

# Neem sprays against African stalk borer in maize

## Recognize the problem

In Zambia, there are 3 different stalk borers that attack maize; the African stalk borer, the orange stalk borer and the spotted stalk borer. Their young are all 1 to 3.5 cm long soft and segmented caterpillars. Damage starts early in the vegetative stage up to harvest. Stalk borers make holes on leaves, stems and top points, also called leaf hearts or leaf funnels. This results in weakened stems and dead hearts. Later, stalk borers also tunnel into grains.

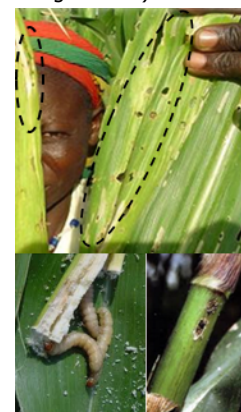
## Background

Stalk borers damage maize, sorghum, millet and some damage rice. The caterpillar feeding kills the growing points of the plant. Caterpillars also carry *Fusarium* fungi to the cobs, which can produce mycotoxins. If not controlled, stalk borers cause yield loss between 20 - 100% in maize. Extracts from the neem tree are natural insecticides and can be used to control stalk borers. Neem extracts are cheaper and often safer than chemicals. They can be bought or self-made. In any case, protective equipment needs to be worn during preparation, mixing and spraying.

## Management

- Collect dry fallen neem seeds from the trees found in the bush
- Remove the pulp from the dry seeds
- Dry the seeds under a clean dry area with airflow or in the sun.
- Grind the seeds into fine powder
- Soak 50 gram of fine neem powder (1/2 up to 1 cup) in 1 litre of clean water
- Let it soak overnight
- Sieve the seed–water mix using a mutton cloth or sieve
- Add 10 litres of water to the clear solution collected after sieving
- Add 10 grams (1 to 2 tablespoons) of carbolic soap (Ebu) and mix the soap and solution properly to get a uniform solution
- Spray against stalk borer caterpillars when they have attacked 2 to 3 in 10 plants. Only spray when they are young caterpillars on leaves and funnels. When they are hidden inside stems then they are protected from sprays (see holes in stems).
- Direct the spray nozzle close to each leaf funnel
- Repeat the spray whenever the first stalk borers start making holes on 1 to 2 out of 10 plants (still green fresh small holes). When there are more holes, or when holes are already yellow and dry, then sprays are too late.

Stalkborer leave damage holes, about 2 cm light larvae and holed stem. (Photo by Tanzania Ministry of Agriculture)



Neem fruit that fall off the tree to prepare neem seed extracts. (Photo by Photo by Dinesh Valke)



Scientific name(s) > *Busseola fusca*

The recommendations in this factsheet are relevant to: Zambia



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