Corn Earworm Survey—2012
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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 a linear correlation between the infestation level in corn and the amount of soybean acreage that gets treated with insecticide for this pest (y=1.11x – 2.14, r^2 = 0.43). This means that if 50% of corn ears are infested, we can expect about 53.4% 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 5 corn fields in each of 32 counties, totaling 7,900 ears and 158 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 below. 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, 30% of ears were infested with earworms. For comparison, 33% of ears were infested in 2011; 40% in 2010; and 36% in 2009. Regional averages for 2012 were 8% infested in Northern, 15% in the Northern Neck, 30% in Mid-Eastern, 35% in South-Central, 38% in the Southeast, and 31% on the Eastern Shore.

This survey is intended to be a representative sample, 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. Also, please check the black light trap data on the Virginia Ag Pest Advisory and other reports posted weekly to keep up-to-date on the insect pest situation.

Acknowledgments

Table 1. Corn earworm survey of field corn in Virginia, 2012.

County	# Fields	# Ears Sampled	% Ears Infested	Field type(s)
Eastern Shore				
Accomack	5	250	46.8	5 random samples
Northampton	5	250	14.4	5 random samples
Regional avg. %			*30.6*	
Mid-Eastern				
Charles City	5	250	33.2	2 Bt, 1 non-Bt, 2 random samples
Essex	5	250	12.4	5 random samples
Gloucester	5	250	22.0	5 random samples
Hanover	5	250	22.8	3 Bt, 1 non-Bt, 1 refuge mix
Henrico	5	250	48.0	5 random samples
James City	5	250	44.4	5 random samples
King and Queen	5	250	24.0	2 Bt, 3 "refuge in a bag"
King William	5	250	28.4	2 Bt, 1 non-Bt, 2 "refuge in a bag"
Mathews	5	250	23.2	5 random samples
Middlesex	5	250	43.6	5 random samples
Regional avg. %			*30.2*	
Southeast				
Chesapeake	5	250	22.8	3 Bt, 2 non-Bt
Dinwiddie	5	250	52.8	2 Bt, 3 non-Bt
Greensville	5	250	22.4	5 random samples
Isle of Wight	5	200	60.8	4 Bt, 1 random sample
Prince George	5	250	42.4	5 random samples
Southampton	5	250	53.6	3 Bt, 2 random samples
Suffolk	5	250	41.6	5 random samples
Surry	5	250	20.0	4 Bt, 1 random sample
Sussex	5	200	25.2	3 Bt, 1 non-Bt, 1 random sample
Virginia Beach	5	250	35.2	4 Bt, 1 non-Bt
Regional avg. %			*37.7*	
South-Central				
Goochland	3	150	20.0	2 Bt, 1 non-Bt
Lunenburg	5	250	44.0	1 non-Bt, 4 random samples
Nottoway	5	250	60.8	1 Bt, 3 non-Bt, 1 mix of Bt/non-Bt
Powhatan	5	250	13.2	4 Bt, 1 mix of Bt/non-Bt
Regional avg. %			*34.5*	
Northern Neck				
Lancaster	5	250	13.6	5 random samples
Northumberland	5	250	18.8	5 random samples
Richmond	5	250	10.8	5 random samples
Westmoreland	5	250	16.8	4 Bt, 1 non-Bt
Regional avg. %			*15.0*	
Northern				
Caroline	5	250	8.4	4 Bt, 1 non-Bt
King George	5	250	8.4	1 Bt, 4 non-Bt
Regional avg. %			*8.4*	
State average			**29.8%**	