## TABLE OF CONTENTS.

Page 66-Agricultural Matters.-
In Western Kansas. English Blue Grass.
Western Kansas and the Growing of BarWestern Kansas and the Growing of Bar-
ley. Acre Yields and Avaliable Areas.
How to Cut and Cure Sorghum for Hay. PAGE 67 -THE Stook INTEREST,-The Relation of the Breeder to the General Farmer. Cattle Killed by Corn Stalks.
No Corn Statk Disease. National DurocJersey Record Election.
PAGE 68-Irrigation.-How We Irrigate With Water.
PAGE 69 - Gossip About Stock. Frank PAGE 69-Gossip Abour Stock. Trank-
lin County Poultry Show.
PAGE 70-THE Home Circle. - Afterwhiles (poem). Covers for Cushions Ounces of Prevention. Good Advice. Dress Reform for PAGE 71-THe Youna Folks.-Woman's Mission (poem). Accidents to Bird Ship Pierced by a Swordfish. He Wa Goose. Cat Frightened by a Parrot.
Curie
PAGE-EDITORIAL-When to Sell Live
PAGE ${ }^{\text {73-EDITorial.-The Corn Rate. To }}$
Make Prohibition More Prohibitive. Big Money Well Used. Prairie Dogs. Heads Sore From Detorning.
ple Culture in Michigan. Thayer's Berry Bulletin for February, i896. Asparagus.
BAGE 75-IN THE DAIBY.-How Milking PAGE 75-In THE DARY.-How Milking
Breeds Are Developed. Maintaining the Milk Flow. Butter in a Minute. Eleven Mortgages on One Cow. A Good Law. PAGE 76-Publishers' Paragraphs. PAGE 76-Publishers' Paragraphs. Reports. Winter Passages OVer the Frames. The
Ripening of Honey. Wintering. Notes.

## BREEDERS' DIRECTORY.

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Shropshirs Rams and Ewes for Sale, Also Oxford and Delaine Merino, from 1 to 3 yeagrin
nla. Write for rilices to
DORSEY BROS., Perry, Pike Co.,

## Agricultural fllatters.

## In Western Kansas,

Editor Kansas Farmer:-An un commonly wide area has been seeded to fall wheat in Hodgeman, Ford and Edwards counties. We areall gambler more or less. We are like Bassanio and some boys of modern.times. When we lose an arrow-or a crop of wheatwe shoot its fellow "the self-same light," watching its course more care fully by the light of experience, and thus secure both. The condition o the ground is favorable, although dry In this vicinity the wheat of last har est was not a failure, but wet weathe n and after harvest damaged much o the grain so that full returns are not obtainable. Much wheat that is no marketable is being ground and fed to tock, enabling the grower to "hedge" against dead loss.
A disease, said by a local veterinarian to be "anthrax," has killed a few horses in the southeast corner of Hodgeman county.
The interest in individual irrigation has not in the least isubsided, but is increasing. From present prospects it is safe to say that the farmers of western Kansas will be on a surer footing in wo or three years than th3y have ever men of many minds. Some wish government action, some, the State. But the independent, determined individual irrigator will help himself, and the old lark in the school reader will have to move. He knows he can hardly stay on his place over night without water, y're gittin'." Our State Irrigation Commission, by practical demonstration, has assured us that this is fearible.
There is also great diversity as to mechanical contrivances. I began, several years ago, taking observations original or borrowed, so no prejudice to be eradicated, no scheme to work. My conclusions up to date are: The rich man may buy what his fancy sug gests and his money will pay for. For
us poor people, where the water is close to the surface, anything will do and fancy may play her part here But for the man of little means, where the water is from fifty to 350 feet be low, my idea now is the tubular well I know one in Ford county, 317 fee deep that has been doing good work deep, that has been doing good work others in Gray county-one 210 and the other 229 feet deep, two-inch casingther 2 ges leep, orehard and garden beside watering herds of stock.
As irrigation adxances it draws after it the subsoiler. These form a combination to which Dame Nature, in her arid or semi-arid assurance, must inally succumb. The poet has said Mother Earth is so kind that "jus ickle her with a hoe, she laughs with harvest, but with a subsoiler she nder her vest with a subsoller sh will laugh with a harvor Tree-planting is another consequence these two new forces for making waste places glad." Renewed life is awakening in this most important in dustry, and Forest Commissioner Bart lett whl find that his million of tree at the Dodge City station for spring delivery will all be required to me $B$. the growing demand

Spearville, Kas.

## English Blue Grass.

Editior Kansas Farmer:-In a recent issue a reader asks for information about English blue grass. Myself and frst English blue grass in this county and both of us still have some.
It is valuable for early and late pasquite a paying crop for seed. I am told the seed is shipped to Germany to use in dyeing silks and the supply has never yet equaled the demand. It can be sown with a nurse crop of wheat, in in a slovenly manner. The more pains and care taken, the better the pains and is possible to raise twent bushels of seed per acre, if put in right

It soon needs plowing up and reseeding and is good in a
I enclose slip taken from Bartelde I enclose slip taken from Barteldes that this firm does not exaggerate any hing:
Meadow Fescue or English Blue Grass.Grows two or three feet high, but never in arge tufts like orchard grass. One of the earasses.
manent ant pasture thrives well in all soils,
but to best advantage on moist lands.
Makes good hay, and cattle iakes good hay, and cattle thrive well on
t, whether dry or in a green state. It succeeds well even in poor soil, and as its roots penetrate the ear incept by exceedingly dry weather, and is as valuable a fertilizer as red clover. It is one of the hardiest grasses
after a good stand is secured; it will stand after a good stand is secured; it will stand
more freezing than any other variety. It yields an abundant crop of seed, about eight
to ten bushels, which can be threshed by any threshing machine, and which alone at he ruling prices of the last years has paid ing its acknowledged merits, this grass has been sown only to a limited extent in this
country. It is deserving of much more atcountry. It is deserving of much more atour Western farmers. Sow about twelve to eighteen pounds per acre in spring or fall. Pound 10 cents.
They say sow twelve to eighteen pounds per acre. My experience is that one bushel, or twenty-four pounds, is much more satisfactory. It is lots better to have one acre that is good than two that is only half a stand.

## Morantown, Kas.

Western Kansas and the Growing of Barley Editor Kansas Farmer:-A great deal has been said and written about western Kansas. Much is true and nuch untrue. Of course, we had a boom" and farmers and other privileges of the soil privileges of the soil, many without capital and all without the least expe rience of what the soil would produce or a market for product when found adapted to the soil. Many tried corn, and because they could not succeed,
gave up; but some tried barley, and gave up; but some tried barley, and
the yield was enormous. Mr. Geo. Beltz, on his homestead, three miles north of Kendall, in Kearney county has grown some very fine barley, yield ing as high as eighty bushels to the acre. Most of that western country
will grow barley. Around Lakin and ill northeast of that point will go one better than California, that paradise better than California, that paradis the brewing quality so much prized in the English brewing arkets.
The quotations for barley, under ate December 2, representing an av rage of three large towns in England out of some thirty English market towns now before the writer, is almost $\$ 1$ per bushel. We quote, just as recived: Norwich, Eng., 87,768 bushels on market, average price 27s. 1a. about 81 per bushel], "firm." Chester, same date, 3s. 8d. per sixty pounds [91 cents], 'in buyers' favor." Leicester,
same date, 30 s . to 32 s . per thirty-two stone [ $\$ 1.02$ per bushel], "scarce and firm."
England imports some $60,000,000$ bushels annually. Reports now before the writer for the last three years. The English market demands clean, bright barley, free from dampness while in the harvest field, and grown on a light, sandy soil. After many years in western Kansas, the writer feels assured that barley grown there would demand the prices quoted, as he has also been many times on the mar kets in England in recent years and made an object of examining the barley offered with the express purpose o comparing that grown in western Kan sas, and ventures to make this known in the hope that the railway companies and those interested in the welfare o the State will give encouragement to grow barley.
The freights to Liverpool, approximately, are from 50 to 55 cents per 100 pounds. If Geo. Beltz could have ob on his tarm prices he would have been stead of away and his farm a "white elephant"
company.
The season just past has been a good tleman friey. The writer met agen ber who represented many of his neighbors. Came East to try and get a
ailed, and said that any amount could be bought up for 15 cents per bushel out there. If they could have obtained 40 to 50 cents, and there is no legitimate reason why they should not, if way, lands would have a value, and the people would be happy.
H. A. W. Corfield.

## Acre Yields and Available Areas.

Editor Kansas Farmer:-I have just read Mr. C. Wood Davis' reply to a neighboring Governor, and with some nward reflections on the same. Mr. Davis'
First, he says data was sought in the publications of the federal government and then foreign governments. Result: "Everything was found to be of the most fragmentary churacter" (my itallis). Groping ineffectively among these tragments the idea at lassible to de termine acre yields from the fields of the bread-eating world," etc. Now, for my reflections: They aré, that Mr. Davis' conclusions are a very fragmentary work drawn from very fragmen
tary data. They but herald forth al vague and shadowy mathematical dream.
And now, I ask myself some ques tions: First, "How is it easier to arrive at the world's acreage yield than "How does Mr. Davis know what John Smith's wheat made to the acre last how much the acre yield is in France, Great Britain, Argentine, India, etc?" Fragmentary? Yes, and shadowy Senator Vest says that when they hav they lay a pole across a $\log$, tie a box to ey lay pole acros a log, one bo nd fill the other with stones till it alances the hog. Then they guess a he number of stones in the box. This he number to rather uncertain way dolng but it is a calculating machin of dith the "unit require ompa " ments, acre yields, and ars used to conjure up a pecter of $\$ 2$ whest snd 100 lap a lovis himelf doubts his own concluDavis his is afraid that those nine re ions, or is afraid that those nine re to repeat themselves indefinitely, is shown by his statement to us some months ago in the FARMER, that for a time, at least, he intended to raise the hogs and let the other fellow raise the wheat.
A farmer once gave me this advice: "When everybody else is going into the hog business, you git out," and I will pass it on to our brother Davis, hoping that he will find as helpful wis dom in it as in a mine of fragmentary data showing the acreage under staples, acre yields, world's harvests etc. Possibly, had him the so socessity of
would have saved him elling 3 -cent hogs. Hoping, however that it may yet spare him the humiliation of selling 12 -cent potatoes or 2-cent cattle and buying flour mad
T. Ellison

Piqua, Kas., January 13, 1896.
How to Out and Oure Sorghum for Hay. Editor Kansas Farmer:-Do not let it get too tall to pass under machine is able to carry to binder and not clog. Bind in small bundles and or clog. in small rquid shocks. It weather will permit, let it remain on the ground from one to five days. The writer puts up his sorghum in this wey and prefers it to cutting with a mower and rake. The leaves remain on stalks and it is easier to handle.
Ames, Kas. L. O. Fuller.

## The Best Horse Remedy.

On the testimony of many horse owners, Tuttle's Elixir is the only horse remedy on market that is invariably reliable. Rea what.one man says: "Dr. Sir -Will you send me another dozen bottles of your Elixir? I find it an xcellent article. I have givh it satisfactory. Send as soon as possible." 1019 East 168d Sred MeCArtix,

## Well Satistied with Ayer's Hair Vigor.

"Nearly forty years ago, after some weeks of sickness, my hair somed gray. I began using Ayer's Hair Vigor, and was so well satisfied with the results that I have ever tried any other kind of dress ing. It requires only an occasional appli-

## AYER'S

Hair Vigor to keep my hair of good color, to remove
dandruff, to heal tching humors, and prevent the hair from falling out. I never hesitate to recommend Ayer's medicines to my friends."-Mrs. H. M. HAIGHT, Avoca, Nebr.

## aYER'S Hair Vigor

## Take Ayer's Sarsaparilia for the Complexion.

## A Splendid Business Offer.

The Farmbr takes pleasure in calling the ttention of its readers to Perine's subsoil lows. That subsoiling is no longer an ex emonstrated. Mr. A. B. Perine, of this city, is the inventor, manufacturer and patontee of the original Perine's subsol plow. No higher compliment could be attributed that oper plow companies are trying to profit from its suecess, by attempting to mitate Mr. Perine's invention. During the months of February, March and April, 895, Mr. Perine was not nearly able to supply the demand for his plows, and present indications are that he will experience anther rush this season. He has eniarged Butas anecial inducement for early orders he will include a year's subscription to either the Kansas Farmer or Topeka Advocate to those who will purchase a plow before February 15, 1896.
The prices of the genuine Perine subsoil plows are as follows
No. 1 plow, for four horses.
No. 2 plow, for three horses
Address all communications and make
remittances pa
Perine's Plow Works,
Topeka, Kas.

## Planting Cotton.

The average yield of the cotton crop is 150 pounds per acre. At 6 cents a pound this makes only picking, growing, and the interest on the debts incident to the Southern system of farming, must all be pa'd. No wonder Southern farmer is a poor man. But it is quite possible to grow 500 to 1,000 pounds per acre, and some planters have done and are doing it. The secret lies in the proper fitting of the soil and mixing the manure with it. A corn the very manner at the rate of three or four acres a day, by the use of the "Acme" Pulverizing Harrow, Clodrusher and Leveler, and its use will inure at least double the average yield, by rowaing just the right condition for the erized of this crop, viz., a thoroughly pul overe sol, with all the trash periectig cultiyation. This one implement, if in common use in the South, would free every ble working debpital gin year. See ad vertisement on page 78.

