 4 Gatling guns.

Many additions have been made to the fighting craft of the United States within the last few weeks. No detailed statement of these is available at this time. They have added more to the numbers of our boats than to our fighting strength, nevertheless many excellent ships have been purchased.

The cost of a naval engagement is enormous. It is stated that to fire one shot from a 13-inch gun costs for powder and ball about \$1,000. Detailed estimates place the cost of an engagement between two of the floating arsenals, called battleships, for one hour at considerably over \$1,000,000. Besides this the heaviest guns are considered good for only about 100 shots apiece. If in addition to other cost a battleship goes to the bottom or is taken by the enemy there is again a loss of \$3,000,000 to \$5,000,000. Thus modern naval warfare is peculiarly a battle of dollars. The nation which cannot put many millions into a navy cannot combat upon the high seas a nation that is rich.

Kansas Creamerymen.

Representative Kansas creamerymen met at Topeka last week and completed the organization of the Kansas Creamerymen's Protective Association, which was projected at Concordia a few months ago. Charles Armstrong, of Clyde, was elected President; W. F. Jensen, of Beloit, Secretary, and C. H. Pattison, of Abilene, Treasurer. The object of the association is mutual insurance.

"Ten years ago creameries were considered bad risks," said Dr. A. G. Byth, of Enterprise. "The old line companies established a high rate for insuring them, and have kept it up ever since, although we have asked for a new rating. In the past three years there has not been a single loss on a Kansas creamery. During that time the insurance companies have received nearly \$50,000 in premiums from the creamerymen, and have not paid back a cent. We can insure ourselves much cheaper."

At present not more than \$1,000 will be written on any one plant. An assessment sufficient to cover the first loss has already been made, and if a loss occurs, which is not expected, another assessment will immediately be made. The association will not incorporate till the State meeting of the creamerymen in November.

A neat little pamphlet has been issued, entitled "The Paint Question," which is a practical treatise on the selection and use of paint and is intended for the guidance of property owners, painters, architects and paint manufacturers. The author is Stanton Dudley. The little book is worthy of perusal by any one who is contemplating improvements of property by the use of paint. Any one interested can receive a copy of this pamphlet by writing to John C. Van Haagen, 1043 Drexel building Philadelphia, Pa., and mention Kansas Farmer.

NAVIES OF THE WORLD.

CLASS OF VESSELS.	United States.	Great Britain.	France.	Germany.	Italy.	Austria-Hungary.	Russia.	Spain.	Denmark.	Netherlands.	Turkey.	Portugal.	Norway and Sweden.	China.	Japan.	Argentine Republic.	Brazil.	Chile.	Mexico.
Armored ships	33	86	61	31	25	15	39	11	8	10	15	3	6	1	28	8	11	8	...
Guns of same	H. G. 513	745	404	92	170	116	382	154	64	38	108	13	21	4	48	40	50	35	...
Unarmored ships	33	126	66	32	23	14	24	63	20	12	8	7	7	2	16	4	3	10	...
Guns of same	H. G. 192	746	138	248	90	104	90	146	108	129	80	30	33	23	69	10	9	51	...
Armored gunboats	S. B. 359	2,220	4,108	212	204	122	248	160	131	151	6	3	9	1	16	6	2	4	...
Guns of same	H. G. 4	14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	...
Unarmored gunboats	S. B. 121	83	28	23	26	28	40	40	27	58	20	17	15	32	...	9	13	4	...
Guns of same	H. G. 28	214	26	26	36	41	40	73	24	93	20	60	21	54	...	20	13	4	...
Dispatch vessels	S. B. 202	210	18	32	118	106	112	194	36	301	78	27	23	47	...	23	39	12	...
Guns of same	H. G. 1	4	10	9	8	4	14	2	2	27	80	...	...	...	...	...	...	...	...
Training, receiving and store ships, transports, tugs, etc.	H. G. 36	29	17	10	9	7	20	10	6	...	...	...	...	...	...	...	...	...	...
Guns of same	S. B. 112	118	132	68	52	48	69	57	32	...	...	...	...	...	...	...	...	...	...
Torpedo boats, No. 1	H. G. 18	144	196	168	121	41	125	60	11	36	37	23	22	11	30	124	16	13	...
Torpedo boats, No. 2	S. B. 9	106	54	17	70	36	98	19	14	33	5	27	14	5	5	10	18	18	...
Total number of guns	1,640	6,426	5,985	1,232	1,209	871	1,925	960	456	752	583	186	190-178	233	334	278	291	219	16
Eighty tons or over	64	94	87	27	35	38	63	110	24	4	124	28	14-36	...	...	...	...	...	...
Forty to eighty tons	188	119	93	84	72	141	89	110	105	42	119	89-102	...	...	...	...	...	...	...
Twenty to forty tons	317	1,488	312	180	220	219	395	286	90	226	119	89-102	...	...	...	...	...	...	...
Four to twenty tons	1,080	4,718	5,493	941	846	471	1,388	554	237	480	343	39	87-40	...	...	...	...	...	...
Under four tons	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

* Includes five battleships building and thirteen old one-turret monitors. † Includes six gunboats now building. ‡ Not including boats now building. § Not including guns on torpedo boats. H. G.—Heavy guns or primary batteries. S. B.—Secondary batteries or light guns. Torpedo boats, No. 1—Includes torpedo boats and torpedo catchers over 100 ft. in length. No. 2—Includes torpedo boats under 100 ft. in length.

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Washington, N. J.

Established nearly Half a Century.



An English View of the Position of Wheat.

The London Corn Trade News of April 19 says: "The tone of the market continues to rule strong, owing to the growing feeling of anxiety about the depleted state of the world's reserves on the eve of the disruption of peace. The likelihood of Spain being able to interfere with the normal course of the European breadstuffs supply is so remote that in an ordinary season it would be practically disregarded, but seeing that reserves everywhere outside of America are in such a perilously depleted condition, the feeling of anxiety is natural and real. It is exhibited mostly, perhaps, in those countries which have had recent and bitter experiences of the result of a state of war, for example, France, Germany, Italy and Austria, where prices have advanced more rapidly and extensively than in these islands, which have enjoyed for so many years a perfect immunity from the hardships of war. Even now it is generally admitted that the danger of Spain being able, or even desirous, of interfering with the movement of foodstuffs to Europe across the Atlantic is very slight; but seeing how enormous the stake at issue is the risk cannot be ignored."

HALF THEIR BREAD FROM AMERICA.

"Fully 50 per cent. of the world's exports of wheat, flour, maize, barley, rye and oats emanate from North America; the apprehension, therefore, of an obstruction occurring in this great channel of supply is natural and reasonable, and, what is more important to holders, it is a factor that will be perfectly obvious and intelligible to the man in the street; the farmer of every nationality, and the baker of every town will appraise or imagine that he is able to appraise correctly the influence of such an eventuality, and while he is notoriously disposed to ignore the more occult causes that go to shape the price of breadstuffs it is very likely that he may, rightly or wrongly, allow himself to be carried away by the fear of a repetition of the wild excitement that occurred at the time of the Russo-Turkish, the Franco-German, and the Crimean wars."

FORTY MILLION BUSHEL SHORT.

"Mr. Leiter's operations in Chicago have sunk into insignificance amidst the great issues which have arisen over the Cuban question. He has been rewarded with a considerable measure of success so far in his dealings, and our opinion remains the same as previously expressed, that eventually he will carry off a great prize. It is plain that farmers have nearly come to the end of their supplies. If such prices as \$1.10 and \$1.15 have not succeeded in attracting heavy deliveries it is perfectly certain that the wheat is not in existence. As high as 93 cents in Chicago has been reached and surpassed for No. 3 grade wheat, which is the best evidence of all that there is a genuine scarcity of wheat in the chief centers of the States. The new crop will not move freely before the 1st of July at the earliest, so that there remain ten weeks in the winter wheat States, and sixteen weeks in the North-west, before there will be any general relief in the present strained situation. Ten weeks' domestic consumption in the States will absorb 60,000,000 bushels, besides export trade will account for about 30,000,000 bushels, or a total of 90,000,000 bushels, as a minimum. Toward filling these requirements there are in sight to-day less than 50,000,000 bushels of wheat on both coasts, and 1,200,000 sacks of flour. Of this visible supply a certain quantity will be held almost irrespective of price until the opening of the new season; therefore, not more than about 40,000,000 bushels will be available for consumption. The question is where the remainder is to be found? Can farmers deliver 50,000,000 bushels during the ensuing seventy days? The obvious answer is that they can, if the estimates of the Washington Agricultural Bureau and others are

relied upon; for as recently as the 1st ultimo the lowest estimate of these authorities showed 121,000,000 bushels as in farmers' hands, of which not half will have been delivered in the past seven weeks. But after all, those were only estimates based on estimates, and are quite liable to turn out excessive. We have it as a fact that farmers cannot, or at any rate do not, deliver wheat at all freely, in spite of the extraordinary premium offered to them in Chicago and St. Louis and New York; in the first-named centers the premium of May over July exceeds 25 per cent.

CRISIS—EXCITEMENT.

"As an adjunct or addendum to this deficiency in supply, we are face to face with a demand from the continent quite unexampled in volume. Whether it is perfectly legitimate or not it is difficult to say, the war scare obscuring the real springs of the movement. If the demand proves to have been largely speculative, and the war cloud should ultimately pass away without breaking, then there is sure to be a bad and far-reaching reaction; but if, on the other hand, it should turn out to be legitimately based on the consumptive requirements of several great importing countries such as France, Germany, Italy, Austria and the low countries, then the gravity of the crisis can hardly be exaggerated. Judging from the relative scarcity of British wheat, there is a good deal to be said for the theory that farmers on the continent have prematurely marketed their last crop. For the past fortnight the continental purchases have averaged nearly 1,000,000 quarters weekly, counting the purchases off our coasts and the cargoes for orders. As pointed out in our last 1,000,000 quarters per week would not go far round among 200,000,000 consumers on the continent, for their normal consumption is three times that quantity; therefore, if only during a month or six weeks at the end of the season the demand should fall upon imported breadstuffs to the degree of 30 or 40 per cent., the wildest kind of excitement might ensue."

The New Revised Encyclopædic Dictionary

In every family is felt the need of standard reference works, something that can be appealed to as authoritative on subjects of every kind. This want has been supplied, to those who could afford the expense, by great dictionaries on the one hand and by greater cyclopaedias on the other. These are, necessarily, each, to some extent, repetitions of the other. Now comes the Encyclopædic Dictionary to combine the excellencies of the unabridged dictionary with fuller treatment of subjects requiring what may well be called encyclopædic handling.

