THE HESSIAN FLY.

The Next to the Greatest of Farm

An insect that can adapt itself to all the climatic conditions and crop variations between North Dakota and Texas must necessarily present an entertaining if somewhat disconcerting variety in its complex and elusive life history. Investigators of the habits of the destructive Hersian fly seem to concede however, that this insect may be said, for all practical purposes, to live only on wheat, rye and barley, and that it will not perpetuate itself on other crops.

Throughout an immense territory in the United States where wheat is grown in close proximity to oats, timothy and other grasses there is no record of the fly's attack upon these crops. In a recent monegraph of the department of agriculture on the Hessian fly in the United States it is told that the attacks of the fly upon the plants produce very characteristic effects, generally so distinctive that the appearance of a field will at once indicate to a practiced eye the presence of the pest. The effects differ with the season, perhaps, more properly, with the stage of growth of the wheat plant at the time of attack.

In the autumn the eggs are laid upon the early appearing leaves, and the passage of the larvæ down the sheath carries them down to or below the surface of the ground, often very near to the root itself. Here their presence causes more or less swelling of the base of leaf and culm, scarcely enough to be counted a gall formation, but the immediate effect seems to be a stimulus at the point of attack. Indeed the affected plants present a darker green color, which has been recognized by farmers as indicative of Hessian fly attack, this color to be followed later by a brownish and then a yellowish color for the infested tillers. If the plant is attacked early and fails to tiller, the result is death of the whole plant. If tillers have already formed, the larvæ may enter but one or part of them, and the others may develop into healthy stalks and fur-

nish the basis for a crop. The attack in spring being made usually after the stalks are well formed, the eggs are placed on the lower leaves, and the larvæ, as a rule, will be found just above the first joint. Their presence here so weakens the stalk that it bends over, the upper part of the stalk falling to a horizontal position and at right angles to the base. The appearance of these fallen stalks is particularly characteristic, and an examination will bring to view the larvæ or puparia just below the bend and above the lower joint. Rarely the larvæ may occur above the second or third joint, and it is stated that sometimes they pass below the ground, as with the autumn brood, and in such case the stalk falls by breaking at the surface of the ground. These facts have a value not only as a means of distinguishing the Hessian fly from other wheat pests, but it can easily be seen that the position of the larvæ must be a determining factor in the adoption of certain meas-

in the literature of the Hessian fly, is and were in no danger of being glued to the abundance of its natural enemies. It, would be difficult to overestimate the importance of the parasites of the fly, since to them probably is due the usual scarcity of the insect. It is esti-mated by writers who have dealt with sites, a circumstance which accounts for the fact that the Hessian fly is seldom abundant or excessively destructive for more than one year at a time in scribes all these friendly parasites and also recounts the various remedies practiced against the Hessian fly.

Measuring Ear Corn. By weight an allowance of 14 pounds is usually made for cob-that is, 56 pounds of grain is regarded as equal to 70 pounds of ear corn. Of course this is only an approximation, and so, too, is any rule which attempts to establish a relation between the space occupied by the grain and the ears. The ordinary rule, however, for measuring in the crib is to find the number of square feet which the crib contains and divide by 2½, which gives the number of bushels For example, a crib 24 feet long, 7½ feet wide and 10 feet high would hold 800 bushels of corn. The same space would contain 1 4-5 times as much shelled corn. —Iowa Homestead.

Planting Corn Fer the Silo. For the silo corn may well be planted in drills about 31/2 feet apart and with kernels from two to six inches apart in the row. In a very wet season a heavier crop may be harvested from plots drilled with a grain drill, every tube sowing, but the greater yield of protein and experiments at the Michigan station to around, to the certain injury of the be in the crop planted with less seed per acre. Frequent cultivation prevents the evaporation of moisture from the soil and secures its retention for the use of the corn plant.