[^0]
## The Stock Interest.

THE RELLATION OF THE BREEDER TO THE GENERAL FARMER.

## 

peka, Kas., January $7-8,1898$.
The subject which your committee has done me the honor to assign me, and which I am expected to enlarge upon for the general enlightenment and entertainment of those present at this breeders mead one, and naturally suggests, on the part of the writer, a very broad-ninded and generally wellinformed person along the lines of stock breeding and agriculture in genclaim to possess, and had not your comclaittee taken "snap judgment" upon mittee fould probably have demanded "for the good of the order," that som older man, a man of more experience, better judgment and brighter imagina tions for the entertarm be assigned this task. But since I could find no honorable means ol escape, have accepted the-sinuation as inevitable, and will stivo not to haust the subject but simply to lay it before the meeting from the stand point of a general farmer, in a manner intended to bring forth a general discussion from those pre
to handle this subject.
The relation of the breeder to the general farmer, I say again, is a very broad theme, suggestive of liberalminded, broad-gauged, brainy thinkers on all the different phases of this relation and should be considered and fostered as co-operative and fraternal
The breeder's interest is the farmer's interest, the farmer's interest is the breeder's interest, and they could not be separated without great loss to both nes of industry, for the breeder's market is generally found with the farmer. The farmer's supply of breeding stock for improving upon and perpetuating the already high standing of his market herd is found with the breeder, and whether we be a specred animals, or in the more general pursuit of agriculture in connection with the growing, feeding, fattening and preparing animals for the fat stock market, the object with our breeding stock should always be the same, for the final market at the least possible expense.
Breeders, as well as those growing hogs and cattle for the slaughter mar ket and horses for the general market,
find the low prices that are this find the low prices that are this year prevailing for even the
stock a very unpleasant dose.

With low prices good breeding for market purposes is more important than when prices are high. In the
latter case, when well-bred animale latter case, when well-bred animals afford a larger profit, animals of little
or no breeding may still afford some; or no breeding may still afford some;
but when prices are low, if the best but when prices are low, if the best ative the chances are that the poorer ones will be handled at a loss.
Thus, while in an era of high prices Thus, while in an era of high prices the poor animal is the difference be tween large and small profits, when prices are low the difference between the good and the poor is the difference
between small profits and none or between small p
worse than none.
I am a lover of well-bred animals. The scrub has no place with me, but I claim that no man has a right to consider himself a wide-awake general farmer who, when selecting breeding stock-horses; cattle, sheep or swine-
does not go farther than' pedigree and show-ring conditions. The pedigree is all right so far as it goes, but does not furnish a guarantee of health, vigor
and the points of general strength so requisite in animals for breeding purposes.
The farmer must be his own judge, his own adviser, and must furnish scorecards of his own selection, and I would add that, to be on the safe side, he must at all times avoid the purchase of animals specially prepared for the show ring. I am one of those who beare seriously injured, if not perma-
nently ruined for breeding purposes by the process of preparation for the show ring.
What the genersl farmer needs-in the lime of breeding stock is animals that will produce an offspring capable of rustling, and by so doing thrive for half the year on pasture. The animal that has been "pushed" from birth to maturity, that has been furnished the very best grain ration known to the feeder, that has had all the care and loving kindness bestowed upon him that his owner could learn of from othors or invent within himself, cannot all these requirements of the general farmer, and therefore should occupy no place among his breeding stock. What care we whether the hog in our fatten ing pen is possessed of the general show ring markings, the lack or presence of a few white hairs more or less, or the particular outline of white on his feet, his "cultured" grunt of contentment or the fashionable curl of his tail? Above all things else, gentlemen, give us an animal with a constitution. What the farmer needs is profits, not pets.
Grass-timothy, clover, alfalfa-furnish our most perfect simple ration for stock and is nature's own remedy for man's greed in overtaxing the soil.
Through this part of Kansas-and the same conditions seem to prevail in all other parts of our corn belt-the productiveness of our farms has been greatly deteriorated during the last ten years from the continuous growing of corn, and the question with the agiculturist now is, "How shall we rotate? What crops shall we plant to rebuild and perpetuate the fertility of
our farms?" Wheat-raising in Kansas is a failure. It cannot be profitably is a failure. It cannot be profitably produced at prevailing prices. Pota Oats and chinch bugs are not a desir able combination.
able combination.
In my judgment
In my judgment, the remedy is grass Then, how shall we utilize it? The advanced farmer has long been study ing this question, and well knows efforts from the handling of the hog and the dairy cow, were it not so aifficult to procure (on account of the wreckless, unprincipled practice of inbreeding to preserve a certain type of animal regardless of health, vigor, stamina and all else) an animal of suffi cient constitutional strength to war off contagious disease. That these con ditions exist, I think cannot be success fully denied, though they are but seldom even hinted at by the breeder and since the average farmer is not well versed in veterinary science and has but slight faith in the lasting benefits to be derived from the application of the various insect-destroying preparations and the so-called "sanitary regulations," he feels compelled to require
of the future breeder a correction of these mistakes.

Oattle Killed by Oorn Stalks,
Editor Kansas Farmer:-I commenced to feed 125 head of one and two-year-oid steers on 25 th of Novemthree days, Kaffir corn with heads on and then alternating with cane, same wavy, and so on. Last Tuesday, I fed, as usual, a ton of Kaffir corn in the morning, and after cattle were well stalks. one to two hours. The next day I fed as usual and left them in field a half day. On the third day they remained in stalk field all day and all night. On the morning of fourth day, when dead. I took them from stalk field and they continued to die until nine were dead in all.
While I was feeding cane and Kaffir corn the cattie put on fesh unusually well. These cattle were furnished al the while with plenty of salt, and
stream of water was always at their stream of
disposal.

After death, on opening these cattle, I found water flushed between the flesh and the entrails. The water was of a seemed to be in a healthy condition with plenty of water on it, and that stomach
was neither bloated nor over-filled. The third stomach or rennet was filled

With very dry, hard manure, and from corn field consisted of twenty acres of corn stalks located in half section of meadow. The cattle had access, also o four hay stacks.
Now, can you tell me, through the Now, can you tell me, through the
CANSAS FARMER, what caused the death of these cattle, and if there is any cure after the cattle have taken ick? Also, can the stalks be grazed eser again without GEORGE BRIGGS.
Coldwater, Comanche Co., Kas.

## No Oorn Stalk Disease.

Editor Kansas Farmer:-In your issue of January 9, there is an interesterning the "alleged corn stalk disease."

An experience with cattle and horses in stalk fields, extending from 1868 to the present time, and after having carefully investigated the confirm the opinion of Mr . Shump, to the of fect that "there is no such thing as corn stalk disease," either from smut acting as ergot, or from rotten corn as claimed by J. M. Smith. This ex perience includes loss of many cattle and not a few horses, and the symptoms were identical in both the horse and cattie, i. e., that of impacted stom ach, supplemented with great brain "blind staggers." These latter symptoms are also found in great similarity in cases of cerebro-spinal meningitis wherein the patients (horses') become delirious from the disordered condition
 the stomach. Our plan wha identical with that of Mr. Shump, and we have had no losses since the plan o frequent watering and light feeds stalks was adopted. Mr. S. that cattle never go to water when in stalks unless driven, and further, that grest care must be exercised during cold weather, as evon when driven to water it is dimicult induce the animals to drink sumfient dry stalks, although driven back and orth across running water four or five times daily.
I once dissected a yearling steer which died under the above described circumstances, and found that the manifold was completely impacted and as hot as fire, there having been but suficient moisture in the stomach to start fermentation and cause the great quantity of dry matter to heat and swell the tomach as tight as a drum.
Since 1873, when fourteen horses were lost in stalk fields on this place, we have considered corn stalks valueless for horse feed, and carefully kept all our horses away from them and suffered no further loss until, in 1888, having purchased a feed mill which was said to "scientifically" grind corn with cob and shucks on, we concluded to feed the teams some of the product. Result, the death of eight vaiuable Thesse horses all died with the same symptoms found previously in cases where losses ochorsemen in the vicinity pronounced the trouble to be "cerebro-spinal meningitis," and the stalks had nothing to do with it. Their actions, however were so similar to the eymptoms with which horses had died in stalks, that it was considered a wise precautionary messure to discontinue the use of the ground feed, which was done, and which there was no further trouble until, a year later, s lot of corn was snapped and shelled with a "shuck sheller," After finishing shelling, hay-rack loaded with the shucks and cobs was drewn into the pasture, where nine or ten young horses were running, t being thought that this would be fine feed. Result: In the morning, twenty-iour hours after feeding the load of shucks, three of the best colts were found dead and three sick. No treatment was given the sick animals was dissected, finding the impacted condition always found after feeding ondion always lound altor leeding an excess of stalks. The washing of corn or soaking as described above, for
horses, may not be essential, but a great

Nervous
Troubles are caused by impure and impeing fed by the blood, are not properly nourished. The true way to cure ner-
vousness is to purify the brood by taking Hood's Sarsaparilla. Read this:
"I have taken Hood's Sarsapar it has built men Hoods ascaparilla and it has built me up, increased my appetite
and acomplished what $I$ desired. My oldeat daughter was nervous and not very
rugged but her health is good since she began using Hood's Sarsaparilla." JoHN L. Pingrees, 172 Hayden Row, Hopkin
ton, Mass. Get Hood's and only

## Hood's

Sarsaparilla
The One True Blood Purifier. $\$ 1 ; 6$ for Hood's Pills are mild and effective. 25 .
many good horsemen practice either that method or "nubbing" all ear corn ed, as a precautionary measure, and wee adopting it and keeping all Denton, Kas.
M. R. Davis.

National Duroo-Jersey Record Eleotion. The fourth annual meeting of the National Duroc-Jersey Record Association was held in the First National Bank building, El Pasoo, Ill, Tuesday, January 14, 1896, Vice President F. F.
Failor, of Newton, Iowa, presiding. Failor, of Newton, Iowa, presiding. Parties were present from Indiana,
Iowa, Missouri and Illinols, while proxies held by those present came rom Kansas, Nebraska, Texas, Georgia, Ohio and Dakota. The meeting was enthusiastic and the champions of the red hog we
An interesting communication from President S. E. McCullough, Paton, Iowa, was read. The Secretary's and Treasurer's report showed an excellent ear's business and a good balance on hand at the beginning of the new year. The following is the report in sesp peigrrees rooorded........

$\underset{\substack{\text { rintrea } \\ \text { roba }}}{ }$


Totalia.a. iniai:

The election of officers was next, hich resulted as follows: President layton Borradaile, Camden, O. Vice Presidents-Thos. Frazier, Kopperl Tex.; G. W. Trone, Rushville, Ill.; O W. Browning, Newton, Iowa; M. R.
Higgins, Willow, Ind.; Col. M. B. W. Higgins, Willow, Ind.; Col. M. B. W Harman, Pickering, Mo. Directors-E.
L. Clarkson, Tivoli, N. Y.; N.P. Clark, Monticello, Iowa; W. L. Addy, Parnell Mo.; Jos. Vogel, Benson, Ill.; J. M Stonebraker, Panola, I. Secretary
and Treasurer, Robt. J. Evans, El
and Trea
Paso, Ill.
Several
Several interesting papers were read before the meeting, a piece of poetry
by Mr. F. F. Failor, of Iowa, being esby Mr. F. F. Failor, of Iowa, being es-
pecially appreciated by the breeders present
The following resolution was passed unanimously
Resolved, That it is the sense of this meet-
ng that the impression by some breeders ng that the impression by some breeders is erroneous and that we wish it distinctly understood that no animal was ever re-
corded in the National Association as founcorded in the National Association as foun-
dation stock without an affldavit from the owner or breeder that the same was from pure-bred sires and dams.
The resolutions regarding separate classes for young and aged boars at passed and also one objecting to breedors of other breeds of swine and not interested in Duroc-Jerseys, acting as judges in classes of Duroc-Jerseys.
The Secretary was instructed to use swine and agricultural papers more genorally as advertising mediums for the coming year.
It was voted to hold the next annual meeting in Chicago, the second Tuesin January, 1897. Adjourned.

Robt. J. Evans, Secretary.

