

# KANSAS FARMER

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## "GREEN BUGS" AND THEIR DESTROYERS.

LUMINA C. RIDDLE-SMYTH, PH. D., TOPEKA, KANS.

So much space in the daily papers has been devoted to the "green bug" and so many inquiries have been made concerning its identity that it is a pleasure to comply with the request to tell something of the life history, relationships, habits, and enemies of this unwelcome visitor. The insect which has wrought such havoc this spring is known to scientists as *Toxoptera graminum* Rond. It belongs to the order Hemiptera. This order is usually subdivided into three suborders; the true bugs including the familiar water-bugs, bed-bugs, box-elder bugs, etc.; the parasites or lice; and the group including the cicadas, leaf-hoppers, scale insects, and plant-lice, to the last of which *Toxoptera* belongs.

Plant-lice are familiar pests in all parts of the country and on many different plants. They always do more or less damage, especially when the plant attacked is of any economic importance. The exceedingly small size of the insects enables them to do considerable damage before they are noticed. They rarely attain to the size of one-fourth of an inch and many are only one-twentieth of an inch in length. They are usually green in color, especially if feeding upon the green part of the plant; and this is another reason they are so inconspicuous. The body is more or less pear-shaped; the wings, when present, are four in number, delicate and transparent, and the first pair is the larger. They have three small simple and two large compound eyes, slender antennae, and on the sixth segment of the abdomen is a pair of honey-tubes which give out a sweet excretion called "honey-dew," of which ants are very fond. This honey is produced in such abundance that the presence of aphids or plant-lice can often be detected by the sticky spots under the tree. This can be seen almost any day in Topeka under the box-elder trees, which are infested with an aphid, *Chaitophorus negundinis* Thom.

It is reported on good authority that ants will carry the eggs and the adult females into protected places for the winter and in the spring replace them on their chosen food-plants and protect them from enemies, stroking them

on the back with their antennae until the drops of honey exude, and then gathering it. For this reason aphids are often called "ant cows."

The life histories of the different plant-lice are very similar. The adults may be winged or not. Just when to expect winged individuals is hard to predict. Often the males as well as the females are wingless. Males and egg-laying females

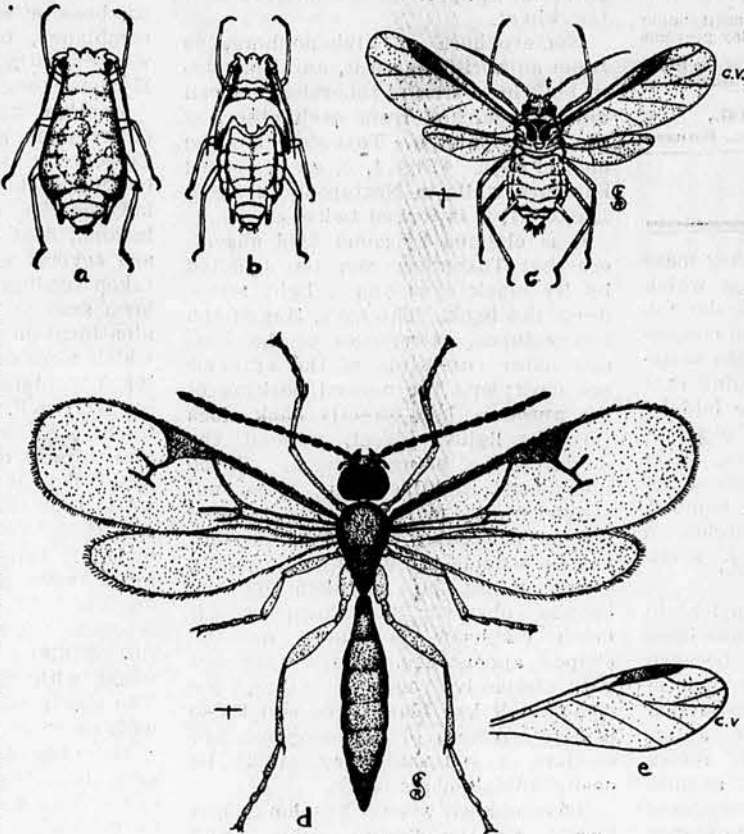


Figure 1.—a, wingless female of *Toxoptera graminum* with larval parasite showing through body wall; b, pupa of *Toxoptera graminum* (note the wing pads); c, winged adult of *Toxoptera graminum*; c.v., cubital vein forked but once; t, frontal tubercle; d, *Lysiphlebus* sp. (female), the parasite most destructive of "green bugs"; e, wing of *Nectarophora* showing cubital vein, c.v., branched twice. (All from original drawings.)

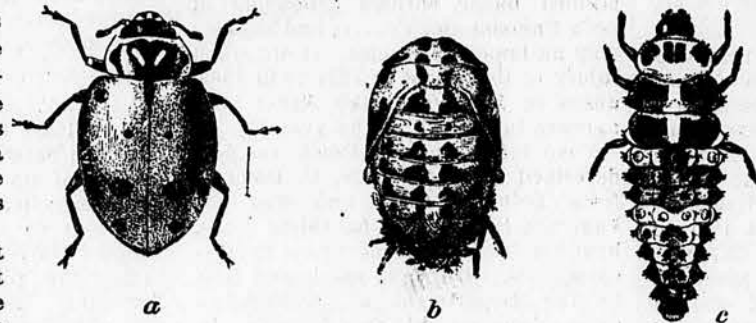


Figure 2.—a, adult; b, pupa; c, larva of lady-beetle, *Hippodamia convergens* Guer. (From Chittenden.)

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## KANSAS FARMER.

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usually appear in the fall. They mate and the female lays a few eggs which do not ordinarily hatch until the following spring. The females congregate during egg-laying; and this sometimes leads the observer to think that the large number of eggs are laid by a single female, but careful observation has shown that one, two, or in some species four eggs produced by each individual is the usual number. From this fall-laid egg hatches a wingless individual called a stem-mother.

There are various terms applied to this wee insect that are sometimes appalling to the unscientific because of their length and difficulty of pronunciation. She is said to be viviparous, parthenogenetic, agamic, apterous, etc. The term "apterous" refers to the absence of wings; agamic means that she is what is sometimes called a "virgin mother" and produces young without union with a male insect; "parthenogenetic" is another way of saying the same thing; and the term "viviparous" means that the young do not hatch from eggs but are born alive.

Now this odd method of reproduction has been carried to a remarkable extent. These stem mothers give birth to living young when about one week old, and these in turn mature in the same length of time. The period during which a female continues to bear young is usually from two to three weeks. Usually the offspring have no wings but after moulting three or four times during growth become mothers. Still we can nearly always find some winged individuals in a colony and these winged forms are the migratory females that seek new feeding grounds and facilitate the distribution of the species. The bringing forth of living young by virgin mothers has been recorded by European investigators through over one hundred generations without the occurrence of any males. It has been continued through four years by Cornell University experimenters and occurs normally in the field throughout the entire winter if the season is not too severe. The usual number born from a single mother in one day varies from three to seven. Enthusiastic mathematicians have consumed much spare time figuring up the num-

ber of descendants from a single mother during one season, the space they would occupy if placed end to end or side by side, their total weight, etc.

The insect now working on the wheat is not the only aphid that has done injury to wheat fields. There are three aphids which resemble each other so closely that chance observers would scarcely be able to detect the differences. The wingless individuals are still harder to separate. Entomologists, even, need the aid of a microscope to be certain. The three are known as Aphis mali Fab., Nectarophora avenae Fitch (Siphonophora granariae Kby), and Toxoptera graminum Rond. Prof. F. M. Webster has made careful studies of all three and found each and every one infesting wheat fields and not infrequently all three together, with one or the other predominating in numbers.

Aphis mali is known as the apple plant louse, but it does far more injury to wheat than to apples. The winged viviparous females migrate to the wheat when it first sprouts in the fall and feed near the ground on the stem. For the reason that it is of greatest injury to wheat in the fall, it is sometimes called the "fall wheat-louse." It can be distinguished from the other species by the absence of frontal tubercles on the head where the antennae are attached. This aphid lays its eggs on the bark of the apple tree and hence late fall and winter spraying of apple trees is beneficial to the wheat.

Nectarophora or Siphonophora, as some authorities give it, and Toxoptera both have frontal tubercles, but can be distinguished from each other by the wing venation. Toxoptera has the cubital vein (Fig. 1, c, c.v.), forked but once while in Nectarophora (Fig. 1, e, c.v.), it is forked twice.

It is claimed by some field observers that Toxoptera can be detected by its black eyes and a light stripe down the back. The eyes, tips of the honey tubes, extremities of the legs, and outer two-thirds of the antennae are dark; and the normal position of the antennae, laid directly back, does give the lighter effect, without the actual stripe being present. Specimens used in illustrating were not striped to any marked degree, at least not so noticeably as the stripe that can be seen in the aphid on box-elder, which might be mistaken by the chance observer for Toxoptera, if much emphasis is placed on the striped appearance. Black eyes are not distinctive marks, either, for Aphis mali has black eyes and those of Nectarophora or Siphonophora are so dark a red that they might be easily mistaken for black.

Nectarophora avenae has long been known as the "grain aphid," and "wheat plant-louse," and has from time to time done much damage to cereals, more especially in the middle and eastern States. It has been described under various synonyms in both England and France, and is probably an imported species. It did much injury to the wheat in Illinois in 1866, again in 1876; and like Aphis mali appears in the fall of the year.

Toxoptera graminum Rond. was first described in 1852 by Dr. C. Rondani from Bologna, Italy, and was not known in this country for thirty years, hence it is also considered an imported species. The first specimens sent to the Department at Washington came from an unknown locality. In 1884 they were reported again, from Maryland, and Professor Webster, then in Indiana, found them on some wheat which he was growing in an insectary for use in investigating another wheat pest. In 1890 they damaged the wheat in Oklahoma, Texas, Southern Kansas, Missouri, Illinois, and Indiana, Kentucky and Tennessee. In 1900 the southwestern wheat district, especially, Texas, had a visitation. It seems quite well demonstrated that the insect is present practically all the time, but various checks to its increase keep it usually in abeyance. It feeds upon wheat, rye, oats, barley, corn, orchard-grass, soft chess, and many of the common grasses. In fields it has been found in great numbers on

hawk-weed, Hieracium longipilum. It does its greatest injury in the spring season, following an open winter.

Fortunately there are many enemies that prey upon this pest. One which has a somewhat questionable reputation as a benefactor is the snowy tree cricket, Oecanthus niveus, one of the Orthoptera. This is known to feed upon the aphids, but the female does some injury to the canes of raspberry and blackberry by her egg-laying habits. This insect is rather common, a very noisy singer and hearty feeder.

Another group of enemies is found in the lace-wings, belonging to the order Neuroptera. These are delicate light green insects, one species having golden eyes, Chrysopa oculata Say. The eggs of this insect are oval and are placed singly at the extremity of a long hair-like stalk, usually in the midst of or near a colony of aphids. The larvæ have long curved tubular mandibles, which enable them to suck the juices from the body of the aphid. The adults have a very unpleasant odor that seems not in keeping with the beautiful lacy opalescent wings and pale green body.

Often among the colonies of aphids will be seen small brown and green worm-like larvæ busily feeding on the pests. These are the larvæ of a group of Diptera known as Syrphus flies. The adults are most beautifully marked with brown and yellow and are among the handsomest flies known. They are very often mistaken for bees or wasps because of their resemblance, but their single pair of wings distinguishes them from the Hymenoptera, which have two pairs.

Another family which furnishes enemies to the aphids is one of the order Coleoptera, called coccinellids, or lady beetles. There are many genera of lady beetles; and all, except one, Epi-lachma, feed on other insects. There are several species which have been taken feeding on aphids. There have been sent to THE KANSAS FARMER for identification six larvæ of lady beetles which were captured in the act of eating Toxoptera graminum, and sent in by Mr. D. P. Mills, of Eagle, Barber County, Kans. One had pupated before it was captured and was so injured that it did not emerge. Four were typically Hippodamia convergens Guer. (Fig. 2), while the sixth had only three faint spots on the anterior region of the elytra or wing covers, and is like a specimen in the State Museum taken by Eugene Smyth at Bill Williams Fork, Arizona, in 1903, while with Dr. F. H. Snow's party. The marks on the thorax are identical with those of Hippodamia convergens.

The illustrations will show the general character of the different stages of the lady beetle, and will enable one to recognize them in almost every case. Never kill a lady beetle, for they are among man's best insect friends, and if they had been present in sufficient numbers the "green bug" would have had no opportunity to immortalize its name in print, as has been done this year.

## THE CHIEF DESTROYER OF GREEN BUGS.

Last but not least in importance, though least in size, are the Hymenopterous parasites. There are several species of Hymenoptera that are parasitic on wheat-lice; but the one that has been so extensively used by the Kansas University this year in combating the green bug is one of the Braconidae, and is known by the generic name of Lysiphlebus (d, Fig. 1). Those who have studied it find it is an undescribed species. It is often referred to as Lysiphlebus tritici Ashm., and not unnaturally, for the rearing of that species from all three of the wheat-lice has been recorded by the Department of Agriculture at Washington, D. C. Just what the points of distinction are have not been reported. The methods of Lysiphlebus sp. are swift and unerring. When a healthy aphid is discovered the female takes a position over its body and thrusts its ovipositor or sting into the aphid's body, leaving an egg inside. The aphid usually raises its body from the normal position as if in pain, but soon begins feeding again. The work is done, however; for in-

stead of bringing forth from three to seven young aphids daily, all the nourishment goes to feed the worm-like larva which has hatched within her body. This is shown in the figure of the wingless female (a, Fig. 1). The presence of the parasite gives a yellow spot on the abdomen very easily seen with a hand lens; and the outline of its body can be seen within the body of the aphid under a compound microscope. The aphid soon dies, and its body becomes distended and papery-looking. At the end of a week there is a wee round hole and a lively bee-like insect flying around looking for other aphids. The number of eggs laid by a single Lysiphlebus has not been determined; but a single female has been seen to sting a great many aphids. At any rate the aphid once parasitized stops reproducing and within a week ceases feeding, is dead, and has been replaced by a living parasite.

Through the courtesy of Mr. Warren Knaus, of McPherson, Kans., and the entomological department of the University of Kansas, material was obtained for the original drawings. All of the aphids obtained from the University were parasitized. The package contained large numbers of the wingless form, some of the winged, a great many dead bodies, and several dozen very lively Braconids, besides numbers that had died on the way. The pupa (b, Fig. 1) was drawn from the material received from Mr. Knaus.

The parasite Lysiphlebus is exceedingly small, being less than one-sixteenth of an inch long. It is somewhat like a miniature wasp, but its wings when at rest are not folded, like the wasp's, but are laid flat above its back. The figure (d, Fig. 1) shows it with extended wings in order that the venation of the wings may be seen. The thorax is arched high above the head, and the abdomen well curved when in the normal position. It might be mistaken by one not acquainted with insects for a minute winged ant. The legs seem exceedingly long in proportion to the body, and the entire insect is very slender in appearance.

The small crossed lines near the enlarged drawings show the natural size of the insects figured.

## THE CONTEST WITH THE GREEN BUG.

The seriousness of the attack of the green bugs upon the wheat and oats crops is apparent from the estimates of experts who make careful examinations under pay from those who deal largely in grain on the large markets. The great advance in the price of wheat is partly due to the reports of these experts.

In view of the sweeping destruction of these grains by the green bugs in Texas, the serious and widespread damage in Oklahoma, and in view of the prevalence of green bugs in much of the Kansas wheat-belt, every intelligent effort to destroy them is important.

Under date May 7, 1907, Prof. F. M. Webster, of the U. S. Department of Agriculture, in charge of cereal and forage plant insect investigations, assures THE KANSAS FARMER that his assistants in the field in Texas, Oklahoma, and Southern Kansas "are working with might and main to, if possible, find out some way whereby the farmer could protect his crops from future attacks of this insect." They are making daily reports which have not yet been published, "as the investigation is not yet ended."

In a circular published earlier in the season Professor Webster indicates a reliance on the insects which prey upon the green bugs. Among those mentioned is the small parasitic bee, the lady bug, and the lace-winged fly.

It is understood that an account of its mode of attack, its activity, and its capacity for rapid multiplication, the parasitic bee is the chief dependence, and it has been suggested by at least one Government expert that in order to perpetuate this parasite and have it in readiness on the farm to attack the grain-louse on its first appearance, it may be well for each farmer to raise each season a small



ch of rape on account of the al-  
st unusual prevalence on rape of  
species of green bug which, while  
harmful to grain, will be used by  
parasite to perpetuate its race.  
But, while these valuable investiga-  
ons and plans for the future have re-  
ved merited attention, the problem  
aving the present wheat crop, or,  
least, of mitigating the threatened  
amage, was attacked by Prof. S. J.  
unter, of the Kansas State Univer-  
ty. THE KANSAS FARMER is so much  
interested in this worthy effort that  
e editor visited Lawrence one day  
st week to see what is being done.  
e found Professor Hunter a busy  
an and doing business with the sys-  
m of a veteran business man. In  
e few minutes while the editor sat  
eside Professor Hunter's desk, tele-  
one orders for parasites came from  
reat Bend, from Sterling, and from  
utchinson, the latter for a place in  
ratt County. A stack of mail orders  
so came in. On invitation the edi-  
r looked through a portion of these.  
ome of them had been forwarded by  
ecretary Coburn, others by President  
ichols, of the Agricultural College,  
at the great majority were directly  
om farmers, millers, and grain deal-  
rs. These orders were being filled as  
apidly as the express companies could  
andle the business.

This work consists of three parts,  
rst, securing the parasites and send-  
g them to the university; second,  
eeping them in cold storage ready to  
end out; and third, sending them out  
or distribution in the fields.  
To obtain the supply of parasites,  
he university secured a field of wheat  
ear Enid, Okla., which was badly in-  
ested with green bugs and in which  
he parasites were very numerous and  
ery active. This wheat was cut just  
elow the surface of the soil with  
harp hoes. The wheat plants, green  
ugs, and parasites were placed in  
boxes and sent to the university,  
here they were placed in cold stor-  
age to prevent the too rapid hatching  
of the parasites. Since they are easily  
affected by cold weather these sup-  
plies were kept in cold storage, until  
the effects of the snow storm had been  
succeeded by warm weather. At first  
there was some hesitation about send-  
ing these green bugs to fields not al-  
ready badly infested, fearing that the  
pest might be introduced where it had  
not been. But on placing great num-  
bers of the green bugs which did not  
yet show the effects of parasitism un-  
der conditions favorable for their de-  
velopment it was found that the little  
bee had done her work so thoroughly  
that apprehension was allayed. The  
materials contain not only the millions  
of parasites that came from Oklahoma  
but there is developed also a young  
parasite from each green bug that  
came from Oklahoma.

To send out the parasite, paste-  
board boxes about the size of mer-  
chants' shoe-boxes are employed. In  
these the wheat containing the green  
bugs and their enemies are sent by  
express to those who apply for them.  
To obtain an estimate of the num-  
ber of parasites furnished and devel-  
oped from the materials in each box,  
an examination was made on a 30-acre  
field in which a box of the Oklahoma  
materials had been used. After three  
days several plots, each one square rod  
in extent, were examined in parts of  
the field other than those in which  
the parasites had been placed. It was  
found possible on the average to count  
six parasites to the square rod. This  
would give 960 to the acre, or 28,800  
for the 30-acre field. If allowance be  
made for those not found it is easily  
believed that in round numbers 30,000  
parasites developed from one box such  
as is sent to the farmers. The rapid  
increase of these parasites, together  
with the fact that every egg they lay  
means death to a green bug, makes  
them the most efficient available agen-  
cy yet discovered with which to com-  
bat the pest.

The entomological department of  
the university is keeping complete re-  
cords of all the work and is making ex-  
haustive studies of every aspect of  
the life histories not only of the green  
bugs but of their enemies. The report  
at the end of the season should make

substantial additions to present knowl-  
edge of the subject.

There has been some criticism on  
account of the publicity given to Pro-  
fessor Hunter's efforts to save the  
Kansas wheat crop. The editor was  
anxious to learn whether there was  
any foundation for such criticism. It  
is to be observed that this work, much  
like the common operations on the  
farm, has to be done out of doors. It  
can not be kept from view like labora-  
tory work. Moreover, Professor  
Hunter was raised on a farm and has  
a farmer's frank and open ways. He  
does not seem to have any secrets or  
to think that he ought to conceal his  
efforts from his employers, the people  
of Kansas. On the contrary, if any-  
body asks him a question about any  
public work in which he is engaged,  
he answers promptly and without re-  
serve. Now, this may all be very un-  
professional and may enable the thrif-  
ty newgatherers to obtain foundation  
stock for most interesting and impor-  
tant, even though sometimes extrava-  
gant, stories. Yet THE KANSAS FAR-  
MER confesses a liking for this frank  
way. The editor also expresses a fer-  
vent hope that much of the threat-  
ened damage to the wheat crop may  
be averted and he entertains the fur-  
ther hope that the extensive investi-  
gations now and for a long time in  
progress at the university will result  
in such propagation of the parasites  
that kill off harmful insect pests of all  
kinds as shall avert much of the loss  
that has until now been suffered on  
account of insect depredations in  
growing crops.

The only shortage found by the  
writer at Lawrence was a shortage of  
funds. The enthusiastic and able  
young men who are doing the field  
and laboratory work are devoting their  
time; the railroads contribute transpor-  
tation for them, but like other mortals  
they have to eat. Some money has  
been contributed, but this little more  
than pays the bills for postage and  
other necessary cash expenses. On  
account of inability to feed them, Pro-  
fessor Hunter was obliged to call in  
two of his young men.

If the county commissioners of oth-  
er counties will follow the lead of  
those in Reno County and pay the ex-  
pense of obtaining the parasites, a so-  
lution of the financial difficulty will  
have been attained. This is a matter  
worthy the immediate attention of  
every board of county commissioners  
in the wheat-belt.

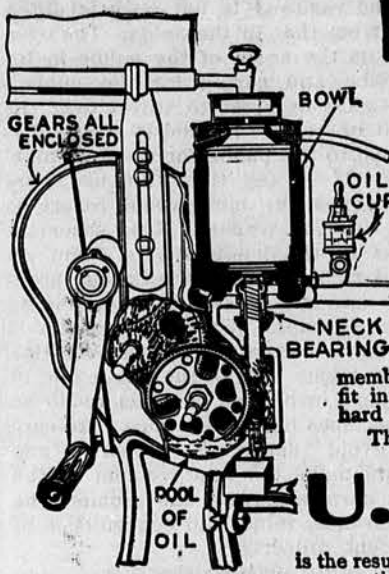
#### THE "KANSAS FARMER" LEADS.

THE KANSAS FARMER takes great  
pleasure in presenting, this week, a  
scientific discussion of the "Green  
Bugs and Their Destroyers," from the  
pen of Dr. L. C. Riddle-Smyth, of the  
Kansas State Museum. The descrip-  
tions of the green bug and its most  
efficient destroyer are illustrated from  
drawings made for THE KANSAS FAR-  
MER from the insects themselves by  
Dr. Smyth. There are several plant-  
lice or green bugs, some of which are  
liable to be mistaken for the one that  
is proving so exceedingly destructive.  
The descriptions and drawings will  
help those who have the use of mi-  
croscopes to distinguish the arch con-  
sumer of wheat and oats from the  
others.

The illustration of the "parasitic  
bee," which is the chief reliance in  
fighting the green bugs, is we believe  
the only accurate drawing yet pub-  
lished of this valuable ally of the  
farmer. It is drawn very much en-  
larged and with its gauzy wings ex-  
tended so as to show the distinguish-  
ing marks by which it may be defi-  
nitely recognized.

This minute friend is doing great  
work, and while it will not be able to  
save all of the wheat, its efforts will  
be continued as long as any green  
bugs are left, whether on wheat and  
oats or on corn and grass.

H. B. Kelly's discussion of the tariff  
question under the title "Licensed  
Loot, a Story of National Greed and  
Graft," is advertised in this week's  
KANSAS FARMER. It is a condensed  
history of public events running  
through a considerable period, with  
clear statements of the author's views



## Runs in Oil

Why do you oil any machine? To  
lessen friction and wear. A grind-  
stone will run fairly well and last quite  
a number of years if it is only oiled  
"once in a while." But a grindstone  
turns only about 65 times a minute.

Now every mechanical cream sepa-  
rator has a bowl that skims the cream  
from the milk by revolving thousands  
of times a minute. It's driven by gears  
which also turn at high speed. You see  
at once that unless all the working parts  
of a separator are thoroughly oiled they  
will soon begin to wear away, and re-  
member, that the gears of a separator must  
fit into one another exactly or they will run  
hard and make trouble.

The oiling device of the Improved

## U.S. CREAM SEPARATOR

is the result of years of careful and expensive experi-  
menting. But it's worth all the trouble because  
it is recognized as superior to that of any other cream  
separator. The cut will give you an idea of it. Notice  
that part of the frame has been broken away showing the  
driving gears and bowl. Notice that the bowl which turns  
fastest is kept thoroughly oiled by the automatic oil cup. Notice, too, that  
the lowest gear wheel touches a pool of oil. When the gears are in motion,  
this oil is thrown up in a spray just as a buggy wheel throws water when you  
drive through a mud puddle. In this way all the gears run in oil and that's  
why there is so little friction to a U.S., and why it is the longest-wearing and  
lightest-running separator made.

But we can only give you an idea of the superior oiling devices here and can't  
even mention the other fine points of the U. S. Tell you what, though, if you  
want we'll send you free a copy of our big, handsome, new separator catalogue  
that tells all about the U. S. Just say, "Send catalogue number D 91". We'll  
mail you one right away. Better write us now while you think of it. Use a  
postal if it's handiest, and address

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

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of the effects of measures described.  
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that the pamphlet is sure to be read  
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#### SOME POWERS, DUTIES, AND LIM- ITATIONS OF THE ROAD-OVER- SEER.

EDITOR KANSAS FARMER:—The road  
along my farm is sixty feet wide, and  
from the center of the road to where  
the hedge or fence should be is thirty  
feet. The road-overseer, in grading  
the road, commenced taking the dirt  
close to the thirty-foot line and in  
some places crossed the line leaving  
a ditch where the fence should be. The  
sixty-foot road is smooth so he could  
have graded it in the center as well  
as where he did. Has the overseer a  
right to dig a ditch there? If not,  
where is his limit and have I any right  
to sue for damages, and what action  
should be taken? Where the road has  
been graded the ditches get filled so  
the water runs over the farm land and  
makes more ditches. Is the township  
holden for damage and how should I  
get the ditches cleaned out? I asked  
the overseer last fall to clean them  
out so when they worked on the road  
this spring they filled up the worst  
ditch.