Distance Apart For Turnips. From the results of experiments with Swedish turnips conducted six years in succession at the Ontario station the general conclusion is drawn that as the distance between plants in the row increased from 8 to 20 inches the average yield decreased, but the average weight per root increased. The average weight per root increased. The average yield of plants 4 and 8 inches apart was 17.26 and 17.58 tons of root per acre respec-tively. The average results for six years showed that drills 20 inches apart gave a better yield than drills 26 and 32 Air slaked lime is liberally applied to inches apart

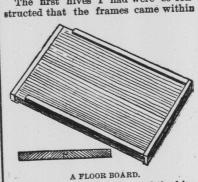
FLOOR BOARDS IN HIVES.

They May Be Loose Usually, but Fastened When Necessary.

Some hives have the floor boards or bottoms fast, and some have them loose. There are times when one kind is better, and times when the other is better. Ir. view of these facts, Dr. C. C. Miller gives the following information in The National Stockman and Farmer:

In the spring of the year it is often desirable to clean the dead bees and filth off the hive. At such times, if the bottom nailed on, there is no way of making a clean job of it but to take all the bees and combs out of the hive, a troublesome job and sometimes resulting in injury to colony, especially if the weather be cold. If the floor board be loose, it is an easy thing to raise the hive and out a clean floor board in place of the dirty one, then after the dirty one is cleaned it can be given to another hive, and so on. The practice of tiering up hives, having them two or more stories

a better and a less expensive way. I now fasten them on with staples, which can be bought for 10 cents a pound of less. The staples are what are some-times called tobacco staples, and sometimes they go by other names. They are the same as double pointed tacks, only on a larger scale. The staples I use are 1% inches wide, and the two legs are easily drawn out. For hauling, four staples are used to fasten the floor to the hive, but for a hive that is merely to be carried into the cellar two will do, one about the middle at each side. The first hives I had were so con-



half an inch of the bottom of the hive. That made it so that whether the bottom were fast or loose the bottom bare ures of control.

One cheerful fact, made prominent of the frames had a space under them, the floor. For good and sufficient reasons a space is left above the frames of about one-quarter of an inch. When, then, one story was put over another, in-

stead of a space of one-quarter of an inch between the upper and lower sets the subject that fully nine-tenths of of frames, the space was three-quarters the Hessian flies are destroyed by para- of an inch, and the bees filled this space with comb and honey, making a sticky, dauby mess when the upper story was taken off. To avoid this, the hive must be shallow enough to let the frames any particular locality. Bulletin No. 16 come clear to the bottom, and the conof the department of agriculture destruction of the floor board must secure the necessary space under the frames. Looking at the picture, you will see that a cleat three-eighths of an inch thick is nailed on the two sides and on the back end of the floor board. Below the floor board you see a cross section of the floor, showing a lap in the two parts of the board, so that if the two parts

tight.

Bush Bean Plants. As the weather begins to brighten and the days to lengthen the handling

shrink apart the floor will be still bee

of this crop becomes much less troublesome, the seeds germinate more freely, and there is much less danger of damping off, yet, for all that, plenty of seed hould be allowed to guard against possible blanks. Thinning out to the proper thickness is easily done once they are safely under way. The soil for these should not be overrich, neither stiff nor retentive. Allow ample space, not less than 15 inches, between the lines to give the plants sufficient room for development, and a night temperature of 55 degrees, with a rise of 15 degrees by sun heat, is quite enough to insure strong, healthy growth. A much higher temperature results in the plants becomother valuable nutrients was found in ing drawn, when they are apt to fall crop, says William Scott in American

Gardening. News and Notes. Mills' endurance potato is said to be blightproof, and, according to good au-

thority, seems to possess to a remark-able degree qualities which enable it to resist blight. Consider your market when selecting varieties of tomatoes. Some consumers have very decided preferences in the matter of color. Bright reds may lead in one market, while in another the

purplish tint will be preferred. The hop crop of the world last year, as estimated from reports from hop growing centers, is said to have bealess than the average.

