



Common pests and diseases on cabbage in Ghana



Black rot

Xanthomonas campestris pv. *Campestris*
(CABI. Teresia Kodwaran, Kenya)

- Yellow areas along leaf edges which expand to the leaf midrib, giving a distinctive 'V' shaped lesions with yellow margins and brown necrotic tissue in the centre
- Leaf veins can appear brown/black
- Plants may be stunted
- Heads are smaller and outer leaves may die



Cabbage ring spot

Mycosphaerella brassicicola (syn. *Cercospora albomaculans*)
(David B. Langston, bugwood.org)

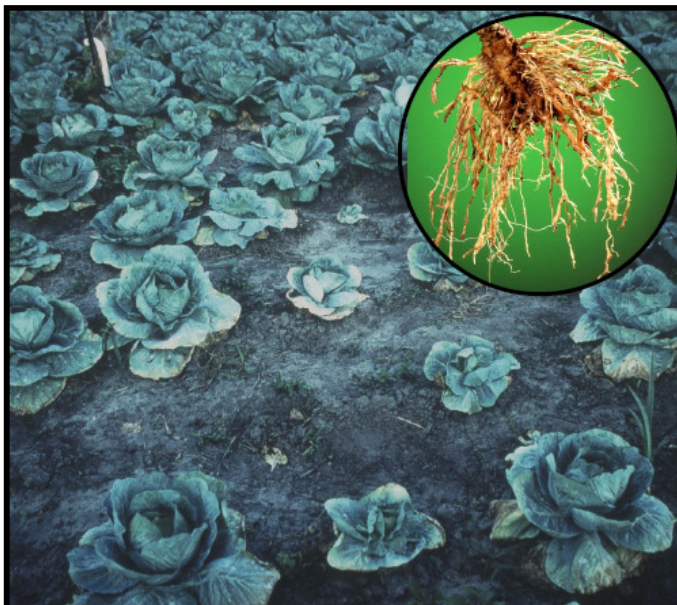
- Light brown grey/dark brown spots surrounded by a yellow halo, up to 20 mm wide angular and **limited by veins**, tiny black dots (fruiting bodies) inside the spots, arranged in concentric circles
- Spots occur on seedlings but usually on older leaves of mature plants



Leaf spot/black spot

Alternaria brassicicola
(Gerald Holmes, Bugwood.org)

- Light brown to grey/dark brown spots surrounded by a yellow halo, up to 25 mm wide, tiny black dots (fruiting bodies) inside the spots arranged in concentric circles. **Lesions are not limited by leaf veins as they are with Cabbage ring spot disease**
- Spots occur on seedlings but usually on older leaves of mature plants



Nematodes

Meloidgyne spp.
(CABI. Scott Bauer, Bugwood.org)

- Affected plants appear in patches
- Stunted and yellow, may wilt in hot weather
- Roots are severely distorted and swollen, with lumps (galls) which may be pinhead-sized to 25 mm wide



Common pests and diseases on cocoyam in Ghana

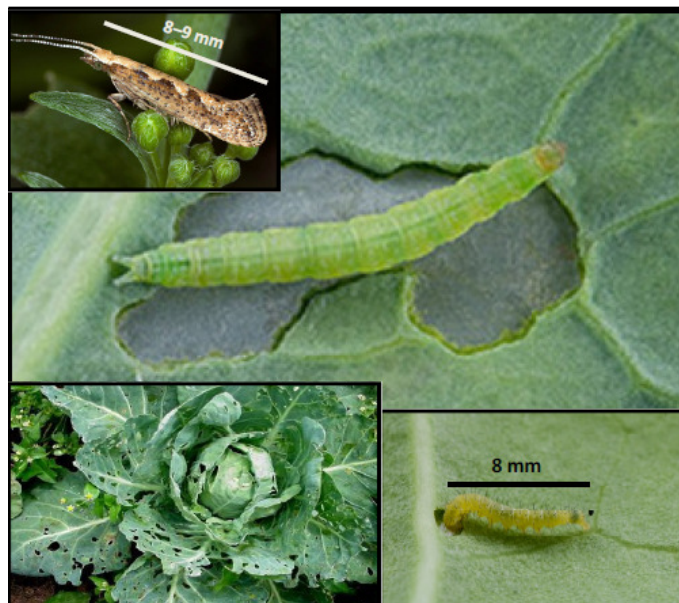


Aphids

Brevicoryne brassicae

(Kimberly Steinmann and Alton N. Sparks, Bugwood.org)

- Adults: Greyish-green body with greyish-white to powdery blue waxy covering. Found in clusters on lower leaves, stems or growing points
- Nymphs: brownish, on underside of leaves and stems
- Wilting or yellowing of plants and the presence of sooty mould where aphids have been feeding
- Ants may be protecting the aphids



Diamondback moth (DBM)

Plutella xylostella

(Sipher Wu Bettaman, David Coppert, Bugwood.org, A. M. Varela, CABI)

- Small, grey moths which have a diamond pattern on their wings when resting
- Caterpillars are yellowish/green, around 1 cm long when fully grown. Hang from a web when disturbed and often appear at the 4 leaf stage
- Leaves: irregular holes, windowing and skeletonised underside

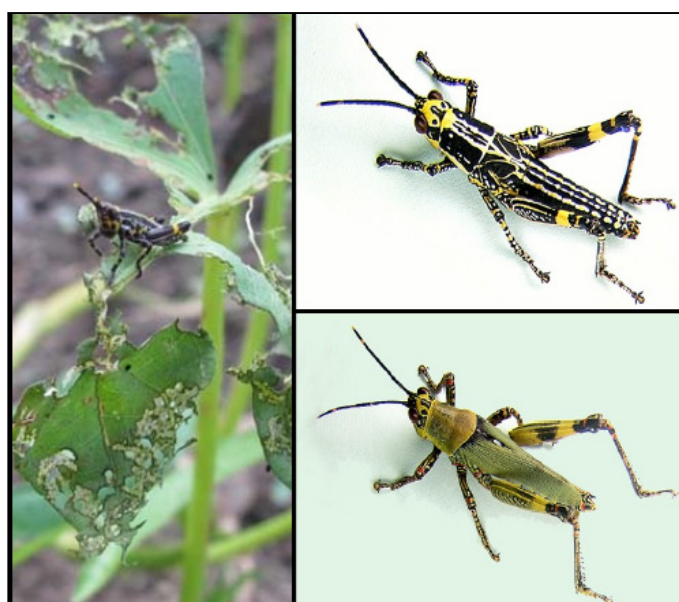


Webworm

Hellula undalis

(Alton N. Sparks and Natasha Wright, Bugwood.org)

- Larvae: creamy white, light pinkish-brown stripes along the body, Dark brown/black head. Feed on underside of leaves. Up to 12-15 mm long. Often covered in webs which become covered in dirt and frass.
- Adult: Sandy brown moth with a black spot and zigzagging light brown lines on wings, about 12 mm wide
- Plant stunting, multiple growing points/heads, mining of leaves, bore holes in stems



Grasshopper

Zonocerus variegatus

(Georg Goergen, IITA Insect Museum)

- Juveniles: 2mm long at their smallest. All instars have yellow and black stripes parallel to the body axis
- Adults: can grow to 30-52 mm, yellow and black stripes with red spots, main body is a yellow-green colour
- Chewed leaves and stems