Effect of wild oats on grain yield of barley

This trial is funded by the GRDC and is part of a collaborative project. It was conducted with Sam Kleemann, University of Adelaide.

Key findings

- 20 to 25 wild oat plants per square metre caused a 50% loss in barley grain yield.
- High wild oat densities significantly reduced barley grain size from (43 to 28 mg).

Why do the trial?

To measure the impact of increasing wild oat *(Avena fatua)* densities on the grain yield and quality of barley.

How was it done?

Plot size	3.0m x 12m	**Fertiliser**	27:12 (MAP/Urea) @ 100 kg/ha 46:0 (Urea) @ 100 kg/ha
Seeding date	25th May 2010	**Variety**	Commander barley @ 80 kg/ha

This trial was established in a grower paddock, north of Clare (White hut) on an existing patch of wild oats.

Barley grain yield and quality was measured using a 60 x 60 cm quadrat from 2 random locations within each plot. Crop emergence was assessed by counting the number of emerged barley and wild oat seedlings along both sides of a 0.5 m rod at 3 random locations within each plot.

Results

There was no significant effect of wild oat emergence on barley establishment. Wild oat plant number had a significant effect on the yield loss of barley (Figure 1). Approximately 20 to 25 WO plants per square metre caused a 50% loss in barley grain yield.

Barley grain size was significantly reduced (43 to 28 mg) under high wild oat densities (Figure 2).

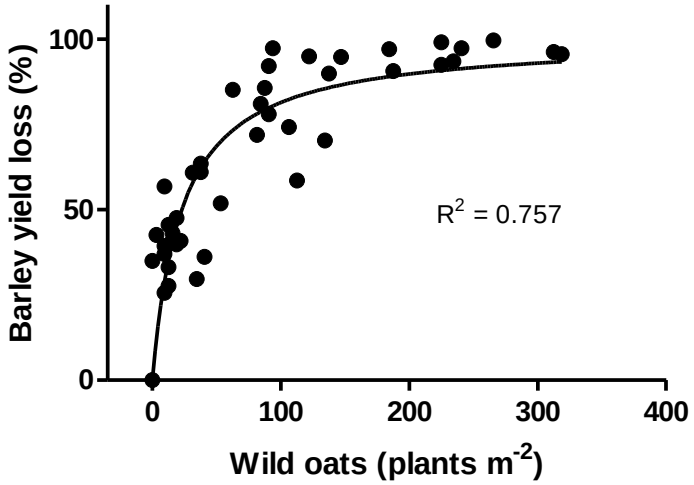

Figure 1. Effect of wild oat density on barley yield loss (%) at Clare in 2010.

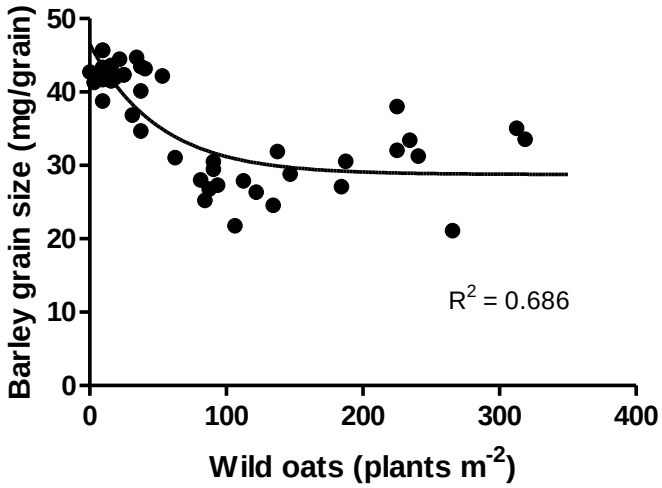

Figure 2. Effect of wild oat density on barley grain size (mg/grain) at Clare in 2010.

Acknowledgments

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