.ravent clubroot in turnips

CANNING YOUNG PLANTS. Successful Gardener Gives a Very

Profitable Pointer. There is absolutely nothing, no how insignificant or apparently worth-less, that may not be put to some useful less, that may not be put to some useful purpose if we but know how. When time to plant tomatoes, peppers, egg plants and the like have ready a lot of unsoldered tin cans, such as salmon or vegetables come packed in, tie a short string around the middle of each and set on a board; fill to one and a half inches of top with fine, rich soil; plant two or three seeds in each can and place in a warm, sunny spot. When up, and plants are an inch or two above the rim, thin out and fill the remaining portion of cans with soil. This will give new life and with soil. This will give new life and growth, and will be better than repotting. When ready to put out in open ground the transplanting may be effected



mon all the time, and there is no possibility of doing this unless the floor board be separate from the hive.

There are, however, times when it is very desirable to have the floor boards secured to the hive. Those who haul hives to and from out-apiaries must have the floor fast to the hive, so there is no danger of bees getting out. There may be other times when it is necessary to have the floor fast to the hive, but most of the time I would rather have the floor separate.

It is not a very hard thing to have hives so made that the floors shall be loose most of the time, but fastened securely to the hive when needed. Formerly I fastened the floors shall be loose most of the time, but fastened securely to the hive when needed. Formerly I fastened the floors to my hives with screws when I wanted to haul them, then took the screws out when they were not needed. But I found out a better and a less expensive way. I now fasten them on with staples which

growth, when they may be readily removed, one slipped within another—ten or 12 occupying no more space than one—and stored away till next season. By means of these worthless cans plants may be set two to three weeks earlier than without them. H. B. Mitchell, in Practical Former

A New Use for Barnyard Manure. A French authority states that farmers seven-eighths of an inch long. Of course a size a little different from this would answer. When a staple is driven in, one leg in the hive and one in the floor leg in the hive and one in the floor board, it holds as firmly as a nail driven in, perhaps more so. It is driven in not quite full depth, and then it is very quite full depth, and then it is very land. The rest consists of water. of unassimilable woody fibre and mineral matter of which the soil has always a plentiful supply. All this is considered as dead weight which serves to retard the effect of the active constituents, and it is claimed that it would be better to employ the chemical constituents proper, handful of which represents effectively the vegatative force of a ton of manure. It is also added that the small percentage which is of use is constantly wasting because of fermentation causing the

gases such as ammonia to escape.

The director of the Pasteur Institute at Lille has devised a means of using these gases. To this end he advises coverthese gases. To this end he advises covering the manure with a bell-shaped cover furnished with a tube that ends in a receiver filled with acidulated water. The ammonia, instead of dispersing through the atmosphere, cculd be collected in liquid form, from which the ammoniacal salts could easily be secured. It is also claimed that the other gases formed by fermentation, such as carbonic acid and gaseous hydro carbons, will burn in the open air and if this received. open air and if this receiver were furnished with a gasometer could be utilized for lighting the buildings on the farm. This is an ingenious plan and may come into use after a while. It shows, however, what can be done when science is applied to agricultural subjects.

The Preservation of Eggs. A fresh-laid egg is never improved by age, but its good qualities may be preserved, it not wholly almost wholly, by served, it not wholly almost wholly, by suitable handling. Eggs should be gathred from the nests at least once every day. An egg may deteriorate for food purposes in one of two ways: It may change unfavorably for food purposes by the beginning of the process of hatching; and it may decay through fermentation started at the pores of the shell. Any moisture on the shell hastens the beginning of decay in that way. An egg may look well when examined by candle light in the usual way, and still be slightly stale inside. Some egg merchants detect stale inside. Some egg merchants detect whether they are quite fresh-flavored by breaking some, emptying the contents out and smelling the inside of the shells.

If only a few eggs in the lot are disovered to be stale, that will cast discredit on the whole and very greatly reduce the selling price. Immediately after the eggs are collected from the nests and cleaned, they should be put in a coal place, until they can be despatched to market. market.

Great care should be taken in packing eggs not to use any substance which has in itself a disagreeable odor or flavor, as that will likely be imparted to the eggs. that will likely be imparted to the eggs.
The keeping of eggs packed in musty
straw or musty bran will impart that
disagreeable quality to them.—Report of
the Commissioner of Agriculture.