The New Revised Encyclopædic Dictionary is claimed by the publishers to contain every legitimate word in the English language, and to give exhaustive technical definitions. The difficulties of pronunciation are met by a system of diacritical marking which makes correct pronunciation clear at a glance. In the number of subjects treated at length this work is said to exceed the justly famed Britannica. Space is not taken for the tedious technical discussion of intricate subjects; on the contrary, the work is intended to be one of ready reference for busy people. The book is up to date, giving the latest discoveries in science. Among the many books of reference in the Kansas Farmer office this set is the only source to which the editor is able to turn for present day information as to navies and as to the countries in which our engagements are taking place. It contains, besides the descriptive text, maps of all countries, of every State and Territory, and ground plans of all large cities.

In addition to the above the books contain a great fund of information alphabetically arranged and classified under the general head, "What to Do and How to Do It."

It is not possible in a brief review to

present the many excellencies of this set of books of reference now made available at moderate cost to readers of the Kansas Farmer. Agents are making a canvass of the State of Kansas and will give an opportunity to all to possess the work.

Origin of Stock.

The Drovers' Telegram makes the following showing as to the States contributing to the supplies of stock at Kansas City in four months of 1898, with gain or loss compared to the first four months in 1897:

CATTLE AND CALVES.

	1898.	Loss.	Gain.
Alabama	1,532	.....	1,475
Arkansas	1,779	2,097	.....
Arizona	62	798	.....
Colorado	7,204	.....	4,406
Indiana	.....	125	.....
Illinois	4,578	.....	4,209
Iowa	13,507	.....	7,078
Indian Territory	18,841	1,854	.....
Idaho	454	.....	374
Kentucky	37	208	.....
Kansas	297,718	15,878	.....
Louisiana	591	.....	515
Mississippi	30	.....	30
Minnesota	8,400	26	.....
Montana	77	497	.....
Missouri	81,417	.....	5,451
New York	354	.....	102
Nebraska	30,014	.....	13,732
New Mexico	444	2,657	.....
Nevada	803	.....	779
Ohio	71	.....	71
Oregon	339	.....	198
Oklahoma Territory	13,640	.....	1,079
South Dakota	.....	62	.....
Tennessee	310	.....	156
Texas	28,919	28,206	.....
Utah	1,507	.....	1,035
Wisconsin	573	.....	427
Wyoming	400	.....	400
Washington	158	.....	89
Mexico	.....	991	.....

HOG RECEIPTS.

	1898.	Loss.	Gain.
Alabama	97	.....	97
Arkansas	3,575	.....	16
Colorado	84	268	.....
Iowa	76	.....	18
Indian Territory	29,594	.....	342
Kansas	809,441	.....	168,588
Minnesota	.....	145	.....
Missouri	327,923	.....	45,817
Nebraska	69,430	.....	29,324
New Mexico	.....	74	.....
Oklahoma Territory	52,427	15,524	.....
Texas	2,618	.....	82

SHEEP RECEIPTS.

	1898.	Loss.	Gain.
Alabama	1,055	.....	1,055
Arkansas	496	190	.....
Arizona	.....	11,931	.....
Colorado	87,055	.....	48,065
California	55	991	.....
Illinois	422	.....	422
Iowa	219	385	.....
Indian Territory	11,413	.....	11,413
Idaho	158,220	100,740	.....
Kansas	122	107	.....
Louisiana	.....	362	.....
Montana	17,049	11,823	.....
Missouri	23,241	.....	4,524
Nebraska	7,689	6,478	.....
New Mexico	7,847	.....	7,746
Oklahoma Territory	107	409	.....
Tennessee	3,155	47,297	.....
Texas	1,187	.....	1,187
Utah	5,623	.....	5,623
Wyoming	.....	.....	.....

A Description of the Various Breeds of Sheep.

The Merino is described as a small-bodied sheep of medium size and compact form, with somewhat light shoulders and chest. The weight of the ewes will average from sixty to seventy pounds. They are remarkable for the large amount of very fine wool which they yield. The Rambouillet is a branch of the Merinos. Their wool is coarser in fiber than the Merino, and they are not thought as hardy.

The Oxford-downs are a comparatively new breed, produced by a course of cross breeding of Cotswolds and Hampshires, with an occasional mixture of South-down blood. An English authority says: "The Oxford-downs should have a nice dark color, the poll well covered with wool, adorned with a topknot on the forehead; a good fleece of wool, not too curly; a well-formed barrel, on short, dark legs (not gray or spotted), with good, firm mutton." They are decidedly the largest of all the down breeds, cut more wool and of a longer staple.

The South-downs have a close-set fleece of fine wool, faces and legs of a dusky brown color, necks slightly arched, limbs short, with broad and compact

body. They will subsist on light pasture, but do better when well fed, mature very early and are hardy and prolific, often producing two at a birth—a popular breed for the production of early lambs.

The Shropshires partake of the general characteristics of the South-down, but considerably heavier in fleece and body. They are called the most prolific of all breeds.

The Hampshire-downs resemble the South-downs, but are very much larger. They have good constitution, are hardy and fatten on smaller amount of food than some other breeds, mature early and are good wool bearers, the fleece usually weighing from five to six pounds; they do well in large flocks, which long-wooled varieties do not, and are valuable for crossing with native breeds and grades.

The Cotswold is the most popular of the long-wooled class in the United States; they resemble the Leicesters in appearance, but are larger and have considerable wool upon the forehead, while the Leicesters are nearly bare faced. They have not appeared to do as well in some sections of Maine as have the downs, though some very good ones are on the fine grazing sections of Aroostook county. —Maine Agricultural Bulletin No. 9.

Gossip About Stock.

W. H. Wren, of Marion, Kas., has for present offering ten boars and twenty young sows, very choice and of last fall's farrow. There is nothing for ready sale anywhere that will compare for better quality and breeding. Any one needing some strictly first-class swine should write him at once.

The next annual meeting of the American South-down Breeders' Association will be held at the Secretary's office, Springfield, Ill., on Wednesday, May 25, 1898, at 10 o'clock a. m. At this meeting the regular annual election of officers as well as other necessary matters pertaining to the association will receive attention.

The Kansas Farmer is in receipt of a letter from C. J. Huggins, of Wamego, Kas., who announces that he will make a public sale on Saturday, May 28, and will close out all Chester-Whites and most all of his Poland-Chinas, consisting of thirty head of bred sows, gilts bred and unbred, aged boars and a number of good Poland-China male pigs old enough for service. Further notices will appear later.

The Herd Register and Breeders' Journal of the American Guernsey Cattle Club is a good exponent of this noble breed of dairy cattle. The number for April, 1898, contains valuable information as to the origin of the breed and its introduction into the United States. Guernsey cows are larger than the Jerseys, but otherwise they much resemble them. The Guernsey Register is published at Peterboro, N. H.

No action has as yet been taken by the directors of the Trans-Mississippi exposition looking toward the payment of premiums on live stock in cash instead of in medals, ribbons, etc., says the Omaha Stockman. The South Omaha Live Stock Exchange was a most liberal contributor to the enterprise and will be a most potent factor in its success. The exchange has presented a vigorous demand for cash premiums and other live stock organization have done likewise. It would be a shame and a slur on the good name of the West to ask breeders to come to the exposition with fancy stock in order to compete for a medal or a diploma. The expense incurred by an exhibitor of live stock is immense, and he must see some chance for a return of his money. If cash premiums are not offered the live stock end might as well be abandoned now, as it would be foredoomed to failure.

Rock Salt for Stock.—Use Kansas Rock Salt for Stock. Best and cheapest way of salting your stock.

Horticulture.

REMEDIES AGAINST GRASSHOPPERS.

From Bulletin No. 55, Minnesota Experiment Station.

As has been stated before, the only method to reduce and destroy these injurious insects, that promises success, is the plowing of all the land in which eggs have been deposited. And in this case, as in so many others, where measures are directed against destructive insects, concerted action is all-important. If one farmer does this work in a careful manner, and his neighbor refuses to plow up a piece of meadow land filled with eggs, all the work of the one farmer will be more or less performed in vain, as the other careless one can breed upon his land enough locusts to destroy the crops of many of the surrounding farms. We still lack laws that in a case like this can force the negligent farmer to do his part of the work to get rid of such dangerous intruders, and unless such laws are made and enforced, no uniformly good results can be expected from any methods that might be applied to rout the enemy.

Since the method employed to kill the locusts depends almost entirely upon the question: Can young insects reach the surface of plowed fields, or not? It was very important to make some experiments to be able to give a positive reply to that question. To do so eggs of locusts (*spretus* and *atlantis*) were planted at different depths in flower pots which contained soil similar to that from which the eggs had been removed. The result of these experiments may be learned from the table below:

SOIL KEPT DRY.				
Eggs planted	1 inch below surface	produced	83 per cent. of locusts.	
"	2 inches	"	86	"
"	3 "	"	51	"
"	4 "	"	13	"
"	5 "	"	02	"
"	6 "	"	none	"

SOIL MOISTENED FROM TIME TO TIME.				
Eggs planted	1 inch below surface	produced	87 per cent. of locusts.	
"	2 inches	"	43	"
"	3 "	"	11	"
"	4 "	"	01	"
"	5 "	"	none	"
"	6 "	"	"	"

All the eggs experimented with were in pods, which were in no way injured or broken.

To guard against any lateral movements of the young locusts and to prevent them from reaching the surface of the soil, near the sides of the pots, where cracks in the soil would naturally form by contraction of the earth, the surface of this part of the soil was covered with a tight-fitting ring of oiled cardboard. All the egg-pods were carefully planted in or near the center. Lifting up later the ring of cardboard, many locusts were found under it, showing that they had tried hard to reach the surface by digging in a horizontal direction towards the least compressed soil.

One thousand eggs, either single ones or in twos and threes, but all free from any mucous covering, were planted to a depth of one inch and a half. The soil above them was gently compressed, and kept moist. Only 103 young locusts managed to reach the surface. As this happened while the writer was away from the office, he can not be certain whether or not some of them came up from below the ring of cardboard near the inner rim of the flower pot, this board having warped considerably on account of the moisture of the soil.

Early in July, after all the experiments had been finished, the soil from the various flower pots was thrown into a large box and was thoroughly loosened with the fingers. In consequence of this seven young locusts made their appearance, showing that some of the eggs, or of the young insects, had retained their vitality up to that time.

PLOWING.

The chief and safest method to combat locusts consists in plowing the land known to contain their eggs. By carefully investigating the suspected fields in a number of places an approximate knowledge can be gained as to the number of eggs they contain. If a field has thus been ascertained to contain eggs it should be plowed at least five to six inches deep. If done properly, and in time, the very great majority of eggs are prevented from hatching, or rather the young locusts hatched are prevented from reaching the surface. The best time to plow the fields is the autumn, as by doing so the surface of the plowed fields becomes hardened by the rains and snows of winter, and the egg-pods and single eggs are thoroughly surrounded by earth washed around them. Early in spring is also a good time, providing the plowing is followed by the usual spring showers. But even if no rain should fol-

low the plowing the more or less violent winds of spring will smooth and make the soil compact, sufficiently so to prevent the great majority of young locusts from reaching the surface. Of course the plowing must be done thoroughly; simply scratching the surface of the infested field is of but slight use, though even then many egg-pods are torn to pieces and numerous of the now unprotected eggs are destroyed.

