

# Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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## What is that “bug” buzzing around me? It is March Flies!

We have received inquiries from Wichita, KS regarding fairly large midge-like insects flying around people and crabapples (*Malus* spp.) in full-bloom. These are adult March Flies (Family: Bibionidae), and most are in the genera *Biblio* or *Dilophus*. One common morphological characteristic for identification is the presence, on the wings, of a very distinct yellow-brown stigma (spot) among the veins. March flies are in the same family and are closely related to “love bugs.” Female March flies dig holes in the soil in which they deposit approximately 200-300 eggs in a mass. They die soon after egg-laying. The eggs hatch into larvae that are yellow in color with dark spiracles, and a shiny brown head. Larvae live in moist habitats and feed on decaying organic matter and among plant roots, and sometimes they may enter potatoes that are damaged by insects such as wireworms (click beetle larvae) or diseases. Adults are most active in spring and summer, and may be present in abundant numbers (as people have experienced). They are attracted to flowers and may be important pollinators; however, they are also attracted to homes and people.



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*Raymond Cloyd*

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## In the Garden ----- Cabbages and “Cabbageworms”

We are already halfway through April, and undoubtedly avid gardeners already are tending various cool-season crops including cabbage, broccoli and cauliflower. By far, cabbages are a favorite garden crop ----- so simple to plant/transplant, and so quick to grow. And a wonderful food source for you and I, and **“CABBAGEWORMS”!**

The quotation marks highlighting “cabbageworms” designates that there are several different types of worms/larvae which thrive on cabbages and other cole crops. All are the larvae of lepidopteran species. The classic “Big 3” are imported cabbageworms (ICW), cabbage loopers (CL) and diamondback moth larvae. While all 3 occur in Kansas, by far, imported cabbageworms and cabbage loopers are the most common. And as they the largest in size, this makes them the most destructive “cabbageworms”.

Imported cabbageworms have a green velvety appearance (hence their nickname “green fuzzies”) (Figure 1), whereas cabbage loopers are sometimes referred to as “inch worms” due to their looping/inching movements. They are green and appear to be hairless (Figure 2).



**Figure 1**

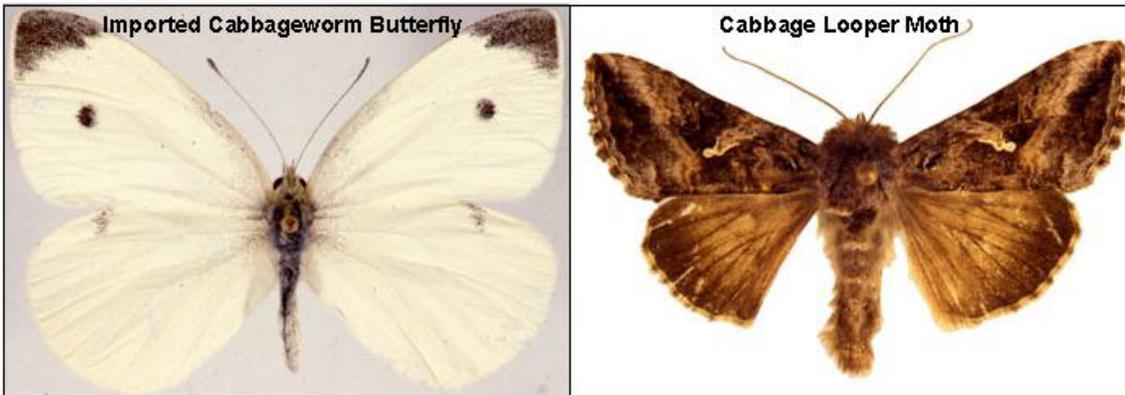


**Figure 2**

The parents of imported cabbageworms and cabbage loopers are butterflies and moths, respectively (Figure 3). Most people are familiar with imported cabbageworm butterflies because they actively fly during daylight hours. Few people are familiar with cabbage looper moths because they fly in the dark of evening and early morning hours.

