

Cassava mosaic disease: symptom recognition, distribution and management

Cassava is the main staple food crop in many parts of Zambia. Among the important attributes of the crop is that it grows in a wide range of environments (including soils with low fertility) and withstands long periods of low moisture in the soil.

The productivity of cassava in Zambia is low due to deleterious effects of pests and diseases. Cassava mosaic disease (CMD) found in most parts of the country is one of the most important biotic constraint.

Symptoms

CMD causes variable leaf symptoms including leaf distortion, leaf narrowing, stunting and mosaic (Figure 1). Mosaic can be categorised as 'green and yellow mosaic'. Plants affected by 'green mosaic' have leaves with contrasting sectors of dark and light green tissue while those affected by 'yellow mosaic' are much more conspicuous, as they have leaves with contrasting areas of normal green and yellow tissue. A healthy plant does not show any symptom (Figure 2).

Transmission and spread

Cassava mosaic disease is transmitted by whitefly (*Bemisia tabaci*) (Figure 3) from plant to plant within and adjacent fields; however, use of infected cuttings as planting material also contribute to the spread of the disease.

Distribution and prevalence

Cassava mosaic disease is found in all parts of Zambia. Based on survey data, average disease incidence in 2013 was 50.2% (Figure 4), higher than what was reported in 1997 (41%).

Effects on growth and yield

Cassava mosaic disease causes losses in tuberous root yield of 50-70%. However, the yield loss is dependent on cassava variety and environmental conditions.

Management

The disease can be managed by: i) removing diseased plants from within and surrounding fields, ii) use of CMD free stem cuttings as planting material, and iii) planting resistant varieties developed by Zambia Agriculture Research Institute.

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Figure 1: Cassava leaf showing deformed margins



Figure 2: Healthy cassava leaf



Figure 3: Whitefly (*Bemisia tabaci*) vector of CMD

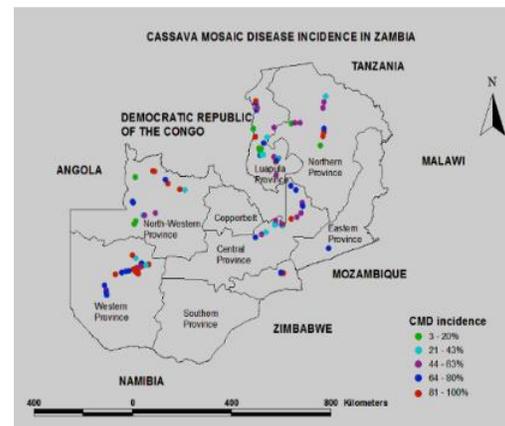


Figure 4: Cassava mosaic disease incidence, 2013

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