Crop rotation to control stalk borer in maize

Recognize the problem
Maize stalk borers, also called maize stem borer or Himwangwa in Tonga language, are small ½ to 3 cm long caterpillars. They are whitish-yellow to grey with tiny dark spots. First, they feed and make holes in the leaves. Later, they enter and damage the stem. Then, small granules of frass will be seen on the stems near caterpillar entry holes and in leaf sheaths. The infested plants may stop growing, dry up or bend at the tip. This results in low yields.

Background
The maize stalk borer caterpillars develop into pupae that rest in the lower stalks of maize. There they wait until the next cropping season of maize. Then adult moths emerge and search for new maize plants to lay their eggs on, and the cycle continues. If you grow only maize every season on a single piece of land, the pests numbers increase more and more. If there are no maize plants or other grassy crops like sorghum grown in the next season, the stalk borers have difficulty surviving. For example, stalk borers do not like cotton and beans.

Management
A three year rotation can help to get rid of the pest: Year 1= Plant maize on the land
Year 2= Plant cotton instead of maize
Year 3= Plant beans
Year 4= Plant maize again

Another option is: Year 1= Plant maize on the land
Year 2= Plant sunflower instead of maize
Year 3= Plant groundnuts
Year 4= Plant maize again

For vegetable farmers, a rotation of several crops within a year can partially control the pest. Plant green maize and green beans at almost the same time on separate portions of land. Then, after harvesting, plant green beans where green maize was planted and green maize where green beans were planted.

Scientific name(s) > **Chilo partellus**

The recommendations in this factsheet are relevant to: Zambia