Pest & Crop

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Insects, Mites, and Nematodes

Some Caterpillars Sting - *(John Obermeyer and Larry Bledsoe)* -

- Two caterpillar species now feeding on field crops can inflict painful stings
- Other caterpillars, such as woollybears and thistle caterpillars, are harmless

Pest managers occasionally observe peculiar-looking caterpillars feeding on the leaves of corn and soybean this time of the year. Look carefully before you touch! Two species, the Io moth and the saddleback caterpillar, found in fields can sting when handled! Though both species can be found on many different plants, in field crops the Io feeds on both corn and soybean, while the saddleback is only encountered in corn.

Io caterpillar in corn (stings)

Saddleback caterpillar in corn (stings)

Thistle caterpillar (harmless)

Woollybear caterpillar (harmless)

The bodies of these caterpillars are covered with "stinging" or "nettling" hairs, which produce a stinging sensation and temporary rash when the caterpillars come into contact with the skin. These stinging hairs resemble spines; whereas the often encountered and harmless woollybear is just hairy looking. To add confusion to the matter, there are many more formidable looking caterpillars found on various plant species that are harmless. The old adage "when in doubt, leave it alone" applies here. Happy Scouting!

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European Corn Borer Moths Remain Low - (*John Obermeyer*) -

Black light trap counts and evening windshield observations have revealed that the second generation corn borer moth flight is low. Don't count this pest out completely, as there may be some "hot spots" in Indiana. Fields that will be most susceptible to attack are those that are actively pollinating. Consider that replanted areas of fields, that are delayed in development, may be a "trap" crop for these second generation moths. Crops of most economic concern would be seed corn and late market sweet corn.

European corn borer moths: female (top), male (bottom)

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Black Light Trap Catch Report - (John Obermeyer)

County/Cooperator	7/27/04 - 8/2/04							8/3/04 - 8/9/04						
	VC	BCW	ECB	SWCB	CEW	FAW	AW	VC	BCW	ECB	SWCB	CEW	FAW	AW
Dubois/SIPAC		2	2				6			2				1
Jennings/SEPAC		3	5				4		3	4				2
Knox/SWPAC	1	2	2				4		2	5	1			4
LaPorte/Pinney Ag Center			20				10			50				
Lawrence/Feldun Ag Center			3				7							1
Randolph/Davis Ag Center			16				10			74				3
Tippecanoe/TPAC Ag Center		1	9				44		2	52				1
Vermillion/Hutson			35											
Whitley/NEPAC			24				3							

VC = Variegated Cutworm, BCW = Black Cutworm, ECB = European Corn Borer, SWCB = Southwestern Corn Borer, CEW = Corn Earworm, FAW = Fall Armyworm, AW = Armyworm

Soybean Sudden Death Syndrome – (*Andreas Westphal and Scott T. Abney*)

- SDS is prevalent in southern Indiana

Two weeks ago, we cautioned that high risk for Sudden death syndrome (SDS) was prevalent in Indiana (*Pest&Crop* No. 20) based on observations in farmers fields and Abney's and Westphal's research plots strategically located in southern and central Indiana. At that time, we reported awareness of SDS in highly susceptible varieties. In brief, these conditions include high soil moisture at the beginning reproductive stages and early planting. Currently, foliar symptoms of SDS are most evident across southwest Indiana. When traveling in southern Indiana, we observed large areas with SDS. Symptoms were seen in about half of the fields. Soybeans in fields with SDS are in growth stages R5 to R6 (pod fill), the typical time for the disease to show-up.

Fig. 1. Defoliation of soybean plants with SDS along the turn-row of a soybean field.

Details of the biology of SDS can be found in our previous article. SDS occurs in typical field patterns. Turn rows and wet spots of the affected fields are often first showing premature yellowing of soybean leaves and death of the soybean plants. However, we have also observed fields with an overall healthy plant population, but sprinkled, apparently random plants with SDS symptoms. When inspecting trouble fields, foliar symptoms are a first indication for SDS. Initially, leaves have yellow to brown areas between the major veins. In the progression of SDS, leaflets die and shrivel and drop off, leaving the petioles (leaf stalks) attached. While brown stem rot has similar foliar symptoms, it is distinguished from SDS by symptoms in the plant stem. Brown stem rot darkens the pith but not the cortex. In contrast, the lower stem and taproot of a plant with SDS will exhibit a dark-brown cortex, but white, maybe tan, pith. If a plant with symptoms of SDS is dug from moist soil, there may be small, light-blue patches on the surface of the taproot. So if you suspect SDS in a trouble field you want to dig SDS-suspect plants from the soil, inspect the roots for a blue coating of SDS spores and split the stem.

Fig. 2. Single soybean plant with severe SDS: note that blades and pods have dropped off while petioles remain attached to the main stem.

It is likely that this year's widespread occurrence of SDS in southern Indiana is associated with high soil moisture and the very early planting of soybean. SDS researchers throughout the North Central Region agree that planting early into cool soils increases the risk for this disease. The important predisposing factor: high soil moisture at beginning reproductive stages was also given as rain patterns provided water during the critical stages. We expect a continued spread of SDS symptomatic plants in areas where both predisposing conditions are given.

