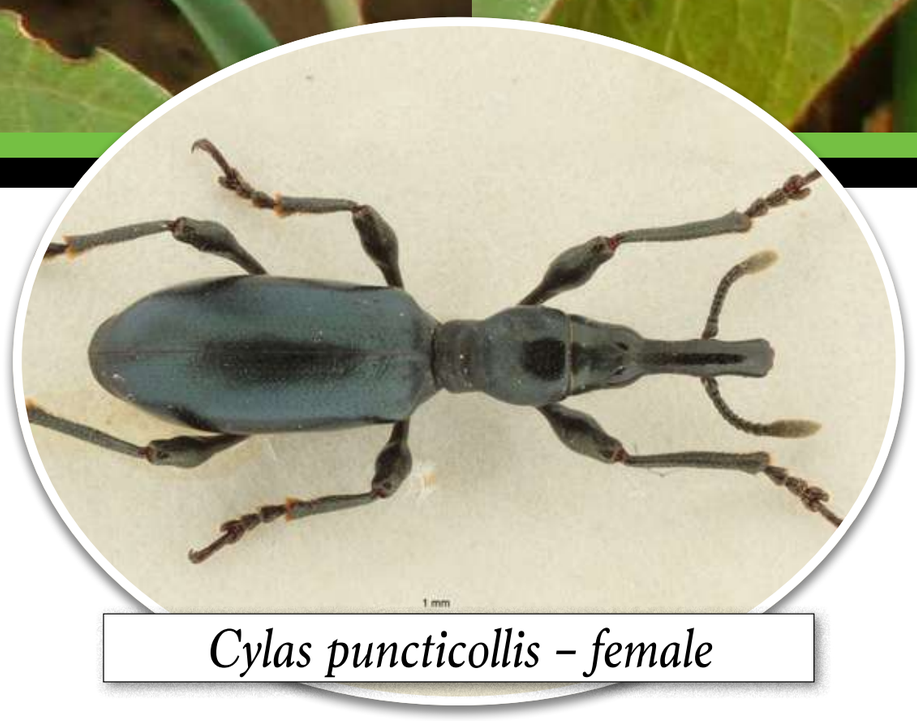
Sweetpotato Weevil

Threat to food security in Ghana

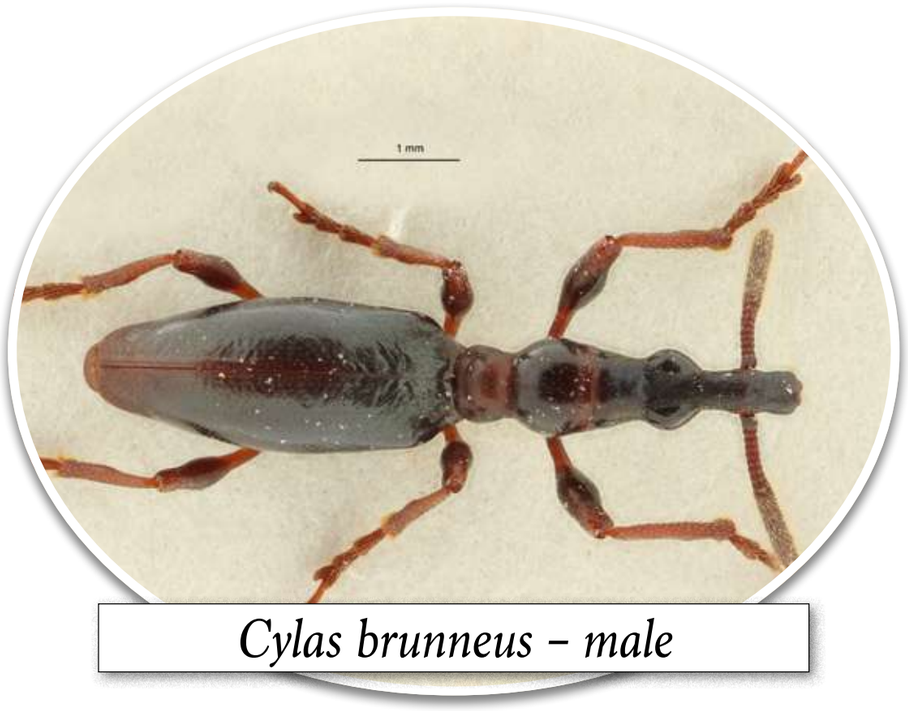
What is a sweetpotato weevil?