## Jrcigation.

HOW WE IRRIGATE WITH WATER. By C. D. Perry, of Englewooa, Kas., reada before the
twenty-Afth annual meeting of Kansas state Boart of Agriculture.
Some time last spring, the honorable Secretary of our Agricultural Board came to the ranch of the Claremont Land and Irrigation Company, near Englewood, in Clark county, to see some irrigasing with water. Out in the western part of the State, we occasionally hear a good deal about irrigating certain sections of the eastern part with something besides water. But the moral sentiment of the people of our section, as well as our financial sbility, prevents irrigating with anything but water, although perhaps the Secretary did not know this when he wrote me in July and asked me to prepare a paper to be read here to-day telling you how we irrigate with water. An adequate supply of water being tion. I will first mention the four tion, I will first mention the four sources of supply in western Kansas, in the order it, after eight years of close consider it, after eigh
study of the question.
tudy of the question.
First, and by far the greatest source is from wells sunk into the sheet water; toring this water in reservoirs, using wind or mechanical power, according to the quantity needed. The amount of water that can be obtined the manner exceeds many times the supply from all other sources combined, and it will be especially crol of the owner of the plent.
Second, the surface plant
Second, the surface flow of rivers, conveyed through canals and ditches, is perhaps the next largest source of supply, but it is closely followed by the third source, the underflow of rivers and streams. I should not be surprised If this source would even exceed in quantity the surface supply of rivers. Fourth, the storage of storm waters by damming ravines and draws. This
last source, owing to the unreliable rainfall of our section, is not of very great importance.
Having mentioned the sources of supply, according to their relative values, from my own standpoint, I want here to emphasize the fact that water, water, water, is the great need and is equally valuable from whatever source obtained.
Only small strips of land along the streams can ever be irrigated by their waters, but the bulk of our best lands the second bottoms and uplands, will forever depend upon wells, and the value of the lands will be in proportion to the depths of the wells.
I will now tell you of our source of supply and something of the efforts made to obtain it. Eighteen hundred and eighty-seven was a dry year, as many of my farmer friends remember. That was the third year that I, a city chap, had been on that ranch of 10,000 acres, and those three years comprised the total experience of my life in farmof three crops planted in soil that prided myself was as good as any. O those three seedings not one matured a crop. Beginning with that year the discouraged farmers about me left the country, one by one. That was the summer of the fateful July winds that parched the magnificent corn crop every where approaching maturity from Englewood to Topeka. That summer, also, the Santa Fe , the road which has been such a factor in the upbuilding of the State and which as a corporation has had its boom and its collapse unequalled by that of any other institution within our limits, was engaged in running a preliminary survey southwest from Englewood.
This work brought to light the fact that the bed of the Cimarron river, six miles south, was thirty-two feet above futility of dry farming, we determined, about the middle of July, to build a gravity canal of sufficient capacity to gravity canal of sufficient capacity to
irrigate our farming lands. By Octoirrigate our farming lands. By Octo-
ber, such a canal was completed. It was ten feet wide on top, five teet wide on the bottom, and eighteen inches deep, with a fall of two feet to the
mile. It was eight and a half miles
long, three and a half miles squarely away from the river to the south line of the ranch and five miles around the western and northern rim of that beau-
tiful valley, comprising 3,000 acres of tiful valley, comprising 3,000 acres of irrigabl
ranch.
At first, it was attempted to take water out of the river without a dam. The wide channel and shifting sands endered that impracticable. A stone am was therefore built but was 800 washed out. After two and a hall years of struggle and disappointment It was decided to put in a sheet piling dam, 422 feet long. Two by eight planks twelve feet long were driven down, leaving eight inches above the bed of the river. Timbers were bolted on each side and 600 loads of rock thrown in on the lower side of the dam, and fnally an apron eight feet wide was bolted onto lower part of 160 feet of dam where the main channel was. This dam has served successfully to divert the water into the head-gates of the canal for the last five years. The first time the water was turned in, a stream one foot deep and sixteen feet wide was fourteen days going through the eight and a half miles of dry ditch. Now it takes but seven or eight hours. Faulty engineering had to be contended with in laying out the canal, the natural contour of the land not being followed closely enough.
Where the draws and the ravines came down from the hills only one bank was built, thus forming ponds on out the banks. This was remedied by making the bank strong enough to be aplit and on which the water could be parried with a drain udder the ditch to lead off the rainfall, or in other places the ditch was rebuilt around the pland next to the hill. Some of the fills pond next to the hill. Some of the fils or three years the banks settled and were grassed over. As the waters flowed placidly and smoothly along, it flowed placidly and smoothly along, it
seemed as though we were no longer seervants but masters, for the old saying, "Water is a poor master but a ing, "Water is a poor master but a good servant, I have thus briefly out many fou our troubles in building lined for you our troubles in builaing waters had been brought to the land waters had been brought to the land our troubles were not ended. The main then to be built, so that the land had then to be built, so that the land ould be evenly waterea. The literature of irrigation was very ition Age
seven years ago. The Irrigation Age seven years ago. The Irrigation Age
was not published, and the Kansas FARMER did not then devote from a FARMER to a page to the subject. Our Column to a page Agriculture did not then stat apart a day or a part of a day to the set apart a day or a parestion. We had
discussion of this ques only the scanty government reports nly "She scanty government repation" to aid us. To say that mistakes were made is to give you but a faint idea of our discouragements. We often thought it ought r .
A look over our alfalfa fields will show the traces of four abandoned systems by which we attempted to distribute the water, before the present system was adopted. Before describing it, let me say, I can conceive of no
other way of having absolute control of the water at all times except by the basin system, which requires very level land and a great deal of very hard work. According to our system, the distributng laterals, either for running the water down the corn or orchard rows or for spreading it over an alfalfa or grain field, are all laid out to a uniform grade of one inch to 125 feet of length of lateral. This grade has been adopted as the result of experience. We have found that six-inch banks and a canyas dam to raise the water that much above the natural surface, allows us to take the water out along the de sired length of ditch of about 400 feet with a margin of safety. With a fall of only one inch to 125 feet it is neces sary to raise the water only three inches at the dam to back it up out for 375 feet. This margin of safety in a six-inch bank, allows us to make holes in it about six teen feet apart and to divide the water spread down over the land between
this lateral and the one next lower
down in the field. By laying out the down in the field. By laying out the ands or sections of the field to be irriands or sections of the field to be irribecause the slope of the land is irreg because In order to determine how far part these distributing laterals shall part these distributing laterals shal be, you must find out how far you can and. In the case of hoed crops and of and. In this distance will probsbly orchards, this distance wise of those crops that are flooded.
Most of you have observed how short distance the stream of water pumped a distance the stream of water pumped a furrow before it is all absorbed by the earth. No matter how long you pump, the water never flows any furher. The distance the water will run the dexmined by three factors: of the soil; second, the the texture of the land, and third, the head of water at your disposal. However, I am not giving you a general rule for your guidance. The conditions are different on each farm, frequenty on different fields of the same farm, more farms, where the soil is mostly "made land.'
I am only giving the sizes of laterals and of irrigating "lands" as we have them on Claremont ranch. Our distributing laterals are from three to five feet wide, rounding on the bottom, and carrying water from six to ten inches deep. We aim to make our irrigating "lands" at the start about 250 feet wide But in running the laterals a quarter to a half mile, the "lands" might be made to vary from 150 to 400 feet, ac cording to the slope of the field These distributing laterals are laid out with a surveyor's level on a tripod, one person managing the level and another carrying the rod and finding therewith the proper points of the proposed line, every 120 feet on compavatively level land. But if the land is irregular, the points should be taken at about hall that distance apart. The man carrying he rod, marks these points wit mounds of dirt, thrown up with shovel, which serve to guide the one ho plows out the laterals. le from the level contour lines of the and, and so run at almost right angle o the greatest slope. Therefore, whe the water is turned out of the lateral it runs away from the lateral at almost right angle, to the next lateral below and at a speed varying with the slope of the land, the texture of the soil and the head of water.
These questions of size of laterals and of irrigating "lands" each man will have to settle for himself. This he can eadily do in a small way before laying his field. But if that part of the and being irrigated just below the to twenty inches of water while the lower side is getting four inches (the

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## 

IRRIGATION MACHINERY.





The manager of Sunny Slope farm, Em poria, Kas., referring o the Thesweepstakes Hereford bull, Archibald VI. (Vol. XV.), has the best record of any bull of his age in the United States. Bred and shown by Sunny Slope farm. Prize winnings at the Iowa State fair, as follows: First and sweepstakes and breeder's cup over all beed
breeds under 1 year; first in class under 1. breeds under 1 year; first in special under 1 year: second at the head of the herd over all beef breeds
under 2 years. At the Kansas State fair: First at head or young herd; first at head of young herd that took first and sweepstakes over all beef breeds. This great
young bull has been admired by every young bull has been admired by every
breeder that has seen him. He is considbreeder that has seen him. He is consid-
ered a model of the breed. Archibald VI. ered a model of the breed. Archibald vi.
is for sale, as it is impossible for us to use him in our herd. He is sired by Archibald Miss Wellngton 5th, who won Hrst and sweepstakes over all beef breeds when less
than 13 months old. His dam is Mamselle by Beau Monde, a great grandson of Anxiety 4th."

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cures disease. That is why you should get only Hood's.
Hood's Pills cure all liver ills, relieve

## The Franklin Oounty Poultry Show.

 The first annual exhibition of the Frank ${ }^{1 / n}$ County Poultry Association was held and closed Thursday. The birds on exhibition aggregated nearly 350 and were entered by thirty-one exhibitors.To the visitor acquainted with the general make-up of the modern poultry show, the
Ottawa exhibit at once impressed one as Ottawa exhibit at once impressed one as
the equal of similar associations west of the equal of similar associations west the Mississippi.
The well-known Kansas expert, F. W Hitchcock, passed on the birds
dered very general satisfaction.
The well-known breeder, Samuel McCul-
lough, of Ottawa, is President of the assolough, of Ottawa, is President of the asso-
clation, and nis assistant, Mrs. D. F. Heisor, of Ottawa, proved heisself a very efflcient and capable Secretary.
Among the exhblitors were J. T. Harrah and E. A. Mott, of Pomona, Kas. ; E. A. Staley, Mrs D. F. Heiser, Sam McCullough, Jennie Hunter, Mrs. Thos. Strowbridge, of
Ottawa. H. D. Jenkins, Carter Bros, of Ottawa; H. D. Jenkins, Marter Bres, of LynLane; John Sloop and F. M. Space, of Ler LevMorgan, Princeton, and R. J. Reynolds, of Osawatomie.
Abswatomile. all of the leading and fashionable breeds of poultry were found in the show. Mr. Sloop had Buff Cochins that scored up to $948 /$, and he was the proudest of "chicken cranks of the Buffs. Mr. Harrah had one of the best exhibits in the show. Mr. Staley, who makes a specialty of Light Brahmas, was well pleased with his winnings and had the heaviest Light Brahma
on exhibition. Mr. McCullough was out on exhibition. Mr. McCullough was out
with his high-scoring Barred Plymouth Rock cockerel that he purchased at a long price at the late Mid-Coninoncal shibited his at Kansas Clty. Heavy-weight turkey tom, that has tipped the beam at $511 /$ pounds. Mrs. Heiser won the beam at and third on White Plymouth Rocks. The two birds scored 941/2 and 931/4 points.
polints forbids that extended report that the show merits.
"Five years ago," says Anga A. Lewis, Ricard, N. Y., "I had a constant cough, and had been given up by my physicians. I began to take Ayer's Cherry Pectoral, and after using two bottles was completely arter us
cured."
We can furnish you Kansas Farmbr and Peterson's Magazine, each one year, for
$\$ 1.75$. Or Kansas FARMER and Arthur's Home Magazine for $\$ 1.65$. Send to this office amounts above named.

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not


COVERS FOR CUSHIONS.
Some New Designs for an Always Acceptable Gift

Travelers Can Use $\mathbf{I t}$, Voyagers Need $\mathbf{I t}_{\text {, }}$ Stajers Have Many Places to Put It.

It is quite the fashion to present gifts which are especially useful to the recipient in his or her tennis player is given a handsome racket and cover; a golf player, a set of sticks; an artist come one of his many tools; a yachtsman, a set of pillows or cushions; a musician, something for the musiaroom, and so on, whatever is appropriate and particularly useful.
The pillow seems an almost universal gift. It fits in everyone's situation, whatever it be. A traveler can use it; a voyager needs it, a yachtsman must places to put it, and the covering and size distinguish its specific use.
For a yachting friend, sailcloth or denim is appropriate. The sketches show some of each kind. The round one plique figures of blue denim, on which

outline and designs. are etched with white a waterscape birds, anchors and the like. The circles are united in design with blue ribbon effict, gracefully floating on the back-
ground of white. The edges of the ground of white. The edges of the
white cover are worked with eyelets, and the two pieces are laced together with white cotton rope. Ther comen
little short of entirely covering the pillow, so as to show a blue denim covering beneath.
One of the square pillows has a white center, with à fish design of blue


## MOTTO CUBHION.

silk etching, and blue corners with white applique starfish laid on and worked in blue. The edges of this cover are eyeleted and laced together
A third pillow is entirely covered with blue denim, having in the center a square of fine canvas, or heavy linen, on which is etched with the pen some suitable quotation and symbols of the sailor's craft. The edges are covered where the center meets the border with rope work.
Any one of these canvass or denim covers is in good taste for the deck of a yacht, but if one wanted to present a
more elegant affair, the same idea can


## WABHABLE PTLLOW

be carried out in heavy sateen, either wool ortsilk, appropriate for cabin use. A very effective design in either silk, suteen or denim may be easily managed at home by cutting out of card moon, anchor and so on, and laying it upon the material, tracing the outline, afterward to be worked in Kensington or etched with the pen. The effect of rope in sailor's knots gracefully trailed over the pillow with a large anchor in the corner or center is also an artistic design.
White canvas worked in true colors, like a flock of seagulls, or birds, or a semblance of waves, with a fish here and there in solid work, is a very ar-
tistic design. Blue water, dove-colored birds and brown or black anchor, with yellowish rope, are true colors.
Brown and white denim are in taste for the traveler, with quotations for the occasion. A college lad or lass would appreciate the colors of their the class pin designed in fine silk etch ing in a corner.-N. Y. Times.

