# SOIL PESTS PROBLEM IN SWEETPOTATO (*IPOMOEA BATATAS* (L.) LAM.) PRODUCTION IN SOUTH HUNGARY

**Adrienn Szarvas [1]*, Sundusin Afiqah Izzati Binti[2], Zhou Dai[2]**

[1] Institute of Plant Sciences and Enviromental Protection, Faculty of Agriculture, University of Szeged, Hódmezővásárhely, HUNGARY

[2] Faculty of Agriculture, University of Szeged, Hódmezővásárhely, HUNGARY

*Adrienn Szarvas: szarvas.adrienn@szte.hu

## *INTRODUCTION*

One of the biggest problems of domestic crop production is that the sowing structure is limited to a few large crops. However, under certain field conditions it is possible to grow special plants, such as sweet potato (*Ipomoea batatas* (L.) Lam.). Sweet potato is an important crop in many parts of the world. In Hungary, sweet potato is cultivated for thirty years, but it became well-known in the last five years only. Samples of sweet potatoes from southern Hungary have shown feeding damage from either wireworms (*Agriotes spp.*) or white grubs *(Melolontha melolontha).* During the monitoring season, I have observed that white grubs can be found more in sandy soils, wire worms are monitored in hard alluvial soils. Wireworms and white grubs can cause considerable damage to storage root marketability.

## *MATERIALS AND METHODS*

The *Melolontha melolontha* is a relatively common European insect species and the most important agricultural insect species in The Carpathian Basin. The larves causes the damages for both. White grubs bore large shallow holes into sweet potato roots that result in large feeding sites.Wireworms are important soil dwelling pests worldwide causing yield losses in many crops also in sweetpotato. Wireworm damage is often described as "shot-holes". Wireworms are widespread, with different species and genera present in various countries. One of the most dangerous soil pests in Hungary. Wireworm scars are usually randomly scattered over the root. It is very difficult to find in soil samples and in damaged roots, on the other hand white grubs are easily detectable.

**Figure 1**. Sweet potato samples show white grubs and wireworms damages. It is very importan that we do monitoring in the season, because we can start the protection in the early developing stages.

## RESULTS

They can cause suchsevere damage to the crop that they are unsaleable. Soil-applied insecticides are usually effective in reducing damage, but in Hungary is not allowed to use inseticides because sweet potato is still a new crop in Hungary. Control of wireworms and white grubs before or during planting is allowed to use microbiolocial soil disinfectants. Experimental control methods, using parasitic nematodes and spores of the fungus Beauveria bassiana have been successful in controlling damage. Most of our farmers used microbiolocial soil disinfectant before planting and after planting also and they have a good result, heathy tubers.


In South Hungary most of the Farmers used the Bivalyos Family Farm sweet potato propagation materials, because they have virus free varieties.