

CLEARFIELD Production System demonstration

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SUMMARY

The CLEARFIELD* Production System for canola is a new herbicide- tolerant cropping system for Australian canola growers. It consists of Pioneer® Brand canola seed which has been conventionally bred (non-GMO) to be tolerant of the ONDUTY* herbicide from Cyanamid. An important component of the system is a best management practice (BMP) program. The BMP program is designed to help growers and their advisers maximise the performance of the CLEARFIELD Production System and provide guidelines for developing weed resistance management strategies as well as addressing other important sustainability issues.

The CLEARFIELD Production system for canola is conventionally bred canola seed that is tolerant to imidazolinone herbicides, Group B.

Until now growers with certain problem weeds had only one option to control these weeds in a canola crop – triazine tolerant (TT) canola. Growing TT canola usually meant a yield and/or oil penalty when compared with conventional canola varieties. The Pioneer varieties in the CLEARFIELD System do not have this yield or oil “drag” associated with TT canola.

METHOD

Three canola systems were compared – conventional (Monty), TT (Karoo) and the CLEARFIELD Production System featuring the Pioneer variety 44C71.

Half-hectare plots of each variety were sown at 4kg/ha. The CLEARFIELD System was treated with the label rate of 40 g/ha of ONDUTY applied early post emergent. Karoo was treated with atrazine (1.5L/ha), Targa (250ml/ha) and Lontrel (100ml/ha) with oil 1%, early post-emergent. Each plot was harvested and yield and oil content results were compared.

RESULTS

Table 1.36 Canola variety results at Birchip

Variety	Monty	Karoo	CLEARFIELD System (44C71)
Yield (t/ha)	1.21	0.84	1.46
Oil (%)	38	36.3	39.8

Table 1.37 Australian summary of Pioneer canola, 44C71 with CLEARFIELD technology

	Yield (t/ha)	Oil content (%)
<i>Australia¹</i>		
Karoo	1.38	39.40
Pioneer 44C71	1.76	41.91
Pioneer Advantage	+28%	+2.51%
<i>Western Australia</i>		
Karoo	1.37	42.35
Pioneer 44C71	1.52	44.86
<i>Eastern Australia</i>		
Karoo	1.38	40.85
Pioneer 44C71	1.95	42.58

¹ yield results based on 36 locations, oil results on 21 locations

Table 1.38 Australian summary of Pioneer canola, 46C72 with CLEARFIELD technology

	Yield (t/ha)	Oil content (%)
<i>Australia</i> ²		
Pinnacle	1.83	41.24
Pionner 446C72	1.93	43.01
Pioneer Advantage	+6%	+1.77%
<i>Western Australia</i>		
Pinnacle	1.83	42.80
Pioneer 46C72	1.80	44.75
<i>Eastern Australia</i>		
Pinnacle	1.83	40.85
Pioneer 46C72	1.95	42.58

²yield results based on 32 locations, oil results on 10 locations

OBSERVATIONS

A wide range of grass and broad-leaved weeds was present including shepherds purse, mustard, ryegrass, prickly lettuce and medic.

The results showed that the new CLEARFIELD System yielded better compared to TT canola. The ONDUTY herbicide provided excellent control of a wide range of broad-leaved and grass weeds. It has a particularly strong agronomic fit in areas where weeds such as wild radish, Indian hedge mustard, wild turnip, shepherds purse, and wireweed are present in combination with a range of grass weeds.

COMMERCIAL PRACTICE

The CLEARFIELD Production System for Canola is available in the 2000 season from accredited resellers called Agricentres and is purchased in production units of seed, and herbicide together with the BMP program. Growers are advised to consult with the accredited agronomist at their local Agricentre to determine the agronomic fit for the CLEARFIELD Production System on a paddock by paddock basis on their farm.

44C71

Short season imidazolinone tolerant variety. Higher yielding over current TT and conventional quick maturing varieties. Oil content equivalent to Monty. Excellent seedling vigour. Good standability. Medium blackleg tolerance. Suited to low-medium rainfall zones.

46C72

Mid-season imidazolinone-tolerant variety. Similar maturity, yield and oil content to Oscar. Excellent seedling vigour with exceptional standability. Medium blackleg resistance. Suited to medium to high rainfall areas.

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