Disease caused by tobamovirus

Symptoms
Symptoms may vary depending on crops and varieties. Generally, leaf mottling, mosaic, blistering, and distortion are commonly observed in infected plants. In cucumber, vein clearing and green mottling appear on the young leaves while on older leaves green mottling with mild mosaic, and chlorotic spots can be observed. Early infection can result in plant stunting. The infected fruits are usually unmarked but severe fruit mottling and distortion can be seen in some varieties. In bottle gourd, the symptoms include slight leaf mottling and dwarfing of the new leaves. Vein clearing develops later after appearance of mosaic or mottling on the older leaves.

Causal agent and vector
Tobamovirus, *cucumber green mottle mosaic virus* (CGMMV). No biological vector is known but the virus is transmitted by plant sap and mechanically through handling of contaminated plants, plant debris, and tools, and via seeds.
Host range
Host range is restricted to cucurbits, including cucumber, watermelon, melon, pumpkin, bitter gourd, bottle gourd, and possibly other cucurbits.

Distribution
Worldwide in Europe, Africa, and Asia (Thailand, Sri Lanka, India, Indonesia, Japan, Korea, Taiwan, and China)

Conditions for disease development
High temperatures (over 27 °C) enhance disease severity in some melon cultivars.

Disease management
Chemical control The virus is transmitted by mechanical means. Infected plants cannot be cured via chemical applications.
Field management  Plant debris and volunteer plants are potential sources of inoculum and should be removed and destroyed prior to planting. Mature compost made from infected plant debris can be used as compost materials in the farm as the heat generated in the compost pile inactivates the virus. Use virus-free seed and seedlings from a reliable source.

As the virus can be transmitted by tools and hands, workers should wash hands as well as cutting knives or tools with either 10% skim milk or 3% trisodium orthophosphate to eliminate the virus. When infection does occur, despite these preventive actions, it is important to remove and destroy virus infected plants immediately.