

Corn Earworm Survey—2011

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Annually, we conduct a survey to estimate *Helicoverpa zea* (corn earworm) infestation levels in field corn in mid- to late July. Corn is considered a nursery crop for earworm, allowing the pest to complete a lifecycle and then move on to other crops such as soybean, cotton, and peanut in August. Over 30 years of data show that there is nearly a 1:1 relationship between the infestation level in corn and the amount of soybean acreage that gets treated with insecticide for this pest ($y=1.12x - 3.36$, $r^2 = 0.46$). This means that if 50% of corn ears are infested, we can expect about 52.6% of Virginia's soybean acreage to be treated for earworm.

To conduct the survey this year, the number of corn earworms found in 50 ears of corn was recorded in up to 5 randomly selected corn fields in each of 27 counties, totaling 6,650 ears and 133 fields sampled. When fields were known to contain Bt or non-Bt corn, this was noted. Otherwise, samples were considered to be random and assumed to be representative of the actual Bt/non-Bt composition in each county. Age of earworms, or if they had already exited the ears, was also recorded (data not shown). We greatly appreciate the help of Virginia Cooperative Extension Agriculture and Natural Resource (ANR) Agents, Virginia Tech faculty and staff, and volunteers in this effort. These cooperators are acknowledged at the end of this report. We also would like to thank the many growers who graciously allowed us to inspect their fields for earworm.

Results of the survey are provided in the attached Table. Statewide, 33% of ears were infested with earworms. For comparison, 40% were infested in 2010 and 36% in 2009. Regional averages for 2011 were 26% infested in Northern, 20% in the Northern Neck, 24.5% in Mid-Eastern, 48% in the Southeast, and 31% on the Eastern Shore. However, while this survey is intended to be a representative sample, it is not a complete picture. We always recommend scouting individual fields to determine exactly what is happening in terms of corn earworm as well as other pests and crop problems. As of July 21, weekly black light trap catches have been low (please see the Virginia Ag Pest Advisory for more details), but they historically begin their upward climb at the end of July. We will continue posting moth catch numbers and other information regarding the 2011 insect pest situation.

Table 1. Corn earworm survey of field corn in Virginia, 2011.

County	# Fields	# Ears Sampled	% Ears Infested	Field type(s)
Eastern Shore				
Accomack	5	250	36.8	Random sample
Northampton	5	250	24.8	1 Bt, 4 random sample
<i>Regional avg. %</i>			30.8	
Mid-Eastern				
Charles City	5	250	30.0	Random sample
Essex	5	250	9.2	4 Bt, 1 random sample
Gloucester	5	250	21.2	Random sample
Henrico	5	250	22.4	Random sample
King and Queen	5	250	23.2	Random sample
King William	5	250	22.8	Random sample
Mathews	5	250	19.2	Random sample
Middlesex	5	250	43.6	Random sample
New Kent	5	250	29.2	Random sample
<i>Regional avg. %</i>			24.5	
Southeast				
Chesapeake	5	250	29.2	5 Bt
Dinwiddie	3	150	50.0	3 Non-Bt
Greensville	5	250	86.8	Random sample
Isle of Wight	5	200	57.6	1 Bt, 1 non-Bt, 3 random sample
Prince George	5	250	49.6	4 Non-Bt, 1 random sample
Southampton	5	250	76.0	Random sample
Suffolk	5	250	60.0	Random sample
Surry	5	250	6.4	2 Bt, 3 random sample
Sussex	5	200	40.0	3 Bt, 2 non-Bt
Virginia Beach	5	250	20.0	Random sample
<i>Regional avg. %</i>			47.6	
Northern Neck				
Lancaster	5	250	6.4	Random sample
Northumberland	5	250	18.4	Random sample
Richmond	5	250	28.8	Random sample
Westmoreland	5	250	26.8	Random sample
<i>Regional avg. %</i>			20.1	
Northern				
Caroline	5	250	24.8	Random sample
King George	5	250	27.6	Random sample
<i>Regional avg. %</i>			26.2	
State average			33.0%	

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(*ANR Agents may provide service to multiple counties)