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Assessment of fungicide efficacy against blackleg disease, using recognized canola cultivars, and standard chemical treatments.

Introduction

In 2005 eleven trials were conducted nationally and three in Western Australia to asses the effectiveness of the fungicide treatments Jockey, Impact in Furrow and maximXL on canola. The canola varieties ATR-Beacon (CAA BL rating 6.0) and Boomer (CAA BL rating 6.5) were used in the trials.

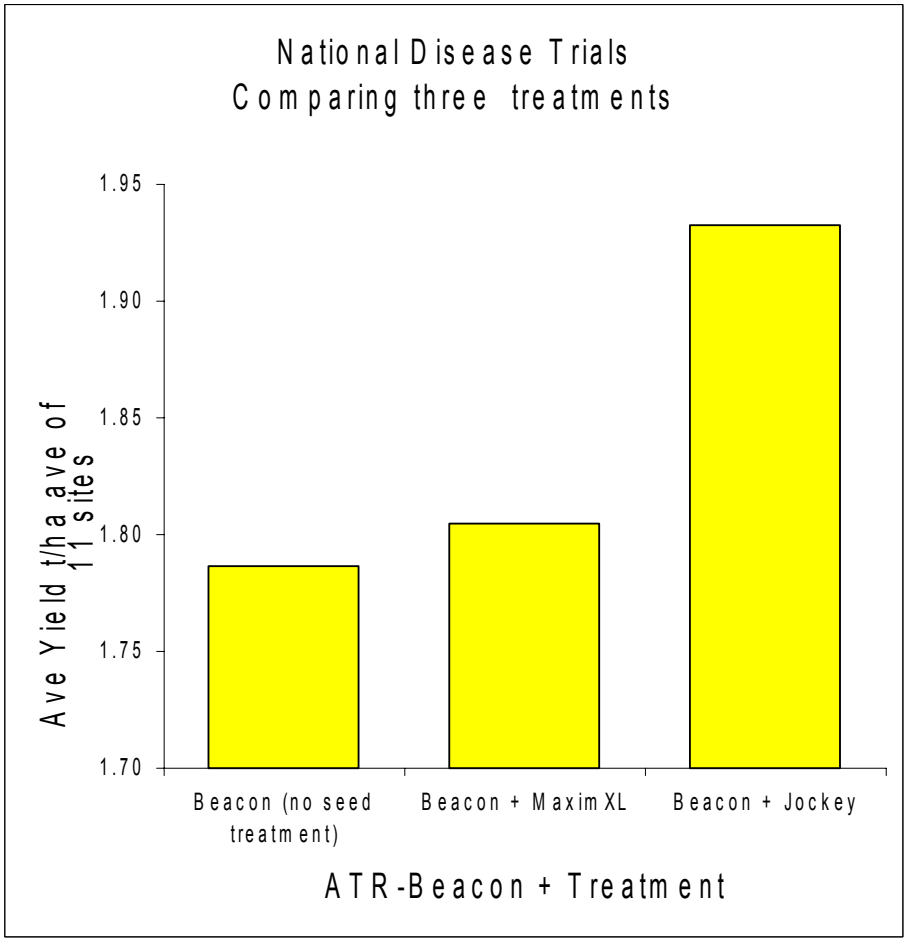
The trials were replicated small plot trials, with various trial co-operators making detailed assessments of the trials during the 2005 growing season. Their assessments and results have been compiled into the following graphs and tables.

Aims and Method

To ascertain the effectiveness of three fungal treatments, Jockey (fluquinconazole) applied at 20L /t to the seed, Impact in Furrow (Flutriafol) applied to granulated fertilizer at 400mL/ha and MaximXL (Fludioxonil + Metalxyl-M) applied at 400 mL/100kg to the seed. Jockey 20L/t and Impact in Furrow 400mL/ha were also combined as a further treatment in WA. All seed treatments were applied using specialized seed treatment processing equipment. A seeding rate of 5kg/ha was used for all trials.

Results

National Trials



Sites:

