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## Rice Yellow Mottle Virus (RYMV)

Factsheets for Rice Production, East Africa

### Causal agent: Sobemovirus

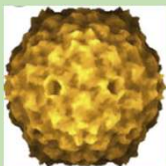


Fig 1. Structure of Sobemovirus  
Source: International Committee on  
Taxonomy of Viruses, 2011

### Favorable conditions for disease development

- The host range for the virus includes Asian rice (*Oryza sativa*), African rice (*Oryza glaberrima*), wild *Oryza*, grasses including those in the genera *Eleusine*, *Eragrostis*, *Echinochloa* and *Cyperus* species.
- The disease is spread by several species of beetles (Coleoptera). The virus is picked when the insects feed on diseased plant and is transferred to healthy plants as insects feed.
- The virus is also spread mechanically by contaminated farm tools during harvesting. The virus may also spread through contaminated hands or close contact between plants.

### Geographical distribution

- The disease was first reported in Western Kenya in 1966 and has subsequently been reported in all rice growing regions in East Africa.

### Crop damage and associated losses

- Crop loss ranging 10-100% have been reported depending on plant age and level of disease resistance in the host plant. The highest yield losses occur when plants are infected early in the growing season.
- The disease symptoms are observed 1 to 2 weeks after infection.
- The disease initially starts as small yellow-green lesions on the leaves which later form yellow streaks or mottling giving the plant a yellow orange appearance. The infected plants are stunted and often have spirally twisted leaves.
- When plants are infected early in the growing season they may die or fail produce to produce grains.



Fig 2. Yellow-green colouration on rice leaves infected by yellow mottle virus.

Photo: Nyongesa, KALRO Kibos



Fig 3. Scattered yellow patches in a yellow mottle virus infected field.

Photo: Nyongesa, KALRO Kibos

### Management Strategies

- Use of tolerant varieties such as Basmati 370 and 217, ITA 310.
- Proper weed management to ensure that there are no alternate hosts of the virus. (*Refer to weed management factsheet*).
- Disinfect hand tools used in rice cultivation using bleach (sodium hypochlorite).
- Ensure that the vector (beetles) are controlled using appropriate methods (*Refer to pest management factsheet*).
- Ensure proper agronomic practices are maintained (*Refer to agronomy factsheet*)

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