Wilk Strains Among Hogs. Too little attention has been paid by preeders and farmers to the milking qual-ties of their brood sows, and yet of all things to be taken into consideration in selecting brood sows this characteristic is the most important. Maternity is the function of a brood sow, and failing in good milking capacity, she fails to fulfill this function. Did you ever note that the sow that is the kindest, most careful this function. Did you ever note that the sow that is the kindest, most careful mother, is always the one that gives the biggest flow of milk and the sow that gives frequently, and she most gladly responds to the call of the little fellows for a lunch as often as they want it. She is careful and grateful to them for the relief they give her. The other sow finds no such comfort from her litter, since she has no need for that kind of relief; on the contrary, the frequent demands of the half-starved pigs are unpleasant to her. She becomes irritable and cross at their persistent calls for more. She would rather be let alone, go off by herself, eat her fill and lie down undisturbed while she converts it into pork on her own back instead of her pigs. Consequently, at the wenning time, you will find her in pretty good shape, while the pigs are all runts. But the other sow and her litter, how do they look? Just the reverse.—American Swinsherd.

POULTRY DEPARTMENT.

The Early Bird Catches the Worm

That some of our remarks in the initial article in this department are already proving themselves to be correct, are shown by the way orders for eggs for hatching have been coming in during this month to our local poultry breeders who keep thoroughbred stock, and who have for sale in their seasons both eggs and breeding stock.

demand for eggs for hatching during March, but this year it beats any past record. It is all the more surprising considering the very unspring like weather we have been having, from the beginning of the month up to the pres-

ent time. The robins have not come, but we have heard of numerous clutches of chickens. To a prominent resident of Mount Pleasant we must give full credit for having the first in the new year. In

In the last issue of Co-Operative Farmer we were very much pleased to read a most interesting letter from a practical farmer of Springfield, N. B., who besides advocating all farmers to keep thorough bred stock—included poultry in the list. We know many of our farmers who are firm believers in this, and who put it to practice. But particularly in the keeping and breeding of poultry we want to see them all come into line, believing that in this respect coupled with proper housing, care and feed, lies the secret of success.

The other day we heard that a farmer

The other day we heard that a farmer living in Kings County (that county which flows with milk and honey) had made the statement that he made more profit from his poultry than his cows. And yet in some of the towns of the province, the merchants had to send to Montreal for poultry to supply their last Xmas market. Is not this state of things simply an invitation to the upper Provinces to send their produce down here—and is it not so much money out of the pockets of our farmers.

Remember that the early bird who catches the worm, includes the chickens that reach the markets when the bighest prices are obtainable, and also the pul-

prices are obtainable, and also the pul-lets which lay early in the fall. You can only catch the early worm by hatching your chickens early.

TURKEYS - THE BRONZE AND WHITE HOLLAND ARE THE MOST POPULAR VARIETIES. Of the several varieties of Turkeys the Brongs is the most popular, and next in this respect come the white Holland. The standard weights of the Brongs are:

In breeding turkeys it is most important that the stock should be strong and vigorous. Those that have been weakened by disease or repeated inbreeding should never be used. Though on the should never be used. Though on the other hand it is not necessary to introduce into your flock new blood oftener than every second year. Avoid breeding from a young tom and pullets of the same flock, and select your stock having in view shape and color rather than those of excessive weight.

Masy farmers object to raising turkeys on account of the expense, and
consider the amount of grain eaten by
them worth more than the turkeys
themselves. They do eat a great deal
from November to May. But on the
other hand fro n May to November they
eat what the farmer wants them to eat,
viz. bugs. worms. larvae, and weed seeds. viz, bugs, worms, larvae, and weed seeds, destructive pests on the farm. These form the chief diet of turkeys from epring to fall.

CONSTRUCTION OF HEN HOUSES' Many of the poultry breeders in the United States build their hen houses United States build their hen houses with what is known as an open reratching shed attached and arranged for each flock of fowls. There they use curtains, which are dropped over the front in stormy weather. In our own province we have seen one constructed this way, and have read in a paper advising some of our people to build in this manner.

We would give the same advice that Mr. Panch did to the young man about to marry. to marry.

