

GROWING WESTERN CANOLA IN THE LOW RAINFALL ZONE (<325MM) UPDATE 2005

“The Canola Opportunity Zone”

Prepared for growers by the Canola Industry WA based on 2004 trial results and industry wide experience

HOPING FOR A BETTER 2005 FOR LOW RAINFALL CANOLA

Canola has been viewed as an opportunistic crop in the Low Rainfall Zone (LRZ) where it has been recommended to be sown on a large scale only if there is a favourable seasonal forecast along with good opening rains. New short season varieties, recently released and in the plant breeding pipeline, could change this view.

The Northern drier areas do not appear to have recovered confidence in canola following the severe damage inflicted by Diamond Back Moth (DBM) in 2002. DBM was again a problem in 2004 in the far north, along with frost in the eastern wheatbelt and a widespread dry finish to the season.

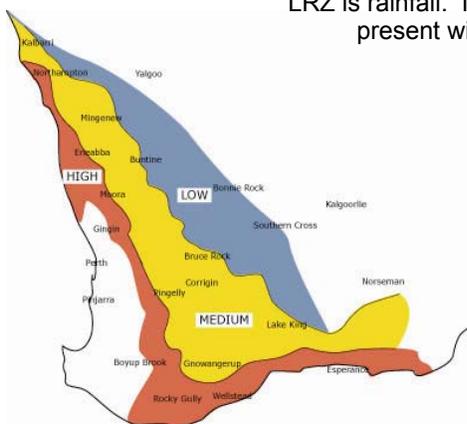
Despite the risks (by no means unique to canola) there are good reasons for growing canola in this zone including extending rotations, improving long-term gross margins, helping realise the full potential of high yielding cereals through a disease break along with weed reduction. Canola also spreads price risk between cereals and oilseed markets. Diversifying herbicide use assists in managing resistant ryegrass or radish weeds while blackleg is frequently less of a problem than in the medium and high rainfall zones.

The zone covers an area from Mullewa through to Lake King, as shown on map 1, roughly equating to an area also known as the Eastern Wheatbelt.

Implications of growing canola for your business in 2005?

At this time of the year you will have, or are about to decide if canola fits into your cropping plan for 2005. Considerations include longer term rotations, previous experience growing canola and the level of risk you want to take on. A realistic target for canola is to achieve roughly half the profit for wheat in this zone.

Canola is generally considered a high input, high return crop and therefore a higher risk than cereals in the lower rainfall zone. The biggest determinant in deciding to grow canola in the LRZ is rainfall. If sowing dry a certain amount of subsoil moisture (50mm+) should be present with the rainfall forecast for the coming season to be average or above.



Map 1: Rainfall zones of the WA Wheatbelt.

No-Till and new Varieties open opportunities

Two factors have recently increased the opportunity to grow canola in this zone. The first is no-tillage seeding which permits sowing into less soil moisture, although this also increases risk if no follow up rainfall is received. The second factor is newer shorter season varieties. However Oil content can be too low in seasons with a dry finish so it is important to choose a variety with inherently very high oil content to guarantee achieving above the 38% minimum CBH delivery standard.

In summary

Growers in the LRZ need to adjust their cropping plan as the season rolls out. Be ready to cut canola from the cropping program if moisture is too low or the season starts too late (late April). New varieties such as Trigold, Trilogy and Stubby are better adapted to low rainfall districts. However, yield potential declines with delays in sowing beyond early May. Very early plantings are not recommended, especially in Northern areas due to the risk of DBM damage being greatly increased.

Paddock Selection

Blackleg is not frequently a major factor in the low rainfall zone as it is in higher rainfall districts. However it is still wise to choose a paddock that has not had canola grown in it for at least four years to reduce the threat of other diseases and blackleg. Select paddocks that are well separated in time and distance (minimum 500m) from previous crops whether they are yours or your neighbours.

Frost prone areas should be avoided where possible. Canola is sensitive to severe frost; however some canola varieties are more tolerant to frost than cereals because of extended flowering periods.

Varieties

Department of Agriculture trial results from 2000 to 2004 show newer varieties consistently yielding higher than Surpass 501TT.

