

Protocol for managing an outbreak of chickpea *Ascochyta* blight in central Queensland



Recommended response
from the Department of
Primary Industries and
Fisheries, Queensland
and Pulse Australia

Developed July 2006

ASCOCHYTA BLIGHT (AB) is caused by the fungus *Ascochyta rabiei* and has caused serious losses to chickpea crops in southern Australia. In the chickpea growing regions where *Ascochyta* is present, the disease is managed through crop rotation, hygiene, seed treatment, prophylactic fungicide application and planting varieties with improved resistance.

To date, neither the pathogen nor the disease has been found in central Queensland (CQ). The generally hot dry climate of the region is considered less conducive for AB compared with southern areas. However, a wet winter would favour AB should the pathogen be introduced.

There is a voluntary system in place where CQ growers have been strongly advised to avoid using chickpea planting seed from areas outside CQ. This includes the production areas around Chinchilla, Miles and Roma where serious AB outbreaks have occurred. In the 2006 season, chickpea seed of CQ origin was in high demand, leading to concern that some growers would be tempted to source seed from southern growing areas. These fears seemed to have been realised when a local agronomist raised concerns that he had identified AB in a chickpea crop grown from seed not sourced in CQ.

Fortunately, it was a false alarm, but this incident raised the need for an action plan for dealing with suspected and confirmed cases of AB in central Queensland.



Steps to take when a crop is suspected to have *Ascochyta*

Symptoms of Ascochyta blight

Ascochyta leaf lesions.
Infected leaves die and fall off.



Black pycnidia on dying material



Stem lesion



Leaf lesion

1

Collect plants in a plastic bag (with air and a few drops of moisture).

2

Collect details on the distribution and how many plants appear to be infected.

3

Take photographs/ images and send electronically (preferably each image <1 MB in size) to the DPI&F pulse plant pathologist team (malcolm.ryley@dpi.qld.gov.au and jeff.tatnell@dpi.qld.gov.au).

4

Send plants immediately to DPI&F pulse plant pathology team for positive identification.

Send plants to Malcolm Ryley, DPI&F, 203 Tor Street, Toowoomba Q 4350 or Jeff Tatnell, J Bjelke Petersen Research Station, Goodger Rd, Kingaroy Q 4610.

Plants should be sent via a courier overnight in an esky if possible.

Alternatively arrange for plants to be dropped off at your local DPI&F office, and make contact with the local extension agronomist.

In Emerald contact Anne Shepherd 4983 7420, and in Biloela contact Col Douglas phone 4992 9112 or 0439 875 799.

Avoid sending plants on a Friday as delivery often does not occur until early the following week.

5

Practice good hygiene to avoid movement of potentially infected plants/trash from the suspect crop to other crops. Most importantly do not visit other chickpea crops until mud and dirt has been washed from vehicles, machinery and boots, and clothing changed.

Following the positive identification of *Ascochyta* blight

Early stage of *Ascochyta*



Pod lesion



Within the affected crop

Conduct a thorough survey of the crop to determine the distribution of the disease.

Practice good hygiene to avoid movement of potentially infected plants/trash from the suspect crop to other crops. Most importantly do not visit other chickpea crops until mud and dirt has been washed from vehicles, machinery and boots, and clothing changed.

Spray the entire crop with a registered fungicide containing chlorothalonil or mancozeb, (NB chlorothalonil is superior to mancozeb) using recommended spray application techniques for ascochyta - refer to the current Chickpea Disease Management Strategy. If practical, spray the obviously affected areas last to reduce movement of inoculum (spores/infected plant parts) within the crop.

Within seven days spray the crop or the affected area(s) and plants within 50 m of the affected area(s) with glyphosate (e.g: Roundup PowerMax at 500 mls to 1.1 L/ha) plus metsulfuron (e.g: Ally at 5 g/ha) to kill the infected plants. Minimise movement of machinery/vehicles etc, between the affected and non-affected areas. Liaise with DPI&F staff before proceeding with herbicide spraying and incorporation of infected plants. If other crops are found to be infected with *Ascochyta* blight in CQ within seven days of the initial discovery of AB, it would be impractical to spray out all affected areas in all crops.

Plough the affected area to incorporate the residue and prevent the spread of inoculum. Again minimise movement of machinery/vehicles and ensure implements and machinery are thoroughly cleaned.

If the crop has not been destroyed, apply a second fungicide spray approximately two weeks after the first spray, then monitor the infection levels and spray on a needs basis (immediately before rain events or at 14 to 18 day intervals if experiencing heavy dews).

DO NOT keep planting seed from this crop.

Do not plant chickpeas in this paddock for three years.

Other crops in the district

Determine where the infected seed came from and locate other crops that were planted from this seed source.

Survey these crops as well as those crops within a 2 km radius of the outbreak for symptoms of AB infection. Crops outside this radius also need to be surveyed as soon as possible.

Start a fungicide spraying regime as outlined above in other crops which are found to be affected.

Do not keep seed from the crop.

Occurrence and spread of Ascochyta blight

Ascochyta may be spread via a number of methods: the planting of infected seed from diseased crops; through wind and water transporting infected crop residues; and stock, people and machinery moving through infected crops. Chickpea stubble can remain infected and be a source of inoculum in future crops. Crops grown close to infected residues or volunteer plants may also become infected.

Extension campaign

Notify agronomists of the outbreak.

Organise immediate agronomist and grower awareness and training activities. Ensure experts are present to discuss disease identification, the factors controlling the presence of the disease, and control measures for AB.

Ensure a monitoring and reporting framework is discussed and endorsed.

Increase the industry and agency extension effort targeting potential seed suppliers in SQ/NNSW to reinforce the message that CQ is an AB-free area and that this status hinges upon not sourcing seed from other production zones.

Routine management plan

Treat seed with a registered fungicidal seed dressing (P-Pickle T or Thiraflo).

Implement a program of preventative sprays.

More vigilance will be required in wetter conditions.

Implement a monitoring program.

To protect the CQ chickpea industry and prevent the introduction of AB

Only source chickpea planting seed from crops grown in CQ.

Treat seed with a registered fungicidal seed dressing (P-Pickle T or Thiraflo).

Always check the origin of your planting seed prior to delivery.

Carry out routine crop inspections and be aware of the symptoms of Ascochyta blight.

For additional information contact:

Queensland DPI&F:

Emerald, Anne Shepherd
4983 7420 or 0407 730 476
Biloela, Col Douglas
4992 9112 or 0439 875 799

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