Sweetpotato weevils are an ant-like insect species native to Africa. Two species, *Cylas puncticollis* and *C. brunneus*, occur widely in Ghana. These weevils feed primarily on sweetpotato crops and they can cause significant damage if not controlled early in the season.

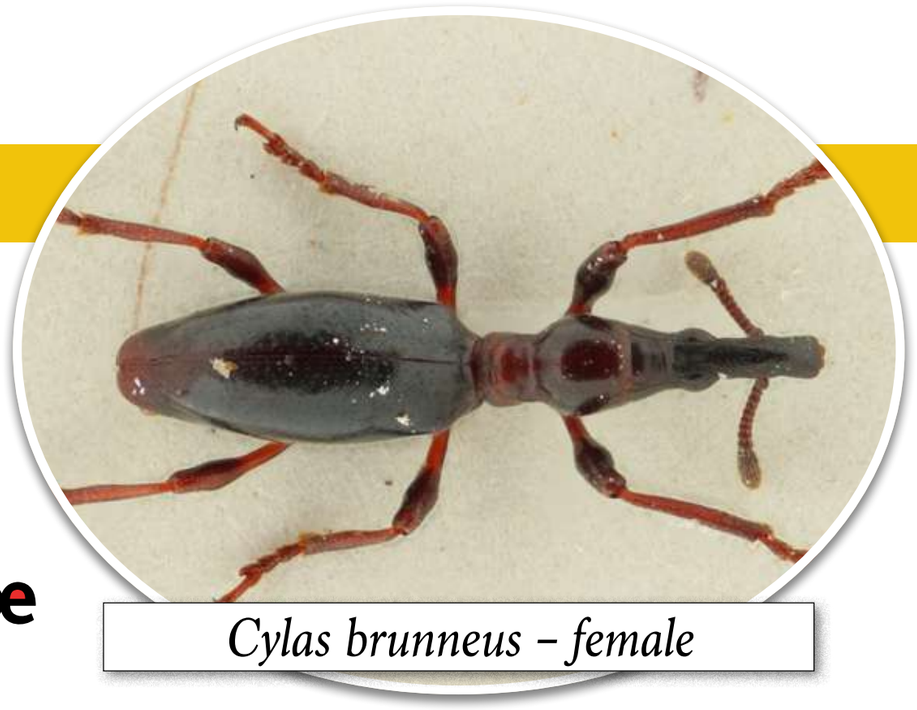
Cylas puncticollis – male



Cylas puncticollis – female



Cylas brunneus – male



Cylas brunneus – female

Sweetpotato in Ghana

Sweetpotato *(Ipomoea batatas)* is an important crop in Ghana for nutrition and food security. All parts of the crop are edible, particularly the storage roots and the shoot tips. Orange-fleshed sweetpotato contains pro-vitamin A (beta carotene) while purple ones are rich in antioxidants. White and yellow are also a rich source of vitamins and minerals. In addition to improving nutrition, this crop provides an important source of income for rural farm households. However, with intensified production and poor crop management practices, an insect found around the world – the sweetpotato weevil – becomes problematic.

Why are sweetpotato weevils a threat?

This insect mainly attacks sweetpotato plants. Because it prefers to feed inside sweetpotato roots, underground and out of sight, it can be hard to find. Most farmers do not have the right knowledge to combat the pest, which makes it very difficult to deal with the problem. If the weevil population is not controlled, damage to a sweetpotato crop can reach 100 percent and the farmer has lost time, effort and a critical source of income.

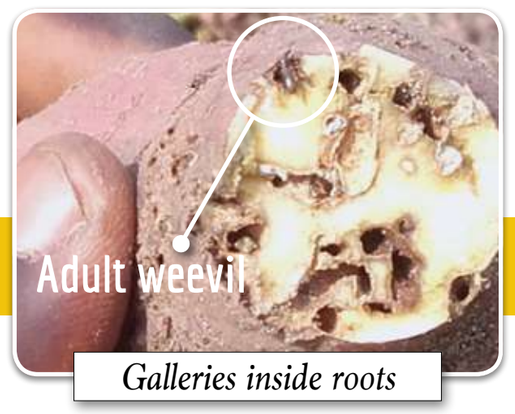
What are the warning signs?

