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Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants, and Extension Personnel

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INSECT OUTLOOK FOR 2004:

It never fails! Invariably, people ask **THE QUESTION** — “Did the snow and cold winter temperatures kill all of the bugs?” In other words, “Can you make a prediction as to the insect situation in Kansas for this year?” The all-inclusive word “insects” immediately prompts the response, “To which insect are you referring?” At least if a person indicates a specific insect pest, a valid response becomes a bit more feasible.

Before addressing specifics, a brief explanation will provide some general background information useful in understanding insect durability. For instance, insects which are indigenous to Kansas are species which are able to withstand the rigors of our winters. While an unusually severe “open winter” may eliminate a portion of an overwintering population, enough survivors will ensure the continued propagation of the species in Kansas. Despite the relatively recent cold days with evening temperatures dipping as low as ten degrees below zero, insects were well insulated beneath the deep snow cover. Additionally, other insects (and/or their eggs) tucked away in various cracks and crevices, beneath soil litter/debris, leaves, wood piles, etc., or those overwintering in indoor situations (i.e. homes, garages, sheds and other out-buildings) were well protected against winter weather.

Several perennial insect pests (in the garden and on trees and landscape ornamentals) which seem to arouse peoples’ ire on a yearly basis include: bagworms, European pine sawflies, eastern tent caterpillar, white grubs, both true and false wireworms, cutworms, corn earworm, imported cabbageworms and cabbage loopers, grubs, cutworms, wireworms, corn earworm, tomato/tobacco hornworms, squash bugs, grasshoppers, “borers”, boxelder bugs and elm leaf beetles.

Bagworms overwinter as eggs deposited in the pupal case housed in the female bag. The eggs are well insulated. The bag itself is tough and silk-lined. Eggs have the additional protection of the pupal case itself.



Bagworm

Lastly, when the eggs were being deposited, the female moth used soft “body hairs” to cushion and protect the eggs. Expect that where bagworms were a problem in 2003, they will be a problem in 2004.

European pine sawflies overwinter as eggs inserted in pine needles. Eggs withstand cold temperatures. European pine sawfly

repeatedly occur on the same pine trees and landscape pines (primarily mugo) if they were not eliminated with insecticide treatments the previous season.



European pine sawfly eggs

Eastern tent caterpillar overwinter as egg masses attached to twigs of their host plant (primarily landscape flowering crab). The eggs are further protected by a shellac-like substance covering the entire egg mass.



Tent caterpillar egg masses (close-up)



Tent caterpillar egg masses (on twigs)

White grubs in the garden, flower beds and turf overwinter by burrowing down beneath the frost line. They are always in advance of the frost line, and thus avoid being frozen. As such, they have high winter survivability, returning to the surface to resume feeding activities.



White grubs

Similarly, **true wireworms** (larval stages of click beetles) and **false wireworms** (larvae of false wireworm beetles) survive the winter in the soil.



Wireworm



False wireworm



False wireworm beetle

There are many species of cutworms. **Clayback**, **dusky** and **army cutworms** overwinter as partially grown larvae which burrow into the soil during especially cold periods, but which also resume feeding activities during mild periods throughout the winter.



Clayback cutworm



Dusky Cutworm



Army Cutworm

Corn earworm do not overwinter in Kansas — at some point during the winter, any pupal stages (in the soil) that might have survived into the winter would have been eliminated — they just are not winter hardy. Current-season corn earworm infestations begin with moths moving into Kansas from more southern locations (Texas, for instance) where they survive.



Corn earworm



Corn earworm moths

Imported cabbageworm butterflies and **cabbage looper** moths over winter as chrysalis and pupae in cocoons (respectively) in and around most gardens and yards, hidden beneath debris and other protected areas. The overwintering stages are quite durable, with the white butterflies appearing as early as March.

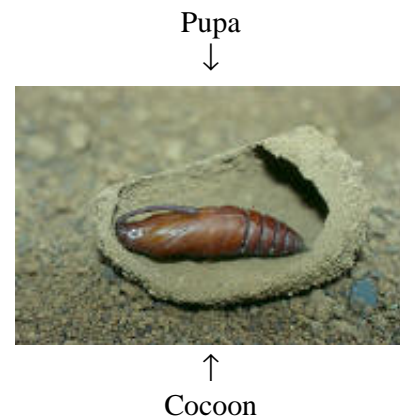
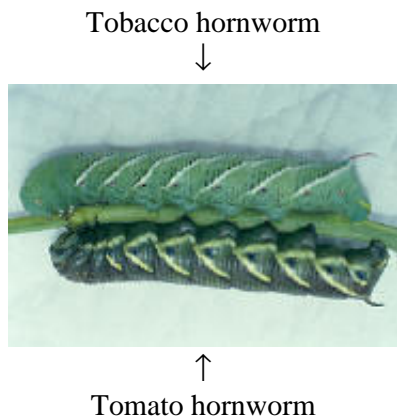


Imported cabbageworm butterfly



Cabbage looper moth

Tomato hornworms and **tobacco hornworms** overwinter as tough “thick-skinned” pupae protected in earthen cocoons buried in the soil. As such, they survive the coldest of winters.



Squash bugs overwinter as adults under piles of debris and trash, beneath boards, in stacked wood, around home foundations and inside homes/building. They are well-protected against extremely low temperatures.



Squash bugs

Differential and **two-striped grasshoppers** are the two most widely recognized species with which Kansans are familiar. Both overwinter as eggs deposited in the soil. Eggs are well-protected within egg pods formed by soil particles held together with glue-like secretions produced by the ovipositing females.



Differential



Two-striped

“Borers” overwinter within the roots, twigs, branches and trunks of trees/shrubs/plants. They are well insulated against the cold winter elements. Examples include the **European corn borer**, **redneck cane borer**, **bronze birch borer** and **roundheaded apple tree borer**.



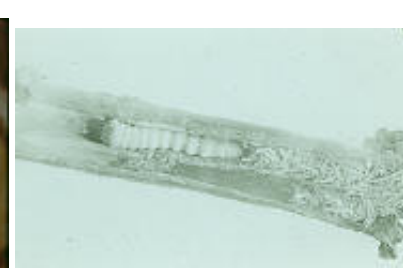
European corn borer



Red-neck cane



Bronze birch borer



Roundheaded apple tree

Boxelder bugs, red-shouldered bugs and elm leaf beetles overwinter as adults in similar situations described for squash bugs.



Boxelder bug



Red-shoulder bug



Elm leaf beetles

Thus in 2004, most of the “familiar insects” will be around to vex the citizens of Kansas.

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Sincerely,

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