W. H. LEACH.

Thomas County.

Some road-overseers get a good deal  
puffed up on account of the little brief  
authority conferred upon them, and  
assume to have more authority than  
the law actually confers. It should be  
remembered that aside from the au-  
thority specifically conferred by the  
statutes, the road-overseer has no  
right to trespass upon private prop-  
erty any more than if he were a pri-  
vate citizen.

The authority of the road-overseer

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is stated in section 6549, General Statutes of 1905. As affecting this inquiry this statute reads:

"And the overseer shall keep the same [road] in repair, and remove or cause to be removed all obstructions that may be found therein; for which purpose the road-overseer is hereby authorized to enter upon any uncultivated land unincumbered by a crop near or adjoining the public road, to dig and carry away any gravel, sand, or stone, and to purchase any timber which may be necessary to improve and repair said road, and to enter upon any land adjoining or lying near said road, to make such drains or ditches through the same as he may deem necessary for the benefit of the roads, doing as little damage to said lands as the nature of the case and the public good will permit; and the drains and ditches thus made shall be kept open by said overseer, if necessary," etc. "The owner of any gravel, sand, or stone so taken, or of the land through which ditches or drains may be made, as herein provided, or the owner of the crops thereon,

of the roadway is but slightly different from that in the fields. The overseer is the agent of the public in improving and caring for the public's easement or right to travel over the right of way. The land in the road is loaned to the public for use as a highway. If at any time this use were abandoned the land would revert to the adjacent owners. This easement gives to the public or its agent no more right to damage adjacent property than is possessed by an adjoining private owner. While the overseer is presumed to act with due consideration of the rights both of the public and of adjacent owners, if he fails to do so he becomes liable. He must take care to avoid damaging property and should make the improvement of the road harmonize with and promote the appearance, value, and convenience of adjacent property.

The editor suggests that a frank and friendly neighborly talk with the overseer over the situation will probably make unnecessary any resort to the law. If this course fails it may be well to see the county attorney showing

feet on either side of a hedge, especially if it is permitted to grow at will; therefore C has furnished one-half of the land to grow the hedge. He would be entitled to one-half of the hedge less the expense of setting out and caring for the hedge. I would be glad to see this more fully explained. I would like to have your opinion of a case I have in mind. A and B own adjoining farms. A has a hedge on his half and B a wire fence on his part. A lets the hedge grow for posts and nothing will grow on B's land for 10 to 15 feet, while A can farm within a few feet of the wire fence on B's half. Could B compel A to cut his hedge to fence height or collect damage for the loss of the use of the land along A's hedge?

Franklin County. A SUBSCRIBER.

The first point raised by this correspondent may be worthy of some consideration in case the hedge is allowed to grow into timber. But, even in this case the man who produced the hedge is entitled to compensation for the labor and expense of producing it before account should be taken of the contri-

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shall be allowed a fair and reasonable compensation for the material so taken or for any injuries his lands or crops may sustain in consequence of making such drains and ditches; the same to be allowed and paid by the board of county commissioners of the county in which the road so improved is located."

The words, "doing as little damage to said lands as the nature of the case and the public good will permit," are important. If the road-overseer exceeds this limit he exceeds his authority and does what he has no more right than a private citizen to do. True the road-overseer has to depend upon his judgment in determining what "damage to said lands" is necessary, and so long as he manifests a spirit of fairness and good will the courts are apt to deal leniently with errors of judgment.

It is the duty of the road-overseer to keep the ditches in good repair and properly cleaned to the end that they may serve well the purpose for which intended and to prevent damage to the field or crops through which the ditches run. For this purpose he may order out men as for any other road work.

The case of the ditch along the side

him this answer to questions and asking, not that he bring action against the overseer but that he advise him of his powers and duties and his limitations as well, under the law.

If this does not work, write again to THE KANSAS FARMER, giving a clear statement of what you have done and the results.

### FENCE QUESTIONS.

EDITOR KANSAS FARMER:—I am very much interested in the questions and answers given in your paper. In regard to the question and answer given on page 554 of May 2, a question asked by a Clay County subscriber, in regard to the ownership of a partition hedge fence, you say that each party should consider that he is entitled to what he has produced or paid for and no more. In this case C, having, according to the statement, neither produced nor paid for any part of the hedge is entitled to neither part nor interest in it until such time as he shall have acquired such interest. Now it seems to me in this case C produced one-half of the hedge as it was set out on the line and it drew one-half of its substance from C's land. Nothing will grow for a number of

the case mentioned the circumstances were such that considerable difficulty would probably be experienced in proving any considerable claim for the use of the land above the counter claim for the use of the hedge as a fence. Indeed, the balance of the account might be found to be in favor of the producer of the hedge.

Turning to this correspondent's second inquiry it may be said that there probably ought to be a law requiring that every partition hedge fence should be kept trimmed unless the interested parties mutually agree to let it grow without trimming. While there is a law which provides for trimming hedges along public roads there is no Kansas law requiring that interior hedges be kept trimmed. This is a matter which may well be brought before the next Legislature.

### QUESTION OF A NOTE.

EDITOR KANSAS FARMER:—Will you kindly answer some questions through the columns of THE KANSAS FARMER? A loans some money to B, B giving A his note. The note is so worded as to promise to pay to A only. Now the note has become due. B wants to pay



he note. A has gone off, no one knows where, and the note can not be found. A has a brother C who pays for B to pay him the money for the note and he would settle with his brother if he should come back. B will not do this. He says he will pay no one except A. Can C force B to pay him? If A never appears, will B have to pay the note? WM. H. BREUER, Lafayette County, Missouri.

B should demand the production of the note and should not pay until it is presented. The fact that it is made payable to A and not to his order does not detract from B's obligation to pay on presentation of the note properly endorsed by A or by A's agent or administrator. The chief difference between this note and one made payable to order is that this note like an account or a note transferred after due is subject to all of the defenses and offsets in the hands of the innocent holder that it would be subject to in the hands of the original payee.

If B desires to pay this note and stop the interest he should make diligent inquiry for it where payable. If it was made payable at a bank he should tender the money at the bank in exchange for the note. If not made payable at any specified place of business a note is payable at the place where dated. If this note was dated at Wellington, Mo., B may well inquire for it of A's relatives and friends at Wellington and vicinity. Next he may inquire for it at the banks. If these efforts fail to discover the note B may well make a note of the date of these inquiries. If ever the note is thereafter presented B may properly decline to pay interest after the date of his attempt to find and pay the note. But the note must be paid when produced just as surely as if it had been drawn in the common form and transferred after due.

#### RIGHTS OF A PATENTEE.

EDITOR KANSAS FARMER:—I would like to ask a few questions through the "old reliable."

I have a patent on a small article used by farmers on which some one is infringing. It is not on the market nor has it been for sale by me. Now some one is infringing, possibly unintentionally. Would I be compelled to notify them before bringing suit for damages? What damages could I bring against them or how much?

Would it be better to notify them and not bring suit providing they would settle out of court?

Clay County. J. McLELLAN.

By all means notify the infringers and ask settlement. Always avoid going into court if possible. You have a right to collect such damages as you can prove against the infringer.

Some large manufacturing concerns care little whether they secure rights from the patentee of an appliance which they desire to use or settle the damages that may be awarded against them in case the patentee brings suit. A patentee finds it difficult to prove much damage if his patented article is not on the market and no revenue-bringing use is made of his patent.

#### FARM CROSSINGS OVER RAILROADS.

EDITOR KANSAS FARMER:—I will be grateful for a little information through your paper on a point of law, if you can give it. A railroad company is sometimes slow in doing things unless they are compelled to. I want a private crossing on my farm, as I have to go a mile out of my way to get across the track to the other side of my farm. Does the law require the company to put in the private crossings? How long do they have to do it after an application for it is made?

Scott County. SUBSCRIBER.

The Kansas statutes do not require a railroad company to construct crossings upon private property. But the Kansas Supreme Court has held, 32 K. 608:

"As a general rule, the landowner has a reasonable right to farm crossings over a right-of-way condemned for a railroad company running through his premises, at such places as the necessities of his farm demand; provided, such crossings and the use

thereof will not interfere with the paramount rights of the railroad company."

The editor is informed that the railroad companies recognize this decision as good law and govern themselves accordingly. They do, however, expect the farmer to do the necessary grading while the section men provide the planks and put them in. Where gates are required the railroads also provide these, but the farmer is responsible for keeping them closed.

It is the duty of the company to put in the crossing within a reasonable time after notice. Under ordinary circumstances thirty days should be considered a reasonable time.

#### FALSE REPRESENTATION.

EDITOR KANSAS FARMER:—If A advertises a farm for rent in the paper, 85 acres under cultivation, and B rents it for cash rent and finds there is only 35 acres under cultivation is there any law for B to get damages or to recover from A? Or has A any right to advertise or use the mails for advertising false statements. H. F. Geary County.

If B was led to rely on A's statement and bought the right to use 85 acres of land under cultivation and was given only 35 acres, certainly A obtained B's money under false pretenses, which in law and morals is the same as stealing it. It is always better for a purchaser to examine the thing purchased and by ascertaining its amount and value to avoid the complications that may arise in recouping for a swindle or for money or value obtained under false pretense.

If the facts are as stated B can probably recover by suit. The editor would advise, however, that he take up the matter candidly and earnestly with A and if possible secure an adjustment without the expense and the bad feeling brought on by litigation. When people go to law they generally both lose.

THE KANSAS FARMER is in receipt of a communication from J. L. Griffith's but as there is no address given we are unable to properly credit the enclosure. We shall be glad to hear from Mr. Griffiths with his postoffice address.

#### Miscellany

##### Shawnee Horticulturists.

The Shawnee County Horticultural Society held its regular monthly meeting, the first picnic of the season, at Vinewood, Thursday, May 7, in connection with the Chalitso Club of Highland Park.

A lunch was spread on the tables at the park and partaken of by all who were present.

The program was taken up in the auditorium with Vice-President A. T. Daniels in the chair. First, Professor Albert Dickens spoke on "Trees and Lawns." He dwelt upon the consolations to be derived from the results of the late spring freezes, even though our fruits were all killed. He said it was a pleasure to meet people so cheerful under adverse circumstances. If our apple-crop fails we can still raise pumpkins, and we can still make mince pies without apples. If all else fail we will still have persimmons. The woman who last year put up fruit enough to serve for two or more seasons was wise. We should now take courage from the fact that the haws are killed as well as the apples, thereby making it a difficult matter for the codling moth to survive the summer and the approaching winter. Other pests too of the orchards have been exterminated by the late freezes. In regard to our lawns we do well to cultivate humility; but we do not need to compel humility by so pruning our shade trees as to allow the lower branches to interfere with our millinery and other head-gear. We can have plenty of opportunity to summer-prune our fruit trees. Far less injury

(Continued on page 618.)

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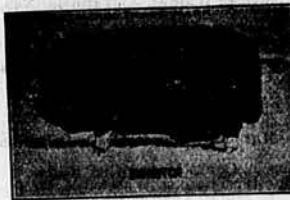
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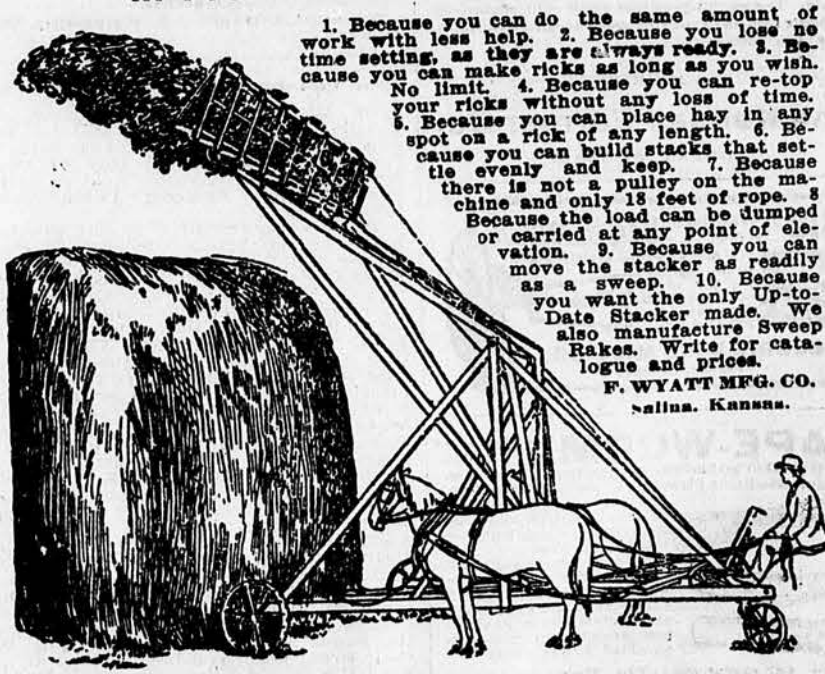
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June 21—Jos. Duncan, Osborn, Mo.  
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October 24—G. M. Hebbard, Peck, Kans.  
October 24—J. R. Triggs, Dawson, Neb.  
October 25—W. J. Honneyman, Madison, Kans.  
Oct. 25—H. G. Chapman, Dubois, Neb.  
October 25—Martin Lentz, Atherton, Mo.  
October 26—A. B. Hoffman, Keosau, Kans.  
October 26—Ball & Aaron, Leavenworth, Kans.  
October 29—J. E. Calhoun, Potter, Kans.  
October 30—H. B. Walters, Wayne, Kans.  
October 30—The Big 3, Centerville, Kans.  
October 31—L. C. Caldwell, Moran, Kans.  
November 1—Harry E. Lunt, Burden, Kans.  
November 2—C. E. Shaffer & Co., Erie, Kans.  
November 2—Thos. F. Walker, Alexandria, Neb.  
November 2—Dietrich & Spaulding, Richmond, Kans.

November 4—C. S. Nevius, Chiles, Kans.  
November 6—Lemon Ford, Minneapolis, Kans.  
November 6—E. L. Calvin, Boicourt, Kans.  
November 6—W. R. Crowther, Golden City, Mo.  
November 7—T. P. Sheehy, Hume, Mo.  
November 8—E. C. Crutcher, Drexel, Mo.  
November 8—U. S. Leon, Butler, Mo.  
November 9—H. H. Harshaw, Butler, Mo.  
November 11—Adams & Lorraine, Moline, Kans.  
November 12—W. N. Mesick & Son, Piedmont, Kans.  
November 12—I. E. Knox and Wm. Knox, Blackwell, Okla.  
November 13—J. C. Larrimer, Wichita, Kans.  
November 14—C. W. Dingman, Clay Center, Kas.  
November 15—C. G. Mills, Pleasant Hill, Mo.  
November 18—J. J. Ward, Belleville, Kans.  
November 19—A. & P. Schmitt, Alma, Kans.  
November 19—C. E. Tennant, New Hampton, Mo.  
November 20—Bert Wise, Reserve, Kans.  
November 20—R. E. Maupin, Pattonsburg, Mo.  
November 21—F. D. Fulkerson, Brimson, Mo.  
November 21—F. H. Hayes, Hiawatha, Kans.  
November 22—C. E. Hedges, Garden City, Mo.  
November 23—F. F. Orelly, Oregon, Mo.  
October 7—T. S. Wilson, Hume, Mo.  
October 15—Barnham & Blackwell, Fayette, Mo.  
October 22—Jas. Mains, Okaloosa, Kans.  
October 23—John M. Coats, Liberty, Mo.  
January 30—H. B. Walters, Wayne, Kans.  
February 6—C. E. Tennant, New Hampton, Mo.  
February 6—R. E. Maupin, Pattonsburg, Mo.  
February 7—F. D. Fulkerson, Brimson, Mo.  
February 8—Wm. Wingate, Trenton, Mo.  
February 8—Thos. F. Walker, Alexandria, Neb.

### Duroc-Jerseys.

Oct. 15—Jno. W. Jones, Concordia, Kans.  
October 16, 1907—Ford & Sons, Auburn, Nebraska  
Oct. 16—G. W. Colwell, Summerfield, Kans.  
October 22—J. E. Joines, Clyde, Kans.  
November 2—Jos. Lynch, Independence, Mo.  
November 26—Geo. Hannon, Olathe, Kans.  
November 26—Marshall Bros. & Stodder, Burden, Kans.  
January 21—Jas. L. Cook, Marysville, Kans.  
February 4—Chester Thomas, Waterville, Kans.  
February 6—C. G. Steele, Barnes, Kans.  
February 6—J. F. Chandler, Frankfort, Kans.  
February 7—Joseph Reust, Frankfort, Kans.

### O. I. C.

October 17—Frank Walters, Rockport, Mo.

### Combination Sale.

May 1, 2 and 3, 1907—Aberdeen-Angus, Shorthorns and Herefords, South Omaha, Neb., W. C. McGavock, Mgr., Springfield, Ill.  
May 14, 15, 16, 1907—All beef breeds at Sioux City, Iowa, D. R. Mills, Mgr., Des Moines, Iowa.  
February 18, 19, 20, 21—Percheron, Shorthorns; Herefords, Poland-Chinas at Wichita. J. C. Robison, Towanda, Kans.

### Horses.

May 8—Dr. Axtell and C. B. Warkenstein, Wichita, Kans.

### Last Call for the Great Meddler Sale.

On May 24, 1907, at the new sale pavilion, Wichita, Kans., will be held one of the greatest bred sow sales of the year. Hebbard and Roy of Peck, Kans., will sell at public auction forty-five of their choicest Poland-China brood-sows.

These sows are sired by the greatest boars of the breed. Twelve of them are by Chief Perfection 2d, 6 by great Keep On, and others by Meddler, Perfection E. L. Impudence, On and On, Corrector, Perfect Challenger, Corrector Chief, Peerless Perfection 2d, Regulator, Masticator and Keep Ahead. One a show sow is by Predominator, dam Ideal Sunshine. Every sow in this offering is by a champion or first prize winner, of some of the greatest sows of the country. Thirty of these sows are bred to Meddler, the World's Fair champion, two to Impudence, five to Perfect Challenger, one to S. P. Perfection, one to Anchor, and one Keep On sow is bred to Spellbinder, with free service back to Meddler. These animals will be properly fitted and in the right condition to go on and bring the best results to their purchasers.

Messrs Hebbard & Roy are among the best known breeders of Poland-Chinas in the West. They have spent thousands of dollars in building up their great herd, and have placed at its head the World's Fair champion Meddler, one of the greatest boars in the Poland-China world, and the breeders

of Kansas should avail themselves of this opportunity to buy some of this champion and prize-winning blood to improve their herds. Every animal in this offering is as good individually as it is well bred, and Western breeders can not afford to have this stuff snapped up by Eastern buyers and taken out of the country. Hebbard & Roy want you to attend their sale even if you do not expect to buy, come and attend the meeting and banquet on the evening of the 23rd and inspect their splendid offering. A postal card addressed to Hebbard & Roy, Peck, Kans., will bring you a catalogue, write for one and mention THE KANSAS FARMER.

### Samuelson Bros.' Durocs.

Samuelson Brothers, breeders of pure-bred Duroc-Jerseys at Bala, Kans., and Cleburn, Kans., start a card in this issue of THE KANSAS FARMER, in which they offer for sale a number of topsey young boars, and choice sows, bred for early fall farrow. The boars are thrifty, well-grown fellows with both size and quality and are fit to head good herds. They are exceptionally good in color, with good, strong backs, well-sprung ribs, and excellent heads and feet. They are sired by You Bet 3111, who won first in class at the American Roan 1904, and Doty Wonder 41889, a grandson of the World's Fair champion sow, Doty, and are out of some of the choice sows of the herd. The sows Samuelson Brothers are offering for sale are good ones and will be bred to some of the herd-boars for early fall farrow. They are all proven ones, selected for their producing qualities. There are few herds in the State that number as many good brood sows as Samuelson Brothers; they have about 70 at the present time. They are an outstanding lot of the large, roomy type, and very prolific.

Among their sires are Roosevelt 2d, Perfection Wonder 2d, Orion Jr., Captain Paul, St. Paul, Prince Orion, Red Raven, and other good ones. Some of those especially worthy of mention are Blue Valley Girl and Erickson's Best, litter sisters got by Red Man. Blue Valley Girl was the dam of the two gilts that topped Samuelson Brothers' February sale, Capitola by Gold Coin Jr., an outstanding individual with lots of quality, will weigh in flesh 700 pounds and invariably produces large litters and raises them; Queen Ericka a producer of good pigs and large litters. She has a record of one litter with 16, and three of her gilts that were sold in the February sale averaged nearly 400 pounds each under 12 months old.

The herd boars are, Doty Wonder 41889, by Mc's Pride and a grandson of Doty, the World's Fair champion sow. Doty Wonder is a herd-header in every sense of the word. He has great size with lots of style and finish, and is a sire of wonderful merit. Another good one is Geneva Chief 48049, by Big Chief's Son, he by Big Chief Ohio, dam Geneva by Captain Paul. Rose Top Notcher 54059 by Advance Top Notcher, he by Top Notcher Chief, dam St. Paul's Rose by St. Paul, is way up in quality. He weighs 350 pounds under 12 months old, is one of those stylish, dashing fellows, smooth and mellow with strong, thick-fleshed back, well-sprung ribs, and fine boar's head. He has some excellent litters to his credit, and has made a great record as a sire for his age.

Another good one recently placed in commission in the herd is Buddy Onward 61453 by Buddy K. 4th, who sold for \$5,025 (at Baxter's dispersion sale this year), the highest price paid for a boar at public sale up to that time.

Hanley Onward 61451 is another promising one. He was got by Hanley 42345, first prize boar at Indiana and Ohio State Fairs 1905.

Samuelson Brothers' Durocs are noted for their good feet, and fine color and it is a rare thing to find a poor foot in their herds. Three hundred pigs is their increase so far this spring, and they are a choice lot. A large part of them are of February and early March farrow, and are nearly large enough to ship. Watch Samuelson Brothers' Card for what they may have to offer you, and write them your wants.

### J. E. Joines' Durocs.

J. E. Joines, of Clyde, Kans., has established a reputation for raising good Durocs. His herd carries the blood of the leading strains of the country, and his stock is handled and fed to produce the very best results. The herd has access at all times to free range on alfalfa pasture and are also provided with natural shade and pure water. Mr. Joines has held some very successful sales, and has established a record for quality and good prices. His herd is headed by Parker's Echo, by Parker Mc., first prize boar at Kansas State Fair 1905, and a grandson of Echo King, and Kant Be Beat's Best a good son of Kant Be Beat, the \$6,000 show boar who has won 57 firsts and sweepstakes at some of the great fairs and shows of the country. Kant Be Beat's Best is one of those strong, vigorous fellows with both scale and quality and with great prepotent qualities which he imparts to his get.

They are assisted by Bell's Chief 2d who was sired by Bell's Chief, he by Red Chief I Am, dam Nebraska Bell. He is as good individually as he is well bred, and is proving himself a sire of wonderful merit, for he has several litters that are show prospects.

Mr. Joines has selected his herd sows for their breeding qualities and his judgment has proven correct in nearly every case, for they are producing splendid results in the number and quality of their pigs.

A partial list of the good ones are: Wineona, a granddaughter of Kant Be Beat, and Red Chief I Am; Van's Lady, bred by Morrison; her sire is Paul F., a show hog. She won first in class at Nebraska State Fair 1905. She has a show litter by Kant Be Beat.

Bessie May, a granddaughter of Orion, has one of the finest litters the writer has seen this year, by Bell's Chief 2d; Bessie Hunt, by Chief Orion, also has a fine litter by Bell's Chief 2d. There are only a few of the good sows that have farrowed 180 of the finest

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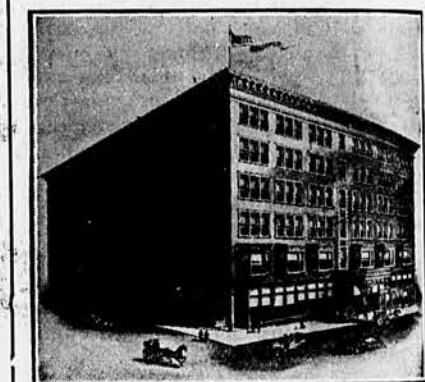
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Shipping address.....

pigs Mr. Joines has ever raised. These pigs are nearly all farrowed early and will be ready for shipment any time after July 1. Mr. Joines starts his card in this issue of THE KANSAS FARMER, to which we invite careful attention. He is offering two young boars for sale that he has used some in his herd. They are well bred and good individually, and are fit for service in good herds. Mr. Joines also calls attention to his bumper crop of spring pigs that will be ready for shipment after July 1. Write J. E. Joines, Clyde, Kans., your wants and mention THE KANSAS FARMER.

### A. B. Garrison's Big Polands.

We visited A. B. Garrison, of Beattie, Kans., recently and found everything progressing satisfactorily on his fine farm. Mr. Garrison raises the large type of Poland-Chinas, the kind that often weigh 1,000 pounds. They are not only large but they are smooth, with lots of quality.

Prince You Tell 32204, who heads the herd, will weigh 1,000 pounds in show condition, but he is as smooth and active as a pig. He possesses great feeding and fleshing qualities which he

also sell a few choice gilts bred to some of their herd boars for early farrow.

Miner & Aitken have one of the best herds of its size in that part of the State. They have been liberal buyers from the best breeders in the West, and the blood of many champions and prize winners can be found in their Durocs. The herd is headed by Kant's Model, a good son of Morrison's \$6,000 show boar, Kant Be Beat, dam Invincible, by Top Notcher. Kant's Model is a fine individual with both scale and quality, and is proving an excellent sire. They also own Crimson Russell, tracing to Crimson Wonder and Glendale. He is a good individual and a good breeding animal. They have recently purchased for use in their herd Maud A's Belltop, by Morrison's Belltop, and out of Higgin's Model. This boar is a show prospect, and will probably be fitted for the show ring this fall.

The herd sows are a choice lot and are producing some fine litters. Among their sires are Improver 2d, Crimson Wonder, Medoc, Chicago Kid, Cole's Duroc, and others noted for their individuality and fine breeding. They are very prolific, four of them farrowing 59 pigs, as follows: Two of them, 15 each; one 13, and one 16. The spring

at Republic County, Kansas, 1906, has a show litter by Stylish Perfection. Black Queen, by Black Tecumseh, has a fine litter by Pan Famo. Other good ones by Guy Hadley, Model, Belleville Chief, Expansive, and others have fancy litters by Stylish Perfection.