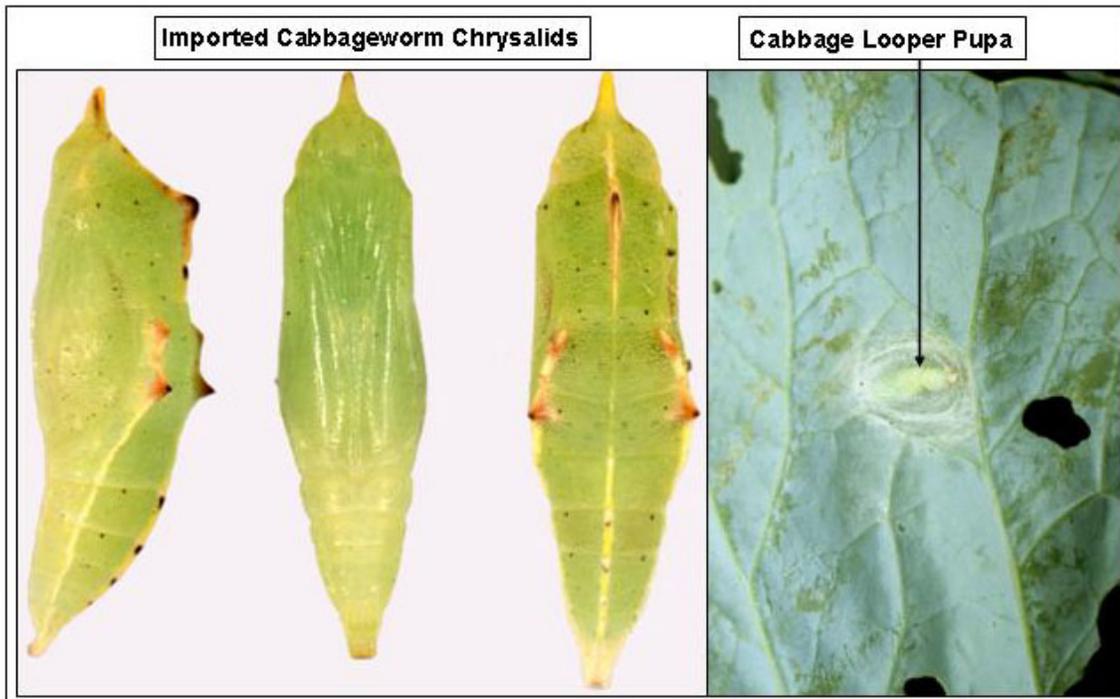
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**Figure 3**

Overwintering as chrysalids (Figure 4), ICW butterflies may appear during brief warm spells in February. But typically they begin their continual yearly activities in mid-March. Cabbage loopers also overwinter in the pupal stage encased in loosely-woven “flimsy” silken cocoons (Figure 4). For both, overwintering survival is enhanced because often times they are protected beneath debris and litter piled on the soil surface.



**Figure 4**

There are several differences between the seasonal life histories and life stages of these two pests. Already pointed out were differences in the appearances of the larvae as well as differences between their transition stages from larva to adult. Both ICW butterflies and CL moths flit about and glue individual eggs to plant

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hosts. Although not gospel, ICW eggs are primarily deposited on lower leaf surfaces while upper leaf surfaces are preferred for CL eggs. Eggs differ in appearance: yellow and somewhat elongated versus whitish and more rounded for ICW and CL, respectively (Figure 5).



**Figure 5**

Both species are multivoltine: they produce more than a single generation per year. Although not specifically documented for Kansas, literature citations mention that ICW produce between 3-6 generations/year with CL producing 3-4. While in the context of this Newsletter we are addressing the impact of both species on cool season crops (both in the spring and fall), they are an “ever presence” throughout the summer, sustaining their populations on alternate hosts of both “wild” plants/weeds as well as cultivated crops.

Where differences stop, however, is the commonality of “cabbageworm” damage. The direct feeding damage combined with the fecal deposits render the cabbage heads unmarketable (Figure 6).