ATR-Stubby, Tornado, Tranby, Trigold, Trilogy and Beacon all performed well.

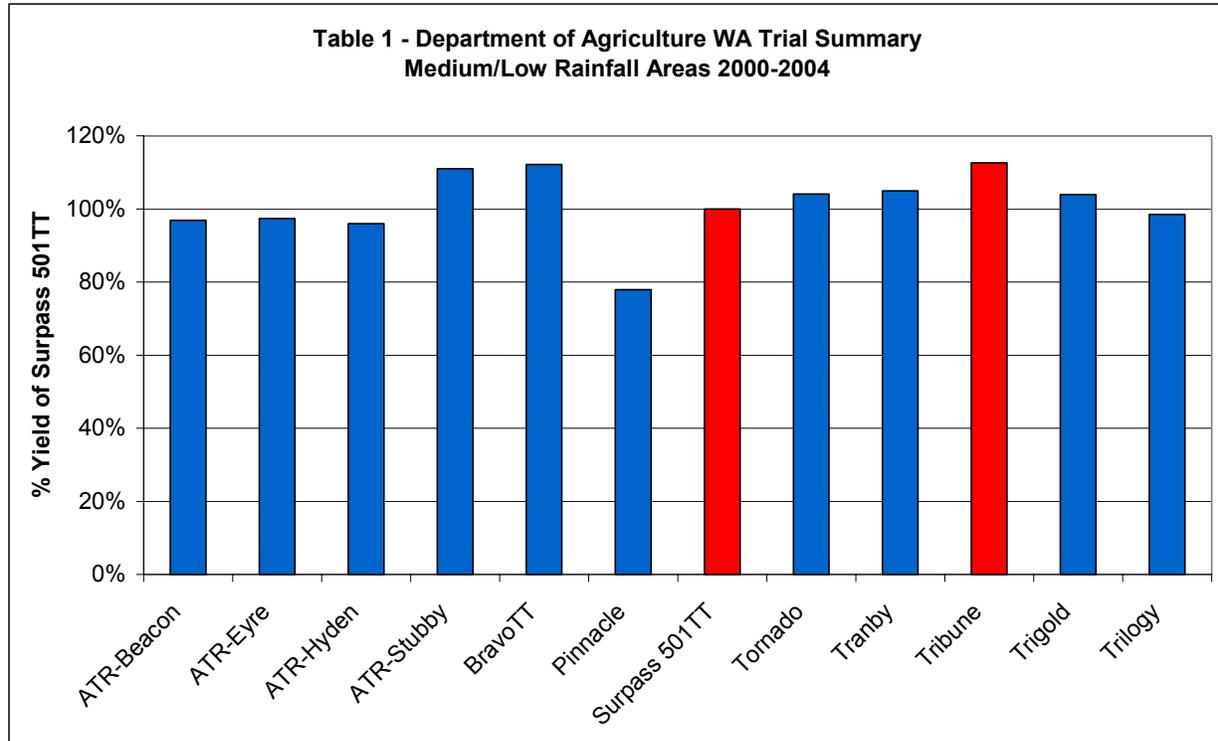


Table 2 Blackleg Resistance Ratings for varieties suited to the Low Rainfall Zone:

Variety	DAWA 2004 Rating	CAA 2005 Rating
TT		
ATR-Stubby	4P	5.5
Tornado TT	7P	7.5
Tranby	3P	4.5
Trigold	-	4.5
Trilogy	5P	7
P = Provisional	Highly Resistant 8+ Resistant 7 - 8 Moderately Resistant 5 - 6 Moderately susceptible 3 - 4 Highly susceptible 1 - 3	Highly Resistant 8 - 9 Resistant 6 - 7 Moderately Resistant 4 - 5 Moderately susceptible 3 - 4 Susceptible 1 - 3

IT varieties are not suggested in the LRZ due to carryover issues with Imidazolinone chemicals in the following season. The registration of newer, shorter residual chemicals may improve the use of IT varieties in the LRZ.

Sowing two different varieties can spread seasonal risk such as frost.

