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Chickpea Wilt

Recognize the problem

Chickpea wilt caused by *Fusarium oxysporum* f. sp. *ciceris* is one of the major yield limiting factors in chickpea and is also known as "Mar disease" in Marathi. The disease causes 10–90% yield losses annually in chickpea. When the disease occurs at seedling stage, seedlings collapse and lie flat on the soil surface. In adult plants, the characteristic symptom is a brown to black discoloration of the xylem vessels in the stem. Affected plants appear in patches in the field.

Chickpea plant affected by Fusarium wilt. (Photo by Department of Primary Industries, Victoria)

Background

The fungus may survive in seeds or in soil. The disease is more severe in light sandy soil than heavy clay. High soil temperature and lack of moisture appear to have a definite bearing on its incidence. The higher the organic matter in the soil, the lower the incidence of wilt. The development of wilt is favored by an increase in nitrogen. The optimum temperature and pH for the pathogen are 25°C and pH 5-6.5 respectively. A delay in sowing helps to minimize the disease.

Management

- Follow deep summer ploughing
- Follow crop rotation measures continuously with unrelated crops e.g. wheat, barley or oats
- Always use disease free seeds
- Avoid sowing when temperature is high
- Apply castor cake 500 kg/ha at the time of sowing
- Treat seeds with *Trichoderma viride* @ 4 g/kg seed or with carbendazim @ 2 g/kg. Do not use both of these treatments as the chemical will kill the biological control agent.

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > ***Fusarium oxysporum* f.sp. *ciceris***

The recommendations in this factsheet are relevant to: India

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