**Figure 6**

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Marketable and salvageable are measures of acceptability. While the cabbage in Figure 6 is not marketable, substantial food value remains. Depending on personal preferences, many people may find the “wormy head” preferable over the “wormless head” in Figure 7,



**Figure 7**

reasoning that the heavy and (in this instance) careless use of an insecticide renders the produce unfit for consumption, even after outer leaves are discarded and the head has been washed. If one closely examines the wormy head (Figure 8), it can be seen that most of the head is still usable.



**Figure 8**

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The worms (Test Time: are they cabbage loopers or imported cabbage worms?) and their fecal pellets can easily be washed away. And the remaining head (even the outer “gnawed on leaves”) is perfectly safe and edible.

Of course, the above example is an extreme situation of “unchecked” damage. Most gardeners are attentive and vigilant as they work/weed their gardens. The first hint of potential problems is the presence of “white wings”. When individual butterflies alight, you can observe their egg-laying activity by examining that leaf for the presence of a newly deposited egg (previously addressed). Or, holes may appear on the outer wrapper leaves (Figure 9)



**Figure 9**

indicating the presence of “cabbageworms”, and the need to reduce or eliminate their populations before the begin moving to the developing head.

There are numerous insecticidal products registered for use against vegetable pests such as “cabbageworms”/caterpillars. They are rated both as “non-organic” (synthetic insecticides) and “organic” (botanicals, spinosyns, bt’s, horticultural oils, horticultural soaps) products. Check retail outlets for appropriate locally-marketed products.

*Bob Bauernfeind*

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## “Pods” ----- Invasion of the Body Snatchers ----- Not the case here

In the original 1956 classic, strange pods (from outer space?) appear. Inside of each pod is a “generic” human form which transforms itself into specific individual whose identity is taken over while asleep. [Various remakes on this theme have since been produced]

But the “pods” addressed here are a far cry from the above, and are easily identified and explained. As people work/till their gardens in the spring, strange looking objects are sometimes unearthed. There is no mystery as to what is “in-hand”: an earthen cell (Figure 10).



**Figure 10**

Upon breaking it open, a strange looking “something” is revealed (Figure 11).