It is all right to have a shed attached for the lowls to exertch in. In fact have it by all means, if you can. But our climate is much too severe a one to have the front open. The hen house which we have referred to as having here built this way was occupied on the

MALINTA CAPTURED,

The Americans Had Hard Fight Before They Secured It.

There has always been a considerable Gunboats Shelling Malabon for Hours

gagement began is 45 dead and 145 in-

loewenstein, formerly honorary aide-de-

MANILA, March 26.

Adjutant General, Washington:

4.30 p m—MacArthur has driven the enemy, strongly entrenched in large force, north of Polo; will continue to press him; ineargents have strong entrenchments from Calcoocan to Malolos, which have taken months to construct.

(Signed)

OTIS.

Adjutant General, Washington:

Attacks on Hall and Pumping Station last night were easily repulsed. Machathur, with moving column, has driven enemy but cannot gain point north of Polo on account of roughness of the country; must strike railway south of that point; this will enable most of Aguilnaldo's troops to escape north; still he may oppose, as the best of his army, consisting of released prisoners of war, forhe may oppose, as the best of his army, consisting of released prisoners of war, former native Spanish troops concentrated there; this northern army will be pressed south of the city; three thousand maurgent troops from Southern Luzon provinces have concentrated, and Lawton will take care of them. Affair satisfactory

()TIS. MANILA, March 26.

Adjutant General, Washington:—
Entire casualties yesterday: One officers, 25 enlisted men killed; eight officers, 142 men wounded. Officer killed, Capt Stewart, First Colorado. List cabled immediately. Today's fighting south and around Polo determined. MacArthur with three brigades united, having artillery, cavalry engaging enemy. Colonel Egbert, 22nd infantry, killed. Our loss thus far moderate; enemy's heavy. Army gunboats on coast and in estuaries west and north of Polo very efficient; troops in excellent condition and spirits.

(Sign d)

The position and in opportunity to restract.

Gen MacArthur's advance guard, the 3rd Artillery and the Twentieth Kansas regiment, joined Gen Wheaton's brigade shortly after Malints was taken, appraching along the Novaliches read westerly.

The soldiers were very much exhausted and there were several prostrations from the heat, which was intense. The dead and wounded were collected in the shade of the trees and carried on stretchers by Chinese across the river to the train.

Alter lunch G2n. McArthur's division advanced towards Polo.

and north of Polo very efficient; troops in excellent condition and spirits.

(Sign d)

OTIS.

WASHINGTON, March 26—Advices from General Otis were watched with keenest interest by war department officials today and Assistant Secretary Mieklejohn, who in the absence of Secretary Alger, is acting secretary of war, remined in his office throughout the day in order to the fighting.

Many army officers and other officials were also at the department and the president was kept advised as to the developments as indicated in General Otis ware ested and was soon followed by others whose contents gave the officials of the last two days.

The list of killed and injured which Gan Otis had promised was awaited anxiously by the department, friends and relatives here of the officers and men in the Philippines, but it was late in the afternoon before it was received. Much regret was expressed at the death of Otis Stewart, the only regular file of the Capher, the content of the capher in the Philippines, but it was late in the afternoon before it was received. Much regret was expressed at the death of Otis Stewart, the only regular and prevetted for his conspicuous galantry in that engegement.

Manila, March 26—7.30 p m—The U Stroops, under Brigadier General Lloyd Wheaton, occupied the town of Malinta, beyond the Talishan river, today after a sharp fight. Col Henry C Egbert, of the 22nd Regular Infantry, was killed. Prince Loewenstein, formerly aid-derenament of the staff of Brigadier General Miller at Ilollo, somehow got in front of the firing line and was shot in the side, lying almost instantiy. A German who

camp on the staff of Brigadier General Miller at Iloilo, somehow got in front of the firing line and was shot in the side, lying almost instantly. A German who accompanied him was wounded.

The American casualties today were much lighter than those of yesterday, the total losses thus far reported since the engagement began being 42 killed and 145 wounded.