The Care of House Plant
Keep them in the sun. Keep them as far from gas and furnace heat as pos sible. Keep them wet, warm and clean Keep soap out of the water. Keep a brush or carpet rag to wash them. Keep the soil loose. Never pull off a leaf; the plant may bleed to death Clip the withered tips of palms.

Pretty Effect for Dinner Tables. A dinner table may be very charming Iy spread for a company dinner if the cloth has either bands of drawn work or bands of coarse lace at intervals from the center out to the hem. Any color of satin may be laid beneath and form to this foundation.

Every woman should learn the art of dressing a green salad at the table. For s salad dressed before it is to be served loses delicacy in flavor. Mix half a teapoonful of salt with a quarter of a three tablespoonfuls of oil and then beat in a tablespoonful of vinegar very slowly and evenly until the mixture in thickened like an emulsion.

## Highest of all in Leavening Power.-Latest U. S. Gov't Report

## Royal Baking ABSOLUTELIY PURE

## OUNCES OF PREVENTION.

Wear a clean apron while ironing or bed-making.
To clean bamboo furniture use a brush dipped in salt water.
The eyes should be bathed every night in cold water just before retiring and they will do better work the following day.
When very tired lie on the back, allowing every muscle to relax, letting the hands go any way they will, and keep the eyes closed.
If you have to sew all day change your eat occasionally and so obtain rest. Bathing the face and
stimulate and refresh
Oil stains may be removed from wall paper by applying for four hours pipe clay, powdered and mixed with water to the thickness of cream.
For stains in matting from grease wet the spot with alcohol, then rub on white castile soap. Let this dry in a cake and then wash off with warm salt water.

## LATEST BRIDAL FAD.

A Verj styluh and Useful Addition to the
The latest bridal fad is the "sac Marguerite," a shield-shaped bag, made of velvet or satin and painted with flower which form the main foral decoration chrysanthemum the simple daisy the chrysanthemam, the simple daisy, the faithfully represented by this delightfaithful.
ful art.
The "sac" in this case is made of ream-colored satin, edged with chiffon the dress by two satin ribbons, with

rosettes on the flap, where the mono gram of the owner is usually painted. A spray of orange blossoms decorates on bag and the small prayer ook iver satin with a spray of the same hymeneal emblems.
These bags are an elegant addition to the bridal costume, very stylish, and useful as well.-St. Louis Republic.

## Here's Some Good Advice

Don't roll your eyes up into your head as if they were marbles. A fine pair of eyes will be utterly ruined by mouth will purse it up into a pretty tiest bouton and continue the habitnutil many lines form about the lips and the lovely mouth has to be put into the hands of a beauty doctor. Nearly every womtan bites or sucks her lips Others contract the brows and produce two furrows between the eyes. Others Others perpetually wear a tip-tilted nose. The true expressive face doesn't consist of a set of features hung on strings or wires. Do cultivate placid featurem.

Dress Reform for Bables. drses reform is more popular in the解 than it is anywhere else, and young inhabitants thereof are to aby in ating flannel bends pinned tight abou ts chest, the flannel skirt, the pinning blanket and long flannel skirts, other skirt dress and little sack that constituled its toilet a few years ago-poor little thing. Undoubtedly half this misery they endured was caused by the "wadded up" condition of their clothing. Fancy yourself swaddled n bands and bands-ofttimes too ightly pinned or altogether too loose feet rolled in innumerable thick nesses of flannel-then the unnecesary strain on tiny hips of the long skirts-it is high time, indeed, for the accomplishment of such reform. Cu rious neighbors will no longer have an opportunity to look at the dear little toes for the express purpose of ex amining the texture of the flannel, which is a right good thing, and baby in its short clothes will grow sturdy and hardy with the hours.
Don't worry. Don't run in debt. Don't trifle with your health. Don't try experiments with medicines. Don't waste time and money on worthless compounds. Don't be persuaded to take a substitute for Ayer's Sarsaparilla. It is the best of blood-puri flers.


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## Che Houng Solks.

Written for Kansas farmbe. KANBAS FARMBR.
WOMAN'S MISGION. by adelaide bavge.
What more conild woman ask Than the sweet taek-
The God-given right-
Of watching all the night
Close beeide the little bed
Close beside the littye sleeper's head? Of watohing for the little bud To unfold in innocent childhood To make the sanshine of home, In which this tiny plant must bloom?
To water well with mother's tears; To water well with mother's
With kisees soothe all fears? When childhood's years have flown, This plant to youth has grown, Than the noble taak
Of keeping well this budding plant, Free from immoral taint? And when to maturity grown, A radiant, beautiful flower, That sheds its fragrance every hour In deeds of meroy and of love, In trying to serve the One abo

## ACCIDENTS TO BIRDS.

Some $\begin{gathered}\text { Commit Buicide } \\ \text { Hanging or Choking. }\end{gathered}$
Many strange accidents have urred to birds while feeding seys the Cornhill birds whe An Irish natural ist one Magazine. An Iris neral very curiously on the seashore. The biry curiously on the seashore. The bird rose in the air and few ras its head vi, then alghted and shook to head violently, in a vain endeavor to detach a round lump observable upon its bill. The incumbrance proved to be a cockle which the dunlin had found
open and, in innocently attemting to


## COILED J OTtNB ITS NEOK.

negotiate, had been trapped by $i t^{\text {. }}$ This kind of bivalve accomplishment no less an authority than Mr. Tegetmier declares to be not at all uncommon on our shores. A white stable cockle recently bore testimony to the veteran naturalist's assertion by capturing a green linnet by one of its toes. A poor little chaffinch was found dead in the neighborhood of Epsom a short time ago with its lower mandible firmly embedded in the shell of a beach nut, that had become so inextricably fixed that the bird had died from starvation. A hen pheasant was not long since observed by a sportsman flying round and round in the most unaccountable fashion, and on being shot was discovered to have a large oak leaf impaled upon its beak so as to completely obscure its vision.
Herons sometimes choke themselves by attempting to swallow large trout, how large may be judged to some extent from the fact that I recently discovered a bird of this species in whose maw was a large water-rat in a perfect state of preservation. An eider duck has been killed through attempting to swallow a toad, and a bullhead or "miller's thumb" has proved too much for a water rail, a little grebe, and a kingfisher. A member of the last-named species was discovered a season or two back in a Cambridgeshire ditch by some sportsmen, unable to fly except for a short distance, and upon being caught and examined it was found that the bird had a young pike protruding from its gullet. As soon as the fish, which measured no less than 48/2 inches, was removed, the kingfilsher flew away apparently none the worse for its experience.
Birds that employ hair in the building of their nests sometimes come to grief by hanging, but I should say very seldom indeed in the following
manner. A gentleman who had a numbar of colth upon his farm one day no
ticed a small bird entangled in thelong hair of the tail of one of them. The little creature had evidently been in search of material wherewo by some unaccountable accinest and by some unaccountable accident had become entangled in the unkempt hair of the colts tan. Cases of birds getting their leet entangled in bits of yarn or string ate not ataly ancommon, especially in the breeding season, and whenevar the victim of this kind of mishap happens to get the impediment fastened in a tree or among stones, death is pretty sure to be the
result, unless prompt human aid is forthcoming. In the spring of the year, as everybody knows, the dead leaves of pampas grass fall to the ground and curl up like the shavings from a carpenter's bench. A correspondent mentions finding a poor robin which had accidentally got one of these pieces coiled able to feed and died of starvation.

Ship Pierced by a SwordAsh.
When the barkentine "City of Papeete" was within a few hundred miles of Tahiti, she fell into a dead calm. and the captain was sleeping in his bunk when there came a severe shock under the starboard bow. The captain scrambled out of his bunk and on deck as fast os he could, supposing that the vessel had struck on a reef, although he knew of none on the chart within a hundred miles. The lead was thrown over the side and the line run out to its full length without touching bottom, and for the rest of the watch the sound ${ }^{2}$ ings were continued with the same result. So the shock was a mystery, and
the sailors were inclined to get superstitious about it, until the vessel got into port, and then six inches of the sword of a swordfish was found sticking in the planking. The force of the blow must have been tremendous, and probably killed the assailant, as well as broke his nose.

He Was Greener Than Grass.
The Louisville Commercial prints a story at the expense of a gentleman of that city, not sparing his name, which is here omitted. This gentleman, wish ing to take his family into the country for the summer, looked at a small farm with a view of renting it. Everything was very much to his mind, and the negotiation was nearly completed, when the question of hiring also the farmer cow came up. She was an excellent cow, the farmer said, and even after feeding her calf would give five quarts of milk a day.
"Five quarts a day!" said the city man; "that is more than our whole family could use."
Then, noticing the calf, following its mother about the pasture, he added: "I tell you what, I will hire the small cow.
size."

## THE MUCH-ABUSED GOOSE.

## Not suly, But, on the Contrary

 ingly Aensible Bird."As silly as a goose" has become a proverb, yet the goose is not silly, but is, on the contrary, a remarkably sensible bird. I saw a goose chase a young frog to a shelter beneath a piece or mat ting. She tried to seize it by thrusting her bill beneath the matting, but was unable to do so. She then walked over it, evidently trying to frighten the rrog into seeking another hiding place, but the frog failed to make its appearance. She then seized the matting with her bill, dragged it severil pounced upon the frog bef
A reliable authority vouches for the following: At Ardglass, county Down,


THE GOOSE OPENS THE SHED DOOR.
Ireland, is a long tract of turf coming to the edge of the rocks overhanging the sea, where cattle and geese feed; at a barn on this tract there was a low inclosure with a door fastening by a hook and staple to the sidepost; when the hook was out of the staple, the door ell open by its own welght. He on day saw a goose with a large troop door, which was secured by the hook being in the staple. The goose waited for a minute or two, as ir for the door to be opened, and then turned around as if to go away, but what she did was to make a rush at the door, and making a dart with her beak at the point of the hook nearly threw it out or the staple; she repeated this maneuver and bucceeded at the third attempt. The door fell open, and the goose led her troop in with a sound of triumphant chucking. How had the goose learned that the force of the rush was need-James Weir, hr., M. D., in Boston Herald.

Baldness is either hereditary or caused

## No Risk

in Vacuum Leather Oil. Get a can at a harness- or shoe-store, 25 c a half-pint to $\$ 1.25$ a gallon; book How to Take use enough to find out.' if you don't use enough to find out in and get the whole of your money.
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Cat Frightened by a Parrot.
When a parrot in a large cage arrived in a passenger's baggage at a small railroad station, the cage was set on the floor, and there the bird remained for two hours in dead silence. No amount of coaxing could arouse its speech. Then a large, sleek cat appeared on the scene, ind sat down in front of the cage in folly five mintitude. He sat thus for folly utes, and then further. He poked his nose againgt.th bars, and just then Poll uttered an unearthly screech, and cried: "Ha! ha! Come on, boys!" The cat sprang the feet in the air, and with its tail like a feather duster streaked out of the sta tion, while the parrot gave a hoarse chuckle, and then . relapsed

> Curious Growth of Trees
r. E. H. Thompson, the government entomologist in Tasmania, reports, as the result of a series of measurements of growing apple and pear trees and rose and geranium bushes and other plants, that 85 per cent. of the growth of trees takes place between midnight and six o'clock in the morning. The growth continues at a much diminished rate until nine o'clock. After that it is very slight until noon, when the tree falls into a condition of complete rest, lasting until six oclock. Then there is a gradual renewal of the growth, which, however, does not become rapid until the middle of the night.

## Washburn College.

## TOPEKA, KANSAS.

Collegiate, Academio, Musical departmenve. beautiful bullalngs. 160-acre oampus. Large on dowment. Faculty unexcelled. Highest standard of admission in the Btate. Expenses very low splend opened Beptember 11, 1896. Catalogue on ap plication.

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of fun.
Any subscriber who wishes to club with other papers can save money by sending his list to the Kansas Farmer We have dealers' rates with almost every publication and are willing to give our subscribers the benefit, our published clubbing lists or not.

The twenty-first annual meeting of the Ayrshire Breeders' Association is announced to be held in the parlor of the United States hotel, Boston, Mass., Wednesday, February 12, 1896, at 2 o'clock p. m., to hear reports of Secretary, Treasurer and committee, and for the election of officers. An address will be given by Prof. H. W. Conn, ria, the Dairyman's Friends and Foes."

The new Kansas Farmer binder is made expressly for the convenience of those subscribers who desire to keep their Kansas Farmers for reference. paper in it when received. The binder holds fifty-two numbers, and keeps the holds fifty-two numbers, and keeps the papers in as nice shape as in they were paid, or $\$ 1.10$ for the binder and the paid, or $\$ 1.10$ for the binder and the FARMER one year. Send your own renewal for one year and a new yearly subscriber, with $\$ 2$ for both, and we
will send two binders, one for yourself and one for the new subscriber.