Mr. Walters is offering for sale a fall boar by Choice Perfection, dam Surprise I Am 2d, that is a show prospect, and a herd-header. He can be bought reasonable if taken soon. Mr. Walters has fixed October 30 as the date of his fall sale, and January 30, 1908, for his spring sale. Judging from present prospects he will have a great offering. Watch for his sale announcement in THE KANSAS FARMER.

### T. P. Teagarden's Durocs.

One of the successful breeders of Duroc-Jerseys in Republic County is T. P. Teagarden, of Wayne, Kans. His stock is noted for its size and quality, and is developed along lines that produce the best results.

Blood lines of many of the noted families of the breed are represented in Mr. Teagarden's Durocs, and in every case his hogs possess those fleshing, feeding qualities that are so much desired.

Ripley Top Notcher 31107 by Top Notcher, the World's Fair champion, heads the herd. He is an outstanding individual of great scale and quality. He weighs in breeding condition 700 pounds, and is as smooth and active as a pig. He is a great producer and his get inherits his wonderful fleshing qualities and remarkable vigor.

The brood sows are of the large, smooth type, excellent producers, and good sucklers. They are raising some fine litters. Their sires or grand sires are Orion, Van's Perfection, Liberty Jim, Bishop's Choice, Kant's Model, Kansas Wonder, and Ripley's Top Notcher. Mr. Teagarden is an excellent judge of quality and selected only the best for his foundation stock. He is also a good developer, and his herd is not only bred right but they are fed to produce the best results.

### The Inter-State Fair at Kansas City.

What will probably be the biggest exposition of live-stock in the West, with the possible exception of the American Royal, will be held at Elm Ridge Park, Kansas City, Mo., during the thirteen days beginning September 23, 1907. This park is the best equipped for such a show of any in the west and represents an investment of over a half million dollars in permanent buildings and improvements. In addition to the great race meeting, which is an annual event at Elm Ridge, there will be exhibited all classes of both breeding and fat stock.

As these dates do not conflict with any of the State Fairs except Illinois, at which comparatively few Kansas breeders exhibit and as they immediately precede the Missouri State Fair, the Inter-State at Kansas City will be welcomed by exhibitors as they will not be compelled to lie idle during that time.

The prizes offered are generous ones for all classes of stock and the especially valuable feature of the prize list is the provisions made for the dairy classes and for dairy exhibits.

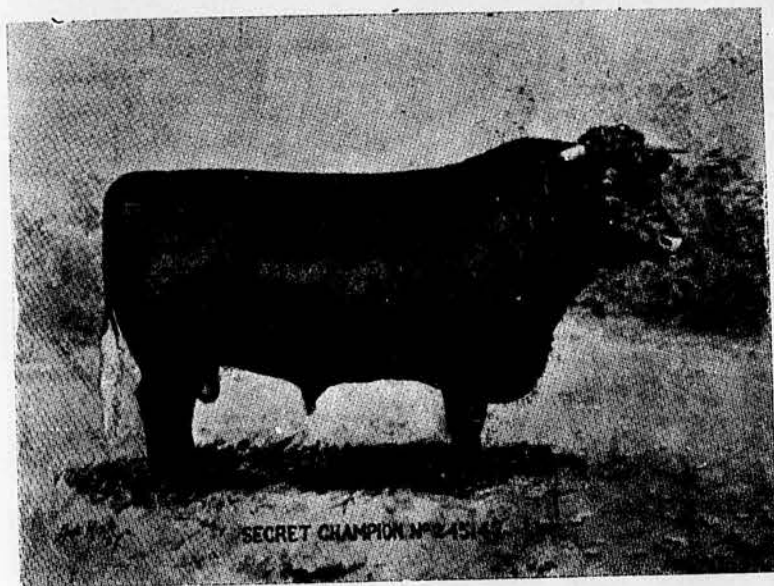
The officers of the Inter-State Fair are in the Dwight building at Kansas City, where President J. S. Gardner and General-Manager, J. S. Berger may be found.

The premium list will be issued shortly. Write for it.

### The Haub Shorthorn Dispersion.

Do not fail to be present at the dispersion of the Haub Shorthorns at Holton, Kans., on Saturday, May 18. This herd contains some of the best blood lines known to the breed. It is headed by Good Enough 260149, a grandson of the great Lord Mayor 112727, which alone proves his quality. Other sires represented in this herd are 2d Baron Rose of Maple Hill bred by H. C. Dun-Geocan; Iowa Scotchman, M. A. Low; Red Champion, D. Tennyson; Young Victor, Geo. Bothwell; Teddy Roosevelt, John McCoy; 198th Duke of Wildwood, W. T. Clay.

In addition to the 60 head of Shorthorns there will be offered from the same estate a number of highly bred Poland-China hogs of fine quality and useful age. The man who wants new blood in his herd or the man who is looking for bargains will each find it to his advantage to be present.



SECRET CHAMPION

Herd bull represented in the Henry Kuper Shorthorn Sale at Humboldt, Neb., Tuesday, May 28, 1907.

transmits to his get. He is a prepotent sire and is making a fine record as a breeding animal.

Mr. Garrison also has in service Gold Metal, a grandson of Expansion. He is an outstanding individual and has both size and quality. He is only a yearling, but is proving an excellent breeder, and has some show litters to his credit. When he is grown he bids fair to equal Prince You Tell in size.

The herd sows are of the large, roomy type, and excellent producers. Mr. Garrison has twenty-five bred for spring farrow, and judging from present appearances he can safely count on an increase of 150 pigs. Mr. Garrison is the inventor and manufacturer of one of the best breeding crates on the market; and the way he is selling them shows that they are appreciated by the breeders. The crate can be adjusted instantly to suit any sized animal, and it can be used for several purposes. We believe it is the best crate on the market. If you need a crate write Mr. Garrison to ship you one, and it will not fail to give satisfaction.

### Miner & Aitken's Durocs.

Miner & Aitken, of Tecumseh, Neb., have started their card in THE KANSAS FARMER, and are offering for sale at living prices some top quality fall boars that are well grown and fit for service in good herds. They are sired by Kant's Model, he by Kant Be Beat, and are out of some of their best sows. Miner & Aitken are also offering Crimson Russell, one of their herd boars, for sale. He is a good boar, with both size and quality and will make a valuable breeding animal for any one who may need him.

Crimson Russell traces to Crimson Wonder and Glendale. They would

pigs are of excellent quality and are by Kant's Model, Lincoln Wonder, and the other herd boars. They are largely of early spring farrow, and are very desirable on that account.

Miner & Aitken will be ready to fill orders from these after July 1. Watch their card for what they may have to offer you.

### H. B. Walter's Poland-Chinas.

One of the good herds of Poland-Chinas in the State is that of H. B. Walter, Wayne, Kans. The blood lines represented is that of some of the best families of the breed. Mr. Walter breeds the strong medium type that combine both size and quality, the kind that is easy feeding, quick maturing, and that fills the pork barrel. He is amply provided with every convenience that is necessary for the welfare of his fine herd, and they are fed and handled in a manner to produce the best results. Mr. Walter has an abundance of alfalfa pasture and his stock has access at all times to free range, provided with natural shade and living water.

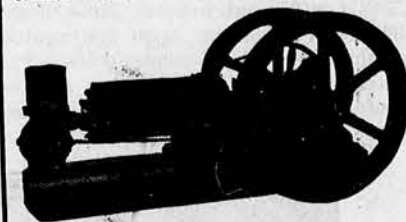
Stylish Perfection 40313 is at the head of the herd, and he is worthy to fill this place. He was first and sweepstakes boar at the Nebraska State Fair 1906. He is one of those smooth, mellow fellows, with strong arched back, great spring of ribs, heavy hams, good feet, and beautiful head and ears. He is proving a splendid breeder, transmitting his easy feeding, early maturing qualities to his get.

Stylish Perfection was got by Sunflower Perfection, dam Lady Wilkes, by Guy Price, who was first at Kansas and Nebraska State Fairs 1903.

The producing sows are without exception good individuals and are farrowing and raising some extra fine litters. Surprise I am 2d, who won first

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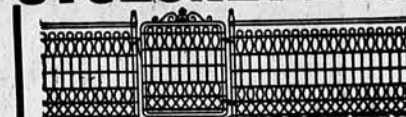
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## Agriculture

Commercial Seeds of Brome-Grass, and of English and Kentucky Blue-Grasses Adulterants and Substitutes and Their Detection.

KANSAS EXPERIMENT STATION BULLETIN 141, BY H. F. ROBERTS AND GEO. F. FREEMAN.

(Continued from last week.)

It is, however, with the commercial seeds of the two species that the difficulty arises. A comparison of Plates XXV and XXVI and of the higher magnification in Plates XXVII and XXVIII will make evident some of the difficulties attendant upon distinguishing the seeds of the two species. The writers of this bulletin, after a most careful and exhaustive study of authentic seeds of the two species, are

convinced that while the botanical characters which are stated to occur as differentiating marks do present themselves to a greater or less extent, and to a greater or less degree; none of them can be relied upon absolutely and constantly in all cases.

In bulletin 84, Bureau of Plant Industry, previously referred to, entitled "The Seeds of the Blue-Grasses" (1905), there is the most thoroughgoing and elaborate treatment of the botanical characters of the seeds of the commercial species of Poa to be found anywhere. From the results of the careful diagnoses made by the authors of the bulletin in question, they present (page 20) a comparative table of the characters of nine species of blue-grasses, which will be discussed later in detail.

In bulletin 124, from the Kentucky Experiment Station (March, 1906), it is stated (pages 4-5): "Seeds of Kentucky blue-grass when in a mass are of a deeper brown color than Canada

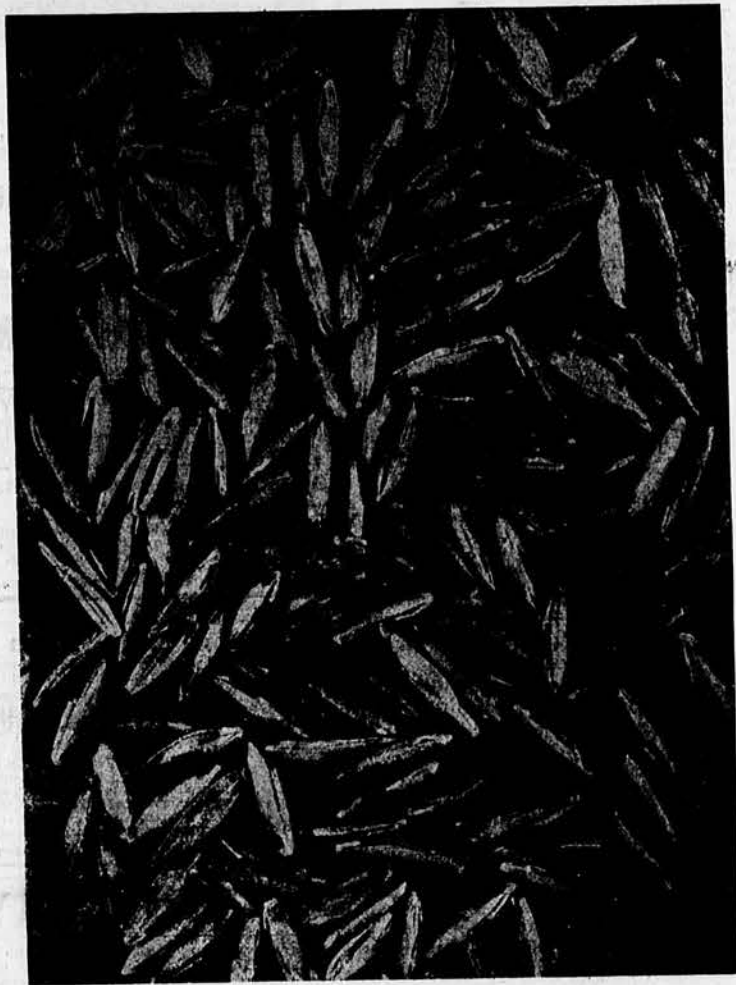


PLATE XXV.—*Poa pratensis* (Kentucky blue-grass); commercial seeds magnified 5½ times.

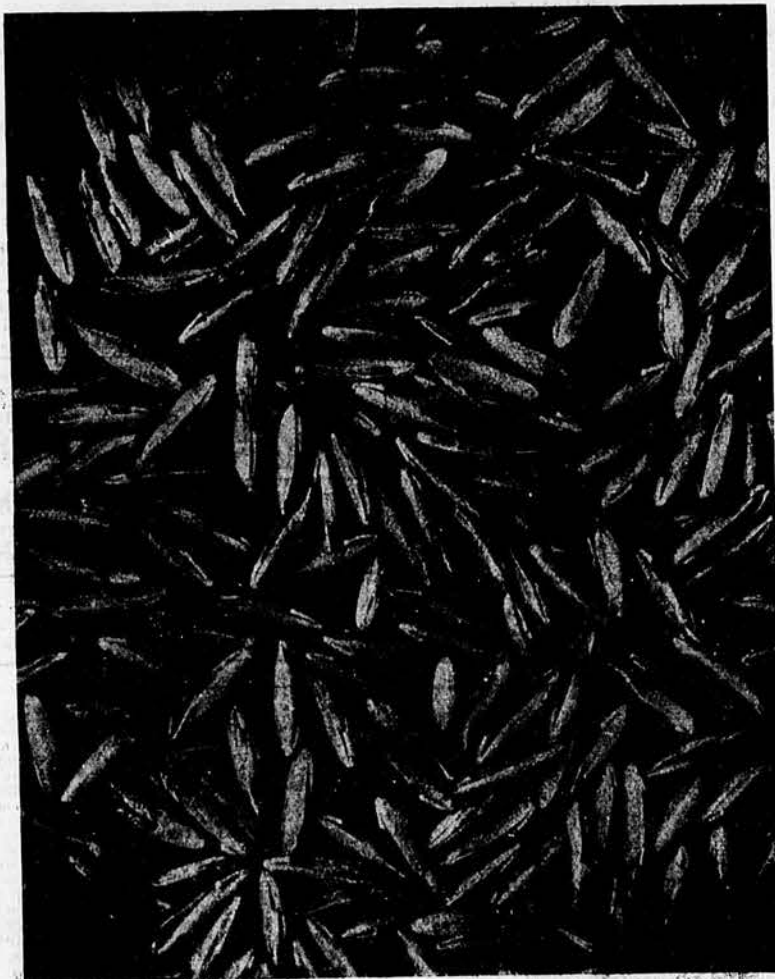


PLATE XXVI.—*Poa compressa* (Canadian blue-grass); commercial seeds magnified 5½ times.



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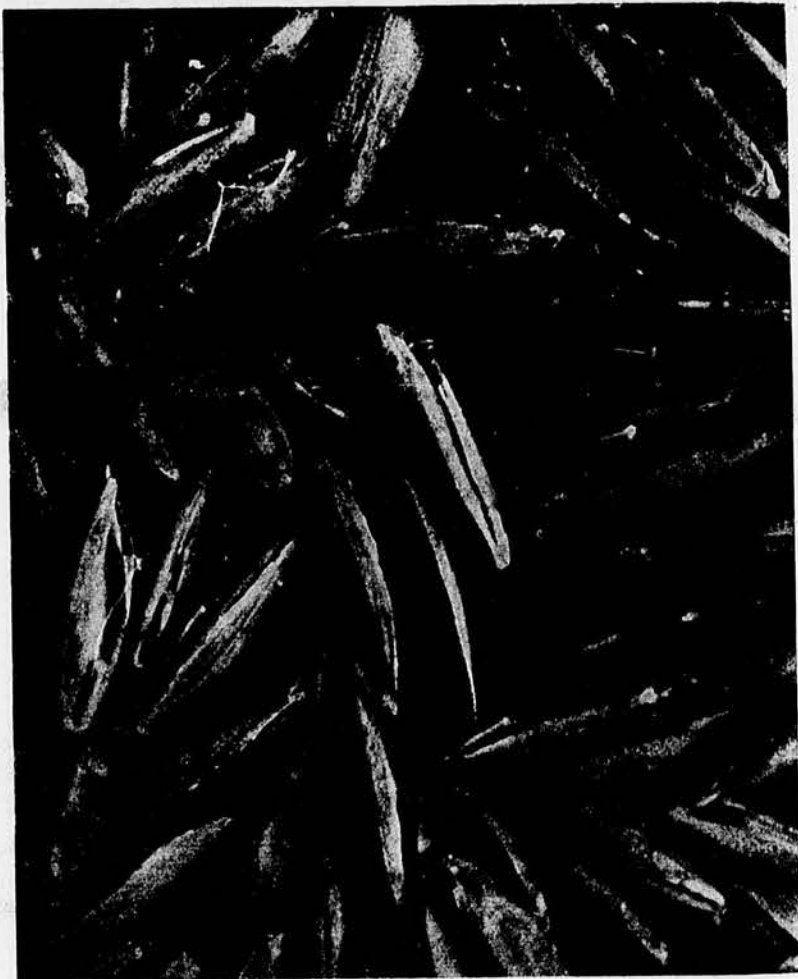


PLATE XXVII.—*Poa pratensis* (Kentucky blue-grass); commercial seeds magnified 12½ times.

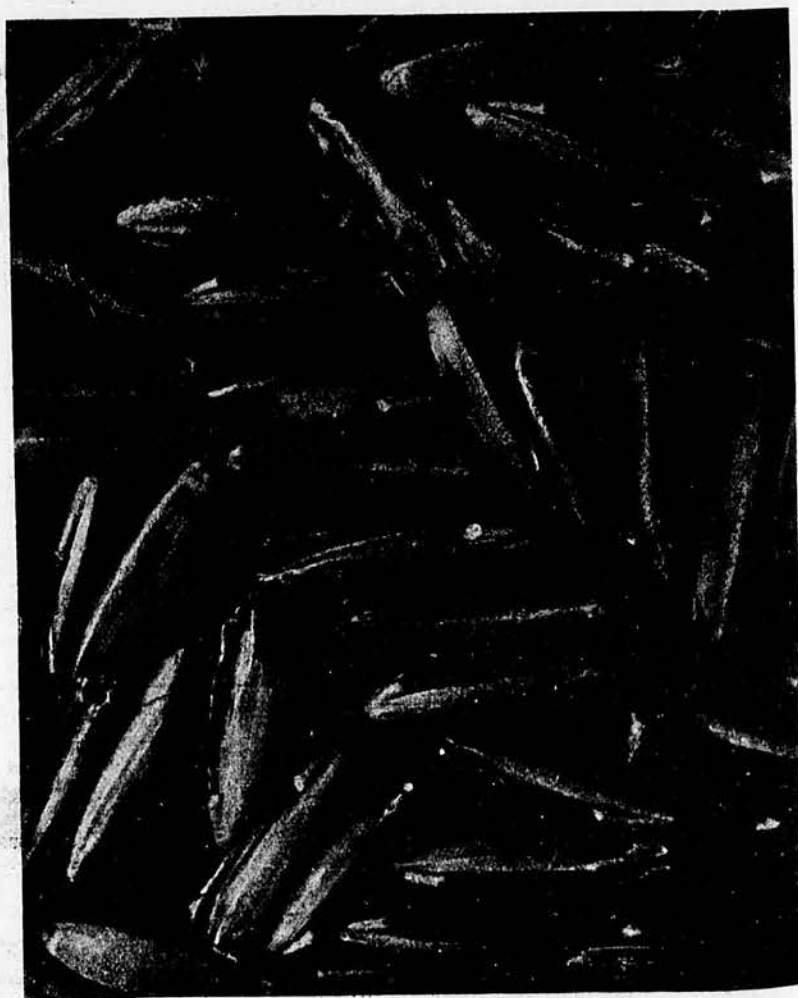


PLATE XXVIII.—*Poa compressa* (Canadian blue-grass); commercial seeds magnified 12½ times.



blue-grass, and average larger. Exam-  
ples measure from .10 to .15 inch in  
length, are sharply keeled along the  
back, the sides with two evident long-  
itudinal veins. The greatest width of  
a seed is toward the base, and from  
this point it tapers gradually to the  
pointed tip. Canada blue-grass seeds  
measure only .08 to .09 inch in length,  
and widen toward the tip, being widest  
toward the beginning of the terminal  
fourth. The nerves on the sides are  
faint or almost wanting, the keel less  
acute, the sides being more sloping,  
while the membranous margins at the  
tip are commonly more flaring." To  
state that the seeds of *Poa pratensis*  
average larger than those of *Poa com-  
pressa* is correct. It is incorrect how-

**POA COMPRESSA.**  
Florets—Number in spikelet: 3-9.  
Length in millimeters: 2-2½. General  
form: Oblong-obovate or lanceolate.  
Apex: Usually obtuse; torn or flaring  
in commercial seed.  
Glume—Intermediate veins: Indis-  
tinct or apparently wanting; smooth.  
Silky pubescence: Same as in *P. pra-*  
*tensis*. Basal web: Slight; absent in  
commercial seed. Color: Straw col-  
ored or light brown, sometimes pur-  
plish.  
Palea—Same as in *P. pratensis*.  
Rachilla segment—One-sixth to one-  
half the length of glume.  
Aborted floret—Minute.

With respect to the number of flor-  
ets in a spikelet and their length, it  
will be seen at once that the differ-  
ences are not such as to be decisive  
in any individual case. With respect  
to the matter of the length of the flor-  
ets (the commercial seeds), it may be

"broader above than below the mid-  
dle." (See Plates XXVII and XXVIII.)  
This distinction may again be used in  
describing racial tendencies in point  
of structure, which holds good in the  
long run, and with the examination of  
a sufficient number of seeds, but which  
fails repeatedly according to the  
studies of the writers hereof when  
sought to be applied to individual cases.

With respect to the apices of the  
seeds of the two species, this much  
may be said: the flowering glume in  
Kentucky blue-grass usually narrows  
down to a more acute tip than in Can-  
adian blue-grass, and the thin, papery  
margin of the glume is usually wider  
and more flaring in the latter than in  
the former species. While this is a  
distinction that does exist in the long  
run and for adequate numbers, it also  
falls in specific instances, especially  
in thrashed seed, in which the flaring  
edges of the glume are apt to be  
rubbed off. Furthermore, the writers  
repeatedly find *Poa pratensis* seeds  
with the glume margins as widely flar-  
ing as in the Canadian species.

A further distinguishing character  
relied upon for systematic purposes  
in bulletin 85 and elsewhere is the  
degree of distinctness of the interme-  
diate veins on the flowering glumes.  
In all the species of *Poa* there are five  
veins, which run lengthwise of the  
flowering glume. The middle one  
along the keel and the two marginal  
ones at the edges of the glume where  
the latter folds under to enclose the  
palea are usually sufficiently evident.  
But between the central and marginal  
veins are two intermediate veins  
which vary in distinctness in differ-  
ent species. In bulletin 84 referred  
to, these intermediate veins for Ken-  
tucky blue-grass are stated to be "dis-  
tinct; not sharply defined," while for  
Canadian blue-grass the same veins  
are stated to be "indistinct or appa-  
rently wanting." To tell whether in  
a given case certain structures which  
are "not sharply defined" are really  
"distinct" or "indistinct" is a refined  
process that obviously has practical  
difficulties in the way of its successful  
use for the purpose of distinguishing  
species. The writers of this bulletin,  
after careful comparison, find that the  
differences in the venation of the flow-



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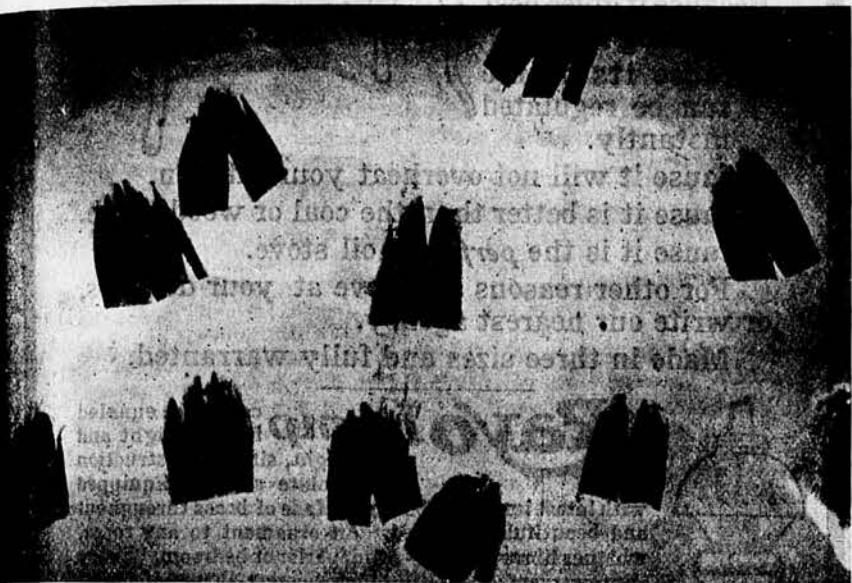


PLATE XXIX.—*Poa pratensis* (Kentucky blue-grass); flowering glumes from various seeds, detached. Each of the apparent pairs represents a single glume flattened out, splitting in the process along the middle line or "keel" of the glume. The two rather prominent lines, one on either half, are the "lateral veins" of the glume. Magnified 10 times.

ver, if it assumed that the differences  
in this case can be successfully utilized  
for purposes of identification.

From measurements made in this  
laboratory, of 100 seeds of each spe-  
cies, we find an average length and  
width of commercial seeds as follows:

	Length.		Width.	
	mm.	in.	mm.	in.
Kentucky blue- grass.	2.318	0.0913	0.60	0.2364
Canadian blue- grass.	2.296	0.0905	0.56	0.2206

This indicates the very slightly  
larger size of the seed of Kentucky  
blue-grass; the range and the mean  
lengths and widths will be readily  
seen from the following table, compiled  
from the measurements:

Measurements of 100 florets (commer-  
cial seeds), of *Poa pratensis* and  
*Poa compressa*.

