




Black rot on cabbage

Xanthomonas campestris pv. *campestris*

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions
 <p>Cabbage head with black rot. (Photo: Peter Karanja, CABI)</p>  <p>Characteristic v-shaped necrosis. (Photo: Rose Kamau, MoA Kenya)</p>  <p>A field heavily infested by blackrot in Nakuru North, (Photo: Rose Kamau, MoA Kenya)</p>	<ul style="list-style-type: none"> ◆ Use certified tolerant varieties like Baraka F1, Globe Master F1, Blue dynasty F1, Riana F1. ◆ Rotate with non-brassicacs like maize and legumes for at least 2 years. ◆ Keep field free from weeds to avoid alternate host of brassica family. 	<ul style="list-style-type: none"> ◆ Monitor for <ol style="list-style-type: none"> 1. Yellow, brown v-shaped patches at the edge of the leaves. 2. If the yellow/black lesion is held against the light, black veins are visible. 3. A cross section of infected stem that reveals a black ring. 4. In later stages, head turns black with an offensive foul smell. 5. Disease is common during wet conditions with high temperatures. ◆ Take immediate action when first symptoms appear. 	<ul style="list-style-type: none"> ◆ Remove all infected plant and debris from the field and destroy by burning. ◆ Spray the remaining plants using a protective fungicide to suppress further damage. (See direct control yellow option) 	<ul style="list-style-type: none"> ◆ Spray copper based fungicide as a protective spray e.g. copper oxy chloride. (Kocide or Isacop) 	<ul style="list-style-type: none"> ◆ Moderately hazardous (WHO Class II). ◆ Spray interval of 14 days during wet weather. ◆ Use a maximum of 3 sprays. ◆ Wear protective clothing. ◆ Follow instructions as per manufacturer recommendation on pre-harvest interval.



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