Plant diseases: leaf spot of celery

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LEAF SPOT OF CELERY

By The Plant Pathology Branch

LEAF SPOT is the most serious disease of celery in Western Australia, and causes heavy losses in many crops during the cold wet months of June, July and August. The disease is incited by the fungus Septoria api Chester, and was first recorded in this State at Osborne Park in 1923. Since then it has become a limiting factor in the production of marketable celery during the winter months.

Symptoms

Usually the disease first becomes evident on the older, lower leaves of a plant and gradually spreads upwards and inwards to the younger foliage.

On the leaves, it causes somewhat circular spots, which seldom exceed \( \frac{1}{4} \) in. in diameter. These are yellow to brown at first, but later become stippled in appearance and finally almost black, as large numbers of minute black fungal bodies (pycnidia) are formed in them. When the spots are very numerous, coalescence frequently occurs, and results in the partial, or complete collapse of leaflets and leaves.

Spots on the stems differ slightly in appearance, in that they are more elongated than those on the leaves.

Introduction and Spread

The disease is seed borne and is frequently introduced into the field planting by means of slightly affected seedlings, which escape detection when transplanted from the seed bed. In addition the disease is carried over on infected debris, and overseas reports suggest it may survive for approximately 8 to 11 months in this manner.

During periods of cool, wet weather, numerous fungal seeds, called spores, are produced in the pycnidia of leaf spots on affected transplants, and also on crop debris. These are carried about by the wind and infect the foliage of nearby celery plants. With the continuation of cool, wet conditions, more spores are produced in the pycnidia of the new spots and so the disease becomes widespread throughout the crop.

Prevention and Control

1. Hot water treatment of seed: Seed should be enclosed loosely in a muslin bag and immersed in water at 118° F. for 30 minutes. After treatment, the seed should be spread out in a thin layer on an absorbent surface and dried as quickly as possible.

2. Cover spraying: The crop should be sprayed regularly with Dyrene (R) at the rate of 2 lb. per 100 gallons of water. The first application should be made one week after transplanting and subsequent sprays should be applied at ten to eleven day intervals.

3. Rotation: The same land should not be used more frequently than once in two years, either for seed beds or for field plantings of celery.

(R) = Registered trade name. Dyrene is a 50 per cent. wettable powder formulation of 2,4-dichloro-6-o-chloroanilino-s-triazine.