

Good nematodes against grubs in sweet potato

Diagnose the problem

White grub larvae, called '*Ibishorobwa*' in Kinyarwanda, feed on tubers such as potato, sweet potato and cassava. Larvae are creamy-whitish, thick, and c-shaped. They have brown heads and legs. They can be small but grow up to half the length of a middle finger. They are seen when digging up soil around roots. Roots and tubers have chewing damage. Affected plants are scattered across the field. Affected plants may wilt. The roundish adult beetles are 1 to 2 cm and have black or brown hard wings. Adults are common around March to June. Alert RAB authorities when pest is present

Background

Grub larvae are soil pests. In the soil also live very tiny worms that kill these grubs. They are called "*beneficial nematodes*". They are not pests like plant-nematodes. However, beneficial nematodes are often not enough to naturally control a pest. Therefore, they are sprayed against grubs. Obtain them from the Biocontrol Factory at Southern RAB Rubona (contact Joelle Kajuga, 0727801614 / 0788525794; toll free call 4675). As they are alive, transport them quickly, and hold them in a cool area (in food cool boxes, fridges, shadow). You can keep them for 1 week only. Apply directly after mixing with lots of water. Nematodes work very good against small grubs, and good against large grubs. Nematodes are not toxic and safe.



1-2 cm grub larvae in soil, 1-2 cm adults, feeding damage on tuber (Photo by K. Li, N. Phiri)



Sponges with nematodes diluted in water, and sieved (by S. Toepfer)



Holes for planting (by S.Toepfer)



Put nematodes into holes after or before tuber/cutting placement (by S. Toepfer)

What to do

- Obtain beneficial nematode "*Steinernema carpocapsae RW14-G-R3a-2*" "*Steinernema sp. RW14-M-C2b-1*" or others from RAB Rubona.
- You get them formulated in sponges. Keep them cool.
- Work on a cool cloudy day, preferably an evening with no full sunshine.
- Dilute sponges in a bucket of water. Squeeze them for a minute, so that nematodes go into water. Take or sieve sponge out.
- Prepare 1-3 million nematodes (=3 to 6 sponge pieces or 2 to 5 gram sponges) for 100 plantings. This equals 10000 – 30000 nematodes per planting, or 50 – 150 million per acre. Open planting holes in the soil or in the soil ridges.
- **Apply a cup of nematode-water into each hole before tuber/cutting placement.** This must be done before opened soil becomes dry.
- Immediately plant tuber, tuber pieces, or stem cuttings or slips
- Immediately close the soil, so that the nematodes do not dry out.

When using beneficial nematodes, no specific protective clothing is needed as they are safe. But wear at least gloves. There is no pre-harvest interval, or restricted re-entry interval. Follow instructions. Double-check for status of beneficial nematode regulations in Rwanda, this is with RALIS and the Directorate of Agriculture and Livestock Inspection and Certification service.

Scientific names ► *Anomala spp.*, *Melolonthini spp.*, *Hoplochelus sp.*, *Trochalus sp.*

Country: Rwanda



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