Powdery mildew of cucurbits

R.F. Doepel

Follow this and additional works at: http://researchlibrary.agric.wa.gov.au/journal_agriculture4

Recommended Citation

Available at: http://researchlibrary.agric.wa.gov.au/journal_agriculture4/vol2/iss11/14

This article is brought to you for free and open access by Research Library. It has been accepted for inclusion in Journal of the Department of Agriculture, Western Australia, Series 4 by an authorized administrator of Research Library. For more information, please contact jennifer.heathcote@agric.wa.gov.au, sandra.papenfus@agric.wa.gov.au.
IMPORTANT DISCLAIMER

This document has been obtained from DAFWA’s research library website (researchlibrary.agric.wa.gov.au) which hosts DAFWA’s archival research publications. Although reasonable care was taken to make the information in the document accurate at the time it was first published, DAFWA does not make any representations or warranties about its accuracy, reliability, currency, completeness or suitability for any particular purpose. It may be out of date, inaccurate or misleading or conflict with current laws, polices or practices. DAFWA has not reviewed or revised the information before making the document available from its research library website. Before using the information, you should carefully evaluate its accuracy, currency, completeness and relevance for your purposes. We recommend you also search for more recent information on DAFWA’s research library website, DAFWA’s main website (https://www.agric.wa.gov.au) and other appropriate websites and sources.

Information in, or referred to in, documents on DAFWA’s research library website is not tailored to the circumstances of individual farms, people or businesses, and does not constitute legal, business, scientific, agricultural or farm management advice. We recommend before making any significant decisions, you obtain advice from appropriate professionals who have taken into account your individual circumstances and objectives.

The Chief Executive Officer of the Department of Agriculture and Food and the State of Western Australia and their employees and agents (collectively and individually referred to below as DAFWA) accept no liability whatsoever, by reason of negligence or otherwise, arising from any use or release of information in, or referred to in, this document, or any error, inaccuracy or omission in the information.
Powdery Mildew is one of the most damaging fungal diseases of cucurbits in Western Australia. Disease development reaches epidemic proportions in most years and results in reduction in yield and quality of crops. Regular applications of fungicides give economic control on susceptible varieties.

By R. F. DEPEL, B.Sc. (Agric.), Plant Pathologist

Powdery Mildew is caused by the fungus *Erysiphe cichoracearum*, which can attack a wide range of crops of the cucumber family (cucurbits). In Western Australia the disease has been recorded on cucumber, marrow, pumpkin, and rock melon (cantaloup) and is established in all parts of the State where these crops are grown.

**SYMPTOMS AND EFFECTS.**

The disease becomes obvious as a greyish-white powdery covering on the stems or runners, leaf stalks and leaves of affected plants. The fungus usually spreads over both lower and upper leaf surfaces to form a complete covering of fungal threads or hyphae (Fig. 1). The older leaves nearest to the crown are the first to be affected and the disease then extends outwards along the runners.

If a severe outbreak occurs the leaves wither and the plants are soon defoliated (Fig. 2).

As a consequence of defoliation both fruit yield and quality are reduced, for although the fruit is not attacked directly, it often fails to reach marketable size and is affected by sunburning.

**DISEASE DEVELOPMENT.**

Weather conditions suitable for the development of powdery mildew occur in...
most seasons. Although infection is favoured by warm to hot, humid conditions it can also occur during relatively dry weather. Following infection, minute fungal seeds (spores) are produced in enormous numbers on the diseased leaves. These spores are dispersed by wind and cause new infections in susceptible crops. During the growing season, therefore, the disease tends to increase progressively unless control measures are practised.

CONTROL MEASURES.
1. Fungicides

Powdery mildew becomes very difficult to combat when once established in the crop, and prevention rather than cure should be the aim. This can only be achieved by regular applications of fungicides. The schedule outlined below is recommended for routine adoption by growers.

(a) At the first sign of mildew spray the plant thoroughly with either of the following fungicides:—

Karathane—at 8 oz. in 100 gallons water

OR

Wettable sulphur—at 3-5 lb. in 100 gallons.

Dusting sulphur may be applied as an alternative to the spray if desired.
(Do not use sulphur on rock melons and cucumbers—see note below).

(b) Repeat the applications of Karathane or sulphur at seven to 10 day intervals for as long as the crop requires protection.

Such protection may be necessary up to the end of harvesting or until unfavourable weather conditions check further development of the disease.

Note: (i) Most plants of the cucurbit family are sulphur tolerant. Notable exceptions are rock melon and cucumber, which are severely scorched by this fungicide. Karathane and the copper-containing fungicides do not produce these adverse effects and therefore can be used with safety on these crops.

(ii) The fungicides used for powdery mildew control should not be applied on hot days, when shade temperatures exceed 90° F. This precaution should be observed to prevent scorching of the foliage.

2. Resistant Varieties

The growing of cucurbit varieties resistant to powdery mildew should be considered in districts where the disease proves a serious obstacle to crop production.

The following varieties of cucumber and rock melon have shown considerable resistance under local conditions:

Cucumber—Supermarket and Palmetto.

Rock Melon—Gold Coast and Hales Best.

Mildew Resistant 45.

Suggestions for Your Garden...

GERBERAS.

Seedlings in Pots, 24s. per dozen.
Double varieties, assorted colours, 5s. to 20s. each.

DAHLIAS.

All the best varieties in Decorative, Charms and Pom Pom. Special list on request free and post free.

CHRYSANTHEMUMS.

Offsets, named varieties. List on request.

PROMPT ATTENTION TO COUNTRY ORDERS.

RETAIL AND WHOLESALE
NURSERYMEN,
74 BARRACK STREET,
PERTH.

102 High Street, Fremantle.

Nurseries—Cannington, Fremantle and Spearwood.

Wilsons

PTY. LTD.