

Seedling diseases

Planting is all but over in most regions and crops are emerging, as is the risk of seedling diseases.

Seedling diseases are caused by various soil borne fungi which include Pythium, Rhizoctonia and Fusarium. Cool and/or wet conditions promote disease development with seedlings most susceptible in early growth stages. Factors that slow down the rate of germination, emergence and development will ultimately increase the chance of seedling mortality. Some of these factors include poor seed beds, incorrect planting depth, herbicide damage, poor fertiliser placement and poor drainage.

A slow developing seedling is more susceptible to seedling diseases because plant roots produce sugary substances called exudates as they develop. Soil pathogens are stimulated by these exudates.

- In a slow developing crop, the exudates will be very concentrated around the root, increasing the chance for the pathogens to colonise the root system.
- In a fast developing crop, the roots move too quickly for pathogen colonisation.

Symptoms of seedling diseases include pre-emergent seed rots, lesions on roots and post-emergent damping-off which shows up as wilted or collapsed seedlings. Other symptoms may include seedlings with slow early season growth, small cotyledons and reddened hypocotyls. The black root rot fungus, which causes blackening of the roots, will not kill seedlings but weakens these and seedlings become more susceptible to other diseases.

Affected plants are usually found scattered throughout the field or in poorly drained areas. When seedling disease is evident in rows, management practices such as fertiliser placement, planting depth or herbicide damage may have contributed to disease levels.

Assessment of seedling diseases can be done by counting the number of established plants per metre at several locations across the field. The level of seedling mortality is determined by the difference between estimated stand at 6-8 weeks and the number of seed/metre sown. Losses of seedlings can also be due to seedling pests such as wireworms and seed viability.

Economic impacts of seedling diseases include replanting costs and the cost of standard seed treatments. Replanting also leads to delayed maturity and associated yield reductions as well as the cost of late season insect control in conventional cotton crops.

Although the weather plays a main role in determining a 'good' or 'bad' year for seedling diseases, a number of management practices can minimise disease development and ensure acceptable stands.

Practices include;

- Select varieties with good seedling vigour
- Use effective fungal seed treatment.
- Delay planting until temperatures and moisture conditions are at an optimum.
- Plant into moist firm beds and avoid fertiliser and herbicide damage.

For more information about diseases of cotton and relevant management practices please refer to the Integrated Disease Management guidelines produced by the Cotton CRC and CRDC.

Irrigation management \$ 20 000 grant

See the link below to access the form to claim the Irrigation Management Grant if you are an irrigator in the MDB. The grant will:

- Assist irrigators to prepare for and manage the risks associated with reduced water allocations
- Improve on-farm practices to maximise irrigated production from the water that is available.

The Irrigation Management Grant (up to \$ 20 000) is a taxable payment which enables eligible farm enterprises to access funds to implement water management strategies that contribute to the farm plan for managing short-term reduced water allocations. If you claim less than the \$ 20 000, the balance is available to be claimed up until 31 March 2009.

[http://www.centrelink.gov.au/internet/internet.nsf/filestores/su624_0710/\\$file/su624_0710en_p.pdf](http://www.centrelink.gov.au/internet/internet.nsf/filestores/su624_0710/$file/su624_0710en_p.pdf)

Irrigation Cotton and Grains Workshop series:

Pumps

Consideration is being given to present a pump workshop on Tuesday afternoon, 20th November as part of the above series.

Pump module outline

- Introduce and define pump duty and its elements: pressure and flow
- Explain pump curves and how to use them
- Calculate pump efficiency and running costs
- Explain the process of pump selection
- Provide key pump maintenance information

Guest speaker will be Peter Smith, Irrigation Officer, NSW DPI. However we require some indication as to interest in the pump module. Please contact Jenelle on 46690825 to register your interest.