Lengths in millimeters	No. of Individuals		No. of Individuals	
	<i>Poa pra.</i>	<i>Poa com.</i>	<i>Poa pra.</i>	<i>Poa com.</i>
0-1.80.	1	1	0	0
0-1.90.	1	1	0	1
0-2.00.	8	2	0	0
0-2.10.	8	11	0	0
0-2.20.	14	12	1	2
0-2.30.	19	31	3	4
0-2.40.	12	14	7	10
0-2.50.	18	12	3	9
0-2.60.	8	10	9	9
0-2.70.	5	3	2	9
0-2.80.	3	1	3	9
0-2.90.	3	2	4	3
0-3.00.	0	0	5	11
			0.58	7
			0.59	8
			0.60	2
			0.61	6
			0.62	9
			0.63	1
			0.64	5
			0.65	4
			0.66	3
			0.67	6
			0.68	5
			0.69	2
			0.70	2
			0.71	5
			0.72	1
			0.73	0

Let us return to consider the sets  
of contrasting characters given for  
Kentucky and Canadian blue-grass in  
United States Bulletin 84, page 20,  
which is given below:

### POA PRATENSIS.

Florets—Number in spikelet: 3-5.  
Length in millimeters: 2-2½. Gener-  
form: Lanceolate or ovate-lanceo-  
late. Apex: Acute, mostly torn in  
commercial seed.  
Glume—Intermediate veins: Distinct;  
sharply defined, slender ridges;  
both. Silky pubescence: On keel  
and marginal veins; absent in commer-  
cial seed. Basal web: Well developed;  
absent in commercial seeds. Color:  
light brown to dark brown, often  
purplish.  
Palea—Equal to or somewhat shorter  
than the glume; keel hispidulate and  
less exposed.  
Rachilla segment—One-sixth to one-  
half the length of glume; smooth.  
Aborted floret—Minute.

said that there is a racial tendency to  
greater size in the case of Kentucky  
blue-grass; but for purposes of deter-  
mination in any specific instance the  
difference in this particular is not a  
distinguishing character, as we have  
stated before.

The length of the rachilla segment  
falls into the same category of differ-  
ences which are not distinctive.

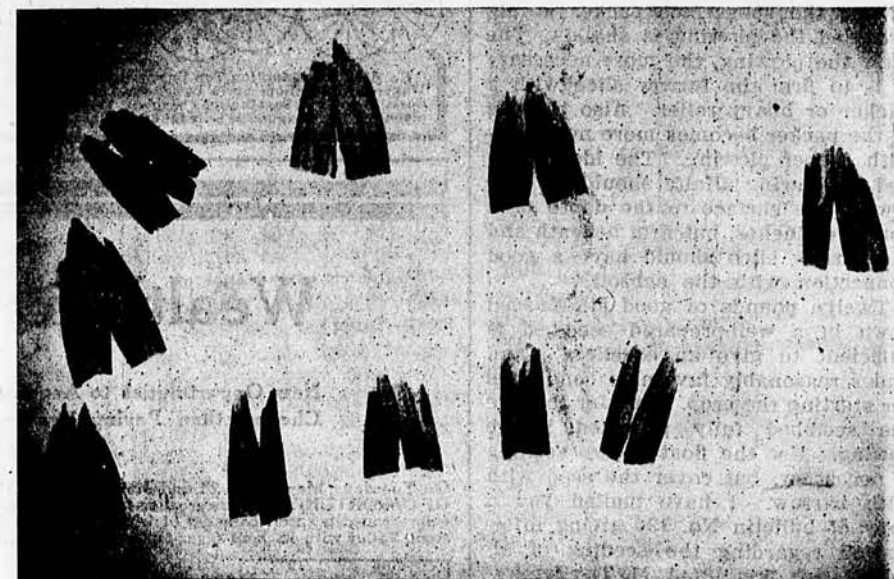


PLATE XXX.—*Poa compressa* (Canadian blue-grass); flowering glumes from various seeds, detached. Each of the apparent pairs represents a single glume flattened out, splitting in the process along the middle line or "keel" of the glume. The two rather prominent lines, one on either half, are the "lateral veins" of the glume. Note that the "lateral veins" are somewhat less prominent than in Plate XXIX. Magnified 10 times.

The web of hairs at the base of the  
floret, well developed in Kentucky and  
slight in Canadian blue-grass, is ab-  
sent in both cases in commercial seed,  
having been rubbed off in the thrash-  
ing.

Omitting the characters of silky  
pubescence and aborted floret, which  
are identical with the two species, we  
come to the matter of general form,  
apex, intermediate veins, and color, in  
which more or less contrasting char-  
acters are given.

First, with respect to the general  
form of the seed, the terminology used  
expresses the general fact stated both  
in Kentucky Bulletin No. 124 and in  
the bulletin under consideration (page  
19), in which for Kentucky blue-grass  
it is stated that the seeds are "con-  
tracted at the apex and not wider  
above than below the middle," and for  
Canada blue-grass that the seeds are

ering glumes are really just about as  
described above, and for that reason  
can not be successfully employed for  
practical purposes. Reference to  
Plates XXIX and XXX will suffice to  
indicate the facts. In *Poa pratensis*,  
the intermediate veins, as a matter of  
fact, are sometimes distinct and some-  
times indistinct; but in the long run  
again, and for a sufficient number of  
cases, they are less indistinct or even  
more distinct than in *Poa compressa*.

With respect to the matter of color  
of the commercial seed as a basis of  
distinction between Kentucky and Can-  
adian blue-grass it may be stated, as  
in Bulletin 84 of the Bureau of Plant  
Industry, and in Kentucky Bulletin  
124, that given the proper conditions  
for ripening, maturing, and storing  
the seed, Canadian blue-grass seed is  
in the mass lighter brown in color  
than that of Kentucky blue-grass.

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But to quote again the distinctions in Bulletin 84, where, for Kentucky blue-grass, the color of the seed is stated as "from light brown to dark brown, often purplish," and for Canadian blue-grass as "straw color or light brown, sometimes purplish," it is again evident that we are dealing with a character that is indistinctly distinct in the one case and distinctly indistinct in the other.

The simple fact is that usually the commercial seed of Kentucky blue-grass will be darker brown than the seed of Canadian blue-grass. This assumes, however, proper conditions during the maturing, harvesting, and storage of the seed. In our specimens we have not found the color differences in the commercial seed as they come on the market reliable for diagnosis in most instances, although the differences are existent as botanical facts under proper conditions, and for the most of the seeds in the long run.

It must be stated, however, in deference to the accurate and careful work on seeds of blue-grasses in U. S. Bulletin 84, that all of the characters given by the authors do actually exist as what may be called race tendencies in the two species under consideration, and they do serve as aids for identification, but no one of them is a constant character that can be relied upon for any given case. Many delicate shades of difference exist between species, that can be instinctively grasped and appreciated by the experienced observer, which, however, are difficult if not impossible to put into definite language, or to offer in the form of hard and fast distinctions. Of such a nature are all, or nearly all, of the characters used thus far by seed experts for distinguishing the commercial seeds of Kentucky and Canadian blue-grass.

The writers of this bulletin, after careful investigation, believe, however, that they are able to offer a distinct mark in this case that is practically infallible.

(To be continued.)

#### Kafir-Corn or Cane.

I am seriously afraid of a drouth this year, and am thinking of planting about twelve or fourteen acres of either Kafir-corn or cane. Which of the two kinds of fodder has given the best satisfaction with you? Will Kafir-corn outyield cane as to grain? Will stock eat the fodder as well? I wish to plant in drills and cut with the corn-harvester. How much seed will it take, and can I buy the seed of you? Also, which variety has given the best satisfaction with you? State prices of seed. FRANK W. ARMS.

Breckinridge, Mo.

Cane makes good fodder if sown broadcast or in close drills, but if sown in rows and cultivated with the purpose of producing seed as well as fodder, I would recommend to plant Kafir-corn in preference to cane. The coarse cane-fodder produced by planting in rows is not easily handled and is not so well relished by stock as Kafir-corn-fodder; also Kafir-corn-fodder cures better and is more easily handled. It is true also that Kafir-corn will yield more seed than cane, and the Kafir-corn grain has a higher feeding value than cane-seed, and is better relished by stock.

Planting in rows, three to three and a half feet apart with the seed two to four inches apart in the row, will require about a bushel of Kafir-corn or cane-seed to plant eight to ten acres of land. In the trials at this station the Black Hulled White Kafir-corn has yielded on the average a little more seed per acre than the Red Kafir-corn. The two varieties are about equally valuable for fodder-production. The Black Hulled White variety matures about ten days later than the Red variety. These are the two standard varieties grown in this State.

We are making some special breeding tests with Kafir-corn and have some hundred bushels, more or less, of well-bred seed of each of the two varieties for sale at \$1.25 per bushel for first-grade seed and 75 cents per bushel for second-grade seed. The difference in the two grades is merely a different selection of heads at thrashing

time, both grades of seed being equally pure and showing a high percentage of germination. Most of the Kafir-corn which I have seen in this State is badly mixed. I believe we have the purest seed of each of the two varieties which may be found in the State. Practically all of the seed which we have, has been produced from a few choice selected heads planted two or three years ago.

I shall be pleased to receive your order for some of this well-bred seed.

A. M. TENEYOK.

#### Wheat-Land Prepared for Alfalfa.

I have a field of wheat; the land could be called second bottom, about 35 feet to water. I wish to seed this piece of land to alfalfa this fall. By which of the following methods would you advise to prepare the ground, it having been thoroughly plowed last fall. First, immediately after the wheat is cut, to plow deeply, say six inches and follow with the sub-surface packer; second, plow shallow, say three or four inches and harrow thoroughly; third, disk and harrow at intervals until seeding time. Would twelve pounds of seed per acre be sufficient and which do you deem the better for covering the seed, a float or a harrow? E. W. GLAZE.

Rice County.

As to whether you should plow or disk the wheat stubble land in preparing to sow alfalfa next fall will depend somewhat upon the conditions of soil and season. If the ground is relatively clean and the wheat is cut low with the binder so that there is not too much stubble, I would prefer to use the disk-harrow, disking as soon after harvest as possible and then continuing the disking at intervals until seeding-time. The first disking may be fairly deep, but care should be taken not to have the ground too loose and mellow at the surface at seeding-time. I prefer to the the common harrow during the last cultivation before seeding. If it seems best to plow, I would advise to plow rather shallow and cultivate with the harrow or disk-harrow at intervals in order to destroy the weeds and maintain a good soil mulch to conserve the soil moisture. If the plowing is done immediately after harvest it may not be necessary to use the subsurface packer at all, provided the plowing is shallow. The later the plowing, the more necessary it is to firm the furrow slice with a packer or heavy roller. Also the use of the packer becomes more necessary with deeper plowing. The ideal seed-bed for sowing alfalfa should be mellow at the surface to the depth of a couple of inches, but firm beneath and the furrow slice should have a good connection with the subsoil.

Twelve pounds of good alfalfa-seed sown in a well-prepared seed-bed is sufficient to give an excellent stand under reasonably favorable conditions for starting the crop. I prefer to have the seed-bed fully prepared before sowing. Use the float before seeding if necessary, but cover the seed with harrow. I have mailed you a copy of bulletin No. 134 giving information regarding the seeding of alfalfa.

A. M. TENEYOK.

#### Alfalfa Partly Killed by Frost.

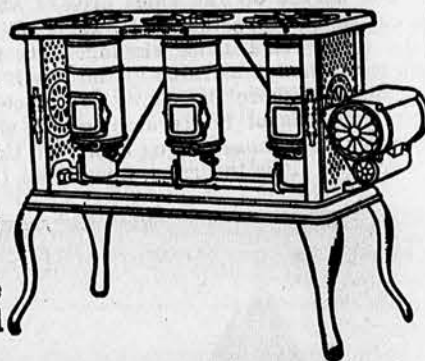
I have a fine field of alfalfa 14 inches high. In places it is half killed by frost, in other parts it is one-third killed. No new growth has taken place yet. We have had no rain for a month. Would you cut this alfalfa now or would you wait for rain and a new growth to start, or wait until it matures? I am at a loss to know what is best for the future welfare of the alfalfa. Have you had any similar experiences? E. D. KING.

Burlington, Kans.

I would not advise you to cut this alfalfa until it rains, and the weather becomes favorable for growth. In fact, I doubt whether it is advisable to cut it at all until the usual time, when the alfalfa has reached the stage for making hay. I have observed that new shoots are already starting from the stems below the point where it has been killed by freezing. In my judgment it will only retard the growth of the alfalfa by cutting the stems below these new shoots. Meanwhile if the

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alfalfa is cut close to the ground, the ground will dry out faster and the alfalfa will be more exposed to the unfavorable weather conditions than at present.

### Stalks "Foolin' Around All Summer Doin' Nothin'."

PROF. F. G. HOLDEN, IOWA STATE COLLEGE.

At an institute meeting in the northern part of Iowa I had explained that when corn was planted with a 3-foot 6-inch planter that there were 3,555 hills on each acre, and with three stalks per hill there were 10,665 stalks, and that if we threw away or discarded two of these stalks in every hill, leaving but one stalk per hill, and this stalk bore a small ear weighing but 10½ ounces, there would be a yield of 33½ bushels per acre, or more than the average yield of the State for the preceding ten years.

After the close of the lecture a boy 15 or 16 years of age came up to the table rather timidly and picked up the ear of corn which I had used for illustration and said: "Mr. Holden, does that ear of corn weigh 10½ ounces?" I replied that I was certain that it did, but that he could weigh it and see. Then he asked again if just one ear to each hill like that one would make 33½ bushels per acre? I again replied that I was sure that it would, but that he could figure it out and see for himself. Then he remarked, "That is just about what we got this year." The boy hesitated a moment and then expressed one of the greatest truths or facts of all times, and just as true of society as of the cornfields. He said: "Mr. Holden, do you know, that it looks to me just as though there were a whole lot of stalks in our cornfields a foolin' around all summer doin' nothin'?" And I might add that the great majority of the stalks in our fields are "fooling around all summer" producing but one-half, and, many of them, less than one-quarter, of what they ought to produce.

It is the missing hills, the one-stalk

### How to Exercise the Bowels

YOUR intestines are lined inside with millions of suckers, that draw the Nutrition from food as it passes them. But, if the food passes too slowly, it decays before it gets through. Then the little suckers draw Poison from it instead of Nutrition. This Poison makes a Gas that injures your system more than the food should have nourished it.

The usual remedy for this delayed passage (called Constipation) is to take a big dose of Castor Oil.

This merely make slippery the passage for unloading the current cargo.

It does not help the Cause of delay a trifle. It does slacken the Bowel-Muscles, and weakens them for their next task.

Another remedy is to take a strong "Physic," like Salts, Calomel, Jalap, Phosphate of Sodium, Aperient Water, or any of these mixed.

What does the "Physic" do?

It merely flushes-out the Bowels with a waste of Digestive Juice, set flowing into the Intestines through the tiny suckers.

Cascarets are the only safe medicine for the bowels.

They do not waste any precious fluid of the Bowels, as "Physics" do.

They do not relax the Intestines by greasing them inside like Castor Oil or Glycerine.

They simply stimulate the Bowel-Muscles to do their work naturally, comfortably, and nutritiously.

They are put up in thin, flat, round-cornered Enamel boxes, so they can be carried in a man's vest pocket, or in a woman's purse, all the time, without bulk or trouble.

The time to take a Cascaret is not only when you are Sick, but when you first suspect you need one. Price, 10c a box.

Be very careful to get the genuine, made only by the Sterling Remedy Company and never sold in bulk. Every tablet stamped "CCC," All druggists.

hills, and the stalks "fooling around all summer doing nothing," or doing less than half what they ought to do, that to a very great extent is responsible for reducing our average yield to only one very medium-sized ear to each hill.

Better ground, better preparation of the seed-bed, better care of the crop, and better seed will do much to replace the missing hills, the one-stalk hills, and the inferior stalks with good ear-producing stalks.

In the very nature of things there will always be more or less accidents from insects and other causes, but allowing that on an average one stalk in every hill falls and the other two produce a 12-ounce ear each, we will have 76 bushels per acre. This, as every one knows, can be done, and if "we get our heads into the game," will be done in Iowa.

### THE IMPORTANCE OF AN EAR OF CORN.

In the future we must reckon more with the individuality of ears. It is not enough to know that the kernels on an ear will grow (although that is of tremendous importance), but we must know that they will give strong plants; that is, produce 80 or 90 bushels per acre instead of 30 or 40 bushels.

The missing hills—one-stalk hills and the weak and barren stalks—can very largely be attributed to certain ears whose kernels were weak.

The 21 prize-winning ears in the boys' contest at the Marshall County Farmers' Institute were shelled separately and planted side by side in different rows, three kernels per hill. The treatment was the same for all; yet one of the ears yielded at the rate of 119 bushels per acre; another at the rate of 112, and still another at 107 bushels. These were the three best. The three poorest yielded at the rate of 69, 70, and 76 bushels per acre. The best ear yielded at the rate of 50 bushels more than the poorest.

About the middle of last May I visited the Wing Bros.' farm at Mechanicsburg, Ohio, and among many very interesting things was a comparison of about 24 ears of corn which had been planted in separate rows, three kernels per hill. The ears had been carefully selected and six kernels tested from each ear. The corn in some of the rows had all come up and showed a good color and was growing rapidly. In other rows it was coming up very unevenly, and in still other rows very little showed above the ground. I met Mr. Wing at the International and he told me that one of those ears yielded at the rate of 137 bushels per acre, while another yielded about 65 or 70 bushels.

Hundreds of ears have been planted by the Funk Brothers in separate rows each year, and although great care is taken, the same wide range in yield as described above is always found.

During the present year similar experiments were made at ten of the county experiment stations in Iowa. At each station three or four farmers were asked to select about twenty-four of their best seed ears. These were then shelled separately and planted three kernels per hill by hand, side by side. The following is taken from the records in Page County:

	Bu. per acre.	No. stalks.	No. ears produced.
Ear No. 12....	109	180	230
Ear No. 23....	40	180	129
Ear No. 15....	77	195	125
Ear No. 5.....	78	140	157

Note, first, that while the kernels from ears 12 and 23 grew equally well, each having 180 stalks, yet ear No. 12 yielded at the rate of 109 bushels per acre, while ear 23 produced on the same number of stalks but 40 bushels, or a difference of 69 bushels.

Second. In case of ear No. 12, the 180 stalks produced 230 ears, while ear 23, with the same number of stalks produced but 129 ears; that is, 51 of the 180 stalks were "fooling around all summer doing nothing."

Third. Ear No. 12 produced but 16 nubbins, while ear 23 produced 38 nubbins. Ear 12 produced but 3 worthless ears, while ear 23 produced but 10 worthless ears.

In the case of ear No. 15, the 195 stalks gave but 125 ears, while the 140 stalks in case of ear No. 5 gave 157 ears.



### OLD-FASHIONED WHEAT CROPS

Big stalks, well-developed heads and large kernels—the best, whether you sow for hay or wheat—will be assured if you use

## Nitrate of Soda

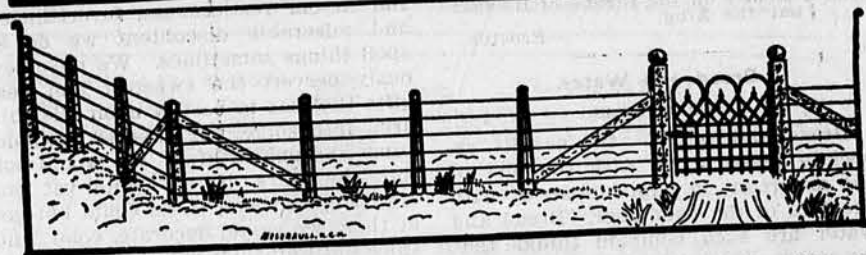
The two wheat fields illustrated above tell their own story. By tests carried on all over this country, it has been demonstrated that 100 lbs. of Nitrate of Soda to the acre has resulted in an average increase of 300 lbs. of wheat on each acre. It is the standard nitrogenous fertilizer, and the cheapest.

### TEST IT FOR YOURSELF ENTIRELY FREE

Let us send sufficient Nitrate of Soda for you to try, asking only that you use according to our directions, and let us know the result. To the twenty-five farmers who get the best results, we offer, as a prize, Prof. Voorhees' most valuable book on fertilizers, their composition, and how to use for different crops. Handsomely bound, 327 pages. Apply at once for Nitrate of Soda, as this offer is necessarily limited. Books of useful information will be sent free to farmers, if paper is mentioned in which this advertisement is seen.

Send name and complete address on post card.

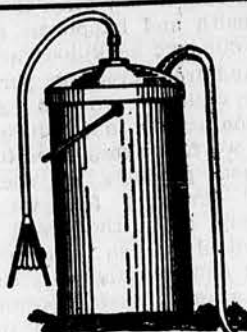
WILLIAM S. MYERS, Director, John Street and 71 Nassau, NEW YORK



### Build Your Fence with Concrete Posts Made of Cement Mortar

There are from TWO to THREE MILLION wood posts going to decay in each county. Make them of CONCRETE reinforced with steel cables and they will last FOREVER. Cost no greater than best wood posts. FIRE, nor the elements of time will not destroy. Protects stock against lightning. One county will build you a profitable business. We furnish equipment for a factory. Address

THE PARAGON CONCRETE FENCE POST CO., 417 Portsmouth Bldg., Kansas City, Kans.



Patent applied for.

## Destroy the Gophers

In Your Alfalfa Fields by Using

### Saunders' Gopher Exterminator

This apparatus forces a deadly gas through their runways and is warranted to kill gophers within 100 feet of operation. With it a man can clear from five to six acres of gopher-infested land in a day at a cost of twenty cents per acre. The poison we use can be gotten at any drug store. Satisfaction guaranteed or money refunded. Complete outfit for \$5.

Flint Saunders, Lincoln, Kans.  
Mention the Kansas Farmer.

### THE BANNER RIDING ATTACHMENT

Will fit on any right or left hand wood or steel beam walking plow, lister, sod breaker, middle breaker or harrow. ALL OF THIS WITH THE SAME ATTACHMENT. A wrench all the tool for attaching. Is regulated by levers, same as a regular riding plow. Plow or lister may be adjusted to depth from 1 to 12 inches, and from 5 to 24 inches width. Lifts point out of the ground for moving. Made of malleable iron and steel; no wood. 25-inch wheel with removable box, 2-inch oval tire, 1½-inch solid steel axle, steel or hard castings. 25-inch wheel—the best of material used throughout. Weight complete 110 lbs., and will cause plow or lister to stay in as hard ground and do as good work as any riding plow or lister. 15,000 now in use. WE GUARANTEE EVERY ONE. Only \$15 from your dealer, or delivered by us to your nearest station. We want an agent in every locality and we prefer men who use plows. Write for terms and full descriptions. THE IMPLEMENT AND MFG. CO., Coffeyville, Kans.



### LIGHTNING PORTABLE WAGON and STOCK SCALE

All above ground. Steel frame, only eight inches high. Octagon levers. Tool steel bearings. Compound beam. Most accurate and durable. Write for catalogue and price.

KANSAS CITY HAY PRESS COMPANY

180 Mill Street, Kansas City, Missouri.

## SEEDS

Field, Garden, Flower. Fresh and reliable. Do not disappoint. Have you tried them? If not, try them now. My catalog tells about them. WRITE FOR IT, and so you will see that BRING SUCCESS. High Grade Clover, Alfalfa, Timothy, Millet, Oats, Seed Oats, Seed Corn. Tell me your wants. I can fill them and please you. T. L. ADAMS, 417 Walnut St., Kansas City, Mo.



## Home Departments

CONDUCTED BY RUTH COWGILL.

### Belshazzar.

Belshazzar is king! Belshazzar is lord!  
And a thousand dark nobles all bend  
at his board;  
Fruits glisten, flowers blossom, meats  
steam, and a flood  
Of the wine that man loveth runs red-  
der than blood;  
And the beauty that maddens the pas-  
sions of earth—  
Wild dancers are there, and a riot of  
mirth;  
And the crowds all shout,  
Till the vast roofs ring,  
"All praise to Belshazzar, Belshazzar  
the king!"

"Bring forth," cries the monarch, "the  
vessels of gold,  
Which my father tore down from the  
temples of old;  
Bring forth, and we'll drink, while the  
trumpets are blown,  
To the gods of bright silver, of gold  
and of stone;  
Bring forth!" And before him the ves-  
sels all shine,  
And he bows unto Baal, and he drinks  
the dark wine;  
While the trumpets bray,  
And the cymbals ring;  
"Praise, praise to Belshazzar, Belshaz-  
zar the King!"

Now what cometh? Look, look! with-  
out menace or call,  
Who writes, with the lightning's bright  
hand on the wall?  
What pierceth the king, like the point  
of a dart?  
What drives the bold blood from his  
cheek to his heart?  
"Chaldeans! Magicians! the letters ex-  
pound!"  
They are read, and Belshazzar is dead  
on the ground!  
Hark! The Persian is come  
On a conqueror's wing,  
And a Mede's on the throne of Belshaz-  
zar the king.

—Procter.

### Bread and Water.

CORA BULLARD.

Bread and water! We usually as-  
sociate these terms with the diet of  
the miscreant in punishment, or with  
the fare of the very poor. Bread and  
water are such common things that  
we scarce give heed to them at all, yet  
it is their very commonness that con-  
stitutes the important element in their  
value. It is their very excellences  
that have occasioned their common-  
ness. And it is that their common-  
ness corresponds with a great com-  
mon need in the human family that  
the true benignity of these gifts is  
demonstrated. Do what we may, or  
go where we will, we rest upon this  
primordial provision.

Let us take the simple idea of bread  
and water and apply it socially and  
then briefly trace it upward to its  
higher meaning. The feast that is laid  
for the rich and titled let us turn our  
glass upon it for a moment. Here we  
find a sumptuous board loaded with  
all that can delight the senses and sat-  
isfy the appetite. Wines sparkle and  
foam and glow; delicious fragrance  
and aromas rise from the costly  
spread; all the delicacies to be found  
in the sea, the air, the field are brought  
to tempt the appetite of the sated ones.  
But what have we here? What  
is the fundamental idea? Surprising  
as it may seem, the whole thing is but  
an adaptation of bread and water. It  
is bread and water beautifully colored  
and decorated, bread and water adul-  
terated, bread and water refined, and  
richened to the highest degree of gas-  
tronomic art, but bread and water im-  
perishable and indestructible still.  
And not a bit of doubt if we could fol-  
low the overfed guests to privacy we  
should hear them say, in effect, "This  
kind of living may be all right occa-  
sionally, but only occasionally, for  
health and comfort give us the plain  
and substantial things"—in other  
words, "let us have bread and water."

