Abstract

Experimental plantings of peppermint were injured by wireworm in 1990. The occurrence of this unusual mint pest was attributed to the previous years of non-irrigation, a condition favorable to the wireworm. Methods of control are suggested.

Introduction

Great Basin wireworm (Ctenicera pruinina) can be a problem on new plantings of peppermint in semi-arid regions. Newly irrigated land, or land that has been left fallow for some years, is susceptible. Mint growers in arid regions of the Northwest should be aware of the potential problems if they are considering planting peppermint in land that has been left fallow due to the drought, or (looking ahead) planting in land that has been in the USDA set-aside program.

The wireworm larvae are 1/4 to 1/2 inch long and dark yellow or brown. Adults are slender, tan to nearly black, and from 1/4 to 1/2 inch long. Damage is caused by the larvae that feed in the soil for up to three years before pupating. Wireworms emerge from the soil in early May to June. They feed on the peppermint rhizomes and stems near the soil surface, which can effectively cut off the upper plant from the rhizomes.

Methods

Five acres of peppermint (cvs. 'Murray Mitchum' and 'Black Mitchum') were planted at the Central Oregon Agricultural Research Center's new farm on Dogwood Lane near Madras, OR in March 1990. The farm had previously been in dryland wheat production for several decades. Wireworms were found feeding on the new mint rhizomes in June, 1990, when the plants were 2 to 5 inches tall. The plants showed symptoms of leaf curling, followed by desiccation and chlorosis. The pest damage considerably thinned the plant stand. Although the stand did survive, a full stand was not achieved on the Murray peppermint and the yield was greatly affected. Because the two varieties were planted side-by-side, it was interesting to observe their responses to the pest. The Black Mitchum appeared to be unaffected by the wireworm, although a few injured plants were found under closer observation. Evidently, the higher vigor of the Black Mitchum allowed it to keep ahead of the wireworm's detrimental effects. It achieved full canopy in early August.
Results

Wireworm can be controlled by fumigation prior to planting. Telone II and Telone C-17 (Dow) are registered for preplant mint fumigation, although the cost may not be economical. Lorsban (Dow) is registered for cutworm control on mint, and may be used for control of wireworm in the spring, either as granular powder, spray, or through the irrigation system. Other compounds are registered for wireworm control on other crops, such as potatoes, where wireworms may be a problem. Growers should consult the Pacific Northwest Insect Control Handbook. The Great Basin wireworm will eventually decline in population since the moth does not like the wet soil conditions under irrigation. This is a key to its control. When bringing land into production after several years of fallow, it may be best to grow other crops before peppermint.

Other crops (potato, bluegrass, etc.) are also susceptible to wireworm damage, thus control measures have become a standard practice at the Central Oregon Agricultural Research Center. Pesticide applied in the spring as a preventative measure to achieve control of wireworm.