Currently, there is no "quick-fix" remedy for SDS. Yield losses will depend on when (severity and soybean growth stage) SDS fields were infected and what proportion of the plant population was infected. This 2004 SDS awareness should prompt growers to carefully select soybean varieties that have superior ratings relative rating relative to SDS. Large efforts on the management of SDS are afforded throughout the North Central Region, supported by the Indiana Soybean Board, the North Central Soybean Research Program and the United Soybean Board. Emphasis is placed on the development of resistant soybean lines, but also on the basic biology and ecology of the disease. At this time, it is important to make careful note of where the disease occurs (which fields, the pattern of the disease within a field, and symptom severity). In future plantings, the avoidance of extremely early planting, choosing varieties less susceptible to SDS, and any cultural methods that reduce excessive soil moisture, e.g., breaking of compaction layers or improved drainage, has potential to help to manage SDS.

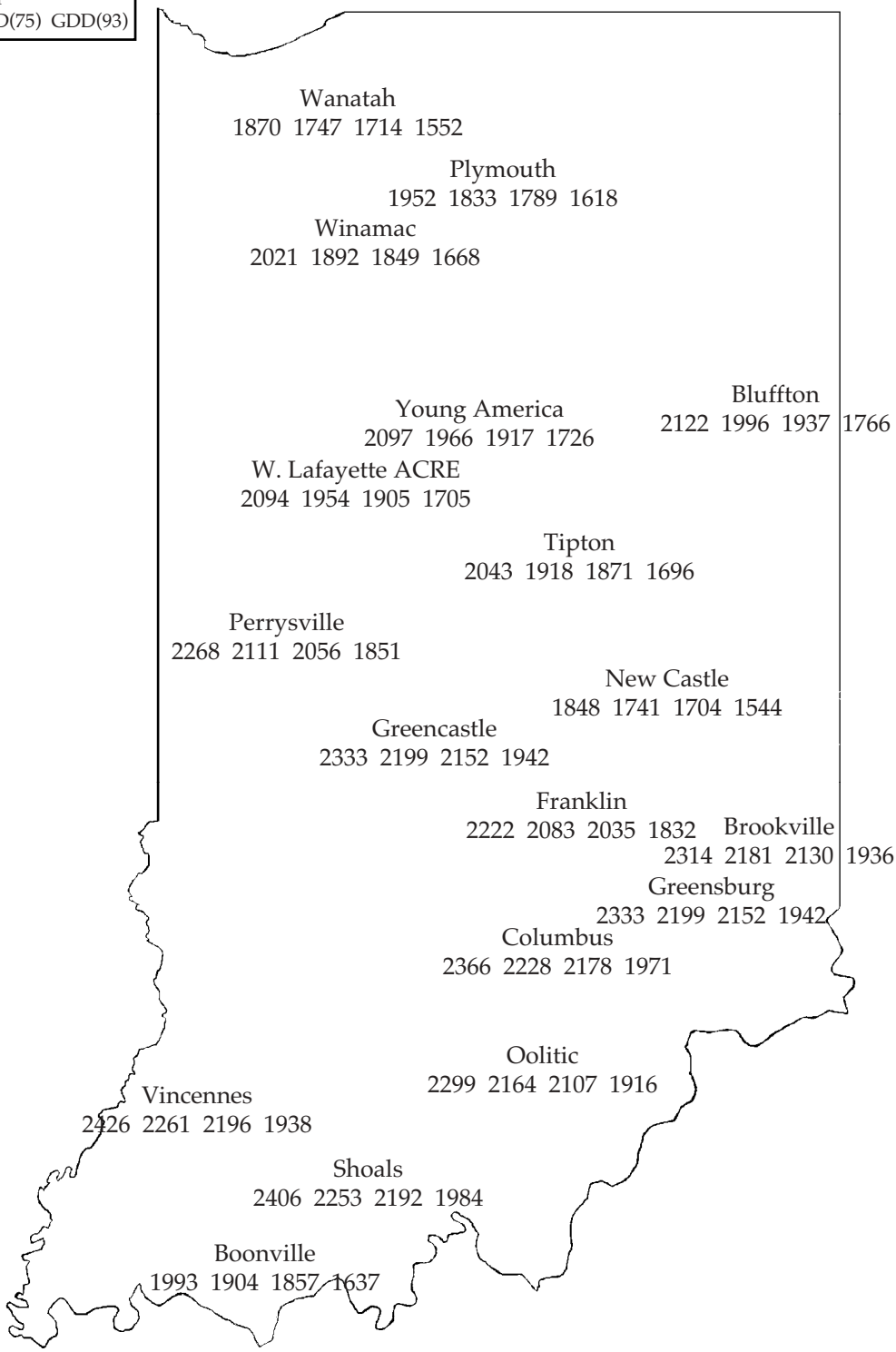
Weather Update

Temperatures as of August 11, 2004

GDD(5) = Growing Degree Days from April 7 (5% of Indiana's corn planted), for corn growth and development
GDD(42) = Growing Degree Days from April 21 (42% of Indiana's corn planted), for corn growth and development
GDD(75) = Growing Degree Days from April 30 (75% of Indiana's corn planted), for corn growth and development
GDD(93) = Growing Degree Days from May 14 (93% of Indiana's corn planted), for corn growth and development

MAP KEY

Location
GDD(5) GDD(42) GDD(75) GDD(93)



4" Bare Soil Temperatures 8/11/04

Location	Max.	Min.
Wanatah	69	65
Winamac	72	68
Bluffton	68	67
Chalmers	72	69
W Laf Acre	79	71
Tipton	77	69
Perrysville	78	72
Crawfordsville	81	71
Oolitic	88	67
Dubois	91	66

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