The prodigious art of the high sal-  
aried chef of an Astor or a Vanderbilt  
may be beyond the immediate grasp  
of common cooks. The pressure of  
his servitude, like other slaves, de-  
mands that he bring forth something  
new and complicated without mystery  
and rarity he sinks to the common-  
place baker. A new relish may mean  
a new fortune, a new adaptation of a  
pudding may enable him to keep an  
automobile in repair for himself, and  
a hired girl for his wife. But it is al-  
ways bread and water that he works  
upon; bread and water is the basis of  
his glory, and he laughs as he mysti-  
fies his patron with his tricks in

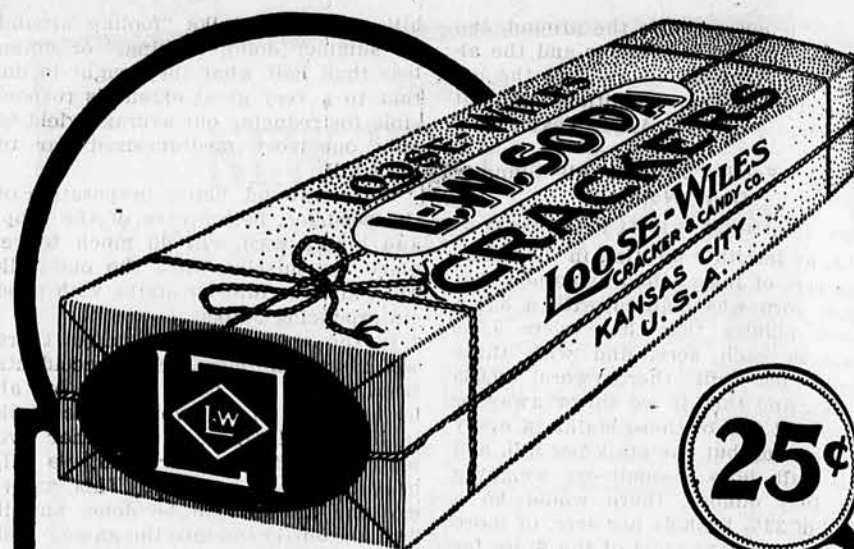
bread crumbs, and causes he and his  
guests to believe his concoctions of  
bread and water have some connection  
with far-off spice-groves and Ceylon  
breezes. The greater his skill and  
dexterity in the manipulation of bread  
and water the larger his dividends.

Bread and water will survive.  
These are the things that endure  
through all time. Empires of soups,  
entrees, pies, and puddings rise and  
fall, but the unfailing source of life  
can not be shaken. The dishes that  
delighted Babylonian gluttons and the  
menu which made Egyptian gour-  
mands smack their sensual lips are  
forgotten delights of the pastboard  
that perished in the fires of the purple  
past. But bread and water come  
steadily down the ages, over the  
graves of empires, through the ashes  
of royalty, and in plenitude and ben-  
eficence the great Giver who does all  
things well sends to every one that  
which is needful.

We people who are so fortunate as  
to live on the farm have always close  
at hand an untold wealth of bread and  
water. Very near at our door always  
there lies an abounding abundance of  
basic material with which we may  
build solid, beautiful, purposeful lives.  
But in our restlessness, feverishness,  
and miserable discontent we do so  
spoil things sometimes. We mischiev-  
ously pervert the sweetest and best  
gifts God has to bestow upon His chil-  
dren into something that is unwhole-  
some and unhealthful. We would pol-  
lute the stars if we could get our  
clutch upon them, if we could but get  
at them we would decorate, color, and  
spice until all their symmetry and har-  
mony were gone were the privilege  
granted us. It is a great pity we will  
persist in putting ourselves through  
nerve-racking, heart-deadening paces  
to obtain highly colored, highly spiced,  
indigestible superfluities that are not  
worth the having at all, when there is  
so much health and happiness going  
to waste in our own back dooryards.

We vex and fret ourselves, perhaps  
because our children are not getting  
the dainty confections in an education-  
al way that we fancy they need to be-  
come finished products of society,  
when under our very feet we are  
throwing away, daily, the bread and  
water that would nourish them to tru-  
est manhood and womanhood. If we  
give our boys and girls the power to  
read and write; if we ground them  
thoroughly in the beginnings and ele-  
ments of knowledge; if we look well  
to the development of character, they  
are pretty sure to do all else for them-  
selves. There is a great deal in mere  
learning that is but an imitation of  
fine cookery, and simply results in  
mental indigestion and moral dyspep-  
sia. We have shredded French, des-  
sicated German, and mayonnaised mus-  
ic, and the native tongue and the na-  
tive history are passed by as merely  
secondary if not beneath contempt. It  
seems we must be fine at all costs. It  
is better to chatter French in a way  
that nobody can understand than to  
speak good, plain, exact English. We  
must have knickknacks in the parlor  
even though the pantry be empty; we  
must be able to give quotations in  
French even if we can not pay our  
debts. When shall we learn to prize  
bread and water? When shall we  
appreciate the fact that it is supremely  
better to know well a little than to  
know next to nothing about a good  
deal? This is not a trifling matter,  
but a matter of greatest importance.  
The success or failure of our child life  
largely depends upon his being thor-  
oughly grounded in fundamentals—  
bread and water, so to speak.

Truly great people are always bread  
and water people. Always we find  
that in proportion as a person is truly  
learned is he truly modest, sweet, and  
simple, not the simplicity that is the  
mediocre in apogee—sapiless, restless,  
inane—but the simplicity that is the  
outcome of robustness and great in-  
tellectual industry, as rest is. The



## The Big Package and the Little Price

A 25-cent package of Loose-Wiles Sodas is so big  
the price is lost sight of—the crackers are so good  
all others are forgotten.

They are the perfect soda crackers—the kind Uncle  
Sam's experts say are the most wholesome and  
nourishing form of wheat food known.

There is as much difference between Loose-Wiles  
Soda Crackers and some Soda Crackers sold in bulk  
as there is between a porterhouse and a rump steak.  
Loose-Wiles Sodas are clean—crisp—flaky—whole-  
some and appetizing from first to last—made from  
selected soft winter wheat flour by our exclusive  
modern method of baking.

Put up in the distinctive Triple Protection package  
to assure you of your money's worth.

That's why your grocer likes to sell them. Ask him.

**LOOSE-WILES KANSAS CITY**  
CRACKER & CANDY CO. U.S.A.  
"The Modern Bakers"

worlds that fly around their center are  
at rest because of their velocity; so  
people are grand and simple in pro-  
portion to the velocity of their heart  
and brain. Let us try to have a higher  
appreciation of bread and water.

### Danger in Food.

According to many prominent Kan-  
sas City physicians this is the time of  
the year when ptomaine poisoning is  
most likely to occur, and it is well to  
be particularly careful about the food  
used. The Kansas City Journal gives  
the following timely advice:

"Eat hash if you want to.  
"Be sure it hasn't been prepared in  
copper kettles and that it hasn't been  
allowed to stand over night.

"Don't cook anything in copper  
utensils unless somebody has got out  
an injunction restraining you from  
using any other kind.

"Don't try to cook for a day or two  
ahead and don't let food stand any  
longer than you can get away with it.

"Don't let food stand over night  
without ice and be very careful even  
then.

"Be extremely careful about keeping  
food utensils absolutely clean.

"If you are suddenly seized with in-  
tense pains after eating you may  
have ptomaine poisoning. An emetic  
and a purgative should be given im-  
mediately and a doctor called."

A pronounced toxicologist says  
about ptomaines that:

"Ptomaines are simply the dead  
bodies of the micro-organisms which  
cause decomposition. In other words,  
tiny animals cause fermentation and  
decay. After they have served their  
purpose, they die and as death is the  
natural enemy of life, they are deadly  
poison when taken into the human  
system. That is, those are which are  
not produced in the human body itself.

"This is the season of the year when  
special care should be exercised by  
everybody. Even when he has done  
that, he is exposed to the carelessness  
or greed of others. But care will ob-

viate most of the danger. Food is apt  
to sour or decay very quickly when  
the weather gets hot suddenly. Noth-  
ing should be allowed to stand too long  
after it has been cooked. Even when  
ice is used in abundance, there is al-  
ways danger from carelessness in al-  
lowing the refrigerator to get unsani-  
tary. The margin of safety is always  
on the side of the careful person, how-  
ever, and if proper precautions are  
taken, if care is used in buying only  
fresh materials and if food is not left  
standing, there is little danger. As I  
have said, copper utensils should not  
be used. They are dangerous at all  
times and a very short time will pro-  
duce verdigris, which is a deadly tox-  
ic substance.

"The symptoms of ptomaine poison-  
ing are very similar to those of stry-  
chnine poisoning at first. Sudden and  
violent pains in the stomach are fol-  
lowed by stretching and convulsions.  
An emetic and a purgative may be ad-  
ministered, but a doctor should be  
summoned without delay."

### Officers of the State Federation of Woman's Clubs.

At the recent meeting of the State  
Federation of Women's Clubs the fol-  
lowing officers were elected:

President, Mrs. Eustace Brown, Ola-  
the; vice-president, Mrs. C. H. Trott,  
Junction City; recording-secretary,  
Mrs. F. B. Wheeler, Pittsburg; audi-  
tor, Mrs. M. S. Munson, Eldorado;  
general secretary, Mrs. C. G. Godard,  
Leavenworth.

"A mother's club!" exclaimed Mrs.  
Alfalfa, putting the newspaper down.  
"The very idee o'setch a thing! I  
never use nothin' but a shingle! Nice  
sort o' mothers they must be that has  
to use a club!"

During 1906 the United States im-  
ported 2,347,902 bunches of bananas  
from the San Pedro district of Hon-  
duras.

The volcano of Alarcon, Argentina,  
is in full activity.



## The Young Folks

### The Old Man's Motto.

"Give me a motto," said a youth  
To one whom years had rendered  
wise;  
"Some pleasant thought, or weighty  
truth,  
That briefest syllables comprise;  
Some word of warning or of cheer  
To grave upon my signet here."

"And, reverend father," said the boy,  
"Since life, they say, is ever made  
A mingled web of grief and joy;  
Since cares may come and pleasures  
fade—  
Pray let the motto have a range  
Of meaning matching every change."

"Sooth!" said the sire, "methinks you  
ask  
A labor something overnice,  
That well a finer brain might task,  
What think you, lad, of this device  
(Older than I, though I am gray),  
'Tis simple, 'Tis will pass away."

"When wafted on by Fortune's breeze,  
In endless peace thou seem'st to  
glide,  
Prepare betimes for rougher seas,  
And check the boast of foolish pride;  
Though smiling joy is thine to-day,  
Remember, 'This will pass away!'"

"When all the sky is draped in black,  
And, beaten by tempestuous gales,  
Thy shuddering ship seems all a-wrack,  
Then trim again thy tattered sails;  
To grim despair be not a prey;  
Bethink thee, 'This will pass away.'"

"Thus, O, my son, be not o'erproud,  
Nor yet cast down; judge thou aright;  
When skies are clear, expect the cloud;  
In darkness, wait the coming light;  
Whatever be thy fate to-day,  
Remember, 'This will pass away!'"

—John Godfrey Saxe.

### "Dan's" Black Morgan.

WM. BUCKLAND.

A number of years ago, when there were yet stretches of wild prairie in the northern part of Iowa, when the log-cabins of the backwoodsman still nestled here and there in the shelter of some thickly wooded hillside, Bert Daniels used to take his four-horse team, big covered wagon, and breaking-plow, and each summer start on a trip to the Dakotas. All summer he would follow the breaking-plow, moving on to the next job as soon as one was finished. Sometimes he would barely reach Dakota before the season would end; other times he would travel across Iowa without more than half a dozen stops.

While working in the western part of the State one summer, "Dan"—as he was familiarly known, came across a Morgan colt that just struck his fancy. She was less than a year old at that time yet she showed an unusual aptitude for learning. As Dan's work kept him at that place for nearly four weeks, he and the Morgan colt became quite good friends. Her gentle, playful disposition, together with her extreme beauty, suited Dan especially well, so he made up his mind to buy her and take her with him.

When Dan was at work, "Trilby"—for that was the name he gave her—would roam about the field, grazing when and where she pleased. Dan soon taught her to come at his call, and it was not long before she would place her hoof in his hand in response to his command, "Shake." She also learned to trot in a circle around him, to lie down, and to rear upon her hind legs at his command. Another little trick which she had developed herself and one which pleased Dan very much was that of whinnying when any one approached her. By the time they were ready to return in the fall, Trilby had also learned to travel along beside the team without being tied.

Each spring she went off with Dan's outfit, followed it all summer, and came back with it in the fall.

At 3 years of age she was a neat, well-proportioned animal, weighing perhaps thirteen hundred pounds and fleet as a deer. Her black coat always glistened, her fine mane hung nearly half way to the ground, her nicely arched neck, her clean-cut head and quivering pink nostrils spoke of refinement, while out of her bright eyes flashed spirit and vigor.

Late one afternoon, as Dan was making his homeward trip after a successful summer's work, he stopped in a fair-sized town to lay in supplies for the rest of the journey. As is usually the case, there were a number of persons standing in front of the store at which Dan had stopped. Just for

amusement, Dan ran his hand along Trilby's neck and whispered a word or two as he passed into the store. Immediately she lay down. There was considerable talk among the bystanders about a wornout and sick horse. Finally one man even ventured so far as to step out to examine her. As he touched her head, Trilby gave a low whinny. A sharp, short whistle answered from the store, and Trilby was upon her feet so quick that the man who had been bending over her went sprawling in the dust. A general laugh from the crowd greeted him as he got up and watched her trot over to playfully tease the other horses.

As Dan was preparing to drive away a tall, dark stranger with small, twitching eyes, and thin blue lips accosted him with "What'll you take for that colt, pard?"

"Oh, guess I won't sell her, can't spare her, you see," was Dan's evasive reply.

"Well, I've got a fine one down at the barn I'll trade for her," persisted the stranger.

Dan assured him that he was not a trader, and after a few moments drove off leaving the stranger with an increasing desire to obtain that colt.

About a mile or so from town Dan pulled up for the night at a sheltered place where there was plenty of grass. After he had had his supper and horses had finished grazing he fastened the four, two at each end of the wagon, then crawled in and rolled up in his blankets. The weather was just cool enough to discourage the attacks of the mosquitoes and other insects, so the horses were quiet and Dan soon fell asleep.

In the middle of the night he found himself propped up on one elbow, half awake and listening for something, he knew not what. At length he was fully awakened by a low whinny from up the road. Half suspiciously he crawled to the back end of the wagon and pushed aside the flap of the cover. There, some thirty or forty rods up the road, silhouetted against the sky, Dan saw the forms of the tall, lank stranger and—Trilby. He sprang from the wagon, uttering a shrill whistle. Hardly had the notes reached Trilby's ears till she reared up in the air and gave a tremendous lunge forward. Whether from fright or surprise, the stranger dropped the rope and ran. Dan's only weapon was the neckyoke which he had unconsciously picked up, so he contented himself with conjecturing as to what would have happened had he been better armed.

Trilby came tearing down the road, frightened at the curious proceedings and urged on by the dangling rope, which kept flicking her breast and chin. As she reached Dan she paused, blowing loudly, every muscle quivering with excitement. He removed the halter, and as he stood stroking her silky mane concluded that she had paid him well for the time he had spent in training her.

From that time on Trilby had even more care than before and became even a greater pet. This was interrupted, however, when the fall after she was 5 years old, Dan bought an interest in a thrashing outfit. Horses were scarce and Dan was forced to break Trilby in on the power. He was a careful driver, however, and by frequent changes soon had her doing her share of the work.

During the next ten years Trilby was on the power a good share of the time, for Dan bought a well-drilling outfit which he ran with it when he was not thrashing. Dan used to say that she seemed to enjoy that work. Anyhow it did not worry her, for she was always sleek and fat.

One fall Dan and his partner bought a steam engine—the first in that section—to replace the old, wornout power. With the advent of the engine, Trilby was given an honorable discharge and turned into the large pasture.

It was a sweltering hot day the first of September when the outfit was started up for the trial run. The engine ran fine and the separator hummed steadily until noon. After dinner, Dan speeded the engine up, "just to see what she'd do," he said. It was still and the dust hung over



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the separator like a dense fog. One after another, the men sought the shade, panting for breath, and mopping the perspiration and dirt from their faces. Finally Dan slowed down to the regular motion and thus they ran until quitting time.

After the chores were finished, Dan could not resist the temptation to take an ear of corn down to Trilby. He went down to the gate and sounded her usual call. He repeated it several times but received no answer. He thought that some accident had befallen her, for he could not remember a time when she had not answered his call, even though she were on the opposite side of the pasture. He concluded that he would go down below the grove, anyway, where he could get a view of the larger part of the pasture. There at the south edge he saw Trilby lying stretched out. At first he thought she must be sick, and not until he was within a few feet of her did the truth dawn upon him.

She had heard the hum of the old separator and its familiar call had seemed imperious to her. There, in the grass, was a circle the exact size of the one she used to travel in when on the power. But the steady steam engine, which needed no relay, had been more than a match for her.

She was dead!

## The Little Ones

### The Jay Bird.

The jaybird, he's my favorite  
Of all the birds there is.  
I think he's quite a stylish sight  
In that blue suit of his;  
An' when he lights and shuts his wings  
His coat's a "outaway"—  
I guess it's only when he sings  
You'd know he was a jay.

I like to watch him when he's lit  
In top of any tree.  
'Cause all birds git rite out of it  
When he 'lights, an' they see  
How proud he acts, an' swell an' spread  
His chest out more and more.  
An' raise the feathers on his head  
Like it's cut pompadore!

—James Whitcomb Riley.

### Mrs. Spider's Web.

ANNA DEMING GRAY.

The web of the spider is one of the most marvelous things in nature. How can a thing so delicate, so full of beauty ever be woven? I never notice one stretching from some angle of the porch, or from branch to branch of a tree, that I am not filled afresh with wonder at the delicacy of its pattern. Do you know how it is made? In the back part of her body the spider has a substance which is glutinous. This becomes a hard fiber when the air strikes it. On the lower side of the body are small, fine fingers. These are her spinners. She catches the glutinous fluid as it comes from these tiny tubes, and works it with her spinners, weaving in the thread for her web. She can begin or stop her spinning whenever she wishes to do so.

A single one of these fibers, as it comes from the tubes, though so fine as to be almost invisible to the naked eye, is made up of hundreds of other fine fibers. This makes the completed strand strong and elastic.

It is impossible for the eye to follow a spider's movements, so rapidly does she work. Where does she get the patterns for all her fine lace work, do you suppose? One of the most common patterns in a garden spider's web is a wheel.

She stretches long threads from branch to branch of the lilac bush, perhaps; these she places only a few inches apart. Now she works away busily until she has made many cross lines. These form the spokes of her wheel, and she pulls them firm with her feet and fastens the ends. When the twenty spokes are firmly held in place, she weaves her thread round and round them. Now she has ready a close, firm snare for any foolish fly who may venture too near.

Over the web is spread a sticky substance which helps to hold the fly when caught.

So you see the spider thought about fly-paper long before we did.

Did you never notice how hard it is

to rid your fingers of a bit of spider web which has chanced to catch your hand? This is because of the glue-like substance with which the web is spread. I have noticed that a spider spends most of her time right in the center of the web, where all the spokes come together, and I have wondered why. Only lately I learned the reason for this. From her place in the center she can feel every part of the wheel through the spokes. It is like a telegraph line, and sends her a message whenever a foolish fly is caught in the snare.

### Kansas Fairs in 1907.

Following is a list of fairs to be held in Kansas in 1907, their dates, locations and secretaries, as reported to the State Board of Agriculture and compiled by Secretary F. D. Coburn:

Allen County Agricultural Society: Frank E. Smith, secretary, Iola; August 27-30.

Barton County Fair Association: W. P. Feder, secretary, Great Bend; September 10-13.

Brown County—The Hiawatha Fair Association: J. D. Weltmer, secretary, Hiawatha; September 3-6.

Butler County Fair Association: W. F. Benson, secretary, Eldorado; August 27-31.

Butler County—Douglass Agricultural Society: C. R. Alger, secretary, Douglass; September 12-14.

Chautauque County—Hewins Park and Fair Association: W. M. Jones, secretary, Cedarvale.

Clay County Fair Association: Walter Puckey, secretary, Clay Center; September 3-6.

Clay County—Wakefield Agricultural Society: Eugene Elkins, secretary, Wakefield; October 2-4.

Cloud County Fair Association: W. L. McCarty, secretary, Concordia; September 24-27.

Coffey County Agricultural Fair Association: S. D. Weaver, secretary, Burlington; September 9-13.

Cowley County Agricultural and Live-Stock Association: Frank W. Sidle, secretary, Winfield; October 1-4.

Cowley County—Eastern Cowley County Fair: W. A. Bowden, secretary, Burden; September.

Dickinson County Fair Association: H. C. Wann, secretary, Abilene; October 2-4.

Elk County Agricultural Fair Association: E. B. Place, secretary, Grenola; September 25-27.

Finney County Agricultural Society: A. H. Warner, secretary, Garden City.

Ford County Agricultural Society: Nicholas Mayrath, secretary, Dodge City; September 4-7.

Franklin County Agricultural Society: Carey M. Porter, secretary, Ottawa; September 3-7.

Greenwood County Fair Association: C. H. Welser, secretary, Eureka; August 20-23.

Harper County—Anthony Fair Association: L. G. Jennings, secretary, Anthony; August 6-9.

Harvey County Agricultural Society: J. C. Mack, secretary, Newton; September 24-27.

Jefferson County Fair Association: Frank Leach, secretary, Oskaloosa.

Linn County Fair Association: P. S. Thorne, secretary, Mound City; October 1-4.

Marshall County Fair Association: R. W. Hemphill, secretary, Marysville; October 1-4.

McPherson County Agricultural Fair Association: H. A. Rowland, secretary; September 2-7.

Miami County Agricultural and Mechanical Fair Association: Geo. R. Reynolds, secretary, Paola; October 1-4.

Mitchell County Agricultural Association: Ira N. Tice, secretary, Beloit; October 2-5.

Montgomery County—Coffeyville Fair and Park Association: A. B. Holloway, secretary, Coffeyville; August 13-16.

Nemaha County Fair Association: Chas. H. Herold, secretary, Seneca; September 11-13.

Neosho County—Chanute Fair and Improvement Association: A. E. Timpane, secretary, Chanute; August 20-24.

Ness County Agricultural Association: Thos. Rineley, secretary, Ness City; September 11-13.

Ness County—Utica Fair and Agricultural Association: R. C. Webster, Jr., secretary, Utica.

Norton County Agricultural Association: M. F. Garrity, secretary, Norton; August 27-30.

Osage County Fair Association: F. E. Burke, secretary, Burlingame; September 3-6.

Reno County—Central Kansas Fair Association: A. L. Sponsler, secretary, Hutchinson; September 16-21.

Republic County Agricultural Association: W. R. Wells, secretary, Belleville; September 10-13.

Rice County Agricultural and Live-Stock Association: F. L. Goodson, secretary, Sterling; September 10-14.

Rooks County Fair Association: E. L. Williams, secretary, Stockton.

Saline County Agricultural, Horticultural, and Mechanical Association: B. B. Stimmel, Jr., secretary, Salina; September 24-27.

Shawnee County—Kansas Exposition Company: R. T. Kreipe, secretary, Topeka; September 9-14.

Sheridan County Agricultural Association: Miles Gray, secretary, Hoxie; September 3-6.

Smith County Fair Association: H. C. Smith, secretary, Smith Center; August 20-23.

Stafford County Fair Association: G. W. Grandy, secretary, St. John; August 28-30.

Wilson County—Fredonia Agricultural Association: V. L. Polson, secretary, Fredonia; August 6-9.

A band of masked men blew up John Linn's sheep camp in Big Horn County, Wyoming, killing 700 sheep and completely destroying all possessions of the camp.

## Tired Nervous Women Make Unhappy Homes



MRS. NELLIE MAKHAM

MRS. GEO. A. JAMES

A nervous irritable woman, often on the verge of hysterics, is a source of misery to everyone who comes under her influence, and unhappy and miserable herself.

Such women not only drive husbands from home but are wholly unfit to govern children.

The ills of women act like a fire brand upon the nerves, consequently seven-tenths of the nervous prostration, nervous despondency, the "blues", sleeplessness, and nervous irritability of women arise from some organic derangement.

Do you experience fits of depression with restlessness alternating with extreme irritability? Do you suffer from pains in the abdominal region, backache, bearing-down pains, nervous dyspepsia, sleeplessness, and almost continually cross and snappy? If so, your nerves are in a shattered condition and you are threatened with nervous prostration.

Proof is monumental that nothing in the world is better for nervous troubles of women than Lydia E. Pinkham's Vegetable Compound, made from native roots and herbs. Thousands and thousands of women can testify to this fact.

Mrs. Nellie Makham, of 151 Morgan St., Buffalo, N. Y., writes:—

Dear Mrs. Pinkham:—  
"I was a wreck from nervous prostration.

Lydia E. Pinkham's Vegetable Compound, made from native roots and herbs, contains no narcotics or harmful drugs and today holds the record for the largest number of actual cures of female diseases of any medicine the world has ever known, and thousands of voluntary testimonials are on file in the laboratory at Lynn, Mass., which testify to its wonderful value.

I suffered so I did not care what became of me, and my family despaired of my recovery. Physicians failed to help me. I was urged to try Lydia E. Pinkham's Vegetable Compound and I want to tell you that it has entirely cured me. I think it is the finest medicine on earth and I am recommending it to all my friends and acquaintances.

Mrs. Geo. A. James, a life long resident of Fredonia, N. Y., writes:

Dear Mrs. Pinkham:—  
"I was in a terribly run down condition and had nervous prostration caused by female trouble, in fact I had not been well since my children were born. This condition worked on my nerves and I was irritable and miserable. I had tried many remedies without getting much help but Lydia E. Pinkham's Vegetable Compound brought me back to health and strength. It has also carried me safely through the Change of Life. I cannot too strongly recommend your medicine."

Mrs. Pinkham's Invitation to Women.

Women suffering from any form of female weakness are invited to communicate promptly with Mrs. Pinkham, at Lynn, Mass. From the symptoms given, the trouble may be located and the quickest and surest way of recovery advised. Out of her vast volume of experience in treating female ills Mrs. Pinkham probably has the very knowledge that will help your case. Her advice is free and always helpful.

Lydia E. Pinkham's Vegetable Compound; a Woman's Remedy for Women's Ills.

## HAIL INSURANCE

There is no misfortune that can overtake a farmer that is more disastrous than the loss of his growing crops by hail. According to the Government Reports the entire State of Kansas is right in the center of the Hail Belt. Possibly you have never had a loss by hail, but that is not a guarantee that your crops will escape destruction this year.