We present on this page a discussion of markets for hogs and cattle, in which the top prices in Chicago for the last oighteen years is used. That market is perhaps the most representative in America. Kansas live stock is sold in Kansas City to a larger extent than in Chicago, but is sold in both markets. In this discussion Chicago was choson because its records cover a longer period than do those of the Kansas City market. The fluctuations of the two markets are very similar. The Chicago market is higher than that at Kansas City by about the cost of freight between the two cities,

WHEN TO SELL LIVE STOOK. Since the preparation of the editorial on this subject, last week, its importance has led to a more careful and ports show the top prices of fancy native steers and of fancy fat hogs each month for the of lancy fat hogs each Considering, first, the prices of hogs, we may, by adding these prices for any month of each of these years, and dividing the sum by eighteen, the number of years, obtain a quotient which fairly expresses for the period named, the mean of these prices for that month. In this way it is found that the mean top price for January is $\$ 5.43$ per 100 March, $\$ 5.75$, and so on.
In order to,
In order to represent graphically the ing table and diagram has be follow-


## FANCY FAT HOGS AT CHICAGO, 1878-1895.

pared, in which the horizontal line of |emplified in these diagrams will sur figures shows the means of Chicago top prise many feeders. It is not unusual prices of hogs for each month. The for farmers to plan to have a few or the horizontal lines of the diagram, the |  | many hogs ready for the |
| :---: | :---: | :---: |
| kne |  | intervals between lines representing 10 when fat hogs ought not to be sold. cents per 100 pounds. The broken line indicates the course of prices. Beginning just above the $\$ 5.40$ line, on the vertical line corresponding to January, at a point whose local value is $\$ 5.43$, this line proceeds obliquely upwards to $\$ 5.57$ for February and to $\$ 5.75$ for March. It then descends to $\$ 5.70$ for April, to $\$ 5.52$ for May, and to $\$ 5.46$ for June An upward turn then $\$ 5.46$ to $\$ 5.72$ for July $\$ 5.78$ for August and to $\$ 5.82$ for September. From September the course is rapidly downwards to $\$ 5.50$ for October, to $\$ 5.11$ for November and to $\$ 5.09$ for Decomber, this being the lowest point for the year.



FANCY DRESSED BEEF STEERS AT CHICAGO, 1878-1895.
The mean Chicago top price for practice of buying in September and fancy fat cattle, for each month of the October and "feeding through to eighteen-year period, is shown in the spring." The winter months are exsecond table and diagram. It will pensive ones in which to add flesh, and for January is $\$ 5.92$ per hundred.
for
those of the spring. By all means weight. The mean for February va- cattle should be ready for the packer
ries so little from that of January that the difference does not appear in the price is 8 cents higher, the mesn being $\$ 6$ per hundredweight. There is then a sharp decline to $\$ 5.93$ for April, and a further slight fall to $\$ 5.92$ for May. In June, the average is only 1 cent per age. From June to July a rapid de cline occurs to $\$ 5.84$, the lowest price of the year. The rise is almost as rapid to $\$ 5.98$ for August, which continues to $\$ 6.09$ for September and $\$ 6.15$ for October. The November price shows a decline to $\$ 6.09$, the same as September. Then occurs the most re the December mean. This is followed by an even more remarkable fall to the $\$ 5.90$ with which we set out in January. Doubtless the course of prices as ex
n December and should then be sold. To buy in the fall and sell in the spring sure to make the feeder poor if he July, place on full feed as soon as possible, and sell in December, assures the ouble advantage of gain in weight and nerease in price. The farmer who sells hogs in September and buys cattle with the money, sells the cattle in De ember and buye hogs with the money ells the hogs in March and banks his money until July, will get rich in th ong run by making few losees and many gains.
It is not proposed here to undertale o account for all of the changes of the ive stock markets, but it may be in eresting to trace a few of the cause and to examine as to the feasibility of taking advantage of them under Kan eonditions. Under modern meth ods of slaughtering, in great packin stablishments, and keeping in cold torage, the demand for immediate consumption has less to do with causing luctuations now than formerly; while he economical operation of the pack g-house requires tolerably stead upplies. In former times, when th ogs were slaughtered at wome, th ustom of killing in Dece ary grew to be almo resulted from two causes. First, ther was no danger of spoiling while curing in cold weather, whereas there wer eavy losses attendant upon almos very attempt to cure pork in warm weather. So, also, it was dangerous to undertake to ship carcasses during the "soft" weather of even the early spring Second, in much of the great corn belt at crop was matured too late to en ble the farmer to finish the larg arcasses then required-using, as $h$ slow-growing breeds of hogs much before the first of the year. The ustom of ripening hogs for mid-winter is but slowly, if for the best of reason is but slowly, if ever, abandoned by any but the most progressive farmers, es pecially in the absence of conclusive vidence that any other is better than he old custom. The wide-awake Kan as iarmer, with his early-maturing orn, his clover or alfalfa hog pasture, and with his late winter crop of quickgrowing pigs may easily have them lat and 200 -pounders in September, when he may market his grass and a portion of his corn crop, by selling his pigs, on a market for which his competitor, in m6re northern portions of the corn belt, cannot be ready, except at the added expense of holding over his last year's corn. The Kansas farmer may have another crop of pigs ready to sell in March or April, but there will be less grass and much more corn in these than in his September ales.
Some of the variations of the cattle market may be accounted for. They are low in July because of the influx of grass-fat Texams in that month. The fall in November results from that month's shipments of Southern, Texans and New Mexicans. The December rise doubtless results from the fact that full-fed cattle are usually planned to go upon the spring market, so that there is a dearth of prime cattle in December. The Kansas feeder of cattle may easily take aavantage of this December rise, which generally comes, by beginning to feed early and crowding during the part of the season when flesh is easily laid on, when but little feed is required to keep the cattle warm, and having prime beef for December he will market the corn during the year of its growth, and before it is wasted by rats and mice or consumed by interest, and at the highest prices of the year
No doubt the farmer who does not believe in "book farming" will call to mind exceptions to the showing of the above diagrams. He will remember. that in last September hogs were lower than in any previous month since February, and in 1893 they were not as high in September as in January and February of that year. The writer is not of those who think that the exceptions prove the rule, but remarks that the September decline of those years was a part of the great slumps in the prices of hogs which characterized both years. Also in 1892, the September price, while higher than that of the months just preceding, was not 89
high as those of each of the twelve a milestone in the upward trend of prices, as it was in the other years mentioned a point in the downward trend. But the fact remsins that the average of September prices is higher than that of any other month. It will will every year be had from September sales, but it will be well to arrange the system of breeding and feeding so as to have good 200 -pound hogs ready in Sephavegood every year. Then, if prospects point to improvement in price, they may be made to grow ten pounds for for such improvement in the market as sometimes comes. It is to be noted, however, that only three times during the last eighteen years has such improvemen of the year, viz., in 1892, in the end of the year, viz., in 1892, in
1883 , In each of these years the advance above the Septemyears price was a part of a general rise in prices, and in las was it considerable. During the last been only three in eighteen or one in bix that there will be a rise, while the chances are five in six that there will chances are the year.
In cattle, December prices have been the highest every year but one since 1883-the one exception is 1895 . In 1882, 1881 and 1879 prices for cattle were higher in some other months than in December. But since packing-house conditions became potent as regulators, December prices for cattle have baen almost uniformly the best.

## THE OORN RATE.

One of those exercises of arbitrary power for selfish purposes which, on account of its oppressiveness, leads to extremes in legislation as to corporafreight rate on corn from Kansas points to Galveston. It is understood that the railroad interests leading towards the East compelled the few roads having Gulf terminals to put up the Southern rate so as to take away the entire
advantage of shipments by that route, advantage of shipments by fact that, for the products of this State, it is not more than half as long as that to the Eastern than half
It is not possible at present to realize the full benefits of this shorter route, even with fair dealing as to railroad
rates, owing to the fact that the Gulf port does but little importing, so that ocean steamers vihich take away the corn have no paying cargo for the incoming trip. So, also, the fact that Galveston does little wholesaling, makes comparatively little freight, and, therecomparatively little freight, and, there-
fore, the load of the down trip must pay almost the entire expense of trains both ways. This is a disadvantage which is probably of a somewhat temporary character, but it is one which must be endured until a southwestern wholesale point shall be developed.
But, with this disadvantage, there was But, with this disadvantage, there was a considerable present profit in phipping South rather than East, which has new been of the railroad pools.
decree of the railroad pouls.
Not a few railroads have been in the hands of receivers during the last few years. Many of these have attributed much of their financial embarrassment to adverse legislation, which they have
claimed was unreasonable. The shipclaimed was unreasonable. The ship-
ping public is a good-natured giant which will endure a great deal without being aroused, but will not stand continued robbery without resenting it. For every cent which this advance in
the Gulf rate takes from the farm price of corn, a difference of two millions of dollars is made in the remcineration of Kansas farmers for their season's work.
Western people have a right to the unobstructed use of the most direct route to market. Their prosperity is greatly affected by it and it will be well to concede them what is their due without arousing them to extreme measures.
You can club any publication, no matter where published, with the Kansas Farmar and save money. If you don't find what and get flgures,
-

## HIBITIVE.

TO MAKE PROHIBITION MORE PRO-
There is every indication that the ffort to reintroduce the open drinking saloon into Kansas, at least the preliminary steps preparatory to the main effort, will be so pressed during the next several months as to occupy a large place in the attention of the people. Even with prohibition as 2 stringent laws for the exclusion of the saloon, persistent attempts to carry on the traffic in intoxicating drinks are in some places successful, on account of the indifference, or direct connivance of omcers whose This is a humiliating admission for a Kansan, proud of his State, to make. But it is better to face the truth than to shut our eves to it The truth than forst to be met is: Shal venality or lack of courage cause offlcials in Kansas to quail before the saloon power and permit the constituion and laws of the State to be diaregarded? The man who thinks he annot enforce these laws under exist ng eircumstances, the man who is veadities necessary to enable him to qualities necessary to enable him ope with the sump for law, ought to have sumicient selrespect and honor astion to which atcandidate for a positility for such entaches the responsibility for such en orcement. If charges and
admissions are to be believed, it is not, however, the lack of power to enforc so much as it is political obligations to
wink at violations of the prohibitory wink at violations of the prohibitory
laws, which most militates against viglaws, which most militates agarsement. The saloon power is a power in politics to be reckoned with in every campaign or party nomination and for election. It is a concentrated, concrete power
which has it understood that it can and will give and take away large numbers of votes as its interests demand, and
that it has large sums of money to that it has large sums of money to didates and parties whose influences it can command and against those who fail to do as it desires.
Against this concentrated influence has been opposed the widespread and pervading sentiment of the great majority in favor of law and order and in derating numbers of people of this sentiment have been sufficient without concentrated effort to secure the respect of candidates and party managers until the satisfaction of the home-loving, home-staying majority with the improvement wrought by the adoption at prohibition has lulled them into an in mercenary saloon interest to insidiously introduce its traffic and to lay officials who could never have been elected without the votes of the law-abiding without obligations amounting to bondnder obligations amounting Do boultory age to the saloon interest. hase been opposed to the aggressions of the saloon power. These have little effect; indeed, they are much like throwing hạfi at a locomotive on a down grade Temperance people seem at length to have awakened to a realization of the
fact that to the concentrated political orce of the saloon e'ement, with its powerful financial backing outside of the State, must be opposed something more weighty than abstract resolutions on the enormity of the saloon.
At a recent meeting in Topeka it was determined to have signed the "SedgWhick county pledge," as modified by lows:
"I, the undersigned, do hereby solemnly

State or lor any whose dututes are connencted
with the enactment or administration
liww, who enhacil net proveriousmin anistration poblicily,
it so requested by any voter, pled ge himselt

efrcient ant fhe corrrying mat of the provis-
ions of the constitution of the State of
Kansas; particularly those prohibiting the Kansas; particularly those prohibiting the
manufacture and sale of intoxicating lig-
uors.
uors.
Ushould there be more than one oandi-
date for the same offce who date for the same office who shall thus
pledge himself, IWill ofte for the one whom Ibelleve to be the mast sincere and honest
iThig pledge shałt be binding uppn me a
soon as I am notifed that not less than 30 ,
000 voters of the State have signed a simiar pledge.
This looks like business, and if pressed with proper energy, is a plan
by which all that has been lost may be regained and even a more thorough enforcement than ever before secured. But it requires organization with a genius for organization at the head of it. There is here work for county, city and neighborhood temperance or ganizations. No doubt atalned and is the local organizations maintain their activity, they can see that the pledge is so carried out at primaries and at the polls as to make the anth aloon force has ever been in Kansas politics.

## Big Money, Well Used.

Editor Kansas Farmer:-I herewith enclose you a one dollar bill, so you All rights reserved). The bill belong All rights reserved). The United States government (if it was gold it would belong (England) was gold it would belong Engiand and in sending you the same, I wish to and in sending you the peaceable possession aforesaid. The amount at this time is quite large and I trust you will not withdraw it from the "per capiter," to corner some market, but try to make as good use of it as I have. Wishing ou and the Kansas Farmer prosper ty in 1896, I am, respectfully yours. Garfield, Kas. N. O. WAYMIRE.

## Prairie Dogs.

Editor Kansas Farmer:-I would like to ask, through your columns, it any of your readers have been successful in driving away prairie dogs. These marmots are cunning creatures in some other man's pasture, but where we wish to ride, drive and cultivate it is not convenient to have have though to try smothering them with bisulphide of carbon, or perhaps the phosphorus poison for rats would be bettter. have no doubt but some of our friend Who have had some success geta, so we can go at it with confidence and sa By the wedi ness exp dogs usuall ome out during warm spells weather, or is this open winter an exception? I was taught that they hibernated through the winter like McPherson, Kas., Junuary 25, 1896.

