

# Fluid delivery systems in canola

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RESEARCH

## Searching for answers



**Location:**  
Wangary  
Morgan family

**Rainfall**  
Av. Annual: 525 mm  
Av. GSR: 465 mm  
2016 Total: 604 mm (no data for Dec 2016)  
2016 GSR: 480 mm

**Yield**  
Potential: 5.9 t/ha (C)  
Actual: 2.2 t/ha

**Paddock History**  
2016: CL canola  
2015: Lupins  
2014: Wheat

**Soil Type**  
Grey loamy clay

**Plot Size**  
20 m x 2 m x 3 reps

## Key messages

- **Fungicides as seed treatments or in-furrow did not increase canola yield in 2015 or 2016.**
- **In 2016 Intake (on fertiliser) and Jockey (on seed) which is current standard practice, lowered Blackleg stem infection, and in 2014 this treatment increased yield.**

## Why do the trial?

A SAGIT Fluid delivery project was funded to update the benefits of fluid delivery systems from previous research and assess the potential of fluid nutrient delivery systems and disease control strategies compared to current systems. The fluid systems have the potential to increase production through delivery of micro and macro nutrients, lower cost of trace element delivery and better control of cereal and canola

root and leaf diseases.

Blackleg continues to be a major issue facing canola growers especially on lower Eyre Peninsula and fluid delivery systems for product delivery may increase production and improve disease control. With the development of fungicides and the ability to deliver liquid products around the seed row during the seeding pass, there is now a range of application strategies available to growers to make use of these new products. This trial investigated the relative benefits of a range of fungicide strategies for blackleg control on canola.

The previous two years of trials in this project are reported in Eyre Peninsula Farming Systems Summary 2015, *Fluid delivery systems in canola* p118 and Eyre Peninsula Farming Systems Summary 2014, *Fluid delivery systems in canola* p104.

## How was it done?

The trial was sown on 10 May 2016 at Wangary. Base fertiliser was 100 kg/ha of DAP (18:20:0:0) with in furrow fungicides and trace elements delivered as fluids. The trace element mix was Mn at 1.5 kg/ha of manganese sulphate, 1 kg/ha Zn as zinc sulphate and 0.2 kg/ha Cu as copper sulphate delivered at a water rate of 100 L/ha. The fungicides Jockey, Intake, Aviator and Prosaro were evaluated for blackleg disease control.

Plant establishment, blackleg infection and grain yield were measured during the season. Blackleg infection was scored by assessing 20 stems per plot, cut at the base, in mid-November. The trial experienced some late

hail damage so scoring for % pod infection was not undertaken as planned.

The paddock was sprayed on 10 May with 2 L/ha glyphosate with wetter, 1.5 L/ha of trifluralin and 80 ml/ha of carfentrazone-ethyl. Weed control was achieved on 20 June with L clopyralid @ 150 ml/ha and clethodim @ 500 ml/ha with a wetter. Urea was applied @ 80 kg/ha on 26 June and again on 25 July.

Foliar Aviator and Prosaro were applied at 400 ml/ha and 550ml/ha respectively, on 15 June at the 4 leaf stage.

The trial was desiccated on 8 November with glyphosate @ 3 L/ha (470 g/L as potassium and mon-ammonium salts) and alcohol alkoxylate @ 200 ml/100L. The trial was harvested on 25 November 2016.

Data were analysed using Analysis of Variance in GENSTAT version 16.

## What happened?

The trial was located at Wangary within an intensive canola cropping region with a potentially high Blackleg disease pressure. Establishment was reduced by nearly 20% with Jockey on seed (Table 1), but plant numbers were still reasonable at 38 plants/m<sup>2</sup>.

Blackleg infection was moderate but quite variable across the site as were grain yields. Blackleg stem infection averaged 18% across the site. The blackleg stem infection was reduced by using both a seed dressing and an in-furrow fungicide in 2016, although this did not result in a significant yield increase (Table 1).

Disease

**Table 1 Disease scores, growth measurements and yield for CL canola with fungicide treatments in Coulta trial, 2016**

Fungicide treatment	Canola establishment (plants/m <sup>2</sup> )	Blackleg score (% infection)	Yield (t/ha)
Intake (in furrow)	39.7 <sup>ab</sup>	22 <sup>a</sup>	2.4
Intake (on fertiliser)	41.8 <sup>ab</sup>	12 <sup>bc</sup>	2.7
Intake (on fertiliser) and Jockey (on seed)	38.3 <sup>b</sup>	9 <sup>c</sup>	2.2
Jockey (seed)	38.3 <sup>b</sup>	23 <sup>a</sup>	2.0
Control	47.1 <sup>ab</sup>	20 <sup>ab</sup>	1.9
Aviator Foliar	47.1 <sup>ab</sup>	14 <sup>abc</sup>	2.3
Prosaro Foliar	57.5 <sup>a</sup>	18 <sup>abc</sup>	2.3
LSD ( <i>P</i> =0.05)	10.9	9.6	<i>ns</i>

### What does this mean?

In 2015 and 2016 there were no consistent differences in canola yields due to fungicides. In 2016 there was a significant decline in blackleg stem infection with the use of Intake (on fertiliser) and Jockey (on seed). In 2014 the same combined fungicides increased yield over the nil fungicide control, but there were no significant differences in blackleg infection.

The application methods for blackleg fungicides in the trial have shown little or no change in either blackleg disease control or yield with their use. Further evaluation with the newer products in the lower EP environment will continue. The selection of resistant varieties with high blackleg ratings is important, as is paddock rotation with other break crops to lower the disease pressure.

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