If you want the Best Hail Insurance, get a policy in The Grain Growers Hail Insurance Company of Topeka, Kansas. We have been writing the Most Liberal, Up-to-Date Hail Insurance Policy in Kansas for seven years and have never Resisted a Single Loss or had a Single Lawsuit.

This is the only Hail Company in Kansas whose application takes effect as soon as you settle with the Agent.

This is the only Hail Company in Kansas that does not ask the farmer to pay 6 per cent of his own loss.

This is the only Hail Company in Kansas that that adjusts all legitimate claims, no matter how small.

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Methods always open for inspection. Rates low.

Write the Home Office for a copy of "What Our Policy Holders Say of Us," and particulars regarding our "New Features."

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BY HIS WIFE

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## Dairy Interests

### Practical Workings of Milking-Machines.

Considerable has been written and published concerning the milking-machine, but still it is a very new and somewhat little known invention, as far as the dairy public is concerned. The milking-machine undoubtedly has come to stay, and it is safe to make the assertion that in a short time this valuable machine will be in use practically all over the country in large dairies. As to its practical use on farms where small numbers of cows are kept, that is a question; certainly it does not look as though it would reach such a field.

We have now been operating the B. L. K. milker at the Nebraska Experiment Station since November 1, 1906, and have used it on about forty cows. So far as our experience has gone, we are much pleased with it, and believe the machine to be practical, at least under our conditions. We have learned a few very important lessons concerning the operations of this milker, and are glad to give these to the public.

In the first place, in order to make the plant economic in its nature, we expect the milker to save us labor and time. To do this one must have enough machines to keep one or two good operators busy. I believe three machines to one man will do this. With three machines an operator can milk six cows at once, and he will find his time well taken up in looking after the six cows. In the first place he must see that the cups are all of the right size, that they are put on properly, that the machines are running at the right speed, and that the milk is coming readily from all quarters, and it is necessary, to obtain the best results, for him occasionally to manipulate the udders. I believe each cow should have her udder manipulated at least twice during the milking process. Some animals will even do better under three or four manipulations, but twice will be about all an operator will have time for.

A good operator with three ma-

chines can milk from twenty-eight to thirty cows an hour. If he is obliged to weigh every cow's milk separately and sample same, he can not work this fast, and must be satisfied with about twenty-four to twenty-six cows an hour.

### HAPHAZARD WORK WILL NOT DO.

The operator must be a man above the ordinary in intelligence and integrity. He must follow directions closely, must use his judgment and be steady and methodical in his habits. Haphazard work absolutely will not do. I believe dairymen will find it necessary to pay operators better wages and will make money by so doing.

The machines working on the pulsation plan must be carefully regulated as to the number of pulsations per minute. We find, for example, certain cows requiring a more rapid pulsation than others. As a rule, the harder the milker the slower the pulsation should be. A man can find this requirement very accurately by timing himself in hand milking; as so many teat charges per minute can be emptied it is well known that a cow that is hard milking has a small opening in the teat. This will require more time to empty the teat charge. It is just so with the milking-machine; one pulsation should empty, or nearly empty, the teat charge. Occasionally we find a cow with small teats that milks easily, where rapid pulsations can be used. I have in mind a little Jersey heifer that takes the smallest sized cup and teat mouthpiece, that can be milked in two minutes and a half perfectly dry by using a rapid pulsation. I have a large Holstein that milks hard and requires the largest sized teat cup and mouthpiece, and requires from twelve to fourteen minutes. In a mixed herd such variations are quite likely to occur. Again, I have found that it is very necessary that each quarter be supplied with the proper sized teat cup and mouthpiece. I have one cow, for example, that requires three different sizes in order to milk her satisfactorily. I have found that even the putting on of the teat cup requires skill, and the same operator should milk the same cows each time if possible, so as to avoid annoyance to the animal by changes.

### REDUCES THE BACTERIAL CONTENT.

The milking-machine reduces the bacterial content and contamination of milk, but in order to obtain such results the machine with all its parts must be carefully washed and scalded each day. We found it necessary to place the parts in boiling water in order to make a thorough job of the cleaning. The rubber parts are of such a quality that they will stand boiling water or steam, and it is necessary to use this treatment in order to produce a milk with a low bacterial content. As large milk-producers supplying town and city trade are the dairymen most likely to use the machine, they are very anxious that their product remain sweet as long as possible, and it is therefore important that this feature be carefully considered. We found some difficulty in lowering the bacterial content in machine milk over that drawn by hand, and later found our difficulty in this direction was due to lack of thorough heating of the rubber tubing and teat connections.

I am satisfied that, if the machines are washed perfectly clean, the amount of contamination will be exceedingly small. We are now conducting experiments along this line, and shall be prepared with considerable data in the near future. The admittance of visitors to the barn while milking is in operation is a matter of some importance, though I do not believe it makes as much difference as some claim it does. Any disturbance that is out of the ordinary will naturally have an effect on a sensitive animal; but where animals are accustomed to visitors they will adapt themselves to such conditions, and I believe little effect will be produced on the milk secretion by this annoyance. However, it is always desirable to prevent loud talking, laughter, or disturbing noises in the stable, and if visi-

## MILK CANS ROB YOU

Look through a microscope at milk set to cream in pans or cans and you'll see how they rob you. You'll see the casein—the cheese part—forming a spider web all through the milk. You'll see this web growing thicker and thicker until it forms solid curd. How can you expect all the cream to rise through that? It can't. This



casein web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using Sharples Dairy Tubular Cream Separator, you stop that loss.

Sharples Dairy Tubular Cream Separator has 8,000 times more skimming force than pans or cans, and twice as much as any other separator. They get all the cream—get it quick—get it free from dirt and in the best condition for making Gilt Edge Butter. Casein doesn't bother the Tubular. The Tubular is positively certain to greatly increase your dairy profits, so write at once for catalog I-165 and our valuable free book, "Business Dairying."

The Sharples Separator Co.  
West Chester, Pa.  
Toronto, Can. Chicago, Ill.

## "MAIL-ORDER" CREAM SEPARATORS

Many inquiries are made as to whether the sale of "mail-order" and the various other so-called "cheap" separators seriously hurts the sale of DE LAVAL machines. There is undoubtedly a good deal of general interest on the part of separator buyers in this respect.

The answer is NO, that it certainly does not. On the contrary, the sale of "mail-order" and other "cheap" machines is helping the sale of DE LAVAL machines, which is larger from year to year regardless of all kinds of attempted competition.

The people who buy "mail-order" and other "cheap" separators at from \$20 to \$50 are almost invariably buyers who could not have been induced to pay \$40 to \$100 for a DE LAVAL machine to begin with. They would either have gone on without a separator or bought one of the fake "dilution" contrivances termed "extractors" or something of that kind.

But having once bought a "cheap" CENTRIFUGAL separator they find enough merit even in it to satisfy them that they can not afford to be without one, though they soon learn that in separators at least the best is the cheapest. So when their first machine is worn out within a year or two, and frequently within a few months, they are almost sure to be buyers of DE LAVAL machines the second time.

Then they have come to appreciate the importance of skimming clean and being able to run a heavy cream, as well as of having a machine of ample capacity and one that will last from ten to twenty years, even if it does cost a little more.

Thousands upon thousands of buyers of low-grade separators thus become second time converts to the use of DE LAVAL machines, and the DE LAVAL Company looks upon the "cheap" separator manufacturers and "mail-order" concerns as doing the best kind of missionary work for them to this end.

When the buyer wants to cut out this expensive "primary school" separator experience he pays the price and buys a DE LAVAL machine in the first place, usually saving its cost twice over while the "cheap" separator buyer is being educated to the point of doing so.

A DE LAVAL catalogue or any desired information is to be had for the asking.

### THE DE LAVAL SEPARATOR CO.

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## DO YOU KEEP COWS?

If So Write Us and We Will Tell  
You How to Make Them Keep You!

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will make you a clean saving each year over  
what you have been making of \$30.00 on two  
cows, \$75.00 on five cows,  
\$150.00 on ten cows, \$300.00  
on twenty cows.

### This is An Opportunity

that you cannot afford to overlook. Just think what it means to you. The claim made above as to the additional profit you will make is backed up by letters from professors in the several Government Experiment Stations (absolutely the best authority in the world). It is all figured out so plain that you can readily understand it.

### We Give More Information

in our catalog in regard to the saving by the use of a cream separator than was ever printed before. We show you the loss by the panning system, or the gain by the use of a Great Western, the increased value of butter where the cream is separated by the Great Western; the increased value of sweet skimmed milk for feeding purposes over sour milk; the reasons why it is possible to lose more than one-half of the cream without the use of a cream separator. In fact our catalog treats all these subjects in a clear, decisive way, touching on subjects that very few dairymen have ever thought of, and if you are milking two or more cows you should send at once and get this book of information. THE

## Great Western Cream Separator

is the only machine made with a low tank and a high crank. The tank is only 3 feet 4 inches high, therefore, it is not necessary to stand on a box, chair or step-ladder to fill it. Crank is exactly right height to make machine turn easy.

**BALL BEARINGS** are used in all of the main bearings of this machine reducing the friction so that the machine is guaranteed to run easier than any other separator on the market. The spiral gear is made of phosphor bronze, the best and most expensive metal for this use. Gears run in spray of oil.

**THE SKIMMING DEVICE** is made on scientific principles and the catalog shows a large illustration, making it plain why the skimming device will skim closer than any other machine on the market.

**OUR CATALOG** is the most handsome cream separator catalog ever issued; shows the machine exactly as it is made and finished, gives many illustrations of various important parts of the machine, taking each part up and describing it fully. We have revolutionized the cream separator business and the catalog tells you what we have learned in 15 years of experience. If you are milking two or more cows write us at once, exactly as follows: "Send me catalog No. 5080 of your Improved Great Western Separator." It will be mailed at once FREE. It explains our terms, tells how to make more money out of your cows. Don't buy a separator of any kind or milk again until you send for our catalog.

SMITH MANUFACTURING CO., No. 158 Harrison St., Chicago, Ill.

## ALFALFA SEED

less. Write for prices.

McBETH & KINNISON,

Kansas grown. Highest award at St. Louis for best alfalfa seed in world. Crop of 1906. Also Cane and Millet. Macaroni Wheat and other Field Seeds in carload lots or Garden City, Kans.



tors do call, require them to walk back of the cow and not in front.

#### METHOD OF FURNISHING POWER.

As to the method of furnishing power, it can be supplied by an ejector attached to a boiler or by a vacuum pump. We are now using both methods, and believe the vacuum pump to be preferred where power can be easily and cheaply furnished. The gasoline engine or tread power can do this very well. If a steam boiler is accessible, it is just as well to make the vacuum by this method, only it is necessary always to have at least forty or fifty pounds of steam pressure, which in some dairies would be a little hard to obtain. I believe by having a good tread power and attaching it to the pump the bulls could be worked and very economical power furnished in this way, while the effect on the bulls would certainly be good and would cost the dairyman but little.

The piping should be thoroughly done and large tubing should be used in preference to small tubing. I believe an inch and a half main is better than an inch, for the reason that it will supply a reserve, as it were, of a vacuum along the entire line. I have put in two boilers for vacuum supply, one near the pump and the other at the extreme end of the pipe system. This serves as a sort of fly wheel in equalizing the pressure and in keeping it steady. The tubing system should be firmly established so that it will not be bent or disturbed for this will cause leaks, which are very troublesome. It is well to occasionally paint all the pipes so as to fill small holes or cracks and thus make a perfectly tight system.

I believe that any dairyman having twenty-five or more cows can well afford to consider a milking-machine as a practical apparatus. If he has a good barn conveniently arranged, he certainly ought to look into this new machine.

#### HOW IT AFFECTS THE ANIMAL.

As to the effect the machine has upon the animal, it is difficult to say accurately, but I am willing to assert that this method of milking is just as good or even better than hand milking, as to effect on the animal in amount produced or in length of lactation. Occasionally we find cows that can not be milked successfully by the machine. Such animals can be gotten rid of, or, if hand milking is done at all, they can be turned into this class. I find there is some difference in breed. We find the Jersey a little better machine cow than the Holstein, but this difference may be corrected at some future time by making a different style of machine. The small teated cows as a rule are easier milked than the ones with large teats, and we experience very little difficulty in milking any cow that can take a No. 0 or No. 1 teat cup, while those taking 4's and 5's are often hard to milk satisfactorily. I have often thought the Ayrshire would make a very good machine animal, but have had no experience in this.

As to the amount of milk that can be obtained from a cow by the milking-machine, it is hard to say. We have a Holstein cow now which will give over 18,000 pounds of milk in a year, that we are milking by machine. We also have some Holstein cows which give so much milk that they run over the divided can so that even by milking them three times a day we can not use this equipment. Of course this is unusual, but it seems to me the division can will have to be a little larger if it is to accommodate all cows whether big or little producers.

In closing, I am free to say that the milking-machine is one of the greatest modern inventions, and its economic value to the dairy public is growing very rapidly. The time no doubt will come when the majority of cows used in the dairy will be milked by this process.—Prof. A. L. Haecker, in Twentieth Century Farmer.

Let a man learn that everything in nature, even notes and feathers, goes by law and not by luck, and that what he sows he reaps.—Emerson.

## The Poultry Yard

CONDUCTED BY THOMAS OWEN.

#### Poultry Notes.

It is the month of May, and eggs are retelling in Topeka at 18 cents per dozen. We do not remember of the price being so high during the last twenty years. Whatever the cause, whether because of the cold weather, or the high price of meat, we do not believe the price of eggs will ever be so low as they were a few years ago, when they could be bought for six or eight cents per dozen during the summer. The cold storage houses have put a stop forever to the extremely low prices. Farmers ought to appreciate the good prices that are paid for fresh eggs and cater more to this trade than they do. Eggs can be produced for six cents a dozen, where all the feed is bought and a high price paid for it. How much less can they be produced where on some farms the hens provide nearly all their own living, by picking up the waste grain and corn that is scattered around?

If you have not yet sent off for that setting of pure-bred eggs, there is still time to do so, and have the chicks mature before cold weather sets in. Though it is the second week in May the spring has been so late and the summer so backward in coming that the chances are that there will be a very late winter. The chick season this year is late all over and there is plenty of time to raise chickens before the very hot weather strikes us.

S. D. Thompson, of Eagle, Wis., has a 260-acre farm on which he has 2,500 laying hens, and enough others to bring the number up to 3,000. They are all White Leghorns and White Wyandottes, the best egg-producers, and the best broilers. The coops are cleaned and disinfected every day, and the fowls fed on "health food." The eggs are sold on yearly contracts to people willing to pay the price for fresh eggs. There is incubator capacity for raising 2,000 chickens a month. The business pays well, but Mr. Thompson warns against going into the business on a large scale at the start. One must learn by experience and feel his way.

The neatest and most substantial catalogue we have seen by a Western poultry-breeder is that issued by W. H. Maxwell, of Topeka, advertising his S. C. Buff Orpingtons. In it are halftone cuts of his birds, residence, poultry-houses, etc., and it is gotten up in a very tasteful manner. Mr. Maxwell makes a specialty of Buff Orpingtons, and has probably the best and largest flock of them in the West. They are getting more popular every year, winning favor on their merits alone. Something new for the West is the offer of "day-old chicks" for sale. Mr. Maxwell prepaies express charges and guarantees that every chick shall be alive, active, strong, and healthy on arrival at destination. If we wanted a start of pure-bred chickens we would rather try this plan than purchase eggs. It certainly is a very fair and safe plan for the buyer. Mr. Maxwell uses several incubators, and raises chicks by the hundreds. Any one desiring a copy of this catalogue can get one by simply writing him for it.

#### Preserving Eggs.

The Department of Agriculture has been experimenting with egg preservatives, and has found that water-glass is about the best thing that eggs can be kept in for any length of time in a good condition. Water-glass is silicate of sodium, and can be purchased at drug stores. It costs from 80 cents to \$1.20 per gallon. The bulletin says:

"Use only perfectly fresh eggs. Stale eggs will not keep by any method of preservation. Clean out the vessels in which the eggs are to be packed (preferably a stone jar) by scalding with boiling water. Prepare the solution, using water that has first been boiled and then cooled to ordinary tempera-

## The Empire Proves Its Claims



A dollar saved is a dollar earned.

Any cream separator will make some money for you.

But, if you knew of a cream separator that would not only make the most dollars, but would, at the same time, save the most dollars you'd buy it, and buy it now. Investigate the

### Improved Frictionless EMPIRE Cream Separator

It's the separator you need, and want. That sounds like a big claim. But claims proved become facts. The Empire proves its claims.

Send for our new catalog and proofs.

**Empire Cream Separator Company,**  
Bloomfield, N. J.  
Chicago, Ill.



1209 Union Ave., KANSAS CITY, MO.

## White Plymouth Rocks

STOCK AND EGGS FOR SALE.

My first range consists of 100 large white hens weighing from 8½ to 10½ pounds, headed by eight large, white cockerels from my first pen. Stock—100 eggs \$10; 15 eggs \$2. Second range—100 eggs \$6; 15 eggs \$1. First pen—100 eggs \$25; 15 eggs \$5. Second pen—100 eggs \$15; 15 eggs \$3. You run no risk when you buy eggs of me. Satisfaction guaranteed.

**G. R. Davis,**

VALLEY CENTER, KANSAS

## The Talbott Poultry Farm

Breeders of the best in the world. Strain of Buff, Brown and White Leghorns, Barred Rocks and White Wyandottes. My birds have won at Chicago, Galveston, Moline, Illinois, Fremont, Hebron and State Poultry Show of Nebraska, and they will win for you. 500 old birds for sale at \$1.50 each; also 1,000 youngsters at \$1.00 and up.

**W. R. TALBOTT, Prop.** Hebron, Nebr.

## Markers White Plymouth Rocks

Our stock won more premiums and specials at Hutchinson State Fair, Great Bend, Salina, Wichita State Poultry Show and Nickerson than any breeder in the west which is positive proof that they are

"Better Than Any."

Buy eggs from these birds, improve your flock and win the prizes at the coming shows. Safe arrival and fertility guaranteed. Prices, \$1, \$2 and \$3 per 15; \$5, \$10 and \$15 per 100.

**We More Than Please** Marker Bros., Great Bend, Kans. **Satisfaction Guaranteed**



## THE SAFETY HATCH INCUBATOR

Leads for 1907 because it has not been cheapened in quality. The copper hot water heating system is perfect. Simple end regulator with double brass thermostat. Double cases packed with a fibrous material filled with innumerable dead air spaces. Double clear table top packed the same as the walls. The cloth nursery tray, so nice for newly hatched chicks to rest on. Two doors, one of glass, the other solid lumber. Easy to clean safety lamp. And guaranteed perfect ventilating system. No better machine can be built at any price. Others claim the best hatches, but we get the largest averages and healthiest chicks. We pay the freight. Our 1907 catalogue tells it all. It's free. Address

**THE CLAY CENTER INCUBATOR CO.,**  
CLAY CENTER, KANSAS.

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Buggies, farm wagons, farming tools, barns, outbuildings and houses often need painting. "Everybody's Paint Book," written by a thoroughly practical painter, will be found a complete guide to the art of outdoor and indoor painting. It is designed for the special use of those who wish to do their own painting. It gives practical lessons in plain painting, varnishing, polishing, staining, paper hanging, kalsomining, etc.

It also tells how to renovate furniture and gives many hints on artistic work for decorating a home. Precise directions are given for mixing paints for all purposes.

If farming tools and farm vehicles are kept painted, they will last twice as long, and anybody can do the work with the aid of this book. It is handsomely and substantially bound in cloth. A copy will be sent postage prepaid on receipt of price, **\$1.00**

We will send the book and The Kansas Farmer one year for only \$1.50. Address, **THE KANSAS FARMER COMPANY, Topeka, Kans.**



## Too Rapid Feathering



Spring chickens often show positive weakness as the result of too rapid feathering. This checks the development of the chick, and may result in loss. If you begin the care of the young brood by giving daily a little of

## DR. HESS POULTRY PAN-A-GE-A

in the morning find these difficulties will be avoided. It contains bitter tonics to increase digestion, iron to make blood, and nitrates to help the fowl to throw off poisons from the system. By increasing digestion you increase growth and egg production, as all development depends absolutely upon the digestion. Besides this it has a principle peculiar only to itself—it has the power of destroying the little germs of disease, cleansing and purifying the system generally. Poultry Pan-a-ge-a is the prescription of Dr. Hess (M.D., D.V.S.). It makes eggs in abundance when given to laying hens, and hastens the fattening of market stock. Endorsed by leading poultry associations in United States and Canada. Costs but a penny a day for 30 hens, and is sold on a written guarantee.

1-2 lbs. 25c. mail or } Except in Canada  
express 40c }  
5 lbs. 60c; 12 lbs. \$1.25 } and extreme  
25 lb. pack \$2.50 } West and South.

Send 2c postage for Dr. Hess 48-page Poultry Book, FREE.

**DR. HESS & CLARK,**  
Ashland, Ohio  
Instant Louie Killer Kills Lice.

### BLACK LANGSHANS.

BLACK LANGSHAN EGGS from fine stock: \$1.50 for 15, or \$7 per 100. Baby chicks, 10 cents each. Mrs. Geo. W. King, R. 1, Solomon, Kans.

BLACK LANGSHAN EGGS—\$1.50 per 15. From World's Fair winning strain. Mrs. E. Forward, Bayneville, Kans.

PURE-BRED WHITE LANGSHANS for sale. Hens \$1.25, pullets \$1 each; also a few Silver Spangled Hamburg cockerels. Mrs. John Cooke, Greeley, Kans.

### BLACK LANGSHANS

Of best breeding. Eggs for sale at \$1.50 per 15 or \$2.50 per 30.

Mrs. E. S. Myers, Box 174, Chanute, Kans.

### BRAHMAS.

### Light Brahma Chickens

Choice pure bred cockerels for sale. Write or call on Chas. Foster & Son, Eldorado, Kas., Route 4

### LEGHORNS.

S. C. B. LEGHORN EGGS—Cockerels from state prize winners. \$1.50 for 34, \$3.75 for 100. Mrs. D. M. Evans, Edgerton, Kans.

CHOICE R. C. B. Leghorn and Pekin duck eggs \$1 per 15. Reductions on incubator lots. J. E. Wright, Wilmore, Kans.

S. C. B. LEGHORN EGGS, 30 for \$1; 100 for \$3. Mrs. P. E. Town, Route 3, Haven, Kans.

ROSE COMB BROWN LEGHORNS EXCLUSIVELY—Farm raised. Eggs \$1 per sitting of 15, per fifty \$2, per hundred \$3.50. Prompt shipments made. P. H. Mahon, Route 3, Clyde, Cloud Co., Kans.

SINGLE COMB BROWN LEGHORNS—Best laying strain in the world. Eggs \$1 per sitting, 3 sittings \$2.50, \$5 per 100. Everett Hayes, Hiawatha, Kas.

PURE SINGLE COMB BROWN LEGHORN eggs, 30 for \$1, 100 for \$3. Jos. Caudwell, Wakefield, Kans., successor to F. P. Flower.

FOR SALE—Single Comb White Leghorn cockerels. Wyckoff laying strain. Price, 75 cents and \$1. Henry Martin, Newton, Kans.

ROSE COMB BROWN LEGHORN EGGS—15 for \$1.50, 30 for \$2.50, 100 for \$4. Mrs. John Holzhey, Rendena, Kans.

STANDARD BRED SINGLE COMB BUFF LEGHORNS—Headed by first prize pen. Chicago show 1903 and took six first prizes and first pen at Newton 1904. Eggs \$3 for 15. S. Perkins, 801 East First Street, Newton, Kans.

### STOCK AND EGGS.

Silver Sp. Hamburgs: 1 cockerel, 1, 2, 3, 4 pullet, 1 pen, at great Wichita show. S. C. W. and Brown Leghorns; Black Minorcas; 15 eggs Blue Ribbon pens \$5, 24 best \$2; utility pens headed by high scoring males \$1.00; M. Bronze turkey eggs \$2 per 9, selected \$3 each. Vira Bailey, Kinsley, Kans.

### STAY WHITE

S. C. W. Leghorn and Buff P. Rock eggs \$1 per 15. At Nickerson show 1907 (Helmick judge) I won incubator on highest scoring cock, cockerel, hen, pullet in Mediterranean class. On Rocks took 1 cock, 1, 2, 3, hen. Mrs. J. W. Cook, R. 3, Hutchinson, Kas.

## S. C. W. Leghorns

I have over 200 selected hens, snow white, yellow legs, deep bodied, and bred for large egg production. Mated with show bird cockerels. 30 eggs, \$1; \$3 per 100. I replace all broken eggs. Can fill orders any time.

**Mrs. Neva Love**

FORMOSO,

KANS.

ture. To each fifteen quarts of water add one quart of water-glass. Pack the eggs into the jar and pour the liquid over them; cover the eggs completely. Do not wash the eggs before packing them, as this may injure their keeping qualities by removing a natural protective coating on the outside of the shells. Keep the eggs packed in this manner in a cool, dark place, such as a dry, cool cellar. Each day's gathering of eggs may be packed immediately after gathering them in the jar and pouring over them just enough of the solution to cover them. This is better than to hold the eggs for several days at the risk of their becoming stale in order to have a sufficient number to fill the entire vessel at one time. In some of the warmer sections of the country during the summer months the temperature often rises high enough to start incubation in eggs. In such localities eggs must be packed soon after they are laid or kept in some cool place until they are to be packed.

"Water-glass is a somewhat alkaline liquid, but the dilution is not injurious to the hands if they are dipped into it in packing successive gatherings of eggs or in removing eggs from the solution. It is stated that eggs packed by this method will keep for several months."

In the issue of April 25 an error was made in attributing the awards of "White Ivory," a Wyandotte hen, to C. C. Fair, Sharon, Kans. The hen is owned by G. A. Wiebe, Beatrice, Neb. Mr. Fair has a W. P. Rock cockerel named "White Ivory," and here is where the error came in.

### Poultry Pointers.

N. J. SHEPHERD, ELDON, MO.

Young turkeys should always have a fresh supply of water from the start, and it should be given in such a way that they can not get into it and get wet.

Especially where the neighbors keep turkeys, it is a good plan to mark all the young turkeys when they are two or three days old. This can be done by punching one or more holes in the web of the foot.

The main reason why women are the best poultry-raisers is because they are more considerate of the wants and necessities of their fowls than men. They also excel as breeders once they set their heads to it.

