



Soil Borne Insect Problems in Corn

By Mike Folkard, CCA

Wireworm, seed corn maggot and European chafer are three soil borne insects that are becoming increasingly problematic for corn growers in many parts of Ontario. Protecting seedlings during and shortly after emergence from disease and insects is critical to establishing uniform, healthy stands of corn. If we can control insect damage, then secondary disease pathogens will also have a limited affect on new seedlings. We know that a uniform stand and low seedling losses are necessary to maximize yields under good growing conditions.



Two of the main reasons for the build up of these insects are less tillage and more crop rotation, both good for corn production and good for insect proliferation.

Primary and secondary tillage exposes soil borne insects to natural predators, whether birds or inclement weather. Less tillage also means more crop residue, which is an attractive home for insects. Crop rotations that have moved away from corn after corn have meant less soil insecticides are used for corn rootworm, which helped reduce or eliminate other non-target insects such as wireworm and seed corn maggot. These management practices have helped increase

the incidence of insect damage in corn, especially when emergence conditions are less than ideal. Soil borne insects feed on corn seed or seedlings destroying plant tissue, allowing diseases to enter that weaken plants, causing death or delayed and uneven emergence.

Growers have traditionally applied DLC (Diazinon, Lindane, Capatan) in order to help control soil borne insects in corn. With Lindane being removed from the market, there is renewed interest in finding alternatives as soon as possible. There are now new seed treatment insecticides on and close to the market that are expected to help fill the void when the supply of DLC is gone. Clothianidin (Poncho) is a second generation neonicotinoid that has recently been registered on field corn. It is effective on chewing and sucking insects including black cutworm, flea beetle, wireworm, seed corn maggot and European chafer, white grubs and corn rootworm (rate dependent).

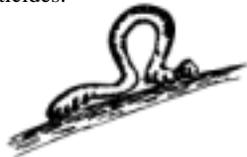
Field trial data was recently presented at Lambton Soil and Crop Improvement Association that demonstrated good results on both wireworm and seed corn maggot.

No sites had European chafer pressure. The product will only be available on seed

corn treated by seed companies, and not as a grower-applied treatment. Very low use rates make seed coverage critical, which can only be achieved with commercial seed treaters.

Other products in the same family will follow that will give corn producers more seed treatment options. Traditional options for controlling these insects this spring are an in-furrow or T-band treatment of Counter 15G or Force 3G. In furrow treatments are considered to be safer than T-band applications on applicators and non-target pests. Herbicide selection must be part of a decision to use Counter 15G as many sulfonylurea based herbicides should not be applied after treatment. Ask your pesticide supplier for these restrictions.

Many growers have long disposed of their insecticide boxes on the planter and do not want to go back to soil applied insecticides, even though they can supply excellent control of these pests. Newer Bt gene constructs will help control corn rootworm and black cutworm, but not wireworm or seed corn maggot. If you are purchasing a new planter, you may want to include the insecticide boxes, just to be able to keep all options open, and keep your eye on the market for new seed treatment insecticides.



Mike Folkard is a Certified Crop Adviser employed with Syngenta Crop Protection Canada.

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This industry driven program helps ensure that Ontario crop producers are well served by those providing their crop production advice. This article was written by one of those CCAs.