If large fields are thus plowed we secure another advantage: in case locusts should reach the surface they find no food, and before they can walk to other fields covered with plants they starve.

Plowing is an excellent remedy even after the locusts have hatched and reached the surface. In such a case plowing should commence at the outer edge of a field, and a number of plows should be used at the same time, the plows following each other as closely as possible. The locusts are in this manner forced towards the center of the field, where a black mass of struggling insects is crowded together. But few of them escape; as one plow makes a furrow, this is rapidly filled with locusts, the following plow covers them up and most are buried alive; those that escape this fate have to starve, and only a few near the edges of the field can save their lives.

BURNING.

In many places, where the eggs are not numerous enough to warrant plowing, all the old stubble and dead grass, etc., should be preserved until the locusts hatch. After plowing around such fields to prevent the escape of the fire, the enclosed space can be burned over if there is enough fuel to do so thoroughly, and if a fair wind is blowing at the time, untold numbers of locusts are killed. Whenever straw can be had it is wise

to make long rows of such material across the fields and thus add to the autolapse.

COLLECTING THE EGGS.

The Rocky mountain locust prefers certain places for the purpose of depositing the eggs, and such places are easily discovered. If this is the case the eggs should be collected and destroyed, and the State should offer some inducement in the way of bounty for such collection and destruction. Every bushel of eggs destroyed is equivalent to a hundred acres of grain saved, and when we consider the amount of destruction caused by the young, and that the ground is often known to be filled with eggs, or that, in other words, the earth is sown with the seeds of future destruction, it is surprising that more laws have not been made looking to their extermination.

One of the most rapid ways of collecting the eggs, especially where they are numerous and in light soil, is to slice off about an inch of the soil by trowel or spade, and then cart the egg-laden earth to some sheltered place, where, after being allowed to dry, it is sieved, so as to separate the egg masses from the dirt. The eggs thus collected can be easily destroyed by throwing them into deep pits, providing the ground is packed hard on the surface. In Algeria, a country badly infested with locusts, the soldiers are often employed to gather eggs, and owing to a bounty paid for all eggs thus collected, immense numbers of them are gathered and destroyed. (In 1897, 322 miles of ditches were constructed, in which were killed 270,000 bushels of young locusts.) The same is the case in southern Russia. In thickly settled regions, where labor is abundant and cheap, this method should be adopted.

POISONING.

There are cases where plowing can not be performed, notwithstanding the fact that numerous eggs have been deposited in the ground. Frequently old timothy fields are badly infested, but as the farmers need the grass for their stock such fields can not be plowed. The same is true with pastures. In this case it is best to poison the plants growing on the edges of the adjoining grain fields; a strip ten feet wide is usually sufficient. The locusts, driven away by the animals in the enclosed pastures, gradually reach the poisoned plants outside and are soon killed. The best material for this purpose, and the one that has been used in a number of cases with marked success, is London purple. It is best simply because it is light, and sticks better to such

smooth plants as wheat, etc., than the heavier Paris green.

Poisoning locusts in gardens and fields from which chickens and cattle can be kept away, may also be resorted to with good results, using bran mash as poisoned bait. This is made by thoroughly mixing Paris green or London purple with dry rye or wheat bran, about one and one-half to two pounds of the poison to twenty-five pounds of bran is a good proportion; to this is added enough water to form a mash thick enough to be formed into balls without falling apart when laid upon the ground. Frequently cheap molasses is added to keep the mash from becoming too dry. Such balls are laid among the plants that we wish to protect. If an army of young insects is moving towards a field it can be stopped and almost annihilated by offering them this food, which seems to have a wonderful attraction, as the balls are soon covered by struggling insects all eager to devour it. The consequence to them can be imagined.

(To be continued.)

About Potatoes.

The Indicator publishes a number of papers about potatoes, from which the following are selected:

John C. Zimmerman, Moray, Kas.: "Potatoes should have very rich soil, north slope preferred. The early kinds should have fall plowing; should have good cultivation as soon as the ground is dry and warm. They should be cut in not less than two good eyes, planted every third furrow and plowed under, two pieces in a hill; two feet apart will make stronger vines than if drilled. A better way, if you don't like to hoe, is to mark the ground crosswise first and cover with a hoe, so the horse won't disturb them as he steps along the furrow. They should be thoroughly harrowed every week until you can see the rows; then use a slanting-tooth harrow both ways until the rows show plainly, after which use a straight-tooth harrow until the plants are large enough for the cultivator. Always cultivate both ways until they are in blossom. Late planting should be delayed until July. Plant the same way, but don't cut. The ground should be plowed in the spring and kept cultivated until time to plant."

J. M. Davis, Reserve, Kas.: "Raising potatoes is like raising any other crop on the farm. For seed select the most perfect potatoes that you can find, of the variety that you wish to plant. Be just as careful in selecting seed potatoes as you would be in picking your seed corn. Some people plant the small potatoes and eat the large ones, and say that 'the small ones are just as good for seed as the large.' It is little wonder that such people soon run out of good potatoes. My plan is to plant and eat good potatoes and feed the little ones to the stock. I never knew a man who would pick nubbins and small ears of corn to plant; then why should he select the small potatoes? Like produces like with potatoes as well as it does with corn, wheat or oats. Don't plant too often on the same piece of ground. Change your potato ground as often as you would any other crop, if not oftener. Select a rich place, well drained, and prepare it before the potatoes are planted. Never let the ground where the potatoes are planted raise more than one crop at a time, and let that be potatoes. I have never found any easy way of harvesting the crop. It requires a lot of back-bending and hard work. I have often heard of potato-digging machines, but

have never seen anything that will beat a good sixteen-inch lister, with the sub-soiler taken off. List out every other row, pick up all the potatoes that you can find, then harrow the ground once or twice, or oftener, if necessary, and each time pick up the potatoes. Perform the same operation on the other rows and there will not be many potatoes left in the ground."

J. D. Grimes, Chambers, Neb.: "The first consideration essential to the successful production of a good crop of potatoes is good seed. The varieties may be left to the selection of the grower, as some do better than others in different localities, but with us I prefer the Early Rose for the main crop to any other variety, with Freeman for second choice. We have no method of preparing the seed other than to select good specimens of the variety desired and cut to one or two eyes apiece, as this method gives better satisfaction, getting a more uniform crop, and more salable tubers. We generally try to have our seed cut a few days before we plant, as they handle much better. Our soil in this vicinity does not need much preparation, as it is from a light sandy loam to a dark rich loam with plenty of sand in it, works very easily and seems well adapted to potato culture, as there are thousands of bushels raised every year in the South Fork valley, and if the market does not justify shipping out they are fed to stock, which seems to thrive very well upon them. About all the preparation the ground gets is to plow rather deep without harrowing, unless the ground is new, which will then need to be run over with a disk or heavy harrow. Our method of planting is to use a corn planter with an old joint of stove pipe or wooden funnel fastened directly behind the boxes and directly over the rear of the heel of the shoe. We generally place one or two of our boys on the front part of the planter and a basket of potatoes between them, and with a little practice they will drop very correctly. We like to have them dropped from sixteen to eighteen inches apart in the rows. We do not have any particular time for planting, only we like to get them in reasonably early, if the ground is in good condition, which it generally is from the last of April to the middle of May in this locality. We do not take any stock in planting 'in the moon' or on 'Good Friday,' but believe in planting them in good soil and trust to ourselves and Providence for results. Our cultivation begins as soon as the potatoes begin to show through the ground, by giving them a light harrowing and following it at least once a week with the cultivator until they begin to blossom. The last time through we like to use one of the old-fashioned 'gophers,' as it cleans everything out between the rows and slightly ridges them, which somewhat protects them from sunburn. A lister is a very good implement to harvest potatoes with where there is no potato digger at hand. Run the lister a little deeper than the potatoes are and it turns them out on both sides of the furrow, where it takes very little 'scratching' to get them all. We use outside pits to store them in and keep shutting them up a little closer as the weather grows colder."

Asparagus seed germinates slowly. If radish seed is sown with it it will come up and mark the row, enabling you to keep the weeds down without injury to the asparagus.

Educate Your Bowels With Cascarets. Candy Cathartic, cure constipation forever. 10c, 25c. If C. C. C. fail, druggists refund money.

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This is the accumulated experience of 38 years of header manufacture. We claim for it that it is perfect in material, construction, working ability, ease of draft, durability and poise and balance. Listen—Wheels are high, broad and strong, affording easy draft, perfect traction and application of power; the frame is of angle

steel firmly joined by malleable corner pieces and thoroughly angle trussed together, thus making the lightest but strongest frame procurable. Power is applied by a steel main drive chain of great strength and durability; a perfectly adjustable reel.

New steel trussed tilting lever—very sensitive to touch; a new, simple and positive lever within easy reach for throwing in and out of gear. In short, it is intended to be a PERFECT HEADER and we believe it is such. Ask your dealer for THE HODGES, insist upon having THE HODGES and buy nothing but THE HODGES if you wish the most perfect HEADING MACHINE ever produced. Manufacturers also of the Hodges Headers, Hodges' "Lad" and "Lassie" Hand and Self-Dump Rakes, Monarch and Acme Sweep Rakes and Acme Stackers. Our handsome new illustrated catalogue explains them all fully. Write for it before you buy; it is free.

AOME HARVESTER COMPANY, PEKIN, ILL.

In the Dairy.

Conducted by A. E. JONES, of Oakland Dairy Farm.
Address all communications Topeka, Kas.

Improvement Needed.

There is still room for improvement in dairying if the dairyman expects to make a financial success out of his business. The time has passed when a man can make money in dairying and practice the methods in vogue fifty years ago. The trend in all business transactions is to lower the cost of production. We need only to look back ten years or so to establish this fact; manufactured articles in nearly all lines are selling lower now than ever before; every new invention possible has been brought into service in order that goods might be put onto the market at a reduced price, and in dairying this holds true as well as in any other occupation.

