



# Dieback in Gooseberry

*Phytophthora cinnamomi*

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions
 <p>Death of twigs and leaves due to <i>P. cinnamomi</i> (Edward L. Bernard, Florida DAC, Bugwood.org)</p>	<ul style="list-style-type: none"> <li>Plant on deep, fertile and well drained soil and dig drainage trenches.</li> <li>Deep plough (4 inches) to destroy feeder roots that increase the chances of root rot.</li> <li>Avoid injuring the plant when pruning since wounds provide easy entry of the water mold.</li> <li>Weed frequently to remove weeds which may be alternative hosts to the pathogen.</li> <li>Avoid planting an areas near a previously infected field.</li> <li>Use drip irrigation to avoid spread of the water mold.</li> <li>Apply woodchip mulch (2-3 inches) beneath canopies to conserve moisture.</li> </ul>	<ul style="list-style-type: none"> <li>Look out for pale green or yellow leaves that start drying from the top downwards.</li> <li>Check for scorchted leaves with a yellow-brown discoloration at the margins and tip.</li> <li>Look for premature defoliation, decrease in twig growth and branches.</li> <li>Consider direct control actions when 10% of the crop are affected.</li> </ul>	<ul style="list-style-type: none"> <li>Remove all dead, dying and diseased twigs and burn them.</li> <li>Avoid working in the field when plants are wet.</li> <li>Use antagonistic fungi like <i>Trichoderma harzanium</i> at 1.5 g/2.5 L water every 10-12 weeks.</li> </ul>	<ul style="list-style-type: none"> <li>When using a pesticide, always wear protective clothing and follow the instructions on the product label.</li> <li>Do not use chemicals with the same mode of action year after year as this can lead to resistance.</li> <li>Always consult the most recent list of registered pesticides (PCPB).</li> <li>Drench with mancozeb based products such as Farmcozeb 75WG X, Oshothane 80WP, Penncozeb 80WP at the rate of 50 g/20 L of water.</li> <li>Spray with copper oxychloride based products such as Isacop 50 WP, Kopacide 50 WP and Orionkopa at a rate of 50-60 g/ 20 L water.</li> <li>Spray with Metalaxyl-M 40 g/Kg + Mancozeb 640 g/Kg based products such as Metacozeb 72 WP, Ridomil Gold MZ 68 WG, Tata Master at a rate of 50 g/20 L of water.</li> </ul>	<ul style="list-style-type: none"> <li>WHO Class U (unlikely to present acute hazard in normal use). Apply when disease is expected or 1st symptoms seen; Repeat after 14 days until flowering is over. REI: 1 day; PHI: 7 days.</li> <li>WHO Class II (moderately harzodous). PH1: 7 days, REI 24: hours.</li> <li>WHO Class III (slightly hazardous). PHI: 5 days.</li> </ul>
 <p>Healthy ripe gooseberry fruit (Pexels)</p>					

## Kenya

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