When considered advisable to feed mash or soft feed to poultry the best time to give them is for the early morning meal. Even with little chickens it is best to feed small or cracked grains at night, while the older fowls should have whole grain. Many of the small flocks become too fat because every meal permits of scraps being obtained, which are thrown out as fast as accumulated, usually three times a day, and the hens never being hungry patiently sit around and wait for more.

Excessively fat hens lay soft-shelled eggs when the layers of fat are so abundant as to force the egg out before it can receive sufficient coating of shell. Failure to provide lime is a frequent cause of soft-shelled eggs with hens that are in a good condition.

A plentiful supply of good grit should always be kept where the fowls can help themselves. It is very necessary in aiding the action of the gizzard in grinding the food preparatory to digestion, and the failure to supply it is often the foundation of many fatal ailments.

In growing food for poultry it should be borne in mind that corn, wheat, and oats can always be purchased and it is best therefore to grow sorghum, broomcorn, popcorn, millet, and sunflowers for seed, which afford a good variety, but which can not be so readily procured in market.

The time to pick duck feathers is when they are ripe. This may be learned by catching two or three and pulling a few feathers here and there. If they pull hard and the quills are filled with a bloody fluid they are not ripe; but if they pull easy and the quills are clear you may know that it is the best time to pick.

### PLYMOUTH ROCKS.

Evans' Barred Rocks—Superior winter-laying strain, noted for size and quality. Fifteen years careful, exclusive breeding. Eggs \$1 per fifteen, \$1.75 per thirty. E. J. Evans, Route 4, Fort Scott, Kans.

WHITE PLYMOUTH ROCKS—Exclusively pure white birds, farm range. Eggs \$1 per 15, \$1.75 per 30. R. J. Yust, Route 2, Sylvia, Kans.

BARRED PLYMOUTH ROCKS—Pure Bradley strain. Eggs from pens \$2 per 15. R. Harmstrom, Route 6, Newton, Kans.

BARRED AND W.P. ROCK EGGS—Hawkins and Bradley strains; 15 for \$2, 45 for \$5. Chris Bearman, Route 9, Ottawa, Kans.

BLUE BARRED ROCKS—Large, vigorous, farm raised stock, \$1.50 per 15; \$4 per 50; \$5 per 100. Minnie K. Clark, Route 2, Lawrence, Kans.

BARRED PLYMOUTH ROCKS as good as the best. Eggs 50 cents for 15. Write D. N. Hill, Route 5, Lyons, Kans.

30 WHITE PLYMOUTH ROCK EGGS FOR \$3—From prize-winning pens, line bred, large size and pure white. I pay the express charges. J. C. Bostwick, Hoyt, Kans.

BUFF ROCKS—High scoring, vigorous, farm raised, bred for size and laying qualities. Eggs \$1 to \$2.50 per 15, \$5 per 100; circular free. Sunny Slope Poultry Farm, Box 406, Effingham, Kans.

BARRED PLYMOUTH ROCKS EXCLUSIVELY (Bradley Strain.)

Pullet-mating pen headed by a 98% point cockerel. Cockerel-mating headed by a 93 point cock. The females score from 90 to 98%. Barring extra strong. Eggs \$1.50 per 15, \$7.50 per 100. Mrs. Chas. Osborn, Eureka, Kans.

### EGGS! EGGS!

I feel confident from the Steel Blue Barred Plymouth Rocks will be produced some prize-winning chicks for you, whether you wish them for show birds or on the farm. Let me have your order and the chicks will speak for themselves. It costs no more to raise fine birds than inferior ones, and the extra small expense of starting should not be considered for the results and satisfaction you would get out of this Famous Strain would overcome all. Try them. Write for catalogue. It's free. JOE B. MOORE, originator and breeder of the renowned Steel Blue Barred Plymouth Rocks, Mexico, Mo.

EGGS! EGGS! EGGS! Toulouse Geese eggs, \$1 per sitting. Rouen and Pekin duck eggs, 15 for \$1. Muscovy duck eggs, 9 for \$1. Bronze turkey eggs, 9 for \$2. Peacocks, Barred and White Plymouth Rocks, Houdans, Buff Cochins, Silver Spangled Hamburgs, Cornish Indian Games, Buff Orpingtons, Rhode Island Reds, Brown, Buff and White Leghorns, Buff, White and Silver Laced Wyandottes, Pearl and White Guineas, Golden Seabright Bantams, Buff Cochins Bantams. Eggs 15 for \$1. Also sell by the 100. All kinds of fancy pigeons for sale. Also hunting dogs. Satisfaction guaranteed. Write for circular. D. L. Bruen, Platte Center, Neb.

## White Plymouth Rocks EXCLUSIVELY

Good for Eggs. Good to Eat. Good to Look At. W. P. Rocks hold the record for egg laying over every other variety of fowls; eight pullets averaging 289 eggs each in one year. I have bred them exclusively for twelve years and have them scoring 94 to 96%, and as good as can be found anywhere. Eggs only \$2 per 15; \$5 per 40, and I prepay expressage to any express office in the United States. Yards at residence, adjoining Washburn College. Address

THOMAS OWEN, Sta. B. Topeka, Kans.

### BUFF ORPINGTONS.

S. C. Buff Orpington eggs until July 1. Fifteen for \$1.50, fifty for \$3.50. Fred and Edward Stark, Abilene, Kans., Route 7.

S. C. BUFF ORPINGTON EGGS—Extra fine stock, headed by an 11 pound cockerel. 15 eggs \$1.25. C. B. Owen, Lawrence, Kans.

SINGLE COMB BUFF ORPINGTON AND BLACK MINORCA EGGS for setting, \$1 for 15. A. J. Stratton, Reading, Kans.

S. C. BUFF ORPINGTONS—Eggs from the Cup-winners at the biggest show in the country at a low price. Write for prices Frank Hill, Sabetha, Kans.

CHOICE Buff Orpington and B. P. Rock cockerels, Collie pups and bred bitches. Send for circular. W. B. Williams, Stella, Neb.

## S. C. Buff Orpingtons —EXCLUSIVELY—

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BROWN'S WHITE WYANDOTTES—Ahead of everything; stock for sale; eggs in season. I have the English Fox Terrier dogs. Write me for prices and particulars. J. H. Brown, Clay Center, Kans.

WHITE WYANDOTTES—Pen No. 1, score 94 to 96% by Atherton. Eggs \$2 per 15. 100 others bred to lay high scoring eggs \$1 per 15; \$4 per 100. J. L. Moore, Eureka, Kans.

WHITE WYANDOTTE EGGS from choice matings; \$1.50 per fifteen. S. W. Arts, Larned, Kans.

White Wyandotte Eggs per sitting \$1, or 100 for \$5. Mrs. E. F. Ney, Bonner Springs, Kas.

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Scotch Collies.

Fifty-seven Collie puppies just old enough to ship. Place your orders early, so you can get one of the choice ones.

Walrus Grove Farm, Emporia, Kans.

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NEOSHO POULTRY YARDS—Rose Comb R. I. Reds, score 90 to 94%. Seven years experience with this breed. Eggs for hatching. Prices reasonable. J. W. Swartz, Lock Box G, Americus, Kans.

RHODE ISLAND REDS—My pen now ahead of all pens at state laying contest at Manhattan. Won at state shows and Topeka show. R. B. Steele, Sta. B, Topeka, Kans.

RHODE ISLAND REDS—Cockerels, R. C. R. I. Reds from prize winners. Red to the skin. Eggs in season. Good Hope Fruit & Poultry Farm, Troy, Kas.

ONE DOLLAR buys 15 eggs of either Rose Comb R. I. Reds or Barred Rocks from prize winning stock at the College show. Mrs. A. J. Nicholson, Manhattan, Kans.

Rose Comb Rhode Island Red eggs for sale. Circular free. G. D. Williams, Inman, Kans.

### MISCELLANEOUS.

CHICK-O FOR BABY CHICKS—"Just the feed and all they need." A balanced ration of pure grains, seeds, bone, etc. Ask your dealer or write to headquarters. D. O. Coe, 119 East Sixth Street, Topeka, Kans.

TRY Forbes Bros. Chick Food, also Baby Chick Grit. 115 West Laurent Street, Station A, Topeka, Kans.

AGENTS—To sell and advertise our Poultry Compound; \$35 weekly; rig furnished. Franklin Manufacturing Company, Norwalk, Ohio.

FOR SALE—White Plymouth Rock eggs. Stock from two excellent strains, careful selection for years. 1907 eggs hatching as high as 95 per cent strong chicks. After May 10th, \$3 per hundred, \$1.75 for 50. Address Elizabeth M. Willett, Lawrence, Kans., Route 1.

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Pure-bred eggs \$1.25 per 30, \$3.25 per 100. J. A. Reed, R. 3, Wakefield, Kas.

## GILT EDGE POULTRY CO.

Eggs for sale from 24 different varieties of poultry, including Toulouse geese, Pekin ducks and M. B. turkeys. Each breed on separate farm. Write for catalogue.

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**W. H. MAXWELL, Secretary,**

1996 McVicar Ave. Topeka, Kansas



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Hatch Chickens by Steam with the EXCELSIOR INCUBATOR Or WOODEN HEN. Simple, perfect, self-regulating. Hatch every fertile egg! Lowest priced first-class hatcheries made. GEO. H. STAHL, Quincy, Ill.

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Everybody's incubator holds 125 eggs. Self regulator, needs no moisture, powerful double heater, egg tray and new removable sanitary nursery tray. Has everything high-priced hatcheries have. Four walls, packed, not affected by heat or cold. Cat. Free. Gouverneur Incubator Co., 811 Main St., Gouverneur, N. Y.

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Lee's Lice Killer 35c per qt One-half gal. 60c. Germozone 50c.

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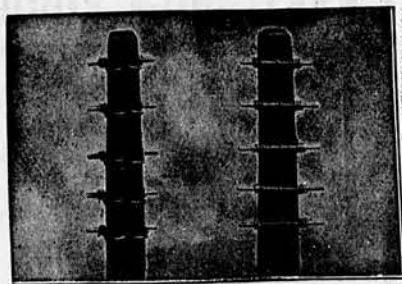
## Can't Miss It

So many ailments are purely nervous affections, that you can hardly miss it if you try Dr. Miles' Nervine. It restores nervous energy—and through its invigorating influence upon the nervous system, the organs are strengthened. The heart action is better; digestion improved, the sluggish condition overcome, and healthy activity re-established.

"Dr. Miles' Nervine is worth its weight in gold to me. I did not know what ailed me. I had a good physician but got no relief. I could not eat, sleep, work, sit or stand. I was nearly crazy. One day I picked up a paper and the first thing that met my eyes was an advertisement of Dr. Miles' Nervine. I concluded to try it and let the doctor go, and I did so. After taking two bottles I could dress myself. Then I began taking Dr. Miles' Heart Cure and now I can work and go out, and have told many the benefit I have received from these remedies and several of them have been cured by it since. I am fifty-nine years old and pretty good yet."

**ANNA R. PALMER, Lewistown, Pa.**  
Dr. Miles' Nervine is sold by your druggist, who will guarantee that the first bottle will benefit. If it fails, he will refund your money.

**Miles Medical Co., Elkhart, Ind**



## The Banner Cement Post

A Post for the Future as Well as the Present. (Patented)

Adapted to and covering every possible requirement of farm, ranch, railroad, or wherever posts are needed. The best, cheapest, most convenient, most practical wire fastener, and the most durable post ever made. For particulars write

**GEO. HAAS, Lyons, Kans**

When writing advertisers please mention this paper.

### Shawnee Horticulturists.

(Continued from page 605.)

is done by summer pruning than is generally supposed.

Mr. J. C. Banta, of Shawnee County, read an exhaustive paper on berry culture. He has promised his paper to the readers of THE KANSAS FARMER.

Mrs. Theodore Wilkie and several other ladies of the Chaltso Club were present. Mrs. Wilkie was to have read a paper on "Nature Study;" but owing to the fact that the G. A. R. people had a meeting advertised for 3 o'clock in the same building, the society yielded and adjourned its meeting. The next meeting is to be at T. P. Van Orsdal's June 6th.

### Bond Election May 21.

Readers in the various townships between Topeka and Council Grove, through which the proposed Topeka-Southwestern Interurban Railroad is to pass, will have an opportunity to vote for the bonds at a special election called for that purpose, May 21. Mr. Taylor and his associates have been backing this enterprise faithfully the past year and have secured the agreement of the bankers and construction company to build and equip this road, providing the bonds carry. The local organization has agreed to vote the township bonds, and if this is done active construction it is promised will begin at once and be pushed until the road is completed.

An up-to-date interurban railroad is promised, the first of its kind in the West, to cost complete about \$23,000 per mile. There are to be interurban stations every two miles and unsurpassed service several times a day.

It is a good business proposition as the road will pay taxes into the different townships equal to more than the interest and principal on the bonds before they are due.

The proposition is this, if the bonds are voted Topeka and the territory to Council Grove will soon have an interurban railroad that will be of immense value to us and will increase the value of property without any increase in our taxes, and we will get the kind of a road we want, and if the bonds are not voted we only lose the road, but will find it difficult ever again to finance an enterprise like this one. It is a fair proposition, as the bonds are not to be delivered until the road is completed and in active operation, fully prepared for the proper handling of all kinds of traffic.

It is stated that no other road or company is connected either directly or indirectly with this railroad. Lamprecht Bros. & Co., the banking house back of this proposition are interurban people, and now are interested in four interurban roads in the East.

If the bonds carry the road is to be built as an investment, and will stand on its own bottom, and this is the reason the company asks for aid bonds to help pay the interest until the road can earn enough to pay its own. There should be no opposition to the bonds, and when the voters are properly informed as to the merits and importance of this enterprise we believe they will take no chances on letting it get turned down, but will work and vote for the bonds.

John L. Sewell, of Bazine, Ness County, reports under date of May 10: "Wheat in fine condition; there will be a fair crop. Rye looking fine, barley killed by frost, some corn has been planted, potatoes planted. We have pretty warm weather now. The pastures are short. The ground is in good condition to break. We had seven inches of rain last week."

American Father—"How is this? Before your marriage I asked for some proof that you had credit abroad. You immediately drew a check on a Paris bank for a large sum, and it was honored. Now you tell me you have not a cent to your name."

French Count (his son-in-law)—"Not a centime."

"How did that check come to be paid, then? Explain that."

"I previously had informed zee Paree bankaire zat I vas engaged to your daughter."

# Now

is the time  
to make your

## CALIFORNIA TRIP \$50

THERE AND BACK

One way through Portland \$12.50 extra. Tickets on sale every day to May 18, and June 8th to 15, 1907. Tickets good in either Pullman Palace or Tourist Sleeping Cars.

By taking a tourist sleeper, passengers can materially reduce the cost of a California tour without sacrificing the slightest degree of comfort.

Tourist Sleeping Cars run daily to California

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## UNION PACIFIC

For reservations and all information  
inquire of

**F. A. Lewis**

City Ticket Agent.  
525 Kansas Avenue.

**J. C. Fulton**

OR, Depot Agent.

## A Shady Transaction

If anybody sold you some lumber and if upon careful examination you discovered that it was really not solid timber but merely short pieces spliced together you would call it a shady transaction. That is about the kind of a proposition you are up against when you buy cut stay fence.

It's really not a first-class, full strength product. About half of its strength is wasted—sacrificed to convenience and speed in manufacture. Our stay wire is NEVER cut. It runs continuously up and down across the fence for many rods without an end, thus preserving and utilizing ALL the strength and service there is in the wire.

**30 Days Approval.** Let us prove to you that Advance Fence is the best made fence on earth. We offer to ship you all you need on 30 days approval. We want you to examine it carefully and compare its construction with other fences. You may stretch up a part or all of it and turn your stock against it. In fact give it any kind of a test you wish.

Then we will let you be the judge—absolutely. If you do not like it send it back and it won't cost you a cent as we will pay freight both ways and refund to you every cent you paid. We know that Advance Fence will please you or we would not dare make this liberal offer.

**We Prepay Freight** and guarantee safe delivery of shipment. You take no risk whatever. Write for our Free Fence Book and Prices.

**Advance  
Fence Co.,**  
37 Old St., Peoria, Ill.



### Baseball Outfit Free!

To any boy securing ten new subscribers for The Weekly Journal at 25 cents per year each, thus making a total of \$2.50, and send to us together with names and addresses, we will send to his address, free of charge, express prepaid, either a mitt, glove, mask, ball or bat, all of which are a very high class of goods. Or if you desire to secure two of these articles, secure twenty new subscribers, and so on.

Send for sample copies for canvassing, and when you send your list and remittance do not fail to give your nearest express office.

Send money by postoffice money order or draft, and address The Kansas City Journal, Kansas City, Mo.

This offer expires August 1, 1907.

The old idea of "breaking" the colt is being abandoned. It is now realized that no breaking is required if the colt has been treated rightly during his growing period.

### New Advertisers.

W. H. Maxwell, Buff Orpingtons.  
Geo. Haas, Banner Cement Posts.  
M. A. Carleton, Wanted.  
Jones of Binghamton, Scales.  
Manitou Steamship Company, Manitou.  
Locatur Pub. Co., Wanted.  
St. Louis Wrecking and Supply Co., lumber.  
Topeka Buckle Company, Runaway.  
John E. Joines, Duroc-Jerseys.  
J. W. Ferguson, Poland-China herd boar.  
H. B. Kelly, Licensed Loot.  
John E. Joines, Duroc-Jerseys.  
Samuelson Bros., Duroc-Jerseys.  
Lincoln Business College, The Key to Success.  
Rice Bros., Live Stock Commission Merchants.  
C. A. Lewis, Poland-Chinas.  
A. R. Sigler, Poland-Chinas.  
Steele & Ward, Shawnee County Farms.  
W. H. Cummings & Sons, Duroc-Jerseys.  
Hebbard & Ray, Meddler Poland-China Sale.  
F. L. Williams, Farms.  
J. F. Chandler, Duroc-Jerseys.  
S. S. Spangler, Shorthorn bulls.



## The Grange

"For the good of our Order  
our Country and Mankind"

Conducted by O. F. Whitney, Station A, Topeka.  
Items of interest are expected from each subordinate Grange.

### NATIONAL GRANGE.

Master.....N. J. Bachelder, Concord, N. H.  
Lecturer.....Geo. W. G. Gaunt, Mullica Hill, N. J.  
Secretary.....C. M. Freeman, Tippicanoe, Ohio

### KANSAS STATE GRANGE.

Master.....George Black, Olathe  
Overseer.....A. P. Reardon, McLouth  
Steward.....R. C. Post, Spring Hill  
Assistant Steward.....C. T. Minor, Selma  
Chaplain.....Alice M. Munger, Manhattan  
Treasurer.....Henry Rhoades, Gardner  
Secretary.....A. L. Hunt, Olathe  
Gate Keeper.....J. H. Smith, Lone Elm  
Ceres.....Joella Beach, Winfield  
Pomona.....Sarah M. Phinney, McLouth  
Flora.....Helen Cady, LaCygne  
L. A. Steward.....Effe Cline, Larned

### EXECUTIVE COMMITTEE.

George Black.....Olathe  
A. L. Hunt.....Olathe  
E. W. Westgate, chairman.....Manhattan  
J. C. Lovitt.....Bucyrus  
O. F. Whitney.....Topeka

### A Worthy Object.

Every grange in the State should be interested in the State Agricultural College. The college was founded in order to develop the agricultural interests of the State, and has grown rapidly until to-day it ranks easily among the first in the country. Through farmers' institutes, experiment work, articles in the various farm papers, etc., many farmers are receiving an immense amount of good. It would be hard to estimate the direct financial gain to the State which has resulted from the work of the college.

Yet after all perhaps the greatest work of the college is in the training of the young people of the State. The greatest asset of Kansas is not in her rich soil, her healthful climate, her sheep, horses, and cattle, but in her young men. These young men are of more value to the State than all of the above mentioned. The college offers an opportunity for a practical education to all young men who will come. About 1,400 of them were in attendance this last year. How important it is that these students be surrounded by good, clean, wholesome influences.

The young men themselves are taking the lead in creating the right kind of an atmosphere through a student organization known as the Young Men's Christian Association. The association stands for clean living and a symmetrical and normal development of the physical, intellectual, and spiritual natures of the students. So firmly do the students believe in this organization and the things for which it stands that they started a movement three years ago for the erection of a building which would serve as the social, physical, and spiritual headquarters of the men. So far over \$19,000 has been subscribed by about 1,000 different young men for this purpose; \$6,000 of this has been paid in. The great majority of the young men who have given are poor students, earning their way through college. In most cases it means real sacrifice.

The total cost of the building, including lots, architect's fees, furnishings, etc., will be about \$35,000; \$30,000 of this is already subscribed, and work on the building was begun May 1. Five thousand dollars more is needed to properly equip and furnish it. The money must come from somewhere, and it seems to me that it would be a fine thing if every grange in the State would agree to give from \$25 to \$50 to this enterprise. This matter is not a local affair but it vitally affects the whole State. If we do not help, the probabilities are that the students will be obliged to make up the balance by going down in their pockets again. This would mean a hardship in many instances, as the majority have given up to their limit. The people of the State should step in and help at this time.

Two granges have already made subscriptions, and I am sure that others would if the matter were brought to their attention. Surely every grange in the State is interested in the moral influences which surround the young men at the Agricultural College. Here is a very practical way of expressing this interest. I hope that each grange will not put this matter off but will take immediate action so

## Weather Bulletin

For the Week Ending May 13, 1907

### DATA FOR THE WEEK.

	Temperature.				Precipitation	
	Maximum.	Minimum.	Mean.	Departure from normal.	Total.	Departure from normal.
<b>WESTERN DIVISION.</b>						
Cimarron.	83	36	51	0	0.58	50
Colby.	85	30	52	0	0.58	50
Coolidge.	89	38	55	0	0.84	71
Dresden.	88	30	49	0	0.10	58
Farnsworth.	81	35	52	0	0.40	58
Gove.	78	38	56	0	0.10	57
Hill City.	87	34	53	0	0.60	79
Norton.	79	30	48	0	0.07	62
Scott.	87	36	55	0	0.54	63
Wakeeney.	87	34	54	0	0.30	63
Division.	89	30	52	0	0.30	63
<b>MIDDLE DIVISION.</b>						
Alton.	80	32	52	0.36	0	50
Clay Center.	84	31	53	0.14	0	50
Coldwater.	80	40	54	0.10	0	50
Concordia.	85	35	54	-0.13	-0.71	47
Cunningham.	84	41	55	0.60	0	43
Eldorado.	79	41	56	0	0	50
Ellinwood.	67	38	52	0.12	0	46
Ellsworth.	86	33	54	0.09	0	46
Greensburg.	83	43	56	0.16	0	46
Hanover.	85	35	55	0.11	0	70
Harrison.	81	30	50	0.22	0	45
Hays.	88	35	53	0.01	0	69
Hutchinson.	81	40	53	0.87	0	46
Lebanon.	80	30	50	0.20	0	46
Macksville.	78	30	50	0.22	0	46
McPherson.	79	34	53	0.56	0	71
Minneapolis.	84	36	54	0.10	0	68
Norwich.	80	44	56	1.06	0	47
Phillipsburg.	80	32	53	0.30	0	59
Pratt.	84	32	51	0	0	60
Republic.	88	33	53	0.15	0	60
Rome.	79	30	50	0.18	0	60
Russell.	77	34	50	0.18	0	60
Salina.	86	35	54	0.15	0	60
Wichita.	80	43	58	-1.69	0.78	44
Division.	80	30	54	0.38	0	54
<b>EASTERN DIVISION.</b>						
Atchison.	79	40	55	0.24	0	59
Baker.	80	34	50	0	0	64
Burlington.	82	37	56	1.19	0	64
Cottonwood Falls.	81	40	55	1.20	0	64
Emporia.	78	40	56	2.16	0	64
Eskridge.	75	40	52	0.43	0	50
Eureka.	75	38	52	1.63	0	43
Fall River.	79	38	57	1.50	0	43
Fort Scott.	78	38	54	1.60	0	43
Frankfort.	83	33	52	0.10	0	68
Garnett.	78	37	55	0.96	0	43
Horton.	79	35	52	0.20	0	43
Independence.	80	40	57	2.07	0	33
Iola.	79	41	57	-0.94	0	35
Kansas City.	75	42	56	-1.01	0	52
Lawrence.	75	41	55	-1.18	0.31	49
Lebo.	79	38	56	2.48	0	50
Manhattan.	83	38	51	0.17	0	70
Moran.	77	38	50	0.94	0	61
Ossage City.	78	33	52	1.29	0	61
Ottawa.	78	35	54	1.62	0	57
Paola.	76	36	55	1.13	0	43
Pleasanton.	76	38	55	0.87	0	44
Sedan.	77	33	54	0.74	0	36
Topeka.	78	41	55	-0.35	-0.73	67
Valley Falls.	76	40	51	0.40	0	61
Division.	83	33	54	1.02	0	52
State.	80	30	54	0.65	0	54

### DATA FOR STATE BY WEEKS.

Week Ending.	Maximum.	Minimum.	Mean.	Departure from normal.	Total.	Departure from normal.
April 6.	87	18	54	0.12	0	59
April 13.	93	15	49	0.06	0	59
April 20.	80	12	44	0.15	0	59
April 27.	89	16	51	0.27	0	59
May 4.	98	5	44	1.42	0	59
May 11.	90	30	54	0.65	0	54

### GENERAL SUMMARY.

The season is still quite backward the weather has been milder than during the past four weeks. The mean temperatures ranged from 48° in the northwestern to 57° in the southeastern counties. The maximum temperatures occurred in the extreme northeastern counties on the 9th, in the extreme southeastern and southern counties on the 10th and over the rest of the State on the 11th.

The minimum temperatures occurred in the eastern and southeastern counties on the 5th, in the northwestern counties on the 6th and over the rest of the State on the 8th and 9th.

With the exception of a hail storm in Butler County the precipitation was all in the form of rain this week.

The showers in the northeastern counties were light, they were frequent, falling on from three to five days. In the southeastern counties the rains were heavier, but generally fell on two days.

The per cent of sunshine was least in the extreme southern counties east of Barber where it was below 40; it was less than 50 per cent in the central northern counties, but over 70 per cent in the extreme northwestern counties, and in the counties from McPherson to Washington. But little sunshine occurred the first days.

that our young men at the college may feel that we are cooperating with them in their laudable undertaking.