Milk, butter and cheese must come up to a fixed standard, and should be produced in certain quantities in proportion to feed consumed if there is any profit to be made at all; and if satisfactory returns are to be hoped for, these dairy products must be equal or better than the regular commercial standard. Scattered all over Kansas we find farmers who are making, as clear profits, three times as many dollars per cow as the general average. These men have no secret by which they accomplish such results; they merely adopt new improvements in dairying as fast as they are introduced, work with the best cows they can get, feed such rations as produce the highest results, and use the best judgment and forethought in all their operations. By these methods they reduce the cost of milk and can sell at a profit when prices are so low that those who are not alive to their best interests are obliged to sell at a loss. The range cow or the one that only produces 150 pounds of butter, or 3,000 pounds of milk, a year is not profitable for the dairy and should be substituted for such as will double these figures. Besides this, look well after the matter of feed, for without it the best cow is a failure. Sow a piece of Kaffir corn, sorghum, oats or millet, that can be utilized when the pasture gets dry later in the season. Cows should never be allowed to fall off in flesh or slacken in the flow of milk for want of feed, as getting them back to a normal condition is more expensive than giving enough at all times in the year to supply their demands. A shivering, sun-burnt or half-starved cow excites our pity, besides being a dead loss to her owner; remember that the best sheltered, the most liberally fed and such as receive humane care are those that pay the largest profit. Improvements in the dairy need not all be made at once, that would be impossible in many cases; but the main thing is to resolve to have better cows and more modern appliances as soon as possible, and then get them as means and opportunity justify. The swift onward march of improvement is being applied as nearly to every vocation in life, and the dairyman who would win should not neglect matters that pertain to his highest interests.

Difficulties in Butter-Making.

In the manufacture of butter there is a steady drift away from the farm dairy and toward the creamery. The farmer with a limited number of cows, the bulk of whose farm interests are other than those of the dairy, is rapidly learning that it is much more profitable to him to send his limited milk product to some factory, where it will be worked up through means of the best modern machinery by an expert. There is one block in the way of the manufacture of the very finest quality of butter by any creamery which takes milk from a number of patrons. No matter how fine the location of the creamery may be, no matter how perfect the machinery, no matter how complete the knowledge of the man who runs it, it is absolutely impossible to make a strictly first-class article of butter unless the milk delivered is as clean and free from taint of stable odors or the odors of an ill-kept milk house. That butter-maker is the best who can not only handle the milk used as it ought to be handled, but who can handle the patrons who supply him with milk as they should be handled; who has sense enough and tact enough to be in a way a teacher of these men; who can make them understand and retain their trade that the golden rule for the creamery demands the delivery of clean milk.

Must we Pasteurize? This question I will try to answer. My experience in butter-making has been received during many years of work and study in some of the finest factories and dairy schools in Switzerland and France, and I Pas-

teurized all cream for butter-making, and ripened some with a commercial starter, that enabled me to make a fine uniform product. I have now made butter in the United States for eight years without Pasteurizing. I have found that no man can make as fine, uniform product with keeping quality without Pasteurizing. We can make butter that when fresh made has a high flavor, but only lasts a short time. In two or three weeks it has lost its charm. When the cream is Pasteurized it is absolutely pure. All of the germs are killed. The English markets are wanting something more substantial than American markets, or flavor that is not so quick to the nose, but sweet and clean.—Dan Bleur, Butter-maker, in Chicago Produce.

The Butter Tree.

A correspondent of the New York Tribune asked that paper as to the African butter tree and how much butter could be extracted from it, and the Tribune replies:

"The African butter tree (*Butyrospermum Parki Kotschy*) resembles much the oak. Its fruit is about the size of a plum, and contains a stone which furnishes a fatty substance, the so-called galam or shea butter. The negroes of the Soudan place the ripe fruits into deep holes in the ground, where they soon lose their flesh through putrefaction; they then dry and roast the stones over a moderate fire, and crush them into a doughy paste. The fatty substance obtained by boiling this paste in water is shaped into loaves and wrapped in leaves. The galam butter has a peculiar odor. It, however, may be removed by pouring some cold water into the melting butter. This butter has the advantage of keeping fresh for a long time without turning rancid."

The total number of milch cows in the country is estimated at 17,000,000. It is assumed that of the number the milk of 11,000,000 is devoted to butter, giving an average of 125 pounds each, total 1,375,000,000 pounds, at an average of 20 cents per pound—total value \$275,000,000. The milk of 1,000,000 cows is used for cheese, the product being 280 pounds per cow, or 280,000,000 pounds, at an average price of 8 cents, total value \$22,000,000. The milk product is given at an average of 350,000,000 gallons per cow, or 1,750,000,000 gallons, valued at 9 cents per gallon, total value \$157,000,000. A grand total for butter, cheese and milk of \$450,500,000.

Cheese-Making.

Attention is called to the advertisement of C. E. Kittinger, of Ipswich, S. Dak., who has been a practical cheese-maker for many years. His advertisement has appeared regularly in Kansas Farmer for the past four years and we know him to be reliable in the line which he has made his specialty. He has taught people to manufacture cheese in Kansas and nearly all the States west of the Mississippi river and seems to have given general satisfaction. Any one desiring to learn this important branch of farming industry would do well to write him for particulars.

If you are real, real neighborly you will not borrow much.



Butter Fat is too valuable to feed to calves and pigs—fat in other forms is much cheaper.

The Empire Cream Separators

leave scarcely a trace of fat in the skim-milk. They are as much in advance of the old style separators as the latter are in advance of the setting system.

Made in all sizes for hand and power use—our prices will interest you. Agents wanted in territory not represented. Send for our free 1898 catalogue.

U.S. BUTTER EXTRACTOR CO., Newark, N. J.

C. E. HILL & CO., Western Agts., KANSAS CITY, MO.

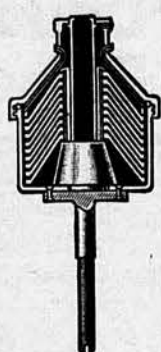


FIG. 1.

The Differences between Cream Separators

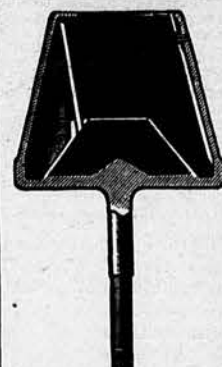


FIG. 2.

The cut on the left (Fig. 1) is that of a De Laval "Baby" separator bowl. It is of the improved "Alpha" disc type, which *protecting patents* prevent the use of in any other machine. It subjects the milk to centrifugal force in *thirty thin layers*. In consequence it has an actual capacity of 750 lbs. per hour, at a speed of 6,000 rev., and recovers 90 per cent. of the butter-fat in the milk. It is mounted within the finest operating machinery years of experience and the best of everything can produce.

The cut on the right (Fig. 2) is that of a typical "hollow" form of separator bowl. It is of the *patent expired* type the De Laval Company used up to five years ago and which its imitators use to-day. It subjects the milk to centrifugal force in *solid bulk*. It has a claimed capacity of 300 lbs. per hour, at a speed of 8,000 rev., and recovers 95 per cent. of the butter-fat in the milk. It is made cheaply, to sell cheaply.

Compare the relative size, capacity, speed and results. Are you going to put your money, your labor, and your business success into a separator? Can you see the difference—to you? If you would learn of still further differences in cream separators, send for new "Dairy" catalogue No. 268.

THE DE LAVAL SEPARATOR CO.

Western Offices:
RANDOLPH & CANAL STS.
CHICAGO.

General Offices:
74 CORTLANDT STREET,
NEW YORK.

Branch Offices:
1102 ARCH STREET,
PHILADELPHIA.

Big Round Dollars "AMERICAN"



Little round globules of butter fat represent big round dollars in money. The way to get the dollars is to save the globules. The best way to save the butter fat is by the use of the

SHARPLES SEPARATORS.

The LITTLE GIANT gets it all at the lowest

cost for running expenses and repairs. Make inquiry.

BRANCHES:

Elgin, Ill.
Omaha, Neb.
Dubuque, Iowa.

P. M. SHARPLES,
West Chester, Pa.

INSECTS

Will not touch trees treated with VITA-NOVA. One dollar's worth treats twenty-five trees; lasts four years.

J. WILLIAMS BROS.,
Danville, Pa.



CREAM SEPARATOR

was awarded
FIRST PREMIUM

at St. Louis Fair, 1897,
as the

BEST

Farm Cream Separator.

Correspondence solicited.

FOR SALE BY

S. F. WICKER,
MADISON,
KANSAS



THE IMPROVED VICTOR Incubator

Hatches Chickens by Steam. Absolutely self-regulating. The simplest, most reliable, and cheapest first-class Hatcher in the market. Circulars FREE. GEO. ETEL CO., QUINCY, ILL.

Increase the Product of Your Cows BY USING THE IMPROVED U. S. CREAM SEPARATOR It is Unequalled for Getting the Cream.

Beats all Others.

LYNDONVILLE, VT., Nov. 25, 1897.
As a skimmer the Improved U. S. beats anything I ever tested.
W. I. POWERS, Mgr. Speedwell Farms.

Merest Trace of Butter-Fat.

ALBION, ME., Aug. 22, 1897.
The Improved U. S. is a dandy. Its work is very near perfection, leaving but the merest trace of butter-fat in the skim-milk.

OTIS MEADER,
Dairy Editor, Turf, Farm and Home.

Product Increased and Quality Improved.

MAPLE GROVE FARM,
CUMBERLAND CENTRE, ME., Jan. 28, 1898.
Since we have been using the Improved U. S. Separator, we are confident we have largely increased the product of our cows, besides making a better quality of butter.

FRED. P. BLANCHARD.

50 Per Cent. More with the U. S.

EAST SHOREHAM, VT., March 12, 1898.
The Improved U. S. Separator skims to a trace, and puts the product of our dairy in such shape that we have realized 50 per cent. more from our cows this winter than ever before.

GEORGE THOMAS.

2 Quarts Cream from 10 Gallons Skimmed Milk.

DANVILLE, PA., March 18, 1898.
We took 10 gallons of milk that had stood in pans 48 hours and had been skimmed, heated it to the proper temperature, and took 2 quarts of cream out of it with the Improved U. S. Separator after getting all we could by raising the cream in pans.

GEORGE B. KASE.

Send for Catalogues containing hundreds of testimonials like the above.

VERMONT FARM MACHINE COMPANY, Bellows Falls, Vt.

The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the Kansas Farmer. Give age, color and sex of animal, stating symptoms accurately, of how long standing, and what treatment, if any, has been resorted to. All replies through this column are free. In order to receive a prompt reply, all letters for this department should give the inquirer's postoffice, should be signed with his full name, and should be addressed direct to our Veterinary Editor, Dr. Paul Fischer, Professor of Veterinary Science, Kansas State Agricultural College, Manhattan, Kas.

SUPPRESSION OF MILK IN SOWS.

—We have some sows that are about fourteen months old, and after their pigs are about a week or two old they go back on their milk and almost dry up. I feed them soaked corn and plenty of swill. They are healthy otherwise. What makes them dry up and how can I remedy the same? How old must the pigs be before you can turn sows with the little pigs on the alfalfa? Answer through the Kansas Farmer. S. Eskridge, Kas.

