

Good nematodes against grubs in beans & peas

Diagnose the problem

White grub larvae, called '*Ibishorobwa*' in Kinyarwanda, feed on roots of cowpeas and beans. 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. Affected plants are scattered across the field. Affected plants wilt. Affected seedlings may die. The roundish adult beetles are 1 to 2 cm and have a black or brown hard back. Adults are common around March to June.

Background

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

What to do

- Obtain beneficial nematode "*Steinernema sp. RW14-M-C2b-1*" or others from RAB Rubona, keep them cool.
- You get them formulated in sponges.
- 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 the water.
- Then take or sieve sponge out.
- Prepare 8 to 12 million nematodes (= 16 to 24 sponges) for 100 row metres (about 10000 – 30000 per future plant) in a bucket or can.
- Place the mix into shadowed cool place so that nematodes do not die.
- Make basins or furrows into the soil for seeding.
- Apply before the soil inside the opened furrow or basins becomes dry.
- **Apply a cup of nematode-water into each basin after seeding.**
- **Or apply nematodes with a can into the furrow just after seeding before closing the soil.**
- If you use a knapsack sprayer remove the nozzles to allow more water.
- Immediately close the soil so that the nematodes do not dry out.



1-2 cm grub larvae in soil,
1-2 cm adults (Photo by G. Night)



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



or



Put nematode-water mix into seeding holes or furrows of moist soil after seed placement (Photo: S. Toepfer)

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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