

Sweet Potato Insect Management

By Ric Bessin

As a long season root crop, sweet potatoes can be quite profitable to produce in Kentucky. While there are quite a few insect pests that attack the foliage and roots of sweet potato, we do not have economic problems with several of those pests that are more common in other regions. In Kentucky, most of our problems are with soil insect pests that attack the roots directly as they are developing. The primary pests that we need to manage include wireworms, white grubs, and rootworms. Damage caused by these insects to the roots appears somewhat different while management strategies do overlap. When the subject of insect management is discussed by sweet potato growers, the first pest mentioned is usually wireworms. There are a large number of wireworms in Kentucky and several that can attack sweet potatoes. Wireworms are the larvae of click beetles. Some wireworms are predators in the soil, others feed on plants, while still others may switch between acting as predators and herbivores in the soil. The life cycles of wireworms can be as varied as their diets with some species having an annual life cycle and other species requiring two, three, or more years to complete their life cycle. When we deal with soil insect pests that have extended life cycles (two or more years), a past problem may be a fair indication of future problems. So pest history of a recent problem in a particular field is a serious risk factor.

Wireworms leave small irregularly shaped holes on the surface of the root. These may be clustered around cracks or other injuries to the root. While initially the holes are quite shallow, as the roots grow and with additional feeding the ragged holes deepen considerably. A preplant soil applied insecticide will help to reduce wireworm problems, but some of these products may need to be applied several weeks before setting the slips because the pre-harvest intervals may be longer than the day to maturity with some variety/insecticide combinations. Of the soil applied insecticides to control wireworms, bifenthrin can also be used as a lay-by application to the soil during hilling up to 21 days before harvest.



White grubs are common in Kentucky, particularly following certain rotations or in soils with very high levels of organic matter. There are several species that can attack sweet potatoes and range from having annual life cycles to multi-

year extended life cycles. Unlike wireworm damage that is characterized by small ragged holes on the surface of the root, white grub damage results in wide feeding sites scooped out of the surface of the root. The same treatments used to control wireworms will also help to reduce white grub injury. Pay close attention to the pre-harvest intervals with soil insecticides and sweet potatoes.



The spotted cucumber beetle (aka southern corn rootworm) can also be a serious pest of sweet potatoes. The larvae of this pest attack the developing root and produce round holes in the surface of the roots as they tunnel to form cavities under the surface. The adult is common throughout the year in many vegetable and field crops. It is about $\frac{1}{4}$ inch, lime green, with 11 dark spots on the wings. The adult feeds on the leaves and deposits eggs in the soil. There can be

several generations during the growing season. Foliar insecticide applications can be used to control the adults and reduce egg laying with a threshold of two beetles per 100 sweeps used as the action threshold. Weed control in and around the sweet potato planting can also help to reduce problems with cucumber beetles.