General Wheaton entered Malints, which is a small collection of huis, at one

which is a small collection of huis, at one 'cl ck this afternoon.

The United States gunboat Helena and other gunboats have been shelling Mala-bon, about a mile northwest of Caloocan

day of our visit by the hens, who were out airing themselves, or more correctly speaking, freezing themselves, for the thermometer was between 20 and 40 below zero. There were about 60 hens in the flock, and they were being fed well. Various meals, meat meal, cut clover, with oyster shells and grit before them, and notwithstanding their freezing surroundings they had laid seven eggs that day. (Thirty or 40 should have been nearer the number.) We concluded that this style of a hen house was never intended for New Brunswick.

He—I always make it a point to profit by the mistakes of others.

She—I got weary of George Brixton because he never seemed to know when to go home.

He then bade her good-night. for several h urs.
The insurgents made a fierce resis-

The flames of the burning rice mills and large buildings could be plainly seen from Caloocan despite the strong sunlight.

By 11 o'clock in the morning the only

building of importance not destroyed in the entire town was a large stone church but even at noon fresh fires were started among the native huts in the outskirts of Malabon, although the general exodus took place much earlier.

Many of the rebels sought refuge in the suburbs of Navotae and Casag, or were driven inland by the shells of the Helena, Galos, Ningdapan and LaGuna.

Gunboats Shelling Malabon for Hours

--Filipinos Flee.

Otis Wires the Particulars.

Manila, March 26-4 p m—Our casualties today are much lighter than yester day. The total reported since the engagement begsn is 45 dead and 145 in gagement begsn is 45 dead and 145 in grant and the shell alter to the state of the control of the division were much interfered with by the character of the country in front of both, and the enemy was able to take advantage of this so that the operations against Novaliches and Polo were delayed, though the right wing of the division wung out, sweeping the enemy in a northwesterly direction.

gagement begen is 45 dead and 145 in jured.

MANILA, March 26—6 p m—The Americans today took the town of Malinta after a sharp fight, in which Col Egbert of the 22nd Infantry and several others were killed.

MANILA, March 26—7 30 p m—Prince Loewenstein, formerly honorary aide-demailed, and began to replace the floor.

Loewenstein, formerly honorary side-decamp on the staff of General Miller at Iloilo, somehow got in front of the firing line and was killed.

Manila, March 26—6 10 p m—United States gunboats have been shelling Malabon for several hours and the Filipinos are apparently withdrawing.

Washington, March 26—The war de-

WASHINGTON, March 26—The war department has received the following cablegrams:

MANILA, March 26.

Adjutant General, Washington:

4.30 p m—MacArthur has driven the enemy, strongly entrenched in large force, north of Polo; will continue to press thm: insurgents have strong entrenched.

When the Americans were about 300—When the Americans were shout 300—When the Americans were shout 300—Wards off the entrenchments the Phili-

rear, but he died on the way.

rear, but he died on the way.

It was a most affecting scene. Gen
Wheaton, baring his head, said: "You
have done nobly!" Col Egbert said in
reply: "I must die, I am too old."
No Filipinos were found in the trenches. Trough apparently their force was
much smaller than that of the Americaus they had an immense advantage
In position and in opportunity to retreat.



uch as Wind and Pain in the Stomach, Giddiness, Fulness after meals, Head-ache, Dizziness, Drowsiness, Flushings of Heat, Loss of Appetite, Costiveness, Blotches on the Skin, Cold Chills, Dis-turbed Sleep, Frightful Dreams and all Nervous and Trembling Sensations. THE FIRST DOSE WILL GIVE RELIEF IN TWENTY MINITES. Every sufferer IN TWENTY MINUTES. Every sufferer

A WONDERFUL MEDICINE. BEECHAM'S PILLS, taken as direct-BEECHAM Factor Females to com-ed, will quickly restore Females to com-plete health. They promptly remov-obstructions or irregularities of the sys-cure Sick Headache. For obstructions of irregularities of the tem and cure sick Headache.

Weak Stomach Impaired Digestion Disordered Liver

IN MEN. WOMEN CR CHILDREN Beecham's Pills are Without a Rival