Key Points

- Choose a variety that suits your district and season expectations
- Check the quality of any retained seed. Seed vigour is critical for rapid crop emergence in drier conditions. Adjust seeding rates accordingly.

Optimising establishment

Trial results over the last three years have shown very good establishment can be achieved with narrow points combined with press wheels into stubble or stubble free paddocks. Sow the light land first, as it will have the higher yield potential in most seasons.

Seed quality also has a major effect on crop performance. Retaining only the largest of seeds (that stay above a 1.8 mm screen) can significantly increase yields over ungraded seed.

Seed Bounce

On several paddocks and trials seed bounce was reported. The seed injected into the furrow by an air seeders was literally bouncing out into the inter furrow and chances of germinations and successful establishment were greatly reduced. It is suggested that growers consider the D-Cup device (or similar equipment), particularly for single chute seeders, to diffuse the energy of the seed and allow it to drop gently to the ground eliminating seed bounce.



Photo 1 D-Cup diffuser
Harvestaire 93447433

Key points

- Planting seed size > 4 g/1000 seeds.
- Suggested seeding rate **3–6 kg/ha**
- Target populations: **40 – 60 plants/ m²**
- 75 mm soil moisture (50mm subsoil + 25mm before seeding) should be sufficient to warrant sowing.
- Seasonal forecast should be for average or above average rainfall.

Nutrition

Canola nutrition in this zone is best kept simple. Fertilise canola the same as you would with a wheat crop in the same phase in your rotation.

Basic levels of nitrogen should be applied at seeding depending upon soil test results. Follow up applications can then be applied/managed depending upon seasonal conditions. Too much N early can result in a crop with excess leaf area and therefore high water demand throughout the season. Low levels of N early will result in less leaf area and lower water demand throughout the season which may limit yield potential.

In comparison to wheat canola will provide yield responses too much later applications of N. All this means is that you can adjust N as the season unfolds. Ammonium Sulfate is the best product to apply post emergence on canola in the low rainfall zone. It contains Sulfur, will stay on the soil surface until the next rain and is not prone to volatilisation.

Key Points

- Apply N, P, K and S according to yield potential, soil test results and rotation.
- Always apply Sulfur (Gypsum or Ammonium Sulfate) if soil tests indicate it is low.
- Develop a flexible fertiliser strategy that matches seasonal conditions for maximum profit
- DBM threat can be increased by high early N applications – be flexible
- pH should be at least above 4.5 and preferably > 5

Insects

DBM are one of the biggest threats to canola crops in this zone, especially in Northern districts. They were a problem in the very north of the zone again in 2004. With this in mind many parts of the agronomic package need to be changed to reduce the DBM threat. These include conservative N rates; conserving moisture for late in the season by lower stand densities and sowing early maturing varieties.

Other insect problems in the LRZ continue to be Red Legged Earth Mite (RLEM), Lucerne Flea, Vegetable Weevil, Bryobia Mite, Aphids and Heliothis. These pests need to be monitored and treated accordingly. Grey Cabbage aphids are a particular problem in this zone when hot dry conditions occur late in the season.



Photo 2 shows the level of DBM larva still feeding in a trial at Tenindewa in 2001 4 days after spraying. The crop was devastated.

Weeds



Photo 3 A spray boom installed under a swather

The Triazine Tolerant canola package has delivered excellent weed control in this zone.

Although not suggested, two growers grew IT (Clearfield) canola successfully in 2004. IT canola is not suggested due to the potential for residual Imidazolinone to affect crops in following seasons especially in low rainfall years. If Clearfield canola is used this situation needs to be well managed.

Herbicide resistant wild radish and ryegrass pose the greatest threat to canola in this zone. Growers need to be on the lookout for survivors of any spray application and remove them before they set seed. Spray booms under swathers are an effective means of reducing seed set of any survivors.

The APVMA (Australian Pest and Veterinary Medicines Authority) recently released its Atrazine Review Draft report. The comment period has now closed. The report provides a finding that active constituent (registrations) are to be affirmed, however, existing labels instructions are deemed inadequate and are to be amended. Growers should watch for the resultant label changes in 2005.