Answer.—As in other animals, this is one of the first symptoms of internal diseases. Sometimes it is due to independent diseases of the udder, and very frequently it is a result of improper feeding. Some sows are naturally poor milkers (just like some cows) and should not be used for breeders, although the flow of milk usually increases with each litter of pigs. You can no doubt increase the flow of milk in your sows by feeding food that is somewhat richer in nitrogenous compounds than is corn. Corn is a poor milk feed, and since you don't mention the kind of swill you feed I can't judge whether it is better or worse than corn. Milk is a product that is very rich in casein (cheese), and in order to produce it the animal must have substances in its food that will produce casein. If the food does not contain the proper quantity of these elements, then milk will be secreted at the expense of the animal's own tissues and will be deficient in quantity and quality besides. Beans, peas, oats, linseed meal, bran, alfalfa and clover, etc., contain these elements and are therefore excellent milk producers when fed with other substances, like corn, succulent roots, etc. About 88 per cent. of milk is water, therefore don't neglect to provide that article in its purest form. If the mothers give plenty of milk the young pig will do well on alfalfa at any age. Of course, I would not turn them out the first time on a wet, cold pasture.

INDIGESTION.—I lost two bull calves, five or six months old. They were fed mostly tame feed all winter and some bran. I was short of feed, so on the 24th of April I turned them into a field of old grass and some new, mostly mowed ground. On the 28th, four days later, one was sick when I found him. I tried to get him up but he could not stand, and when he did get up tried to go for me as if he was mad, then would stagger and fall and kick and jerk the muscles of his back. He died in about two hours after I found him. It rained so we could not skin him that afternoon. The next day another one was dead. He lay just as any animal would lay, only his head was around by the side of his belly. We skinned both of them. Everything looked natural on the outside. In the inside the little stomach or manifold was about eight inches in diameter and was hard and packed full. The inside lining of this would come off easy. There was some manure in the big gut that was hard and matted like. Everything else looked natural. A neighbor was with me when I opened them. He claimed the calves had "wolf in the tail" that caused all the mischief. Now, is there any such thing as the wolf in a calf's tail? These calves were grade Herefords, twenty-five in the bunch. S. Volland, Kas.

Answer.—Your calves died of indigestion resulting from eating large quantities of old dry grass in their greedy attempts to get at the short, new grass below. This form of indigestion is sometimes called grass staggers, dry murrain, etc. It is always a very serious condition, and medicines, to have effect, must be administered at the earliest opportunity. For the next time try the following: Sulphate of magnesia, 6 ounces; extract aloes, 1½ ounces; powdered caraway seed, 2 ounces; mix and make two powders. Administer one of these powders dissolved or mixed in one quart of thin linseed gruel. In a few hours repeat the dose. The object is to speedily move the animal's bowels. This you may hasten, in some cases, by giving injections of lukewarm water into the rectum. After the animal has been relieved feed it for a few days on easily digestible, succulent food, and give short

Horse Owners! Use

GOMBAULT'S



Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

rations. The doses prescribed above are for animals of 1,000 pounds weight. For lighter animals give a dose proportionate to their weight. There is no such disease as wolf in the tail, nor hollow horn. Both of them are products of the imagination.

Scrofula is the advertisement of foul blood. It may be entirely driven from the system by the faithful use of Hood's Sarsaparilla, which thoroughly purifies the blood.

Hood's Pills are easy to take, easy to operate. Cure indigestion, biliousness. 25c.

RATES TO OMAHA.

Railroads More Liberal Than to the World's Fair at Chicago.

Rates and arrangements on account of the Omaha exposition have been completed by the Western Passenger Association lines. The rates are more liberal than those made for the Chicago exposition.

Summer tourist tickets will be sold at 80 per cent. of double locals to Omaha from all sections of the country, with final return limit to November 15.

From all association points east of Colorado a rate of one fare and a third for the round trip will be made from June 1 until October 30, with a thirty-day return limit, provided, however, that in no case the rate from the following points to Omaha shall be less than \$20 from Chicago, \$17 from Peoria, \$17 from St. Louis, \$25 from Colorado common points and \$15.75 from St. Paul and Minneapolis.

For the opening ceremonies a rate of 1 cent a mile will be made from all points within 150 miles of Omaha. From points beyond the 150 mile limit the rate will be one fare for the round trip. All tickets of every character through Omaha, in either direction, will be made good for stop-over at Omaha not to exceed five days. The minimum rate for any round trip ticket is to be 50 cents.



BLACKWELL'S CELEBRATED FISTULA GURE

For Horses. The only medicine in the world that will CURE YOUR HORSE WHILE IT WORKS. One box will cure the worst case. Price, \$1 a box. Manufactured, Sold and Guaranteed by Z. T. BLACKWELL, M. D., PRESTON, KANSAS

HOGS WON'T DIE

of the dreaded cholera if they are given the proper antiseptic treatment. Put the medicine in their food, in their drink and in their wallow or bath. Sprinkle it about the pens, sheds, feeding grounds, etc. What is it? Why

ZENOLEUM

Being absolutely non-poisonous it may be given internally with perfect safety. Expels all sorts of stomach and intestinal worms; renovates and purifies the system and promotes the general health. Circulars, prices and directions free.

ZENNER-RAYMOND DISINFECTANT CO. 36 Atwater St., Detroit, Mich.

Richardson Drug Co., Agents, Omaha, Neb.

Spring Dipping

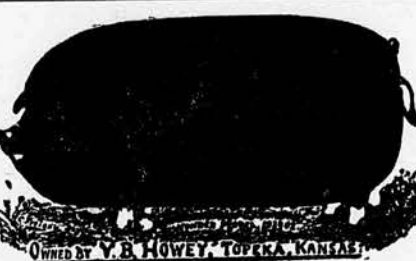
The Shearing Season will soon be upon us. This brings to mind the advantage and necessity of dipping all sheep as soon as the fleece is removed. Particularly should this be done with all ewes and lambs. Just after shearing is the best time to dip.

CHLORO-NAPHTHOLEUM

Is the best dip to use. It kills all lice, ticks and skin diseases. It produces a healthy condition of the skin and promotes the growth of the wool. You can get it from the nearest dealer. WEST DISINFECTING CO. 206-8 E. 57th St., New York City.

THE BEST CREAMERY BUTTER SALT

In the world is manufactured in Kansas. INSIST on having RIVERSIDE brand. A free sample will be gladly furnished on application by Kansas Salt Co., Hutchinson, Kas.



Breeder and shipper of thoroughbred Poland-China and Large English Berkshire swine and Silver-Laced Wyandotte chickens.

\$39.90 BUGGIES
Surreys, Phaetons, Carts, Spring Wagons, Farm Wagons, Harness, etc. "The kind that suit." Shipped from factory to user at 15 to 40 per cent saving. Goods shipped subject to examination. Every rig warranted. 30 styles. Bonanza \$50 Buggies, \$39.90; Spring Wagons, \$32; Canopy Top Surreys, \$60. Send for "The best Vehicle Catalogue of the year." Postage 4 cents. (Catalogue FREE.) A. J. CHILD & SON, St. Louis, Mo.

Mention Kansas Farmer.

Advance Fence

IS SOLD DIRECT TO THE FARMER. WE PAY FREIGHT AND IS SOLD ONLY THAT WAY. That saves the farmer all the middleman's profit and brings his fence within a price that beats any hand fence machine on earth. Then he has a fence that is a fence when he's done with the job. IT'S ALL INTERWOVEN; no loose ends. TIE WIRES CANNOT SLIP. Don't buy until you get our circulars and extra special discount to farmers—Sent Free. ADVANCE FENCE CO., 18 Old St. Peoria, Ill. Mention Kansas Farmer.

Chautauqua Assembly, Winfield, Kas.,

Opens its session June 14th and the exercises continue until June 23d, 1898. Tickets with return limit of June 24th, 1898, will be on sale June 13th to 19th, at the rate of

ONE FARE (\$5.75) FOR ROUND TRIP.

Particulars on application to

W. C. GARVEY,

Agent A. T. & S. F. Ry.

BLACK LEG PREVENTED BY PASTEUR "VACCINE."

Write for particulars, prices and testimonials of thousands of American stockmen who have successfully "vaccinated" their stock during the past three years in Dakota, Nebraska, Wyoming, Colorado, Kansas, Texas, etc.

PASTEUR VACCINE CO., 52 Fifth Avenue, CHICAGO.

Kansas City Stock Yards

are the most complete and commodious in the West

and second largest in the world. The entire railroad systems of the West and Southwest centering at Kansas City have direct rail connection with these yards, with ample facilities for receiving and reshipping stock.

	Cattle and Calves.	Hogs.	Sheep.	Cars.
Official Receipts for 1897	1,921,962	3,350,796	1,134,236	123,047
Slaughtered in Kansas City	905,287	3,084,623	805,288	
Sold to feeders	685,615	341	151,389	
Sold to shippers	216,771	263,592	91,576	
Total Sold in Kansas City 1897	1,847,673	3,348,556	1,048,233	

CHARGES: YARDAGE—Cattle, 25 cents per head; Hogs, 8 cents per head; Sheep, 5 cents per head. HAY, 80c per 100 pounds. CORN, 60c per bushel. OATS, 60c per bushel.

NO YARDAGE CHARGED UNLESS THE STOCK IS SOLD OR WEIGHED.

C. F. MORSE, E. E. RICHARDSON, H. P. CHILD, EUGENE RUST, Vice Pres. and Gen. Mgr. Secy. and Treas. Asst. Gen. Mgr. Traffic Manager.

THE STRAY LIST.

FOR WEEK ENDING APRIL 28, 1898.

Cherokee County—S. W. Swinney, Clerk. MARE—Taken up by C. J. Stephens, in Lowell tp., April 6, 1898, one bay mare, 15 hands high, with letter "P" on right hip, weight 850 pounds; valued at \$30. Ness County—J. S. Wagner, Clerk. MARE—Taken up by E. Dawley, in Highpoint tp. (P. O. Ness City), March 24, 1898, one black mare, 5 years old, left hind foot white; valued at \$15. MARE—By same, one brown mare, 5 years old, left hind foot white; valued at \$15.

FOR WEEK ENDING MAY 5, 1898.

Coffey County—Dan K. Swearingen, Clerk. MULE—Taken up by Daniel Leggett, two miles east of Hartford, in California tp., one brown mare mule, 3 years old; no marks or brands. Sumner County—W. E. Wood, Clerk. MARE—Taken up by C. Hutton (P. O. Rome), April 11, 1898, one gray mare, 17 hands high, shod all around; valued at \$15. HORSE—By same, one sorrel horse, 14 hands high, blaze face and three white feet; valued at \$35. Labette County—E. H. Hughes, Clerk. HORSE—Taken up by Caleb Loop, in Hackberry tp. (P. O. Bartlett), April 25, 1898, one brown horse, gelding, 15½ hands high, no marks or brands; valued at \$25.

