

Integrated disease management strategy for tomato spotted wilt virus in vegetable crops

Integrated disease management strategy to minimise infection with TSWV in vegetables within field crops

Control measure	How it works
Promptly destroy or remove finished crops	Removes virus sources and thrips infestation reservoirs for spread to crops
Avoid overlapping sowings of susceptible crops in close proximity, and sequential plantings side by side. Use intervening non-host crop or fallow between plantings	Minimises virus spread from one crop to the next
Remove all weeds, volunteer crop plants and ornamentals, especially if vegetatively propagated, regardless of virus symptoms in and near crops	Removes virus sources and thrips infestation reservoirs for spread to crops
Rigorously remove and destroy plants showing virus symptoms	Removes virus sources for spread to other plants
Purchase seedlings for transplanting from virus-tested, accredited nurseries or propagate directly from seed on site	Avoids infection entering from contaminated nurseries. Virus is not seed-borne.
Use highly reflective plastic mulches or straw mulches	Reflective mulches decrease thrips landing rates and straw mulches allows build up of thrips predators
Plant seed at high rates or transplants at high density	Dilutes overall numbers of infected plants and helps healthy plants shade out neighbouring infected plants
Avoid planting dates resulting in plants being at their most susceptible young growth stage when thrips numbers peak	Reduces infection of plants at their most vulnerable, young growth stage
Redirect prevailing winds away from susceptible crops by erecting shade cloth barrier, or surrounding crop with non-host barrier crop	Redirects incoming thrips away from crop and reduces thrips landings on crop
Plant TSWV-resistant varieties when available	Diminishes virus spread
Regular rotational use of different insecticides that are effective against thrips. Apply systemic insecticide as seedling or soil drench at time of planting/transplanting	Decreases thrips numbers and consequently virus spread
Introduce potted bait plants (e.g. susceptible petunia or broad bean), change pots weekly	Provides early warning of increased thrips activity (feeding damage) and TSWV spread (necrotic spots)
Stop growing susceptible crops for 3 months by planting non-host crops, or sowing non-host green manure crops, or leaving as bare earth fallow, and rigorously controlling weeds	Provides a complete break from disease which effectively eliminates the virus infection source when all else fails