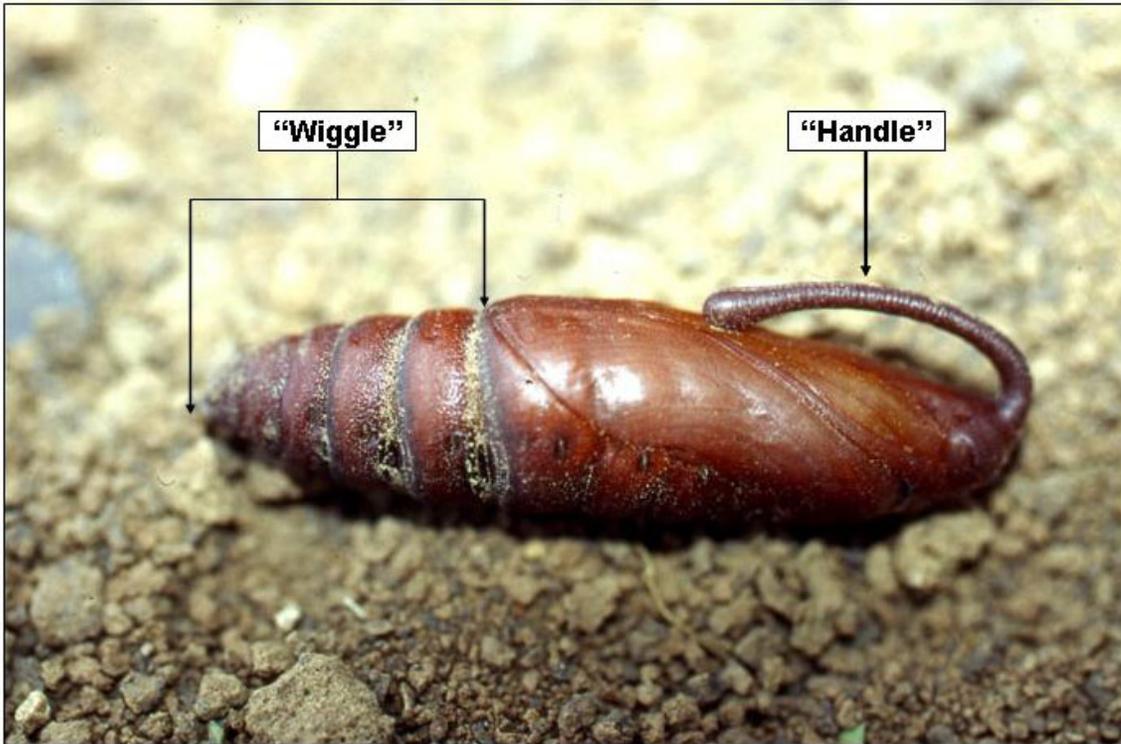
**Figure 11**

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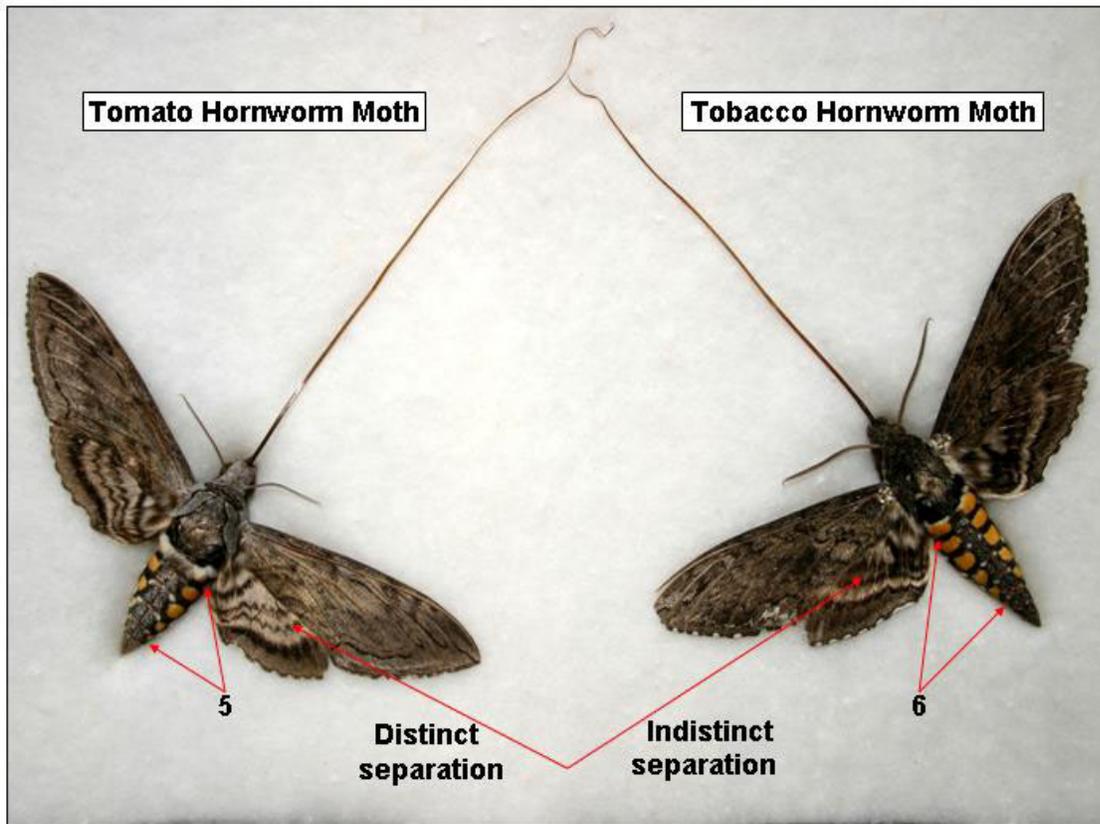
It is nearly 3-inches long. If held in your hand, the “tail-end” wiggles. A strange “handle-like” structure is readily evident (Figure 12).



**Figure 12**

This is the pupa of a sphinx moth. There are numerous species of sphinx moths in Kansas. They are sometimes referred to as hummingbird moths due to their size, ability to hover and long proboscis. If these are found in garden areas, they likely are the pupae of two very closely related moths: the tomato hornworm moth (TOM) or tobacco hornworm moth (TOB).