FOR WEEK ENDING MAY 12, 1898

Montgomery County—D. S. James, Clerk. HORSE—Taken up by W. B. Adams, in Faw Creek tp. (P. O. Coffeyville), April 16, 1898, one bay mare, 2 or 3 years old, 60 inches high, no mark a brand except harness marks; valued at \$15. MARE—Taken up by A. E. Canfield, in Fawn Creek tp. (P. O. Tyro), April 26, 1898, one dun mare, 4 or 5 years old, 15 hands high, no marks or brands; valued at \$15. MARE—By same, one iron-gray mare, 4 years old, 14½ hands high, no marks or brands; valued at \$15. HORSE—By same, one bay horse, 4 years old, 60 inches high, star in forehead; valued at \$15. Labette County—E. H. Hughes, Clerk. MARE—Taken up by J. D. Hite, in Mound Valley tp. (P. O. Mound Valley), April 25, 1898, one dark bay mare, 5 or 6 years old, white in forehead, legs black up to knees; valued at \$20.

PEACH TREES

at wholesale or retail. Officially declared free from scale or injurious insects. Best stock grown. Strawberry Plants—63 varieties; all from new buds. Apple, Pear, Plum, and other stock. Send for new Catalogue to-day.

HARRISON'S NURSERIES, Berlin, Md.

WABASH.

Through Chair Cars and Sleepers are now run from

Kansas City TO Niagara Falls and Buffalo

OVER THE

WABASH.

MARKET REPORTS.

Kansas City Live Stock.
KANSAS CITY, May 9.—Cattle—Receipts since Saturday, 3,264; calves, 120; shipped Saturday, 242 cattle; 5 calves. The market was slow to 10c lower. The following are representative sales:

SHIPPING AND DRESSED BEEF STEERS.			
No.	Ave. Price.	No.	Ave. Price.
20.....	1,467 \$4.75	59.....	1,340 \$4.60
60.....	1,188 4.50	60.....	1,312 4.45
9.....	1,116 4.40	11.....	1,304 4.35
1.....	1,320 4.25	8.....	1,506 4.00

WESTERN STEERS.			
No.	Ave. Price.	No.	Ave. Price.
16.....	1,091 \$4.40	25.....	1,011 \$4.30
176.....	918 4.30	9.....	1,186 4.20
1.....	920 3.87 1/2		

NATIVE HEIFERS.			
No.	Ave. Price.	No.	Ave. Price.
17.....	677 \$4.60	119.....	935 \$4.45
1.....	740 4.25	27 c & h.....	642 4.15
1.....	700 4.00	1.....	520 3.85
8.....	880 3.75	1.....	750 3.50

NATIVE COWS.			
No.	Ave. Price.	No.	Ave. Price.
5.....	1,128 \$4.10	1.....	1,100 \$4.00
1.....	1,310 3.75	6.....	868 3.50
1.....	930 3.25	4.....	920 3.10
1.....	820 3.00	1.....	750 2.35

NATIVE FEEDERS.			
No.	Ave. Price.	No.	Ave. Price.
12.....	1,214 \$4.05	1.....	970 \$4.50
19.....	1,151 4.40	30.....	900 4.35
18.....	1,067 4.30	21.....	1,108 4.27 1/2
3.....	1,076 3.80	1.....	900 3.75

NATIVE STOCKERS.			
No.	Ave. Price.	No.	Ave. Price.
1.....	550 \$3.00	17.....	661 \$4.65
1.....	763 4.47 1/2	2.....	810 4.45

Hogs—Receipts since Saturday, 9,742; shipped Saturday, 2,360. The market was steady to a shade weaker. The following are representative sales:

63.....	277 \$4.10	59.....	315 \$4.10	61.....	291 \$4.05
118.....	275 4.05	58.....	300 4.05	58.....	264 4.05
66.....	307 4.02 1/2	110.....	261 4.00	71.....	287 4.00
76.....	255 3.97 1/2	83.....	247 3.97 1/2	82.....	280 3.97 1/2
73.....	236 3.95	71.....	245 3.95	76.....	231 3.95
78.....	233 3.92 1/2	71.....	207 3.92 1/2	67.....	245 3.92 1/2
181.....	228 3.90	47.....	255 3.90	76.....	226 3.90
79.....	194 3.87 1/2	72.....	188 3.87 1/2	73.....	243 3.87 1/2
53.....	234 3.85	6.....	175 3.85	80.....	214 3.85
89.....	184 3.82 1/2	1.....	210 3.82 1/2	99.....	182 3.82 1/2
73.....	199 3.80	18.....	276 3.80	83.....	187 3.80
65.....	219 3.77 1/2	72.....	209 3.75	85.....	194 3.75
95.....	164 3.72 1/2	113.....	145 3.70	27.....	135 3.70
105.....	162 3.65	6.....	135 3.65	78.....	138 3.62 1/2
18.....	123 3.60	10.....	138 3.60	74.....	132 3.57 1/2
5.....	314 3.55	6.....	133 3.55	5.....	410 3.55
15.....	108 3.50	40.....	103 3.45	63.....	136 3.40
19.....	134 3.40	9.....	122 3.40	2.....	480 3.40

Sheep—Receipts since Saturday, 9,342; shipped Saturday, 213. Sheep were steady and lambs 10 to 25c lower. The following are representative sales:

9 spz lbs....	56 \$4.25	142 Col lbs....	77 \$5.25
477 Col lbs....	73 5.10	146 sh. yrl....	86 4.62 1/2
266 mixed....	82 4.40	501 T. clip....	83 4.20
4 sheep....	127 4.00	85 T. clip....	65 3.00

Horses and Mules—The bulk of arrivals are mules. Horses, good enough for the eastern demand are scarce, and the feeling is firm. The demand for mules comes chiefly from the government. The order for 1,000 head, which came in last week, is almost filled. Prices are quoted nominally steady.

St. Louis Live Stock.

ST. LOUIS, May 9.—Cattle—Receipts, 3,000; market steady to easy; native shipping steers, \$5.25; light steers to dressed beef grades, \$5.00 to \$4.85; stockers and feeders, \$3.75 to \$4.75; cows and heifers, \$2.25 to \$4.75; Texas and Indian steers, \$3.65 to \$4.60; cows and heifers, \$2.25 to \$4.00.

Hogs—Receipts, 5,500; market steady; Yorkers, \$3.85 to \$3.95; packers, \$3.75 to \$4.00; butchers, \$4.00 to \$4.05.

Sheep—Receipts, 3,500; market steady; native muttons, \$4.00 to \$4.50; spring lambs, \$5.25 to \$5.25.

Chicago Live Stock.

CHICAGO, May 9.—Cattle—Receipts, 20,000; market steady to 10c lower; beefs, \$4.00 to \$5.25; cows and heifers, \$2.25 to \$4.60; Texas steers, \$3.75 to \$4.40; stockers and feeders, \$3.70 to \$4.75.

Hogs—Receipts, 41,000; heavy grades steady, light easy; light, \$3.95 to \$4.07 1/2; mixed, \$3.95 to \$4.20; heavy, \$3.95 to \$4.22 1/2; rough, \$3.95 to \$4.05.

Sheep—Receipts, 18,000; market weak, lambs 10c lower; native, \$3.10 to \$4.40; western, \$3.75 to \$4.35; lambs, \$3.75 to \$5.15.

Chicago Grain and Provisions.

	May 9.	Opened	High'st	Low'st	Closing
Wht—May....	1 75	1 76	1 69	1 75	
July.....	1 11	1 21 1/4	1 11	1 20 1/4	
Sept.....	89 3/4	95	89 3/4	94 3/4	
Dec.....	87	89 1/4	84 3/4	88 3/4	
Corn—May....	35 1/2	37 1/2	35 1/2	36 1/2	
July.....	35 1/2	37 1/2	35 1/2	37	
Sept.....	36 1/2	37 1/2	36 1/2	37 1/2	
Oats—May....	31 1/2	32	31 1/2	31 1/2	
July.....	27 1/2	28	27 1/2	28	
Sept.....	24 1/2	24 3/4	24 1/2	24 1/2	
Pork—May....	10 87 1/2	10 87 1/2	10 87 1/2	10 90	
July.....	11 00	11 25	11 00	11 22 1/2	
Lard—May....	5 90	5 90	5 90	5 90	
July.....	5 90	5 95	5 87 1/2	5 95	
Sept.....	5 95	6 05	5 95	6 02 1/2	
Ribs—May....	5 60	5 62 1/2	5 55	5 55	
July.....	5 60	5 62 1/2	5 55	5 60	
Sept.....	5 67 1/2	5 70	5 65	5 67 1/2	

Kansas City Grain.

KANSAS CITY, May 9.—Wheat—Receipts here to-day were 98 cars; a week ago, 259 cars; a year ago, 40 cars. Sales by sample on track: Hard, No. 1, nominally \$1.31 to \$1.31; No. 2 hard, \$1.29 to \$1.30; No. 3 hard, \$1.25 to \$1.28; No. 4 hard, \$1.25 to \$1.28; rejected hard, nominally \$1.20 to \$1.22. Soft, No. 1 red, nominally \$1.40; No. 2 red, \$1.30 to \$1.40; No. 3 red, \$1.33 to \$1.35; No. 4 red, nominally \$1.30; rejected red, \$1.30. Spring, No. 2, nominally \$1.25 to \$1.28; No. 3 spring, nominally \$1.22 to \$1.24; rejected spring, nominally \$1.15 to \$1.17.

Corn—Receipts here to-day were 108 cars; a week ago, 94 cars; a year ago, 307 cars. Sales by sample on track: Mixed, No. 2, \$0.84 to \$0.85; No. 3 mixed, \$0.84 to \$0.85; No. 4 mixed, \$0.83 to \$0.84. White, No. 2, \$0.83 to \$0.84; No. 3 white, \$0.83 to \$0.84; No. 4 white, nominally \$0.82 1/2.

Oats—Receipts here to-day were 22 cars; a week ago, 12 cars; a year ago, 23 cars. Sales by sample on track: Mixed, No. 2, nominally \$0.32 1/2 to \$0.33 1/2; No. 3 mixed, nominally \$0.32 to \$0.33; No. 4 mixed, nominally \$0.31 to \$0.32. White, No. 2, \$0.33 to \$0.34; No. 3 white, \$0.33 to \$0.34; No. 4 white, nominally \$0.32.

Rye—No. 2, nominally \$0.70; No. 3, nominally \$0.65; No. 4, nominally \$0.60.

Hay—Receipts here to-day were 54 cars; a week ago, 47 cars; a year ago, 88 cars. Quotations are: Choice prairie, \$10.25 to \$10.50; No. 1, \$9.75 to \$10.00; No. 2, \$9.25 to \$9.50; No. 3, \$8.50 to \$8.75;

1898. 20th YEAR

CHAMPION

THE CHAMPION
Rakes and Stackers are in the lead, and have been for several years. Send for descriptive circular and cuts showing valuable improvements added this year, also our catalogue of Hay Presses, Etc., Kansas City Hay Press Co. KANSAS CITY MO.

choice timothy, \$11.00; No. 1, \$10.00 to \$10.50; No. 2, \$9.50; choice clover and timothy, No. 1, \$9.50 to \$10.00; No. 2, \$8.50 to \$9.00; pure clover, \$8.50 to \$8.75; packing, \$8.00.