- **Cracked soil surface on the planting hills:** Weevils can attack a crop when the weather is very hot. Growing roots cause cracks in the soil as it shrinks from drying out. Deep cracks let harmful insects get down to where the roots are developing.
- **Holes:** Weevils leave holes on plant stems and holes and tunnels in roots when feeding and laying eggs.
- **Misshapen roots:** weevil activity inside roots cause them to become malformed. The roots also start to rot, and develop a bitter taste and bad smell.
- **Discoloration:** Heavy weevil infestations can cause a plant's leaves and vines to turn yellow and wilt.

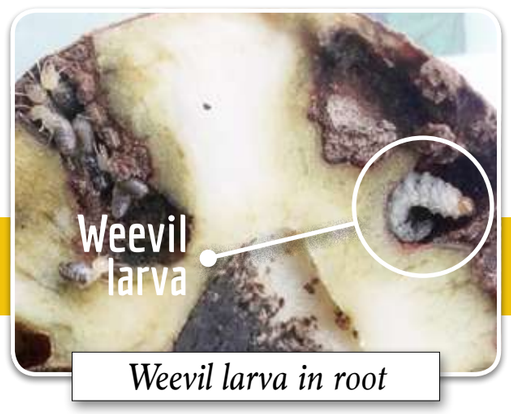
Good crop management

Because the weevils are usually inside the roots, using insecticide is not an effective method of control. The best way to manage this pest is by changing farmer crop management practices. There are a number of different practices farmers can apply:

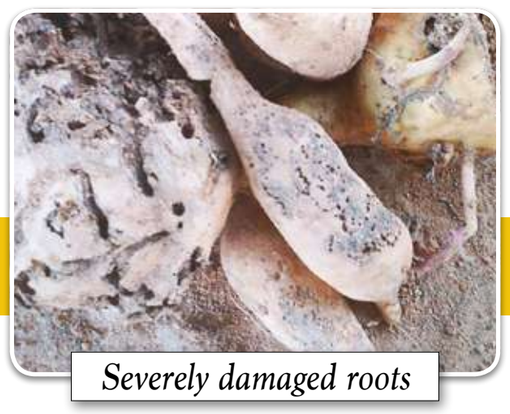
- **Select healthy planting material.** Take cuttings of clean, undamaged plant material at least 15 cm away from where the stem contacts the soil. Weevils tend to lay their eggs in the first 10 cm of the stems.
- **Choose resistant varieties.** Some sweetpotatoes are less susceptible to weevil attack because of their high dry matter content and elongate, spindle-shaped storage roots. Deep-rooted varieties make storage roots less accessible to egg-laying weevils.
- **Cover up cracks in the soil.** Cracks in the soil happen during hot, dry weather and when storage roots begin bulking. Fill in any cracks you find with more soil to keep insects out. If the planting hills are shallow and roots are developing near the surface, **re-hilling** or **earthing up** (piling up more soil around the base of the plant) can help protect the crop against pest infestation.
- **Plant on time, harvest promptly.** Weevil activity is higher in the dry season, so planting and harvesting on time can avoid much potential damage – a good reason to use early-maturing sweetpotato varieties.
- **Practice good field sanitation.** Remove all crop debris after every harvest and burn or compost it elsewhere on the farm.
- **Rotate crops.** Sweetpotato weevils don't eat other crops such as maize, cowpea or cotton. Without suitable food, the weevil population will die off. Farmers in other regions that produce sweetpotato on a commercial basis often use a 3-year rotation.



Galleries inside roots



Weevil larva in root



Severely damaged roots

For more information: Contact the CSIR-Crops Research Institute, MoFA's Plant Protection and Regulatory Services Directorate (PPRSD), and the University of Ghana.

The author Mr. Ayaovi Agbessenou, who may be contacted by email: yaovi.eudes@gmail.com or by phone: 00233267561728, wishes to thank his donors for their kind support:

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