Heads Sore From Dehorning. Editor Kansas Farmer:-During the spell of mild weather we have
lately had in southeastern Kansas, I lately had in southeastern Kansas,
had about forty-three head of young cattle dehorned. Now the cold and snowy weather has come and they seem to be running at the nose, as a horse
would having distemper. Their appewould having distemper. Their appetite for nice oats and crushed corn is
brisk. But matter running from the brisk. But matter running from and from noses causes me some apprehension. Will you request cattlemen who horning to inform me through your columns, or direct to me, whether I am likely to lose any of these ones and wos from this winter dehorning? I have just completed arrangements to nights and in stormy weather, in my new barns, but not till yesterday was I prepared to house them in this way. The seventeen head of older cattle, de heads, bump and abuse the sore-headed young steers badly when feeding time comes. For this reason I will from in the barnyard of nights. But is any thing but good warm housing and good feed needed for the safety of the fortythree sore-heads? That is what I want to know. Don't ask why I didn't dehorn during the fall. Rush of work and building prevented. Too much on hands. Three farms with four hired men and two carpenters to look after
THos. D. Hu
Thousands sink into an early grave for want of a bottie of Dr. Bull's Couga Syrup.

OATARRH SYMPTOMS
As Desoribed by Dr, Hartman in a Recent Leoture.
"The symptoms vary according to the place where the catarrh is located. Ca tarrh in the head-nose stopped up;
pain in forehead; scabs in nose; bad breath; snoring; sneezing; watery eyes. Catarrh of the throat-voice husky or hoarse; tickling in throat; hawking,
spitting up; sore throat and enlarged spitting up; sore throat and enlarged
tonsils. Catarrh of the stomach-indigestion; tongue coated; water brash; fullness sfter eating; hawking and spitting after meals; dizziness and irregular appetite. datarrn of the bronchial tubes-cough; worse night gradual morning; tightness in upper portion of chest, and sometimes night sweats. This form of catarrh will soon end
in consumption if not cured." consumption if not cured."
Dr. Hartman used Pe-ru-pa in over thirty the general public as a catarrh remedy. Pe-ru-na as a remedy for chronic catarrh, whether in the head, nose, throat, ungs, stomach, kidneys or bladder, has become known all over the civilized por tions of North America. The reasons for which Pe-ru-na has taken the lead of all fails to cure when properly used; second it permanently cures instead of giving temporary relief; third, it cures chronic ca tarrh wherever located; fourth, it is composed entirely of vegetable producte and is perfectly harmless; fifth, the per sonal advice of Dr. Hartman in any case o chronic catarrh can be had free of charge by letter by any one taking Pe-ru-na.
One of the best books ever published on chronic catarri by Dr. S. B. Hartman is ru-na Drug Manufacturing Co., of Colum-

Farmers' Institutes.
Farmers' institutes have been appointed for the following places and dates, and will be attended by the rep lege named
Hutchinson-Febru ary6-7, Profs. Pope Hoe and Mason.
Overbrook-February 13-14, Profs. Pope noe and Olin. Mrs. Nanny Badsky, Secre-
retary.
Russell-February 20-21, Profs. Hood and Mayo. H. M. Lang, Secretary.
Cherryvale-February $20-21$, Profs. Graham and Mason. B. F. Moore, Secretary.
Concordia-February 27 and 28, Profs.
Georgeson and Will. W. S. James, President.
Pleasanton-January 30-31, Prof. Hitch-
cock. Hon. C. E. Morse, Secretary.
"Brown's Bronahial Troohes" are the implest, quickest and most effectual remedy for Bronchitis, Asthma and Throat

Farmers should see the Western Exporting and Importing Co., Room 5 , Office Block, Topeka, Kas.,
corn or other produce.

## New York World.

The twice-a-week edition of the New York World has been converted into the of six pages apiece, or eighteen pages every week, at the old price of 81 a year. This gives 156 papers a year for 81 and every paper has six pages eight columns wide or
forty-eight columns in all. The thrice-a-forty-eight columns in all. The thrice-a-
week World is not only much larger than week World is not only much larger than
any weekly or semi-weekly newspaper, but any weekly or semi-weekly newspaper,
it furnishes the news with much greate it furnishes the news with much greater
frequency and promptness. In fact, it comfreques all the crisp, fresh qualifites of a dally
with the attractive special features of a with the
weekly.
Send to Kansas Farmer Co., Topeka, Kas., 81.65 for KANSAS FARMER one year and also the thrice-a-week worla, to same Address Kansas FArmer Co., Topeka, Addre
Popular Low-Price Oalifornia Excursions. The Santa Fe Route personally-conducted weekly excursions to California are deserv-
edly popular with travelers who seek a wise economy in cost of railroad and sleeper tickets without sacrifice of any essential comfort. About one-third saved, as compared with first-class passage. The Pullmans occupied by these parties are of the latest pattern and aford every each car, and an experienced agent of the company is in charge. Ladies, invalids, elderly people, etc., will appreciate this personal care.
The Santa Fe's California line passes south of the region of severe s and is remarkably picturesque.
The daily service is same as
The daily service is same as above, except as regards agent in charge. For descriptive $G$. T. Nicholson, G. $P_{\text {I }}$ An: Monadnock Ruildipg, Chicago,

## forticulture.

REVIVAL OF APPLE OULTURE IN MIOHIGAN.
Paper by Bmith Hawley, of Ludalingt.
Milchigan State Hortiocilural Soclety. The apple as a money crop has never received the attention from the aver age farmer and fruit-grower that it
deserves. The orchard is too often deserves. The orchard is too often neglected. Men will plant orchards, cultivate them well for a few years, till they begin to bear, and think they
have then done their whole duty, and have then done their whole duty, and
expect the trees to go on bearing inexpect the trees to go on bearing in-
definitely. But soon a change comes. Their trees cease to bear to any extent and what they do produce are scabby, worthless culls. They begin then to realize that something is wrong, but what it is they do not always know. Their trees become moss-grown and covered with bark lice, fungous growths, etc. The thoughtful grower will turn over a new leaf and begin to htant for causes and remedies, and right here comes in the benefit of spraying for all
It would seem at this late day that there could be no necessity for any one to say anything about the benefits of spraying; but there will always be doubters and skeptics in regard to that as to all other innovations, and it is that I write this article. I hope to see the day when the northwestern Michigan apple will have the reputation that the apples of western New. York have enjoyed so long. Then we will no longer be obliged to seek a market for our fruit, as buyers will be only too anxious to get it. It is well, therefore scientists in the way of investigating diseases of fruit trees and the remedies therefor.
Being a practical rather than a theoretical horticulturist, you will not expect from me a long dissertation upon the subject under discussion. Theoretical knowledge is all right, but no good unless put into practice. Experience you know, is always the best teacher But spraying is no longer an experi But spraying is no proer an experi and has come to stay, It is a necessity, if we wish to raise good fruit. As asaid we wish to raise good fruit. As said vance but profer to give you mo ad actual experience knowing that most men would far rather have one man's actual experience for their guide than anything they might read upon the subject.
For years previous to 1894 I had scarcely a sound apple in my orchard Some years it was difflicult to get enough sound specimens to take to the county fair. They were a lot of scabby gnarly, wormy, worthless fruit. I was so utterly disgusted with it that I was
tempted to cut the orchard down. But tempted to cut the orchard down. But efits of spraying, I determined to give it a fair trial. I will confess that i was with a strong distrust in my mind, as a good deal that I had read came outfits, and I made considerable allowance for the claims made for the benefits of spraying. I now beg to apologize to the aforesaid manufactur ers, as they are far more of a blessing to the country than I was willing to give them credit for.
In my experiment I used Bordeaux mixture altogether, using it at the rate of eight pounds of vitriol and eight pounds of lime to fifty gallons of water, for the first spraying, which was done in April before the buds had started. This was for scab. The work was done very thoroughly, care being taken to wet the whole tree from the ground to the outermost limb. The second spraying was done just alter the blussoms were gone and the little apples were formed. The third application was made ten days later, with material just half the strength of the first spraying, and with three ounces of Paris green added to each fifty gallons, for the last two treatments. This was for the benefit of the codlin moth and it proved most effectual.
In order to determine for a certainty whether it was the spraying or good
cultivation or good luck that was to get the credit, if I had a good crop, left one tree of each variety (taking a row crosswise of the orchard) without spraying. The result was simply asbore a very hesy crop of perfect fruit the unsprayed trees kept only a smal portion of the fruit set, and that was scarcely fit for hog feed, betng small, scabby and utterly worthless.
I sold my crop in the orchard to an apple buyer at $\$ 1.56$ per barrel, he furnishing the barrels and doing his own packing. There were no seconds in the lot-all firsts-and these not culled out to exceed one bushel in fifteen, and they were left because they were too mall, some of the trees being greatl verloaded and not properly thinned. So it is perfectly apparent that overy olearly to the credtt of spraying.
Another result of spraying was that while the unsprayed trees dropped their foliage early in October, and appeared dead, the sprayed trees retained their foliage till snow fell, and while the untreated trees were mossgrown and scurfy, the sprayed trees were as lean and bright and healthy-looking as young trees just from the nursery The same difference could be noticed ast spring, and was the wonder of all ho saw it.
Another result, and to me most im portant of all, is the fact that I have an bundant crop this year, 1895, on the ame trees that bore so heavily last jear
One more valuable result is the keepng quality of sprayed fruit, my apple vears, or ever, in fact
You may be sure I did not neglect a ingle tree this year. I have not arge apple orchard, but have thought was too large till now. After my recent experience I almost wish my hole farm covered with apple tree have quite a large peach orchard aving marketed this year over a thouand bushels of peaches, but I believe here is more clear profit in a good pple orchara, if properly cuitivated nd cared for, than in a peach orchard or, while a peach orchard will yield eturns sooner than an apple orchard, it will be about worthless at fifteen or sixteen years of age, while an apple tree, if set out by a young man just tarting in life, will bear him fruit his whole lifetime, a continual sou
proft tand pleasure and comfort.
But I wish to impress more
But I wish to impress more thor oughly upon your minds the adage, that whatever is worth doing is worth do-
ing well. In no work in life does it more apply than in spraying fruit trees. The pictures so often seen in advertise ments in agricultural papers of a man standing on a wagon and driving through the orchard, throwing a little spray upon his trees as he passes them, is a delusion and a snare. In order to do thorough work you must go all around your trees, and throw spray from every direction and not depend upon just throwing a little upon the ops of the trees, as the foliage will
keep the spray from reaching the keep the spray from reaching the good in destroying codlin moth

Thayer's Berry Bulletin for February, 1896.

The growers of berries for marke should realize that ordinary farm methods are not sufficient. Berries cannot be grown and marketed as easily as wheat, corn and potatoes. Berry growing like market gardening, requires the greatest concentration of good soil, labor and thought.
Too much land is the bane of most fruit-growing as well as farming. Success would be more certain if acreage were divided and fertility, preparation arming are the diamond drills that bore out uccess.
Take counsel from books, papers and practical growers, but let it be tempered with your own best judgment and practical experience should go mence moderately and go slow. Do only what oan be well done. Nothing ut the best product will pay. Use a limited variety of best plant
producing large, firm, attractive fruit Have a note book ready and make a complete record of all facts and dates has been mastered, producing one o two hundred bushels of best fruit, then acreage may be increased.
Few realize the actual cost of bringing an acre of bush berries to a good baring age-be careful. You may and in a high state of cultivation every acre of good small fruits, well et, missing hills filled in and brought to bearing age, will cost from $\$ 120$ to $\$ 150$ in well-earned dollars or their equivalent in honest work at $\$ 1.25$ per day.
Tho following estimates of one acre of blackberries is made after many years experience on "The Thayer ruit Farms," and indicates method adopted:

## Howroming four times Harking and laying on

Ratis. piants
Hotivating fitteen time

Total expense, first year.

Hoent throe timee ...............
upping and praning.
molehing and manare


Total for two years................ 8150,00
In favored localities, something may be saved on cost of manure, labor, omitttempt to reduce amount ot But any tilizer, mulching, etc., will certainly result in realuction of both quality and quantity of fruit.