Kansas City Produce.

KANSAS CITY, May 9.—Butter—Extra fancy separator, 15 1/2c; firsts, 13c; dairy, 11 1/2c; country roll, 11c; extra fancy, 13c; store packed, 11c; packing stock, 8 1/2c.

Eggs—Strictly fresh, 8 1/2c per dozen. Poultry—Hens, 6 1/2c; broilers, \$3.00 to \$4.00 per doz; roosters, 15c each; ducks, 6c; geese, 40c; hen turkeys, 7c; young toms, 6c; old toms, 5c; pigeons, 75c per dozen.

Apples—Choice to fancy Ben Davis, \$3.00 to \$3.25; Winesaps, \$3.50 to \$4.00; Willow Twigs, \$3.50 to \$4.00. In a small way varieties are selling at 40 to 55c per half bu.

Vegetables—Lettuce, home grown, 45 to 60c per bu. Spinach, home grown, 40 to 75c per bu. Asparagus, 30 to 40c per crate.

Potatoes—New, Texas, \$1.25 to \$1.75 per bu.; old northern stock, fancy, sacked, Burbanks, 76c to 83c; choice to fancy mixed, bulk, 65 to 70c; Minnesota and Dakota, bulk, 65 to 70c; Colorado stock, fancy, sacked, 80 to 90c; home grown, sacked, 40 to 50c. Sweet potatoes, 60 to 75c. Seed potatoes, northern grown, Early Rose, 75c; Early Ohio, 75c; Red river stock, 80c.

LAKE CITY AUTOMATIC HOG WATERER.

PRICE \$3. Sent on trial. To be paid for if found satisfactory. As it costs nothing to try, send for one and test its merits. More pigs die from want of fresh water than from want of food or hog cholera. The Lake City waterer from 50 to 150 hogs daily. Easily attached to tank or barrel. No springs or floats. Now used by all fancy breeders and stock raisers. Agents and dealers wanted in every locality. Agents reordering everywhere. Address: STOCK FOUNTAIN CO., Lake City, Iowa. Send us ten names and we will deduct 50 cents. Please mention this paper.

\$35 per 100 Rods

For the best wood and wire fence made. Wires of No. 11 galvanized steel; wood stays of painted oak. Will turn everything but wind and water. All wires have individual tension—stretch one or all. Shipped in rolls or knock down. Anybody can build it easily. Agents wanted. Don't buy until you get our cat. and prices. BUCHANAN FENCE CO., Box 8, Smithville, Ohio.

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No rackets, no springs
Strongest & Cheapest
of all fences. All No. 9 Wire
One man operates machine.
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Peerless Fence Co., Holly, Mich.

Machine \$10

TO BUILD THE STRONGEST
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16 to 24 Cents per Rod.

No farm rights, royalties or
patent stays to buy. AGENTS
WANTED. Write for circular.

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NORWALK, OHIO, U. S. A.

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with or without lower cable barbed. All horizontal lines
are cables, not effected by heat and cold. Steel Picket
Lawn and M.S. Foultry Fence, Steel Gates, Posts, etc.

UNION FENCE CO. DeKalb, Ill.

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most any soldier will do, but "when duty calls"
we need genuine stuff. Crops threatened with
invasion need a fence that really protects.

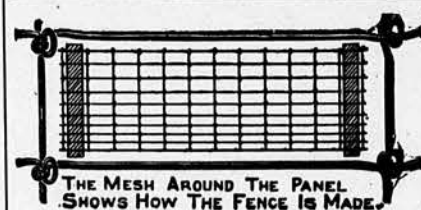
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crucible cast steel, and are FULLY WARRANTED.
Send for PAMPHLET OR SAW BOOK, mailed free.

HENRY DISSTON & SONS, Philadelphia, Pa.



THE MESH AROUND THE PANEL
SHOWS HOW THE FENCE IS MADE.

PERFECT FARM FENCE

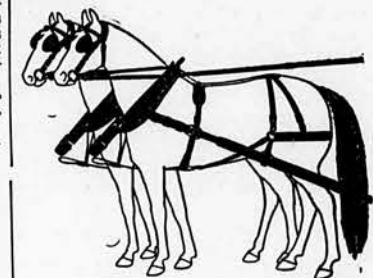
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bly annealed gal-
vanized steel wire. Top and bottom wires No. 9. All
other wires No. 11. We use
the strongest stay wire in
any woven wire fence on the
market—hence more strength
and durability.
Our Loop Knot (entirely new
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provides perfect expansion
and contraction and keeps it
tight at all temperatures. Our
Loop Knot being uniformly dis-
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of a spiral spring in every foot throughout the entire length of fence,
BESIDES GREATLY STRENGTHENING IT. Our Loop Knots make
the fence plainly visible and impossible for stay wire to slip or give. It is Hog tight and Bull
strong. Will turn all kinds of stock without injuring them.
Where we have no agents a liberal discount will be given on introductory order.
Reliable farmer agents wanted in every township. Send for catalogue and prices.

Pittsburg Woven Wire Fence Co., Pittsburg, Pa.

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Three-fourth inch Bridles throughout, heavy leather team col-
lars, varnished iron bound hames, 1 1/2 doubled and stitched traces
with 3 1/2 ft. chain at end, flat leather pads, 3/4 inch back straps, 3/4
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If desired without collars, deduct 1.50
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BROTHERS.

The Poultry Yard

KANSAS STATE POULTRY ASSOCIATION.

President, A. M. Story, Manhattan.
Secretary, J. W. F. Hughes, Topeka.

THE FARMER'S POULTRY.

By Emerson T. Abbott, St. Joseph, Mo., at the twenty-seventh annual meeting Kansas State Board of Agriculture.

(Continued from last week.)

A QUESTION ANSWERED.

This proposition answers a question if you think of it for a moment—the question as to what to feed and how to feed. The food a hen eats serves two purposes. One to build up the constituents of the body as they are torn down, and the other to keep a fire inside of her in order to keep her warm. To generate heat and perpetuate the physical organism is the purpose of food. These are the first requirements. Now, in order to lay, she must have a superabundance of food—a sufficient amount to make another hen. In order to get anything out of a machine, you must put the material into it that is necessary to make the thing that you expect to get out of it; and, if you look at the hen simply as a machine, you have come very near solving the problem of feeding. In order to conserve her vitality, you must first make her comfortable. You must not only make her comfortable, but you must make her contented. A chicken has a very delicate nervous organism, and if the nerves of a hen are unstrung or in any way out of gear, if you please, she cannot lay eggs. Perhaps you have never thought about this. Perhaps you have never thought that a little injudicious act on your part might make all the difference between profit and loss. Why, a hen! What's a hen? Why, a hen is a fowl with feathers on it, that runs around the barn-yard for everybody to kick and cuff, and for every dog to chase, and for every boy to knock out of the horse trough, and for everybody to do with just as they please. When hens are treated that way they are all the time on a nervous tension, and the result is what? No eggs. You say, "Hens are a failure; they won't lay." Of course they won't lay; you don't give them a chance to lay; you don't produce the conditions that are necessary for a hen to lay.

Let me give you a few illustrations. You go home at noon and feed your horses, but you don't provide for your hens. You let them steal what they can get here and there; whatever they can pick up. They get in the horse trough and eat what the horses have left. You find them there, and give them a "shoo!" Possibly find a club and slat them out. Now, do you know what you have done? You have destroyed the possibility of an egg. Every hen so treated will stop laying for two or three days. Watch the matter closely. No hen that is cuffed around will lay eggs or be of any profit.

ALL OWN DOGS.

There is another thing you do: Every farmer in Kansas, or at least every farmer in Missouri—I don't want to slander Kansas—every farmer in Missouri has a dog. Some of them have a little dog and a big dog, and sometimes a dog between. Well, Sunday comes, and the good housewife wants to get up a nice Sunday dinner for the men folks. She doesn't have anything to do except to bake all day and fix up for the men, and of course she wants a chicken, and doesn't say anything about it Saturday night; but Sunday morning she says to the boy or to the husband, "Do you see that old yellow-legged top-knot over there? I wish you would catch her for dinner." So he calls the little dog—just as though you could set a little dog on a hen and not have every other dog on the place, and in the neighborhood, join in the chase; and they all join in and chase that hen through the barn-yard, through the orchard, through the wood pile, through the pig-pen, through the fences, and around and around, until everything is excitement. There is the old rooster over there hid behind the brush pile, with his neck craned up looking to see what is going to happen. He just peeks out to see whether the world is coming to an end or not. And over there is a hen behind another brush pile hiding away; and so with every hen on the place—trying to get out of the way of this tremendous racket that is going on all over the place. And so they go, chasing this particular hen, until after awhile she tries to run through a crack about two sizes too small for her and she sticks fast, giving the housewife a chance to grab her by the legs; and then she takes her by the head and whirls her around until her neck is broken, and off goes the carcass about twenty feet away. That is your Sunday

chicken! That is your Sunday dinner! Now, what have you done? You have spoiled a good hen to start with; she isn't fit to eat. What else have you done? If you have a hundred hens on the place that were laying eggs you have lost more than a hundred eggs; for every hen that was excited by that chase will stop laying. She won't stop all at once, because she couldn't; but she will in a few days; and as the result of your Sunday dinner you have lost possibly a hundred or two hundred eggs that are worth, perhaps, 25 cents a dozen, if you had cared for them carefully and marketed the eggs as you should. Chickens have some rights as well as other people. If a chicken has to be killed, let us kill it in a way that is as little barbarous as possible. Pick it gently off the roost at night; place it in a dark box without any food, so that its crop may be entirely empty in the morning; take it quietly from the box, and don't allow it to squawk to excite the other chickens; lay its head gently on a block and cut it clear off with one blow; put it inside of a barrel and cover it up and let it die, out of sight, quietly, as a hen ought to die that is to be eaten; and then you will have something that is worth eating, and you will not interfere with another fowl that is on the place. You may think that is a little thing to do; but I venture to say that Kansas lost last year hundreds of dollars on account of hens being caught in the very way I have described. I know Missouri did.

AN ELEMENT OF SUCCESS.

I have said that one of the essential elements of success is that fowls should be made comfortable. They should be placed at their ease. They should be in shape to bring about the best possible results, in order to accomplish the end that is desired. They cannot accomplish this unless they are perfectly contented and happy. I don't allow a dog to run through my yard if I can help it, and if a neighbor's dog wants to get my vengeance and get a club on his head, he just wants to run through my chickens; and if any man wants to get dismissed from my employ, he wants to slat a club at one of my Golden Wyandottes. My men understand fowls. They know they can't be kicked and cuffed or mistreated in any way at all; and the result is they will come right around me and eat out of my hands. They don't know what fear is. They are perfectly happy and contented. Even these cold winter mornings they come out and sing and meet me down the walk when the door is open, as though they had a keen appreciation of their kindly treatment; and I believe they do have a keen appreciation of kindly treatment, and I am positive I get much better results by treating them that way than I would if I abused them. To be frank with you, there was a time when I didn't have that kind of a feeling, but I have learned by experience. I have tried both ways, and I know the difference in results.

