

# Cereal Rust Report Season 2004

## Assessment Scale for Recording Stripe Rust Responses in Field Trials

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The recording of disease response data in field trials needs to be quick, accurate and broadly reproducible across operators. The following scale is used by staff of the Australian Cereal Rust Control Program in assessing response to stripe rust (caused by *Puccinia striiformis*) in field plots.

Score	Description
1	highly resistant: no visible symptoms
2	highly resistant: occasional symptoms of infection including necrotic flecks and small stripes without sporulation
3	resistant: symptoms evident and may include stripes with necrosis and chlorosis, limited sporulation, and affected leaf area up to 15%
4	moderately resistant: sporulating areas arranged in stripes, some chlorosis and necrosis, and affected leaf area up to 30%
5	intermediate: sporulating areas arranged in stripes with some chlorosis, and affected leaf area up to 50%
6	moderately susceptible: sporulating stripes and affected leaf area up to 70%
7	moderately susceptible to susceptible: sporulating stripes merging into broader leaf areas supporting symptoms; chlorosis and necrosis evident; leaf area affected up to 90%
8	susceptible: sporulation across the whole leaf surface with no stripes but with evidence of chlorotic areas
9	highly susceptible: abundant sporulation across the whole leaf area with no evidence of stripes

Plots can be assessed by taking an overall impression of the infection levels and using a score that reflects an average of responses among the upper most two leaves. Where infection levels are uneven, such as in hotspots, scores should reflect the range by noting the average score with the worst cases noted in brackets, eg 4 (7). In some instances, especially in breeding lines, there may be evidence for genetically mixed responses and these should be noted by separating the scores by a comma, eg 4,7.

General information in regard to the field site can be very helpful in reconciling differences in responses between locations. General points to note include date of sowing, general plant vigor, approximate date of disease occurrence, date of observation and plant growth stage.

The illustrations are provided as a guide to assist in determining the scores described on page 1.



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**Cereal rust samples** may be collected and posted in paper envelopes to the following address:

Australian Cereal Rust Survey  
Plant Breeding Institute  
Private Bag 11  
Camden NSW 2570

The Australian Cereal Rust Control Program is supported by growers through the Grains Research & Development Corporation.