## Asparagus.

EDiton Kansas Farmpr:-Will some of
He KANSAS FARMER readers give he KANSAS FARMRR readers give me a duce fruitt to gll a information will be thankfully received.
May the grand old Kansas Farmer prosper this year mo
Marion, Kas.
Marion, Kas. Subsoriber. In "How the Farm Pays," by William lowing is given on asparagus:
"This is, perhaps, one of
Hof is, perhaps, one of the most The rason gerables that is cultivated. The reason for this is the fact that bebefore it rives a full crop, cult years before pelled by nocessity thet are compelled by necessity, that they wIll plant only such crops as give them a return the first season. That being
the case, comparatively few plant asparagus, and hence the supply is rarely qual to the demand. It is a plant of the easiest culture, only requiring, as nearly all vegetables do, a deep soil and liberal manuring. The usual method has been to transplant the as-
paragus into beds five feet wide, with three rows planted in each bed, one in the middle and one on each side, a foot distant, thus bringing the rows one loot apart, with alleys two feet wide in the rows nine inches apart. In planting, a line is set, and an opening made a little slanting to the depth of six or eight inches, accoraing to the size of the plants. The plants are then rid against the side of this trench at a distance of nine or ten inches, care being taken to firm the roots well with the foot. The plants should be covered with about three inches of soil, and immediately after planting the beds should be touched over with a rake, or, if on a large scale, the brush harrow, which will destroy the weeds. This raking or harrowing should be continued at intervals of six or eight days until the plants start to grow, when the hoe or cultivator may be applied between the rows and alleys, but plants must of necessity be taken away with the hands. Another method, and

## A THOUGHT THAT KILLED

A MAN
He thought that he could trifle with disease. He was run down in health felt tired and worn-out, complained of dizziness, biliousness, backaches and headaches. His liver and kidneys were out of order. He thought to get well by dosing himself with cheap pills. And then came the ending. He fell a victim to Bright's disease! The money he ought to have invested in a safe, reliable remedy went for a tombstone. The thought that killed this man

## HAS KILLED OTHERS.

Statistics show that $\rho 0$ per cent. of the deaths from pneumonia, Bright's disease and similar complaints are caused from derangements of the liver and kidneys. These great organs keep the blood pure and in healthful motion. When they get out of order the blood becomes poisoned, the circulation impeded and the whole 'system speedily breaks down. It is

## A DANGEROUS IDEA

## to imagine that pills can strike at the

 robt of these diseases. It has been thoroughly proved that such remedies are worse than useless. There is only one remedy which can always be depended upon. This remedy alone can act on the liver and kidneys when they are out of order, clear out the system and build up the health. The name of this remedy is Warner's Safe Cure. It is the only standard remedy in the world for kidney and liver complaints. It is the only remedy which physicians universally prescribe. It is the only remedy that is backed by the testimony of thousands whom it has relieved and cured.There is nothing else that can take its place.
which would probably be simpler for the farmer to pursue, is to.line out just as for turnips or mangels, the lines being three feet apart, in which the asparagus seed should be sown about the first week in April by a seed drill, using at the rate of six pounds to the acre. This would be less expensive than the roots, both in labor and seed In the beginning, in most cases it would probably not be well to plant more than one-fourth of an acre, but to be sure o getting a stand not less than two pounds of seed should be used for a quarter of an acre, the seed or which would cost about 81 , while the plants
for that amount of land would cost at ior that amount of land would cost at
least $\$ 10$, and there is more labor in least 810 , and there is more labor in
planting the roots. The advantage in planting the roots. The advantage in
using the plants, however, is that a uing the plants, however, is that a
year's time would probably be gained, year's time would probably be gained, as the plants are usually from one to
two years old when planted. If the asparagus crop is to plant from seed in this way it is all-important tha the ground should be kept clean.

It is no use putting in the crop un less provision is made for keeping down the weeds. Otherwise they would inevitably be destroyed, as it is a plan of comparatively feeble growth for a month or two. The seeds will come up thickly in the rows, and should then be hoed out to a distance of six inches be tween the plants. If the ground has been put in proper condition by plowing, harrowing and manuring a partia crop will be got the third year from the time of sowing, and a full crop the fourth year. After that the asparagus
bed, with a top-dressing of two or three inches of manure every fall, will last for a lifetime. I have seen beds that have been in culture for over thirty years without abating an iota of their vigor. Asparagus when old enough to give a full crop, in the vicinity of New York brings annually about $\$ 500$ per acre, the labor costing, at the extreme figure, not over $\$ 100$ per annum, 80 that a clear profit of $\$ 400$ per acre can be made each year. The kind now which should be grown to the exclusion of all others. It is generally known that the part used of the asparagus is the young bud or shoot coming up, which is cut off when it is five or six whiches above the ground. It varies in thickness from half an inch to an inch and a half, and is tied in bunches usuand a half, and sheighing about one pound each when sold in the market."

## In the Dairy.

Connuoteo by. A. .. Joniss, of Onkiand Datry
How Milking Breeds Are Developed. In a recentaddress by Professor Primrose, of Scotland, he gave the following rose, 11 ustration on the development of milk ing qualities of the cow
" There can be little doubt that the milking of cows has.done a very great deal towards the development of their milking power. Mall a stantity of milk is compaired by the calf, and it in drawnout required by incervals. When the tis at irregular intervals. When the tis sues and vessels a a swelled with material ready to become transposed into milk, and the transposi tion is not allowed to take place by the withdrawal of some at the teats, thi material becomes re-absorbed by the lymphatice back into the general circulatory system of the cow, and the se creting power of the cells of the udder becomes weakened and the cow would gradually dry up. This is what happens when a calt sucks its mother, and thus suckling prevents the development of deep milkers, and checks those which are deep to begin with. We intentionally put this principle into practice when we 'dry off' a cow; we do not milk her at all unless she is distressed with an extended milk bag, and the secretion of milk soon stops altogether. In the artificial milking of the cow we draw off all that she can possibly produce, and far more than any one calf could need, and thus give the secreting tissues free play; and, from the action of the natural law that exercise develops the exercised part, either in the milk vessel of a cow, or in the calf on the leg of a man bred among the hills, the udder is stimulated to yield more. Quickness, quietness, gentleness and other conditions relating to the art of milking all help this development; while our artificial treatment in the way of eelecting the individual animals, hoo other influences improving the milk secretion.
Commenting on this, Wallace's Farm Dairy says: It does not follow from this that we should undertake to build up a breed of dairy cows from the founmilking capacity is capable of being milking capacity is capable of being must milk to hold on to what we have as well as to go on to perfection, improvement will be a slow process indeed unless we avail ourselves or the likes of something similar."

Maintaining the Milk Flow. When cows are given shade and cool less food to make the necessary milk and flesh, hence the great value of a shady pasture. When the grasses fail they should be supplemented with fodder corn, oats, rye, sorghum, Kaffi corn or some other grain or grasses, so maintained. If this be done no com plaint will be heard about the ingratitude of cows, the milk shrinkage and the losses in dairying. The cows will not merely respond at once to better not merely respond at once to better treatment, but they will be in better
condition for the fall campaign, instead
of requiring till winter to recuperate from the summer heat, flies, scanty pasturage and insufflcient water supply. It will soon be time again to think about the forage crops we are to raise the coming season and make such arrangements as will give us the most
feed for the time and labor expended.

## Butter in a Minute.

A wonderful dairy machine is said to be on exhibition in England. This machine, the invention of Herr Salenius, a Swedish engineer, makes butter in about a minute from sterilized milk diseet. The milk is heated in the sterilizer (or Pasteurine, as ítis called) to 160 degrees Fahrenheit, and runs thence into the cream-skimming chamber of the machine. As the cream is skimmed it rises down to 50 dining chamber, jog means of very small cooling frames, through which iced water constantly passes, and which revolve with the skimmer at the rate of 6,000 revolutions pe minute. The cream is forced into a tube perforated wich it emerges with great force on to each fresh layer of oream that rises, to each rresh layer orting it into butter by concussion. converting in into buttor by The butter thus formed on granules merges from a spout into a tub, mixed with buttermilk. When all the churning is done a wooden stirrer is passed $u_{i}$ and down gently for two or taree min utes, to make the bulter separate fro The greater part of the buttermilk. The butter ls then taken out and passed through a butter-worker, which
squeezes out most of the buttermilk remaezes out most in it, after which it is placed remaining in it, after which it is placed a n ice for two hours, and
little more and made up. Several adlittle more and made up. Severamarkvantages are claimed fir tair to create revolution in butter-making upon a large scale. In the first place, by Pasteurizing the milk, disease germs if any are in it, are destroyed, as well as the microbes which cause the putrefaction of the butter. The process of butter making is so rapid that there is very oxist in the atmosphere of the dairy getting into the butter, especially as ali, or nearly all, air must be forced out of the chambers of the machine. When the butter is once pressed the possibility of germ impregnation is aimost eliminated. Thus a wholesome Another -keeping butter is pilk can be converted into butter directly after being obtained from the cow, and yet another is that there is a considerable "radis of labor, when the use of the ordinary separator and churn. It is as serted that this machine has been in use for several months in butter factories in Sweden and Finland. The dem onstration of its merits in Lonáon cre ated a sensation among the dairy farm ers.-St. Louis Globe-Democrat.

Eleven Mortgages on One Oow.
There are tricks in all trades but ours," remarked the carpenter, "and we sometimes drive screws with a ham-
mer." A few days ago, not more than mer." A few daye ago, not more than
a thousand miles from here, a collector called on a farmer for the payment of a note secured by chattel mort gage. The farmer was obdurate and gave no satisfaction that he would ever
pay the note. Finally, the collector pay the note. Finally, the collector said, "Well, I'll have to take the eleven cows named in the mortgage." no, you haven't got a mortgageon eleven cows on this farm." "Why, yes I have."
And the collector pulled out a copy of his mortgage and read as follows: "One red and white cow, one cow spotted red and white, one red cow with white spots, one cow with white spots on forehead, onered cow with two white hind feet, one white cow with red spot on side, one red and white cow, one red cow with wo white front feet, one white cow with red spot on shoulders, one red cow with white spot on hips, one white cow spotted red. Now, how do you like that ?" continued the collector. "Oh, that's all right; I see you've got eleven mortgages on my old red and white cow; there she is down in the pasture; the boy, will go down and help you catch her."
Sciatica and lumbago readily yield to duce the desired result. ${ }^{\text {Try }}$ it. ${ }_{25} 5$ cents.

## A Good Law

The Board of Health of Hartford Conn., imposes a 850 fine for the sale of milk drawn from cows ten days before parturition or five days aiter from an mals fed on distillery slops or other improper food. That is right, and it is a pity that every city or State has not such stringent legislation against the sale or use of such milk. Some cheese actories are said not to be particular in this matter, and some creameries unwittingly accept it when it comes mixed in with a patron's supply. What effect it has on quality, we cannot say, but condemned.

## A Pointer.

Mr. Goodrich, a noted dairy writer, tells of his conversion to the debatable practioe of feeding meal to cows while on good pastures. He did not believe it paid, but he saw so many of the best concluded to try it against his own convictione and in the face of the ridicule of his neighbors. The result was, to his mazement that at the and of the year, wes fitty pounds of butter per cow h the prove rears record, head of the previous year's record, hough hill or its richnesg at the the fow of milk or its richness at the ime the cows good staying quallies up to the last of the season, and it is amazing how much there is to be gotten out ol the tail-end of the milking season with good previous care. Mr. Goodrich say that he figured it out that he got a return of two dollars for every dollar he paid for the meal he fed while the cow were at pasture.
There is one "resolve" that should have been made at the beginning of the new year by every butter-maker, use of tobacco in every form while at work. If smoking or chewing must be indulged in, do so when off duty, but it is better to discontinue the habit altogether if you intend to stay in the butter business.
Some of the old Kansas friends of Henry Wallace, formerly editor of the Iowa Homestead, will doubtless Tike an opportunity to continue to read the manations from his able pen. He is By special arrangement we are able to By special arrangemer and Farm and
send KANSAS FARMER and Dairy for one year for \$1.25.

No Room for Doubt
When the facts are before you, you must be convinced.
The facts are that the UNION PACIFIC is leading all competitors, is the acknowlcar line of the West.
The line via Denver and Kansas City to Chicago in connection with the Chicago \& Alton railroad, with its excellent equipment of Free Reclining Chair Cars, Pullman Palace Sleepers and Pullman Diners, demands the attention of every iraveler to the East. Ask your nearest agent for tiekets
E. L. LoMAX, his route
42 Gen. Pass. and Ticket Agent.

## Epilepsy 20 Years.

## Cured by Dr. Miles' Nervine.

 A few years ago, Mr. L. W. Gallaher, wasan extensive, successful expert manufacturer of lumber products. Attacked with epilepsy, he was obliged to give up his business. The attacks came upon him most inopportunely. One time falling from a carriage, at another down stalrs, and often in the street. Once he fell down a shaft in the mill, hisher injurites from Milwaukee, Feb. 16, '95.

phere are none more miserablo than epl leptics. For 20 years I suffered with epileptic fits, having as high as five in one night. tried any number of physicians, paying to
one alone, a.fee of 8500.00 and have done ittle for years but search for something to elp me, and have taken all the leading medies, but recelved no beneft. A yearago my son, Chas. S. Gallaher, druggist at 191 Reed St., Milwaukee, gave me Dr. Miles Restorative Nervine, and I tried it, with gratifying results. Have had but two at since I began taking it. I am better now in every way than 1 have been in 20 jears. Dr. Miles' Remedies are sold by drugglste will positif guarie refunded. Book on the Heart and Nerves free Address

Dr. Miles Medical Co., Elkhart, Ind. Dr. Miles' Remedies Restore Health.
COUGHS AND COLDS
 ELLY BROTHERE, 68 Warren St., New York

Market Gardeners Recommend Matthews \& New Universal Model Hand

- Seeding and Gulitivating Implements $A$ dozen styles. (ाती Thin THE BEST 4
Only oombination One and Two Wheleler made.
One wheel or seeding insures most finished work.



## $\left\{\begin{array}{l}\text { KNOKK } \\ \text { THE } \\ \text { A sore spot, green, } \\ \text { black, or blue, Ba a }\end{array}\right):$ SPOTS Use ST. JACOBS OIL and wateh the oolor for IT Is MACICAL.