(To be continued.)

Pig iron production in this country and Great Britain during 1897 was 9,652,680 tons here and 8,789,455 tons in Great Britain. For three years we have produced 27,691,015 tons as against 25,248,339 tons in Great Britain.

Fix up the fences before the stock is turned on pasture. One weak place may prove expensive.



It's easy to haul a big load up a big hill if you grease the wagon wheels with

MICA Axle Grease

Get a box and learn why it's the best grease ever put on an axle. Sold everywhere.



THE CROWN Bone Cutter for cutting green bones. For the poultryman. Best in the world. Lowest in price. Send for circular and testimonials. Wilson Bros., EASTON, PA.

It roasts with you whether you continue the nerve-killing tobacco habit. NO-TO-BAC removes the desire for tobacco, without nervous distress, expels nicotine, purifies the blood, restores lost manhood, makes you strong in health, nerve and pocket. NO-TO-BAC sold, 400,000 cases cured. Buy and pocket. NO-TO-BAC will vouch for us. Take it with a will, patiently, persistently. One box, \$1, usually cures; 3 boxes, \$2.50, guaranteed to cure, or we refund money. Sterling Remedy Co., Chicago, Montreal, New York.

Fell to the Floor.

HIS LEGS SUDDENLY GAVE OUT.

Thomas P. Bigg, of Cleveland, Stricken as He was Preparing for a Visit to Friends.

From the Leader, Cleveland, Ohio.

Of the list of the many so-called incurable disorders none has proved to be more of an enigma to the most learned and accomplished physicians than locomotor ataxia, or as it is more commonly known, creeping paralysis. This dread disease has baffled their skill, and they have been forced to admit that they cannot successfully cope with it. All they have been able to do is to mitigate the accompanying pain and suffering; beyond this the science of medicine has been of little or no avail to the many unfortunates who have contracted the dreadful malady, which, many people, especially those who are thus afflicted, believe is a forerunner of the grim messenger of death.

Thomas P. Bigg, who lives at No. 1073 St. Clair Street, corner of Lawrence St., Cleveland, O., has been suffering from locomotor ataxia for nearly five years, and nothing but his wonderful vitality has prevented his dissolution long before this.

The malady is directly attributable to his exposure during army life. He enlisted in the Third Regiment Ohio Cavalry in Toledo, and served nineteen months in the volunteer service, and after the close of the rebellion, eighteen months in the regular army. "At first," he said in narrating his experience, "my stomach went back on me, and for six weeks I was laid up in a hospital in Texas. Ever since that time that organ has caused me trouble, and about seven years ago the doctor told me I was suffering from acute indigestion. That was bad enough, but four years ago last July paralysis came on, and I have been using these crutches ever since. The paralysis was in my legs, and it came rather suddenly. I noticed at first that my knees were a little stiff, a sort of rheumatic pain, you know. This quickly developed into paralysis."

I tried all kinds of remedies, and I tried physicians, but I did not improve. All this

time, though, I was holding my own—wasn't getting any worse. A short time ago I was induced to try Dr. Williams' Pink Pills. I did not expect this last venture would prove any more beneficial than all the others which preceded it. But I am pleased to say I was most agreeably disappointed. Dr. Williams' Pills are simply wonderful. I began to use them two months ago. My legs then were perfectly numb and cold—nothing could warm them. After suffering with paralysis for more than four years, I now experience a comforting feeling of warmth in my lower limbs. I tell you I feel like shouting when I think of escaping from my bondage, and my mind is on the subject pretty much of the time. I intend to continue the use of the pills until my legs are as good and useful as they were in their best days, and I feel that will be soon.

"What effect have the pills had upon your stomach?" Mr. Bigg was asked, "as regards that?" said he "you can readily believe that a stomach which has been seriously out of order for thirty-five years is in bad shape. Nothing used to stay on my stomach, and I was subject to violent fits of hiccoughing. Then I would have to take an opiate to get to sleep. But now I find that food stays on my stomach, though I do not suppose that organ will ever be in first-class shape again. Still I am satisfied to think that it is improved to such a degree, and that I can eat with a feeling of ease."

For six years until a month ago, October, 1896, Mr. Bigg kept a stationery and confectionery store at No. 347 East Madison Ave., directly opposite the Madison Ave. School. He sold out his business and can now be found at any time at No. 1073 St. Clair St.

Pink Pills are sold by all dealers, or will be sent post paid on receipt of price, 50 cents a box, or six boxes for \$2.50 (they are never sold in bulk or by the 100) by addressing Dr. Williams' Medicine Co., Schenectady, N. Y.



No. 77. Surrey Harness. Price, \$16.00. As good as sells for \$25.

WE HAVE NO AGENTS

but have sold direct to the consumer for 25 years at wholesale prices, saving him the dealer's profits. Ship anywhere for examination. Everything warranted. 118 styles of Vehicles, 55 styles of Harness. Top Buggies, \$36 to \$70. Surreys, \$50 to \$125. Carriages, Phaetons, Traps, Wagons, Spring-Road and Milk Wagons. Send for large, free Catalogue of all our styles.



No. 606 Surrey. Price, with curtains, lamps, shades, apron and fenders, \$60. As good as sells for \$90.

ELKHART CARRIAGE AND HARNESS MFG. CO. W. B. PRATT, Sec'y, ELKHART, IND.

A SMALL THRESHING MACHINE

Something for the farmer, who can do his own threshing, with less help and power than ever before. We also make a full line of Sweep and Tread Powers.

The Columbia Thresher has great capacity, and can be run by light power. Send for illustrated catalogue, giving testimonials.

BELLE CITY FEED AND ENSILAGE CUTTERS



Made in all sizes, for both hand & power use. Send for illustrated catalogue and price list. Will send latest publication on Ensilage to all who write for it.

BELLE CITY MFG. CO. Bx 78 Racine, Wis.

A HAYING COMBINE

Here is a combine that makes for the farmer's best interests instead of against him. For the clear, easy, rapid gathering and stacking of hay there are no tools superior to these.

Strong, Durable and Long Lived...

The Monarch Sweep Rake

is undoubtedly the best of its class, quality of material, utility and capacity considered. It is mounted on large wheels which enables it to carry large loads to the stacker with easy draft. It has an easy working tilting lever which lifts the load clear off the ground without effort.



The Acme Stacker is simple, strong and quick acting. It can be raised or lowered to accommodate a stack of any height. Will build a stack 30 ft. long and 25 ft. high at one setting. No hay grower can afford to be without this "Hay Combine." We also manufacture the Famous Hodges Headers, Hodges Hercules Mowers, Hodges "Laddie" and "Lassie" Hand and Self Dump Rakes, Monarch and Acme Sweep Rakes. Don't buy until you see our new illustrated catalogue. WE SEND IT FREE.

Acme Harvester Company, Pekin, Illinois.

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Over one-half the canal completed to a depth of sixteen feet.

One hundred thousand dollars' worth of property sold in March.

Go to Port Arthur and see what the backing of a 1,227 mile trunk line means.

For information write to
F. A. HORNBECK,
General Manager
Port Arthur Townsite Co.,
KANSAS CITY, MO.

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BUY FROM MANUFACTURER DIRECT.

Our No. 201, with one-inch trace, hame and collar, \$6 per set. Our No. 19, with one-inch trace, double hip strap, hame and collar, \$9 per set. Our No. 20, with one and one-quarter inch trace, single strap throughout, with curved breast collar, nickel or imitation rubber, at \$12 per set. Goods shipped anywhere on receipt of price, or C. O. D. if \$1.50 is sent with order. Mention size of collar. A. BURR, 2230 W. Jefferson, Louisville, Ky.

PORTABLE WELL DRILLING MACHINERY.



Established 1867. Covered by patents. Machines drill any depth both by steam and horse power. Twenty different styles. Send for free illustrated catalogue. Address, KELLY & TANEYHILL, Waterloo, Iowa.



We make Steel Windmills, Steel Towers and Feed Grinders and are selling them cheaper than the cheapest. Our productions are standards; are first-class in every respect and are sold on trial. Send us a postal and we will tell you all about them. CURRIE WINDMILL CO., AGENTS WANTED. Manhattan, Kas.



Manufactured by KIMBALL BROS., 1004 Ninth St., Council Bluffs, Iowa.

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Wind Mills and Towers, Complete, Set Up

THE SHURTLEFF CO., MARENGO, ILL.
THE Blower Wind Mill

For farmers who cannot afford one of the high-priced steel mills.
Pumps, Pipes, Cylinders and Screens.
Send for illustrated circulars and price list before buying.
THE SHURTLEFF CO., Marengo, Ill.



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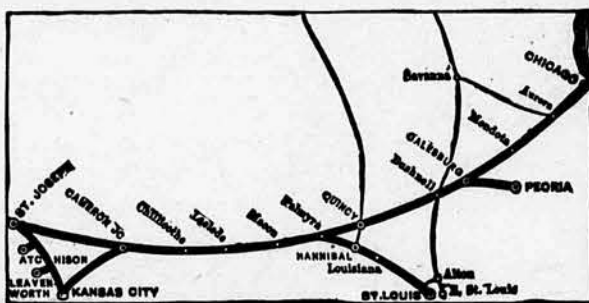
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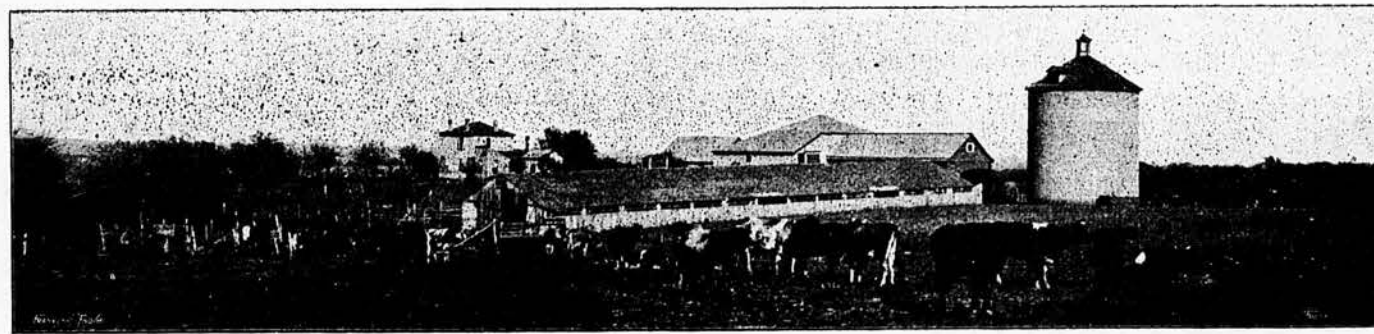
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