It is not possible to look at a pupa and identify it as either that of a TOM moth or TOB moth. And at a quick glance, people may look at the moths and say, “Well, they look to be both the same”. Yet they are distinctly different based (most notably) on the number of pairs of yellow abdominal spots, and the distinctiveness of a pair of wavy lines on their hind wings (Figure 13).



**Figure 13**

When the 2010 TOM and TOB moths flights begin, the subject of their larvae (with distinctive the distinctive “horns” on their tailends) will be addressed.

*Bob Bauernfeind*

## **Termites are swarming**

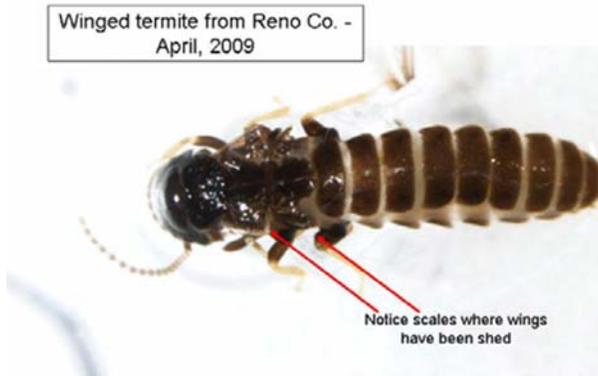
Reports are coming in from across Kansas that termites are beginning to swarm. We have received several samples and many phone calls. The presence of swarmers may indicate that there is an existing termite problem in or around a home, but the swarmers themselves are not destructive and are not going to be successful at starting a new colony in your home. Unless the females land on moist soil, they will die within a short time. Once the termites have mated they will start to shed their wings and homeowners may find wingless swarmers or wings lying around in window seals (see photos). These insects can be removed from the home by vacuuming them up and placing the vacuum bag in an outdoor trash can. If termite swarmers are found, the home should be inspected for other signs of termites. Common symptoms of termite infestations include tube shelters built between the soil and wooden structures and the presence of mud-filled joints in wood framing,

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paneling, and trim in finished areas of a structure. In many cases, wood damaged by termites goes undetected. If termite damage is suspected, probe wood near a foundation with an ice pick or similar tool. If the wood is soft and easily punctured, termites should be suspected. Termite infestations are best treated and controlled by a professional pest control operator.



For more information on termites please visit:

<http://www.ksre.ksu.edu/library/entml2/MF722.PDF>

*Jeff Whitworth*

*Holly Davis*

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## Alfalfa Weevil

From all accounts, throughout central Kansas, alfalfa weevil hatch is serious this year. Alfalfa weevils sampled on 13 April in central Kansas were 70% 1<sup>st</sup> instar and 30% 2<sup>nd</sup> instar larvae. The continuing warm weather is promoting rapid growth of weevils as well as the associated feeding damage that supports this development. If treatment is warranted, now is the time to spray. Weevil populations need to be monitored, even after treatment, as egg hatching may occur. Therefore, fields should be scouted 10 – 14 days after treatment is applied.

*Jeff Whitworth*

*Holly Davis*

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## Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostician Laboratory from March 26<sup>th</sup> to April 15<sup>th</sup>.

March 31 2010 – Sherman County – Midge larvae in wheat field  
April 01 2010 – Riley County – House centipede in commercial building  
April 02 2010 – Phillips County – Pinkspotted lady beetles in mulch around trees  
April 5 2010 – Riley County – Bird Cherry-Oat aphids in greenhouse  
April 9 2010 – Allen County – Northern mole cricket  
April 12 2010 – Riley County – Attic flies in home  
April 13 2010 – Ellsworth County – Lepidoptera larvae in bathroom  
April 15 2010 – Labette County – Termite swarms in home  
April 15 2010 – Leavenworth County – San Jose scale insect

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician at (785) 532-4739 or [GotBugs@ksu.edu](mailto:GotBugs@ksu.edu).

*Holly Davis*

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**Sincerely,**

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