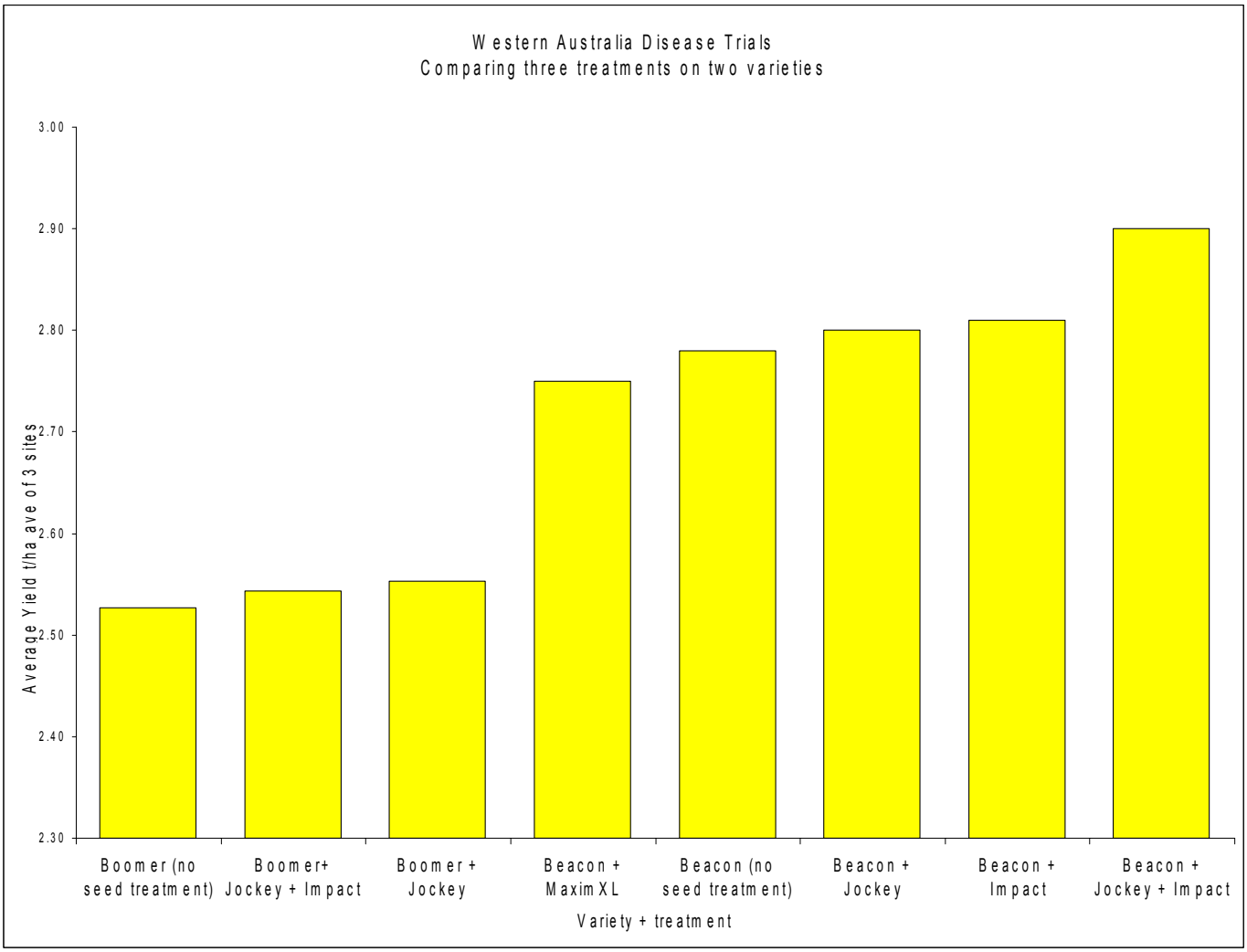
Vic
Serpentine
Carisbrook
Horsham
Lake Bolac
Bordertown
NSW
Marra
Cowra
Lockhart
WA
(Results also used in WA trials)
South Stirlings
Tunney
Williams

National Disease Trails average yield t/ha over 11 sites

	Total Grain Yield t/ha	Total Site	Total Mean Yield t/ha	% Increase over Untreated
Beacon no seed treatment	19.65	11	1.79	100%
Beacon + MaximXL	19.85	11	1.90	101%
Beacon + Jockey	21.26	11	1.93	108%

Mean CV % = 9.31%

WA Trials



Sites: South Stirlings, Tunney & Williams

WA Disease Trials average yield t/ha over 3 Sites

	Total Grain Yield t/ha	Total Sites	Total Mean Yield t/ha	% +/- over Untreated Beacon
Boomer no seed treatment	7.58	3	2.53	91%
Boomer+ Jockey + Impact	7.63	3	2.54	91%
Boomer + Jockey	7.66	3	2.55	92%
Beacon + MaximXL	8.25	3	2.75	99%
Beacon no seed treatment	8.34	3	2.78	100%
Beacon + Jockey	8.4	3	2.80	101%
Beacon + Impact	8.43	3	2.81	101%
Beacon + Jockey + Impact	8.7	3	2.90	104%

WA Mean CV % = 8.36%

Conclusions

In the national trials canola (Beacon) treated with Jockey resulted in a recorded 8% increase in yield over untreated canola. In WA the increase in yield for canola (both Beacon and Boomer) treated with Jjockey alone was 1%. When Jockey was combined with Impact in Furrow a 4% increase in yield was recorded for the Beacon variety plots although the increase recorded for the Boomer treated plots was 1%.

MaximXL was applied to one variety in the three trials in WA. No significant increase in yield was recorded.

Using the ten year average price for canola (1995 to 2005) of $382/t, the likely dollar/hectare ($/ha) return from applying these chemicals can be assessed. At the ten year average price a 1% increase in yield would result in a return to the grower of $3.82/ha. A 4% increase would result in $15.28/ha and an 8% return $30.56/ha. Seeding rate and fertilizer rate also influence the final return when using fungicides. The use of these chemicals can also be guided by predictions of the occurrence of blackleg spore showers using “sporacle” (DAFWA).

Blackleg severity ranged from low to high across the WA sites. In-field visual assessments by trial co-operators on Beacon showed a greater response to the use of the above products with the severity of crown canker being reduced by up to 27% in certain instances. Boomer however showed a smaller response to all treatments compared to Beacon. This result may be due to Boomer’s slightly higher blackleg rating. MaximXL did not significantly reduce cankers in the WA trials.

Fungicide resistance management needs to be considered along with good cultural practices. Genetic fungal variation as a result of repeated use of these chemicals may reduce their future efficacy. Both Jockey and Impact are Group C fungicides while MaximXL is a Group D/L fungicide.

These results indicate a need for further trials to ascertain if varieties with higher blackleg polygenic resistant warrant treatment with these chemicals.

Paper prepared by **Neil Harris** Dovuro Seeds and **Martin Barbetti** UWA June 2005
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Individual WA trial site reports can be requested from Oilseeds WA, 08 9475 0753.

Trial Photographs

Tunney Trial courtesy Agritech Crop Research

Photograph 1. Lodging of untreated Boomer canola as a result of blackleg crown canker

Photograph 2. Blackleg leaf infection.