Mr. W. W. McLean, secretary of the Y. M. C. A., will address a special letter to every grange in the State, and I bespeak for him favorable consideration and immediate action, and to him all communications should be directed.

E. W. WESTGATE,  
Past Master Kansas State Grange.

### A Book on Silage Free.

A vast amount of knowledge on the subject of Ensilage, in plain practical language one can easily understand, has been boiled down to 216 pages in a new book entitled "Modern Silage Methods."

The book is library size, copyright 1906, has over 40 illustrations, and is well indexed. Many State Agricultural Colleges use it as a text book in teaching. A copy will be sent free by the publishers, Silver Mfg. Co., Salem, Ohio, to all who mention the KANSAS FARMER in writing.

## Which Do You Prefer



Profit  
Makers

or

Profit  
Takers



It means Profit Making for you to thoroughly rid your poultry houses and poultry of "profit takers" at the earliest possible moment. **Red Label Lice Killer** is easily used and quickly destroys all lice and mites. To thoroughly rid your poultry of lice and mites paint the roosts and dropping boards with **Red Label** direct from the can. The fumes will kill the vermin.

## RED LABEL LIQUID POULTRY LICE KILLER

### AND DISINFECTANT

Mixes Readily With Water; Makes a Perfect Emulsion.

To effectively rid your poultry house of lice and mites spray or sprinkle every nook, crack or crevice with one part **Red Label** mixed with twenty parts water and you can be assured that every "profit taker" will be killed. In addition to destroying the lice and mites **Red Label Lice Killer**, being a strong and efficient disinfectant will kill every germ and prevent poultry diseases. Guaranteed under Food and Drug law, Serial 4809.

Cans Are Full Standard U. S. Measure.

At Dealers Quart, 25c; half-gallon, 60c; gallon, \$1. If your dealer cannot supply you, or will not order for you, we will ship a trial gallon, express paid east of Rockies, on receipt of \$1.25. Satisfaction guaranteed. Send for booklet.

**Moore Chemical & Mfg. Company**  
1503 Genesee Street :: KANSAS CITY, MO.

Made by the  
makers of  
**Car-Sul**  
Dip  
for Hogs,  
Sheep and  
Cattle.  
Booklet  
Free.



C. W. PROCKHAM, President.  
Haven, Kans.

R. R. BEALL, Manager,  
Kansas City, Mo.

## The National Grain & Elevator Co.

Receivers and Shippers of Grain.

This Company is conducted on the cooperative plan by the Independent Cooperative Elevators. We are the terminal for Farmers and Independent Elevators and solicit your membership and patronage.

### ARE YOU POSTED

on the recent development in the Grain Trust investigation by the Interstate Commerce Commission? IF NOT, ASK US. Why don't you farmers fight the Trust? We will help you, if you will help yourselves.

### DO YOU KNOW

that the President of the Kansas City Board of Trade admitted in his testimony at the hearing of the Interstate Commerce Commission that they had boycotted The Independent Farmers' Terminal Co.?

**The National Grain & Elevator Co.**  
Kansas City, Mo.

References—The Editor of this paper.

## OAT NUTRIMENT

An invaluable feed in the developing of young stock.

**A Bone Maker, A Muscle Developer, A Flesh Producer,  
Prevents Scouring in All Kinds of Young Stock.**

Oat Nutrient is a cooked product of our cereal mill and is guaranteed to contain no drugs. It contains 20 per cent of Protein and 8 per cent of Fat. Stock breeders will find its use invaluable in fitting their show herds. Price \$2 per hundred, F. O. B. Atchison. Special prices on car lots.

**Atchison Oat Meal & Cereal Co.,**  
ATCHISON, KANSAS.



## Gossip About Stock.

The Animal Husbandry Department finished their sheep last week. The average clip of the different breeds was as follows: Southdown, 6.66 pounds; Shropshires, 9.35 pounds; Dorsets, 6.44 pounds; Rambouillet, 14.7 pounds; Cotswold, 17.86 pounds.—The Industrialist.

In our For Sale columns will be found the advertisement of J. W. Ferguson, Route 1, Topeka, who is offering his herd boar for sale. This boar is Trouble Maker, who is a full brother to Meddler. He is a great sire and some good breeder should pick him up. Look up this advertisement and write at once.

Rice Brothers, one of the foremost commission firms of Kansas City are advertisers with THE KANSAS FARMER commencing with this issue. This firm now stands near the top in volume of business handled and on long and intimate acquaintance with them, gives us pleasure in saying to our readers that stock consigned to them will always receive careful attention.

H. W. McAfee, owner of the Prospect Shorthorns at Topeka is also a good roads enthusiast. He is now in attendance upon the big good roads meeting at Manhattan where he acts as one of the judges in awarding the \$150 cash prizes in the annual road dragging contest. These prizes are provided for each year by the commercial club and are awarded for the best roads adjacent to Manhattan, that have been maintained by use of the split log drag.

Mr. & Mrs. Henry Shrader, Wauneta, Kans., write that they have a fine lot of Duroc-Jersey pigs, numbering in all 160 head of prize-winning stock. They own Crimson Wonder the famous prizewinner. Also a grandson of Missouri Wonder, a son of Mac's Pride. Their yearling herd boar, Missouri Wonder King has excellent color, is square as a brick, about 34 inches high and 60 inches long. A block of a yearling. Another herd boar is Crimson Meddler, a son of Crimson Wonder, of clocky conformation with a very fancy head, weighing 250 pounds at nine months old. They are now ready to part with the herd boar Oom Paul.

The Topeka Buckle Company, is a new institution for the Capital City and the State, that will be of interest to every man in the State who owns a harness. By the use of these buckles, which are furnished at a trifling cost, every man is his own harness maker. He is also enabled to repair the harness by using old scraps and parts of harness usually thrown away. The harness is more durable than if it had been sewed or riveted. By the use of these buckles the farmer can repair practically any break in the harness. Look up their ad and write for catalogue giving full information.

Director C. W. Burkett, of the Experiment Station of this College, will leave for Europe about May 25 to visit the wheat regions of Turkey and Southern Russia for the purpose of obtaining wheat varieties that might be of special value to Kansas. He expects to go over England and Central Europe to the lower Danube country, Turkey, and Russia, and return through Germany and the Netherlands. The trip will consume about three months. Mrs. Burkett will accompany the professor to Central Europe and remain there while he investigates the wheat countries, when they will return together to Manhattan. Director Burkett undertakes this extended trip in accordance with an act passed by the legislature.—The Industrialist.

## Nitrates from the Air.

It is pretty generally known that the world's supply of natural nitrate comes from Chile. This is being so rapidly exhausted that thirty years' time will likely see the end of it. It is also very generally known that nitrogen constitutes the most important of the three known fundamental elements of plant-food, the other two being potassium and the phosphates, so that without nitrogen for plant-food, vegetation would starve when the supply becomes exhausted, and the failure of vegetation would mean starvation throughout the animal kingdom.

Recognizing this situation to which the world was drawing near, Prof. Frank and Dr. Caro, eminent scientists of Germany, set about to find a method of deriving nitrogen artificially from the air itself—as the atmosphere is an inexhaustible reservoir of that element—and binding it in a compound to serve as a vehicle by which it could be handled practically, and of such a nature as well as would be slowly soluble and capable of assimilation by plant life after being placed in the soil. This same Professor Frank was also the inventor and founder of the present great industry for making potassium fertilizers which has done so much for agriculture. For sixteen years they have given their best labor and abilities to this most important problem, and have during the last six months perfected it as a commercial process, and patents protecting its use and manufacture have been secured from all the civilized nations—the rights to which patents have been parcelled out to different interests in the several nations.

The rights for America have been taken over by two well-known American engineers, Mr. Frank S. Washburn and Mr. Charles H. Baker, of 100 Broadway, this city, who, with their associates, are about to form the American Cyanamid Company for the development of this most important industry.

The final product which the process obtains is composed of lime stone, coal and nitrogen, and is popularly called "Lime nitrogen," 20 per cent of the weight of which is nitrogen. The chemical name of the compound is Calcium Cyanamid. This compound not only has its direct use as an agricultural fertilizer, but it will be most extensively used in the chemical arts for the production of ammonia, nitric acid,

and other useful things. As a measure of the magnitude of the consumption of Chilean nitrate it might be mentioned that the United States alone imported last year 375,000 tons of it, having a value of \$20,000,000. A column of the atmosphere resting on any two acres of the earth's surface, contains the same amount of nitrogen as did last year's importation from Chile.

The new fertilizer—lime nitrogen—costs less to make than Chilean nitrate is sold for, so that the worn-out farms of any poor farmer will be within reach of its restorative and fertilizing properties. Two crops in Europe have already proved its great value where the nitrogenous elements have been lacking, and it is thus known that such crops as wheat, tobacco, cotton, sugar-cane, and truck gardening are greatly increased by its use. The original lime nitrogen factory in Italy which runs night and day is already so much overtaxed, that its capacity is now being more than doubled.

The process of manufacture is electro-chemical and therefore involves an extensive consumption of cheap electric power. It was this fact that led Messrs. Washburn and Baker to watch the development of the process in Europe during the last few years, and finally to secure the rights therefor, for the purpose of employing extensively the power of certain large water powers which they have under development in the Southern States. Being engineers, it was a most natural thought to them to turn to account the wasting energy of the great Tennessee River, and burden it with the duty of supplying one of the vital necessities to human existence from the free air which surrounds the earth.

The Agricultural Department at Washington is taking a great interest in the new fertilizer and is having it investigated by the Department experts. Great factories for its manufacture are now in process of construction in several of the nations in Europe, and one of them which is under way in Germany will involve the construction of a 75,000 horsepower water power plant. The parent company is the Societa Generale Per La Cilanamide of Rome, Italy, which is controlled by the Deutsche Bank of Berlin, Germany, one of the largest banks in the world, and the Siemens and Halske Company, also of Berlin, the largest electric manufacturing company in Europe, which companies financed the very costly experiments and researches conducted by Messrs. Frank and Caro during the long period of experimentation leading up to their great invention. The same German interests will have a considerable financial interest in the American company.

The Blue Valley Creamery Company is still growing and rapidly too. Not content with establishing a \$50,000 branch at Chicago and branching out in other direction from their home office at St. Joseph, Mo., they have now built a large plant at Sioux City, Iowa. Good business management and fair dealing has brought the prosperity to the Blue Valley Creamery which has made this business enlargement possible.

## Dowling's Did It.—Only Three Applications Necessary to Cure Pollevis.

The following letter from a man who was "shown" testifies to the merit of Dowling's Fistula and Lump Jaw Cure: "Harrington, Okla., March 5, 1907.

"W. T. Dowling Mfg. Co., St. Marys, Ks. "Dear Sirs:—It only took three applications of your remedy to cure the pollevis on my horse. It's the best I ever used. Yours truly,

"T. A. BYRNES."

If any of your horses are troubles with fistula or your cattle have lump jaw—try Dowling's remedy—no cure, no pay. Look up the advertisement in THE KANSAS FARMER.

## Kansas City Grain Market.

Kansas City, May 13, 1907.

The excitement and confusion which prevailed in the speculative wheat market at the close of last week was renewed this morning with wild opening advances of 5c to 8c in all markets. July wheat in Chicago rose 5 1/4 to 9c and September touched 11.00%. December wheat sold up to \$1.03 at the outset, a rise of 8c. The initial sales of July wheat ranged from 93 to 97 cents. During the morning, after the first few minutes' excitement, the price ranged from 95 to 97 cents, falling at times slightly below 95c, only to recover promptly. The closing price, 95 1/4@95 1/2c, was just 4c higher than Saturday's final quotation. The net gain in Minneapolis was also 4c.

Receipts of wheat in Kansas City to-day were 113 cars; Saturday's inspections were 69 cars. Prices were irregular, 3c to 5c higher. The sales were: Hard wheat—No. 2, 1 car 94c, 1 car 92c, 2 cars 91c, 6 cars 90 1/4c, 4 cars 90 1/2c, 16 cars, 90c; No. 3, 2 cars, 92c, 1 car, 91c, 3 cars, 88c, nominally 88c to 92c; No. 4, 1 car 86c, 3 cars 85c, 1 car 84c, 1 car 83c, 1 car 82c, 1 car 70c; rejected, 1 car 7 1/4c, 1 car 75c, 2 cars 72c.

Soft Wheat—No. 2 red, 1 car 94c, 1 car like sample 92c; No. 3 red, 1 car 90c, nominally 83c to 90c; No. 4 red, nominally 75c to 88c.

Mixed Wheat—No. 2, 1 car 94c; No. 3, 1 car 91c; No. 4, 1 car 87 1/2c.

Durum Wheat—No. 3, 1 car 82c, 1 car 80c. Receipts from corn were 81 cars; Saturday's inspections were 44 cars. Prices were unchanged to 1/2c higher. The sales were: No. 2 white, 3 cars 55c, 3 cars 54 1/2c, 6 cars 54c; No. 3 white, 3 cars 54 1/2c, 3 cars 54c; No. 2 mixed, 5 cars 52 1/2c; No. 3 mixed, 1 car 51 1/2c; No. 4 mixed, 1 car 49c; rejected, 1 car 45c; no grade, 2 cars 45c; No. 2 yellow, 5 cars 52 1/2c; No. 3 yellow, 1 car 52 1/2c, 5 cars 52c.

Receipts of oats were 32 cars; Saturday's inspections were 22 cars. Prices were unchanged to 1/2c higher. The sales were: No. 2 white, 13 cars 44 1/2c; No. 3 white, 14 cars 44 1/2c; No. 2 mixed, nominally 43 1/2c to 44c; No. 3 mixed, 1 car 43 1/2c, nominally 43 1/2c to 43 1/2c.

Barley was quoted at 60c to 64c; rye, 65c to 70c; flaxseed, \$1.00 to \$1.10; kafir-corn, 70c to 75c per cwt.; bran, 90c to 91c per cwt.; shorts, 95c to \$1.00 per cwt.; corn shop, \$1.03 to \$1.07 per cwt.; millet-seed, \$1.10 to \$1.15 per cwt.; clover-seed, \$7 to \$10 per cwt.

The range of prices for grain in Kansas City

## Special Want Column

"Wanted," "For Sale," "For Exchange," and small want or special advertisements for short time will be inserted in this column without display for 10 cents per line of seven words or less per week. Initials or a number counted as one word. No order accepted for less than \$1.00.

## CATTLE.

FOR SALE—Registered Hereford bulls sired by Beau Jr. 185568. Will price right. Come and see or write. H. B. Clark, Geneseo, Kans.

FOR ROLLED bulls or heifers, write to Otto Young, Udca, Ness County, Kans.

DOUBLE-STANDARD POLLED DURHAM BULLS—Extra good quality, well bred, good color. Address C. M. Albright, Overbrook, Kans.

SPECIAL SALE—5 straight Cruickshank Short-horn bulls for sale at bargain prices for quality. H. W. McAfee, Topeka, Kans.

FOR SALE—One carload of high grade Red Polled cows with calves by side. Bowman Bros., Lebo, Coffey County, Kans.

FOR SALE—Four yearling Shorthorn bulls. All are read, low down, blocky fellows. One is pure Scotch, two are out of show cows and sired by prize-winning bulls. They weigh from 1000 to 1200 pounds and are first-class individuals. Parties wishing to see them will be met at the train in Abilene. C. M. Garver, Abilene, Kans.

ABERDEEN-ANGUS CATTLE and Percheron horses. Stock for sale. Garret Hurst, breeder, Peck, Sedgwick County, Kans.

for future delivery and the close to-day, together with the close Saturday, were as follows:

	Open.	High.	Low.	Closed to-day.	Closed Sat.
WHEAT.					
May	89 1/2	89 3/4	88 3/4	87 3/4	83 3/4
July	88-89	90	88 1/4	88 1/4	84
Sept.	90-91	91 1/4	88	89 1/2	85 1/2
CORN.					
May	50 1/2	50 3/4	50 1/4	50 1/4	49 1/4
July	48 1/2-49	49	48	48 1/4	47 1/4
Sept.	48 1/2	48 3/4	47 1/2	48 1/2	47 1/2

## Kansas City Live Stock Market.

Kansas City Stock Yards, May 13. The first estimate for to-day called for 11,000 cattle, but a larger percentage of the receipts proved to be hogs that was counted on, and only 10,000 cattle arrived. The general market advanced 10c to 25c last week on moderate receipts. Total supply 32,000 for the week, nearly one-fifth less than recent weeks. Prices are about steady to-day, with top beef steers at \$5.70, bulk of steers, \$5.15 to \$5.65, including steers of less than 1000 lbs. weight at upwards of \$5.00. Best heifers and yearling steers sell at \$5.00 to \$5.40, medium grades \$4.00 to \$5.00, cows \$3.50 to \$4.85, canners \$2.50 to \$3.25, bulls \$3.25 to \$4.50, calves \$3.50 to \$5.50. Indications point to a moderate number of cattle to be marketed this month, and with such great excitement in the grain markets a sharp turn in the market would not be surprising. However, fairly good cattle receipts can be counted on right along, as the development of the territory has been solid and substantial for a number of years. The thing that may prove surprising is the enormous volume of the demand. Supply of country grades has been small for some time, outgo last week 160 car loads, market 10 to 15c higher, steady to weak to-day, feeders \$4.65 to \$5.45, stockers \$3.75 to \$5.35, calves \$3.25 to \$5.25.

Phenomenal advances in wheat late last week and to-day were expected to be reflected in corn to an extent, and hogs have been confidently expected to go higher in the general trend that way. Last week the net gain was 9 cents per cwt., market closing at the high point, but liberal runs at all points to-day, 15,000 here, enabled buyers to secure declines of from 5 to 10c. Top to-day \$6.47 1/2, bulk of sales \$6.37 1/2 to \$6.45; heavy hogs \$6.35 to \$6.40. The run was extra heavy late last week; total for the week 67,000 head; yet it was only to-day that the market showed appreciable weakness. Sharp fluctuations are likely to feature the market this week.

Sheep and lambs are in moderate supply; 30,000 last week, 8,000 here to-day, market steady to-day, at a range of 10 to 15c above a week ago. Woolled lambs are worth \$8.20 to \$8.60, top to-day \$8.40; clipped lambs \$7.25 to \$7.50; wethers \$5.90 to \$6.25; ewes \$5.75 to \$6.10; woolled ewes up to \$6.75. Texas muttons sold at \$5.85 to-day, and a string of Texas feeding wethers, 82 lbs., late last week at \$5.30. J. A. RICKART.

## South St. Joseph Live Stock Market.

South St. Joseph, May 13.

Instead of any curtailment of receipts at the leading market as was anticipated, the week opened up with an increase of about 10,000 at the five leading markets. This was taken to indicate that the cold, backward spring, together with high prices of corn and hay have stimulated the country into a selling humor. Locally there was not only an increase in the number of cattle coming, but the proportion of steers was larger than has been for several weeks, however, they were absorbed in pretty good season and at close to steady prices, while other points reported a weak and lower market. Some very good heavy Kansas fed steers sold at \$5.75, and long strings of medium to strong weights sent at \$5.25 to \$5.60. Light steers of fair to good quality sold freely at \$4.80 to \$5.40, but where lacking flesh they were somewhat of a drag and a shade easier in price. Butcher stock and calves were in small supply and sold actively at steady figures, while there were not enough stock cattle here to create a market. Moderately increased supplies of stock cattle would meet a good reception at this market.

The week opened on a declined market for live hogs which was a condition against all expectations. It was thought generally that the coming on of favorable weather for corn planting would largely curtail the market movement for hogs, but contrary to this the total supply reported in sight was about the same as a week ago. Packing interests were bearish at all points and succeeded in forcing a reduction of 5c to 10c in prices. The average decline at this point being about 5c to 7 1/2c. Hogs were of good quality, largely in mixed droves, but running to quite strong weights. Sales ranged at \$6.40 to \$6.45 for the bulk, with top at the latter figure.

Receipts of sheep were moderate at all points, and were made up largely at this market of woolled lambs. Trade was fairly active and prices unchanged. WARRICK.

## HORSES AND MULES.

## \$150 OFFERED

for each mule colt bred from J. Shemman's Jack, 1/2 mile east and 2 miles south of Agrioola. P. S. G.

FOR SALE—A Jack Daw stallion, dam Happy Hair; 4 years old, color dark brown and nicely marked. Good disposition, stylish driver, time 2:38. Can be seen for a short time at 523 Van Buren St., Topeka, or write F. R. Baker. A bargain.

PERCHERON STALLION FOR SALE—Owing to circumstances I am forced to sell my 7-year-old registered Percheron stallion. He is sound, kind, big; has fine action and is a perfect show horse. Will fully guarantee him. Terms: Cash, approved notes, or will trade for cattle. J. B. Weldon, Eureka, Kans.

TWO JACKS FOR SALE—3 and 4 years old. Missouri bred. Address S. C. Hedrick, Tecumseh, Kans.

FOR SALE—One black team, 6 and 7 years old weight 2600 pounds. Mr. and Mrs. Henry Schrader Wauneta, Kans.

## SWINE.

FOR SALE—Duroc-Jersey sows with litters, and bred sows and gilts. S. J. Steinmetz, Alden, Rice County, Kans.

DUROC-JERSEYS—A few snaps in fall boars; also choice R. C. Rhode Island Red eggs, \$1 per 15; \$5 per 100. J. F. Chandler, Frankfort, Kans.

LATE FALL POLAND-CHINA MALE for \$15 net, as good as old High Price, sell for twice the money. Will trade for silts as good. Don't wait! F. H. Barrington, Spring Creek, Kans.

FOR SALE—The Royally bred Poland-China boar, Trouble Maker, full brother of Meddler, champion of the world, 3 years old, no better breeder on earth, fine individual, big bone, vigorous fellow; his brother sold for \$6000. First check for \$100 gets him. J. W. Ferguson, Route 1, Topeka, Kans.

FOR SALE—Forty registered Duroc sows and gilts bred for August and September farrow. Also a few unpedigreed sows, bred to fine boars. R. O. Stewart, Alden, Kans.

## SEEDS AND PLANTS.

GREEN HOUSE PLANTS—Sample dozen 50c (by mail) embracing Carnations, Roses, Geraniums, etc. T. Montgomery, Larned, Kans.

SWEET POTATO PLANTS—3 varieties; also tomatoes and cabbage, \$2 per 1,000; less than thousand, 25 cents per hundred. Have the famous Southern potato "Pumpkin Yam." Prompt shipment. W. A. Schreier & Son, Argonia, Kans.

PLANTS, Cabbage, Early Jersey Wakefield, Winingstadt, Early Summer, Succession, Tomato, Early Dwarf Champion, Early Dwarf Stone, Matchless, Stone Beauty; 30 cents per hundred, \$2.50 per thousand. Sweet potato, Yellow Jersey, Yellow Nansemond 20 cents per hundred, \$1.50 per thousand Red Jersey, Red Bermuda, Black Spanish, Southern Queen, 25 cents per hundred, \$1.75 per thousand. F. P. Rude & Son, Ind. Phone 4038, North Topeka, Kans.

Trees At bargain prices. List now ready tells all about our cleaning-up sale of choice trees. Send for it to-day. Easterly Nursery Co., Cleveland, Ohio.

## MISCELLANEOUS.

RURAL BOOKS—Send for descriptive list of book for farmers, gardeners, florists, architects, stock raisers, fruit-growers, artisans, housekeepers and sportsmen. Sent free. Address The Kansas Farmer Company, Topeka, Kans.

MERCHANDISE BARGAIN—Invoice \$3500, annual sales, \$20,000, \$30 per month. Post office in store. Write The Buckeye Agency, Williamsburg, Kans.

NOTICE—You do get, prepaid, a package of Extract for Home Brew, that will make 5 gallons of foaming delicious family drink, by sending 15 cents to Uncle Sam's Extract Co., Dept. B, Topeka, Kans.

WANTED—Young married man, reliable and industrious, to live and work on Manada farm at Nara Visa, New Mexico, the wife to be housekeeper. Food wages to deserving party and later a share in the profits if desired. Address Carleton, care Kansas Farmer.

DRUGS AND PHOTO SUPPLIES—Eastman's Kodak, Freno Cameras, Velox and Solio paper. Films for all cameras and kodaks. Fred T. Walker, 825 Kansas Ave., Topeka, Kans.

WANTED—Experienced man and wife (no children) to manage small farm near Topeka. Address Position, care Kansas Farmer.

ORCHARD FOR SALE—Twenty acres in Fayette Valley, Idaho, just outside New Plymouth, a thriving town, with churches, schools, stores, bank, newspaper, railroad, etc. This land grows the best apples, peaches and prunes, 800 bearing trees. Address F. A. Carrier, 100 Washington St., Chicago, Ill.

FOR SALE—Special bargains in rebuilt engines and separators. They will make you money. Write us quick before they are all sold. The Geisler Manufacturing Co., 1410 Union Ave., Kansas City, Mo.

WANTED—A secondhand traction engine, not less than 16 horse power. Dr. W. E. Barker Chouteau, Kans.

HONEY—For Kansas, Missouri and Oklahoma. Two 5-gallon cans, 120 pounds net—Amber \$6.40; whitest \$9. Also small cans. Comb honey in one pound sections 12 1/2c. Write for price list. Nothing but genuine bees honey. Reference Kansas Farmer Co. Address Cheek & Wallinger, Props., Arkansas Valley Apiaries, Los Animas, Colo.

## Stray List

## Week Ending May 2.

Crawford County—Fred A. Gerken, Clerk. HORSE—Taken up by F. W. Witter, in Baker tp., March 19, 1907, one gray horse, 14 1/2 hands high, branded A, J and O and O, valued at \$10.

## Week Ending May 16.

Cherokee County—R. G. Holmes, Clerk. MARES—Taken up by Fred Estes, in Spring Valley tp., (Baxter Springs, P. O.) April 20, 1907, one dark grey 6-year-old mare, 14 1/2 hands high, branded on right shoulder, valued at \$20; also one sorrel 10-year-old mare, 15 1/2 hands high, W T on left shoulder, S C on right hip; valued at \$25.

Reno County—F. E. Lang, Clerk. HORSE—Taken up by R. W. Brown, in Grand tp., April 1, 1907, one sorrel horse, white spot on forehead, weight 800 or 900 lbs., branded C O on left shoulder, valued at \$15.

Gold, Any Style, FREE. Send for our new system to test your eyes then send \$1.00 and receive a pair RB lenses to fit your eyes; set in solid gold filled frames (not plated). Secure 5 orders and get yours free. R. H. Baker, Mfg. and Wholesale Optician, Topeka, Kans.