VERMONT IS O. K., as usual.

, the annual meeting of the Vermont Dairymen's Assoch awarded

Creamery Sweepstakes, Grand Sweepstakes,
GOLD MEDAL

## U. S. Cream Separator.

We have already advertised the result at the Granite State Dairymen's Association, Dec. 26 and 27 , 1895, which awarded
First Prize and Grand Sweopstakes to butter from
oream goparated by the U. S. SEPARATOR.
The United States separator Stands on Its own Bottom.
PRICES, $\$ 75.00$ AND UP. Made under patents owned exclusively by us. Betware of im
tating and in fing ing machines
VERMONT FARM MACHINB CO.,

Publishers' Paragraphs. Every breeder in Kansas should have 张
Brecter's Gazette (price \&a a year) and tie KANsAS FARMER ( $\$ 1$ a year). Both journals are furnished by us for the price of one paper, viz., 22.
Those who have ordered leveling instruments from this office recently will experience a little delay on account of the exhaustion of the stock. Another invoice is on the way, however.
Former patrons of Jansen Nursery, of Jansen, Neb., will flid Geo. B. Galbraith's advertisement in this issue of the FABmbr. All who have dealt with the proprietor know anle man and can depend on his stock being as represented.
Replying to inquiries as to the address of the Huntington Seed Co., an account of
whose vineless sweet potatoes was last week copied from the Indiana Farmer, the publishers will say that the address of this excellent seed company is Indianapolis, Ind.
Evergrern Nursprises.-The Evergreen Nursery Co., Evergreen, Wis., have out and assortment of evergreens in America. They ofter a special discount of 10 per cent. on all cash orders received before February 25, , 1896. Look up their advertisement and get th
Kendall Spavin Cure-Seems to have had a remarkable success in Kansas where tried. It is not only a useful remedy for horses, but when reflined has proven a good
remedy for man. A case in point is J. C. Hobson, of Tehama, Kas., who was cured of an old case of the enlargement of his right ankle by using the refined Spavin Cure.
The twenty-sixth annual catalogue of the fowa seed Co., of Des Moines, Iowa, is a reliable calion and we are assured by his has had careful thought and attention to make it strictly accurate and reliable in every respect. It is a complete seed catarequest is all it costs. It is especially strong on corn.
R. M. Kellogg, of Ionia, Mioh., a propa gator of small fruit plants,who has given at
tention to breeding up his plants and whose booklet on this subject two years ago attracted much attention, has an "ad." in this paper. He has had experience with drought since his book was written which has doubtiess given him vaiuable pointers on the importance of breeding drought-re sisting qualities into his plants. It will be
worth while to get his views on plants adapted to various situations. He is a good man to write to on advanced horticulture
Sprcial Want Column-Is the name to be given hereafter to our old "Two-cen
column," which has made thousands o dollars for our readers for a very smal outlay. "Man wants but little here below," but he has many special wants that others
can readily fill if they only tnew it, or he can readily fill it they only knew. it, or he
has something he is anxious to sell or exhas something he is anxious to sell or ex-
change that somebody else wants. Many thousands of enterprising people read this bargains and other special wants. Subscribers to the "Old Reliable" get a special rate, less than one-half our regular disp'ay rates.
How to Make Seasonable Ranns-Or to make rains seasonable is to subsoil deep, they come, and holds them in store for the crops. Surely that makes them seasonable. Whether they come early or late, it is all the same; you have them in the right spot Really it is better under these conditions if the rains do come early or late, as you then would have ample time to cultivate at the time cultivation is most needed. Deep subsolling has done that, is doing it and will do it for any one who has the nerve to do the work. We admit it does take muscle, but not much money. We are glad of the latter, these times. It is also a relief fo

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Park City. E. L. Lomax, G. P, \& T, A., Perk City. E. L. Lomax, G, P, \&T, A.,

## THE STRAY LIST.

FOR WEEK ENDDING JAN. 16, 1896. Wilson county-V. L. Polson, clerk. STBER-Taken up by. Orval Jofrere four milee
 Elk county-S. D. Lewis, clerk.



Coftey county-T. N. Bell, clerk. HRIFRB-Taken up by Jacoo Crothere, in gpring
 Groek tp. one light red stoer, 1 year old past, bual
of tall witte, no other marke or branda. FOR WEEK ENDING JAN. 23, 1896. Rush county-W. J. Hayes, clerk.

 Bolt, abou
Chen ach
Cheroke
Cherokee county -T. W. Thomason, clerk.
 Hodgeman county - John L. Wyatt, clerk. TWO Cows AND A CALF-TakKn up, by J. B.
 left hip Fith
hip; valued at 830 .
Cheyenne county-G A. Benkelmant clerk.



 Labette county-J. F. Thompson, clerk.
 Haokberry tp ideeomber in, 180, two small male
 NULEBy zame one brown marem muil, ${ }^{2}$ y yaur FOR WEEK ENDING JAN. 30, 1896. Doniphan county-W. H. Forncrook, clerk.


veterinary surgeon.

 antmals at ofore or

DOGS.
Highiand mennels, Toperai Kas-Grent Heepatakes winner, Groet Dane King Wpillian, in 130, remedies by mall. Correspondencee sollititea.

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## UNUSOALLYEADY

STAMPFICES.
E. C. MEACHAM ARMS CO., ST. LOUIS,



Kansas City Grain. Kansas Crix, Jan. 27.-Wheat was sold
to-day at about Saturday's prices. There was to-day at about Saturday's prices. There was
little disposition among elevator men to buy poor samples, except at very low prices. Mil orders took all the good wheat,

## 12 cars.

Sales were as follows, track, Kansas City:
Hard, No. 2,5 cars 640,5 cars to arrive 634 ,
 $40 \mathrm{c}, 1$ oar 480,1 car $47 \mathrm{c}, 1$ car 480,4 cars 450; rejected, nominally 409420 no grade, nomi-
nally 850 . Soft, No. 2 red, nominally 719750 ; No. 3 red, nominally 65@70; No. 4 red, nom-
inally 65 a 600 ; rejected, nominally $50(0530$.
 prisg, No. rejected, nominally 45@550; white
cars 6io; real spring, nominally 50 a 60 c .
Corn was
No
Cora was $1 / 30$ lower than at the close Satur-
day. There was a good demand for it at that dey. There was a good eme, with moderate offerings. There was ilttle trade in futures. White corn was scaroe, and worth a small premium over mixed. Sales of futures were as follows: January, 10,000
bushels, $23 \%$ : February, 15,000 bushels, 230 ; Mushels, Minally, 250 .
Receipts of corn to-day, 104 cars; a year ago,
Sales by sample on track: No. 2 mixed Sules by sample on track: No. 2 mixed, 4
cars $24 \mathrm{c}, 19$ cars $23 \%$ \%; No. 3 mixed. 2 cars $23 \% 0$, 2 cars $23 \% 0,3$ oars 230 ; No. 4 mixed, nominally 22di2YYs; white corn, 3 cars 24c.
Oats were held firmly. There were few on sale, and demand was fair.
Recelpts of oats to-day, 5 cars; a year ago, 6 cars. $\quad$ Sales by sample on track, Kansas City: Na 161/ a17o: No. 4, nominally 160: no grade, nominally 13@14c; No. 2 white oats, nominally 18 @19\%0: No. 3, nominally 18a
Hay-Receipts, 55 cars: market steady. Timothy, ohoice,
No. $2,87.50 @ 90.00: N o . ~ 3,85.00 @ 6.50 ; ~ f a n c y ~ p r a i r i e ~$ 87.03; choice, 86.00.00.50; No. 1,85.50@a.00. No 2, 84.50@5.00; paoking hay, 83.00@4.60.
st. Louls Grain.
Sx. Lours, Jan. 27 .-Recelps, wheat, 16,722
bu. last year 16,000 bu.: corn, 58,000 , bu bu., last year 16,000 bu.: corn, 58,003 , bu., las
year 21,000 bu.: oats, 37,000 bu., last year 106,70, year 21,000 bu.; oats, 37.000 bu., last year 106,70
bu.: shipments, wheat. 7,988 bu. : corn, 22,466 bu. oats, 16,225 bu. Closing prices: Wheat-Cash
67c bid; February, 620; May, 63i/ $86 \%$ c: July
 26\% i 26\%o; July, 28 c .
ruary, 18\%c; May, 20\%c.

## - Kansas City Produce.

 extra separator, 190 firsts, 17 $\overline{1180 ;}$ dairy,
fancy, 150: fair, 13 c ; store packed, fresh, 100
120; off grade, 80; country roll, fancy, 120; 120; off grade, 80: country roll, fancy, 120,
choice, 100.
Eggs-Strictly fresh oandled stock, $12 \% / \mathrm{coper}$
doz.
 pigeons. 60 o per doz.
Fruits-Apples, fancy, 82.25 @2.50 per bbl;
choice. $81.75 @ 2.00$; common to good, $81.00 @ 1.50$ choice. $81.75 @ 2.00$; common to good, $81.00 @ 1.50$
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ingurises relating to this department should be adInguirire

## Italianjzing Bees.

Any colony of bees may be changed to pure Italian stock by simply removing the old queen and introducing an Italian queen in her stead. In two or three months the stock will be pretty much of the new queen, and pure Italian. Introducing is very easily accomplished if bees are in frame hives, but it is not impossible to do in any hive. To make this change the old queen must first be removed; and she should either be killed or securely caged, for she will surely return to the hive if released. If the queen to be introduced is received from a good, reliable breeder (as she should be), the cage she is received in is sultable for introducing her. If not, a cage of wire cloth large enough to hold the queen and a dozen bees may be made and the queen placed in it. This cage should be fastened in the combs among the bees, and left for twenty-four or thirtysix hours, at the end of which time she may be liberated.

Winter Passages Over the Frames,
It should be borne in mind that some arrangement should be made so the bees can pass from one comb to another, in order that they can reach their stores without having to go around the ends or bottom of the frames. In a long spell of continued cold weather it is impossible for them to leave the cluster and travel around the frames of comb to reach their honey; hence many colonies have starved to death on account of this, when plenty of honey was yet in the hive. The remedy for this formerly was to cut holes in the combs for passage-ways, but as this dotroys the comb to some extent, another device has been substituted which is as good and in some respects even better As the heat of the bees naturally rises upwards, this pass-way can be made over the frames in the shape of an mpty chamber raised abouta hall inch bove the frames. Pleces of wood one half inch square and eight or ten inches long placed crosswise on the frames and covered with the ordinary quilt will answer the purposes. The usual chaff cushion should be placed on top, or a packing of loose cha
the depth of six or eight inches.

Wintering.
It does not pay to winter bees on their summer stands without protection of some kind. Two methods princellar and chaff bives Manse are the cellar and chaff hives. Many are now very successful in wintering in the cellar, but it requires considerable experience, and perhaps the safest method for the inexperienced is to use chafi hives. These hives may be had of any of the supply dealers, or you can make them readily yourself.
know many farmers who use dry-goods know many farmers who use dry-goods
boxes, and when properly arranged boxes, and when properly arranged are a good substitute for chaff hives, and at a very small cost. Any such box that is two inches or more larger at sides and ends, and eight or ten inches higher than the bee-hive will answer the purpose. This space is for packing chaif around the hive of bees arter setting it in the large box. An box to correspond with the entrance in the bee-hive, so the bees can pass out and in at will. The lid should be removed from the hive of bees, a cloth placed over the frames, using the pass-age-way, as mentioned in another place. fll the box full of loose ar well pressed down, and cover well to keep the chaff dry

The Ripening of Honey:
Many beekeepers have gone to considerable trouble to provide solar evaporating tanks and other means to ripen their honey, and, while it nay be necessary in certain localities and with some kinds of honey, the average beekeeper will find that if he will provide plenty of combs the bees will ripen and seal
the honey under the cheapest and best possible conditions, and if extracted
and run into vessels that can be covered tightly, so that it cannot absorb moisture from the atmosphere it will retain the flavor and aroma that is so procured under these conditions will create a market for itself if properly put up and brought to the notice of the consumer.

Bee Notes.
Granulated sugar should always be used for winter food.
It is the bees reared in the fall that we have mainly to depend upon during the winter and spring.
During the winter the bees shoiould occupy the combs in the center and the honey around them.
Each colony should have a frame or wo of brood, for it is the bees hatched in the fall that survive the winter.
The objection to leaving honey in the combs late in the fall is that it is apt to become dark in color
If bees are to be wintered in cellars, care must be taken to have them dry, as dampness induces disease.
More bees are.lost on account of bad food or none at all than from all other causes combined, especially in winter. There is no factor in wintering bees that is so important as the matter of food, and it is one that is often neglected.
It is often the case that there is more or less robbing while feeding in the fall and it is an almost certain indication that something is wrong.
All colonies in a good condition at this time should have a portion of brood in the combs, and if this is not the case something is wrong with the queen. Quietude is one of the essentials in
successfully wintering bees, whether in successfully wintering bees, whether in or out of doors. Never disturb them except when strictly necessary
One way of making a nice entrance during the winter to the hives of bees is to spread sawdust over a considerable surface in front of the hive and filling up level to the entrance.
Mice are very fond of honey and will soon clean out a colony. Before winter begins, it will be a good plan to fix up the hives so that it will be impossible for mice to get in.-St. Louis Republic.

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