Crop rotation to control powdery mildew in okra

Recognize the problem
Powdery mildew (Bungabunga in Bemba) is a fungal disease. It is a common problem of okra and other vegetables in the dry and hot season. In the beginning, a few distant whitish powdery fungal spots can be seen on the leaves. When severe, the leaves become totally covered with the whitish powder, and then become yellow, dry, and may get brownish. Stems can also be affected.

Background
Crop rotation helps to prevent the spread of some plant diseases including powdery mildew in okra. This is because powdery mildew can stay on the okra debris in the soil during off-season. Thus, growing the same crop in the same piece of land year after year will build-up the mildew fungi. The debris in the soil will transfer the mildew from one okra season to the next. Rotating different types of crops will help avoid the build-up of powdery mildew disease. Apart from avoiding growing the same crop in the same piece of land year after year, a farmer should also avoid growing crops that are in the same family or those that can be attacked by powdery mildew. Do not rotate with crops like melon, cucumbers, squash, ornamentals, aubergine, beans, peas. Do rotate crops like onion, garlic or with cereals like maize. In vegetable production a 3-4 year rotation is usually recommended as a minimum.

Management
- After okra harvest, prepare the land for planting onion or garlic.
- Onions do well in moderate climate and can be planted all year round if enough rain or if irrigation is used
- Use a hand hoe to till the land
- Leave the cultivated land for one week to dry. Thereafter, break soil clods to have a fine seed bed.
- Onions can be grown from either seed or from sets. If using seed, they should be sown no more than 1 cm deep into the nursery beds. You need about 4-6 kg of seeds to produce enough seedlings to plant 1 hectare.
- When seedlings are 8-12 cm high (6-8 weeks), transplant them to the prepared land in rows 30-40 cm apart and 10-15 cm between plants in the rows.
- Alternatively, small but healthy clean bulbs saved from the previous season can be planted as sets.
- Harvest onion by August and prepare land for the next crop, such as fresh maize in September, after harvesting fresh maize in January, plant tomatoes, then bring in okra in September to start the cycle again.
- Use a hoe or plough to till the land.

Scientific name(s) > Podosphaera spp.

The recommendations in this factsheet are relevant to: Zambia