

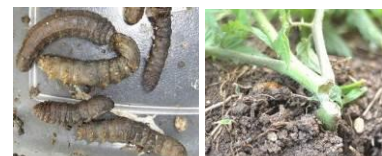
# Good nematodes against cutworms in Brassicas

## Diagnose the problem

Cutworms ("inanda" in Kinyarwanda) are 1 to 4 cm long, soft larvae. They are pencil-thick, and dark brownish-grey. The older, bigger larvae can cut and chew young cabbage stems quickly. Under a freshly cut seedling, you can often find a cutworm larva under the soil surface.

## Background

Cutworm larvae live under the soil surface. During the night they search for stems of seedlings, particularly after transplanting. They eat the stems at ground level and cut them. In the soil also live very tiny worms that kill these cutworms. They are called beneficial nematodes. They are not pests like plant nematodes. However, beneficial nematodes are often not enough to naturally control a pest. They must be sprayed against cutworms. Therefore, obtain them from the Biocontrol Factory at 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. When preparing the nematode-water mix, be quick, do not work in the sun. Apply them onto moist seedbeds to prevent the transplanted seedling being attacked. Nematodes are safe.



2 to 4 cm soft cutworms, and a cut seedling (Photo S.Toepfer, TomatoCasual )



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



Apply beneficial nematodes on seedbed the evening before transplanting



Alternatively apply with water onto the transplanted plant (Photos: all S. Toepfer)

## What to do

- Obtain beneficial nematode "*H. bacteriophora* RW14-N-C4a", "*Steinernema carpocapsae* RW14-G-R3a-2" 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.
- The evening before transplanting, dilute sponges in a bucket of water, squeeze them for a minute, so that nematodes go into water. Then take and sieve sponge out.
- Prepare 3 to 5 million nematodes (= 6 to 10 sponges) in 10 litres water for 10 square meters seed bed. Place the mix in a shadowed cool place.
- Spray so much water onto seedbeds that soil surface becomes wet (or work during rain). **Then apply nematode-water with a can onto wet soil and seedlings of the seed bed late evening**, not in sun.
- If you have seedling trays, you can also dip seedling trays into a tank with nematode-water until soaked at least for 10 minutes.
- Next morning, transplant seedlings together with nematode-soaked soil.
- Alternatively, nematodes can also be applied with water buckets when watering the just transplanted cabbages.

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 ► *Agrotis segetum*, *Agrotis* spp.

Country: Rwanda



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