Disease

There are currently no known major disease threats to canola in this zone however blackleg, Sclerotinia and White Leaf Spot may be an issue from time to time.

Sclerotinia is a fungal pathogen that is likely to be seen in cool and moist periods in spring, during and after flowering. The fungus can invade the stem eventually destroying it and killing the plant. The fungus then goes on to produce scleroties in diseased stems that can survive in the ground for several seasons.

In-crop control for Sclerotinia is limited in Australia. Growers should implement best management practice to reduce any possible impact if they are in a disease prone area. For blackleg, the recommended blackleg management options should be implemented.

Profitability

With the price outlook for canola in 2005 below the 10 year average growers should carefully consider the profitability of canola in their rotation. At the current price and assuming a cost of production of \$280/ha profitability below 1 t/ha is unlikely (table 4). If expected average yields are below 1 t/ha then growers should consider reducing areas sown to canola unless it is a critical tool in the rotation.

Time of sowing, soil types, varieties, weeds, nutrition, rainfall and insects are all important factors in ensuring profitable canola crops. Growers need to be flexible when growing canola in the low rainfall zone and be prepared to alter rotations as their circumstances change. Making optimal decisions, using best practice, an increase in price and time of sowing/rainfall will all assist to increase profitable canola crops in 2005.

Table 3 - Sensitivity Analysis for Canola – Price (Pool) x Yield)

	\$320	\$340	\$360	\$380	\$400	\$420
0.4 t/ha	-141	-133	-125	-117	-109	-101
0.6 t/ha	-86	-74	-62	-50	-38	-26
0.8 t/ha	-30	-14	1	17	33	49
1.0 t/ha	25	45	65	84	104	124
1.2 t/ha	80	104	128	152	176	199
1.4 t/ha	135	163	191	219	247	274
1.6 t/ha	191	222	254	286	318	350
1.8 t/ha	246	282	318	318	389	425

\$386/t 10 year Canola price (Pool) average



Photo 4 A healthy canola crop in full flower

Further reading

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| 1. Canola: The Ute Guide | TOPCROP Australia/GRDC (Stanley & Marcroft) |
| 2. Managing Blackleg | Department of Agriculture WA Bulletin 4571 |
| 3. Managing Blackleg & Sclerotinia in Canola | TOPCROP Australia/GRDC |
| 4. Diseases: The Back Pocket Guide | TOPCROP Australia/GRDC |
| 5. Pulse & Canola-Frost Identification | Department of Agriculture WA /GRDC |
| 6. Canola Growers' Manual | Canola Council of Canada |
| 7. Growing Western Canola Booklet (In Prep) | Oilseeds WA |

KEY CONTACTS

Oilseeds WA (Oilseeds Industry Association of WA) John Duff 08 9475 0753 email jd@consutlag.com.au
Australian Oilseeds Federation www.australianoilseeds.com
Canola Association of Australia Inc www.canolaaustralia.com
Department of Agriculture WA www.agric.wa.gov.au

Seed Companies in WA *(for more details on varieties refer to seed company websites)*

Heather Cosgriff	Pacific Seeds	9295 6055
Milton Sanders	Canola Breeders WA	9285 8087
Neil Harris	DOVURO	9335 4245
Tim O'Dea	PlantTech	9258 6722

Input Suppliers

Bevan Addison	Elders Pty Ltd.	9422 2391
Stuart Witham	AWB Landmark	9273 5217

Agronomists *(who specialise in Canola Agronomy)*

David Sermon	ConsultAg – Belmont	9475 0311
David Eksteen	United Farmers – Esperance	9072 1155
Ashley Herbert	Agrarian Management	9821 5553
Peter Norris	Agronomy for Profit	9964 2476
Chris Wilkins	Vision Agribusiness Services	9347 0550

Crushers

Joe Young	Kojonup Oils	9833 6267
Jon Slee	Riverland Oilseed Processors	9531 2022

Exporters

Rob Proud	Grain Pool of WA	9216 6080
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Processors

Ashley Palmer	Alba Industries	9431 7255
Brian Evans	Goodman-Fielder	9722 3402

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