

Cultural control of bean fly in cowpea and bean

Recognize the problem

The larva of the "bean fly" is a small, less than ¼ cm, white maggot which is known as a "bean stem maggot". The adult is a small, 2mm long, black fly. It is difficult to see but in still weather one may see the small black flies moving around on the beans. The maggots move inside the stem of cowpeas and beans down to ground level. This causes swellings and cracks of the stem and then leaves may wilt and turn yellow. Yield is low.

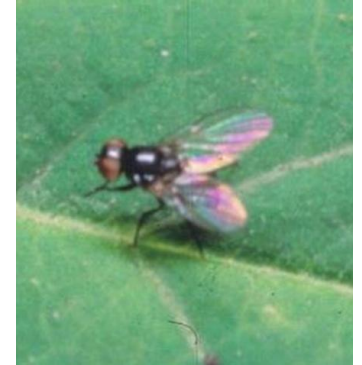
Background

Bean flies prefer tender leaves of beans and cowpeas for laying eggs. The newly hatched larvae feed in the leaf blades before entering the midrib and then the stem. Adults feed on three general food sources: water droplets on the leaves, natural secretions of plants, and plant sap exuding from feeding holes. Bean fly numbers are very low during the onset of the rain season, but increase quickly in numbers with time. There are some cultural methods which work very well and prevent the flies from laying eggs and make the environment unsuitable for the survival of the bean fly.

Management

- Plant early. This means no later than 3 days after the first rains in the season. At that time the fly numbers are very low and not many eggs will be laid.
- Cover roots with a layer of soil by ridging (building up) the soil around the plants at 2-3 weeks after seedling emergence. This helps the roots to grow quickly and strong. Therefore, the effect of the maggots is reduced.
- Remove and destroy crop residues and all plant parts with symptoms of damage. You may give them to pigs.
- In addition, remove wild hosts plants especially legumes, around the crop area.
- If practical, rotate cowpeas and beans with crops the bean fly does not like, such as maize or groundnut. This breaks the life cycle of the bean flies.

Bean fly 2 mm adult. (Photo by Merle Shepard, Gerald R. Carner, and P.A.C Ooi, bugwood.org)



Blotchy and hanging leaves caused by severe attack by bean fly.



Scientific name(s) > *Ophiomyia phaseoli*

The recommendations in this factsheet are relevant to: Zambia



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