

The Flat-Headed Apple Borer.

From the Prairie Farmer.

Considering the fatality of its work, and the number of valuable fruit and shade trees which it attacks, few insects are more to be dreaded than this flat-headed apple tree borer. Our oak trees die from year to year. Inquire the cause, the answer is: "Oh, they cannot stand the influences of civilization!" Search for it yourself, and you will find that *Chrysobothris* has more or less to do with the death of such trees. The townsman prides himself on the thrifty growth of his soft maples or sycamores, that are to give him the shade from the midsummer sun, adorn his lot, or line the front of his residence. After a thrifty growth of two, three or more years, one of the trees suddenly dies, and others soon follow. The cause is discussed—drought, packed soil, poor nourishment, and a dozen seemingly plausible reasons are conjured up—and ashes, or some other mineral or vegetable substances, are placed around the butt, in the vain effort to save the remaining trees. Pull off the bark, however, and the real cause is readily discerned, for the surface of the hard wood is literally covered with broad, shallow channels packed with saw-dust like castings—channels which *Chrysobothris*, unseen and unheard, has been making, perchance since the tree was

during the latter part of May, and is found all through the summer months. The eggs are laid by the female, by preference, under the loose scales, or within the cracks and crevices of the bark, several of them being not unfrequently found together. The young larvæ hatching from them gnaw through the bark, and feed upon the liber, boring broad and flattened channels, and very soon girdling the smaller trees. When its jaws get stronger, it usually bores into the more solid wood, working for awhile upward, and when about to transform it invariably cuts a passage back again to the outside, leaving but a thin covering of bark over the whole. It then retreats, and after packing the excrement around it, so as to form a smooth cavity, changes to the pupa state. The pupa, at first white, by degrees exhibits the colors of the future beetle, and in the course of about three weeks the latter gnaws its way through the thin bark door, which, as larvæ, it had left, closing its passage-way.

It is a singular instinct this, that teaches the larvæ, which has powerful jaws, to prepare for the exit of the beetle, which has much more feeble ones, and this instinct is most strikingly illustrated when the infested tree is surrounded with some covering, like wire gauze, which is proof against even the jaws of the larvæ. In such an event,

in ivy screens, or as specimens in drawing-rooms, when others happen to be scarce. They are clean, bright and cheerful everywhere; and even if one bloom only is open when gathered, all the others, to the very top of the spikes will open freely with care.

In vases of cut flowers the gladioli are generally improved by good grasses being intermixed with them; for example, we have cutting to put round the sides of the graceful *Millium multiflorum* and *Piptatherum Thomasii*, and for the centre *Panicum fimbriatenuis*. Perhaps the most effective are among the numerous summer varieties, as *Agrostis laxifolia*, which, when introduced neatly among the gladioli, blooms, has all the appearance of long threads of wavy silk, clustering round as a protection to the blooms, and through which they appear to interesting advantage.

Our method of planting is the same as a Devonshire farmer plants his potatoes. The ground is double-dug in winter, and at planting time a trench is taken out one spade deep. The bulb is then put in, covering a little soil over the top, and upon this is placed a good coating of manure and leaf mould mixed, the manure being fresh and warm, as we find that old rotten cheesy looking manure brings disease, and does not push the young growth so vigorously and quickly as fresh manure.



SCENE ON D. M. FERRY AND CO.'S SEED FARM, DETROIT, MICH.

first set out. Mountain ash, linden, box elder, beech, plum, pear and peach, alike succumb to its attacks, while the apple is so subject to its injuries that no man who does not understand this enemy, and is willing to give some little time to mastering him, can hope to succeed in growing apple trees in Missouri; and, in reality, the time and money spent in planting young apple orchards in the greater portion of the Mississippi Valley is generally wasted for want of the necessary precaution against this insect. It has been more especially injurious and noticeable the present year, and complaints of its work, with specimens, have, as before indicated, reached me from very many different sources.

ITS NATURAL HISTORY.

The natural history of this borer is thus briefly told. The beetle is very variable in size, and has been described under a number of different names. It is greenish-black or bronze colored, with metallic reflections, and the under side more coppery or brassy. The more characteristic features are two irregular, impressed, transverse marks across each wing-cover, dividing them into about three equal lengths. This beetle, like all the species of the family (*Buprestidae*) to which it belongs, is diurnal in habit, and may frequently be found basking in the sun, on the trunks of those trees which it more particularly frequents. It begins to appear

even though the wire touch not the bark, the larvæ will work its way through the latter, and test, in every conceivable way, the resistance of the wire, and frequently succumb in the effort to penetrate it. Yet, normally, this same larvæ would take every precaution not to penetrate the bark.

Whether this borer remains in the tree nigh upon one or two years after hatching, no one has definitely determined. The general impression is that it acquires its full development in a single year. Be this as it may, the larvæ are found of different sizes during the fall, and young ones not much over one-eighth of an inch long may be found in mid-winter. Yet in April and May by far the larger portion will be found either full-grown or in the pupa state, and the above facts indicate protracted and irregular period of egg-depositing, rather than that two years are required for development.

The Gladiolus.

We have no decorative flowers so generally useful as the gladiolus. It can be had in bloom all the summer months, or we might say, from May to Christmas; and besides being a great favorite, it can scarcely be used amiss for in-door decoration, even as rainbows for fire-places, or three-foot spikes

Onion Seed.

In the pages of this journal we have given some accounts of the great centres of different kinds of animals, implements, plants and seeds. The onion is a welcome and well known vegetable to us all, though but few of us know what a large business is carried on to supply us with the little packages of seed for our gardens. Messrs. Ferry & Co., of Detroit, are, we believe, the most extensive growers of onion seed in America. They raised ten tons of seeds on 50 acres of land the past season. The above cut was engraved from a photograph of the work in the field, but the bungling artist had no idea of following the photograph, which is much better than the above cut. This company employ from 200 to 300 women and girls in weeding the ground during the summer and packing seeds in winter. We paid a visit to their seed establishment in Detroit during February, and there we found about 250 women and girls, all as busy as bees. Some were making bags; others assorting and packing seeds. We being more accustomed to logging and clearing land with oxen, considered

this rather
60 men a
great sig
amount o
would o
year; bu
employed
besides t
To see a
working
that wou
the little
a special
at once c
main cen
raise ma
three hu
voted to
vast amo
done by
be imag
were sho
1,000 let
rived th
visit. Sc
ers may
seeds d
growers
know o
make m
ness of
seeds in
Otwell,
raises a
some ot
sume F
more st
all Cana
ers com
highly p
visit, a
more c
rican es

T
The
the m
luscious
fruits;
favorite
but a s
in the
of our l
plies m
scatter
original
a view
The reg
fruit st
sive; it
a free
and pr
well a
fruit q
in nev
has bec
in Cal
flourish
of that
are the
ments
extends
perish
quickl
impos
produc
profits
grower
in fav
peach;
more i
profits
In c
passed
is used
of go
better