Quality of Australian Canola 2004

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Introduction

Sample Analysis

Canola samples representing the 2004 harvest were received from the bulk handlers in New South Wales, South Australia, Western Australia and Victoria. These samples are representative of the seed collected at each of their receival points and have been taken to cumulatively represent the Australian harvest. The Department of Primary Industries Oils Research Laboratory has no control over the collection of the samples and all data given is based on the analysis of the samples provided.

All analyses were performed by the Department of Primary Industries Oils Research Laboratory in Wagga Wagga with the exception of the oil contents from Western Australia which were supplied by the Grainpool of WA. Each sample was analysed for oil, protein and glucosinolate concentrations, fatty acid profiles and volumetric grain weights according to the standard AOF methods outlined in the methods section at the back of this book. Oil and glucosinolate concentrations are reported at 6% moisture in whole seed and the protein is reported in oil - free meal at 10% moisture.

Breeding Trials

An excerpt of the 2004 trial results for the "National *Brassica* Improvement Project" funded by the Grains Research and Development Corporation has been included. The project involves trials of potential new cultivars at various sites across New South Wales, South Australia, Victoria and Western Australia. Yield and quality data are collected and used to evaluate a cultivar's performance under a range of conditions. The quality parameters analysed by the Oils Research Laboratory were oil, protein and glucosinolate concentrations and fatty acid profiles. The quality results from one site from each state have been included to give an indication of the quality ranges for each cultivar. No yield data is published in this booklet. Fatty acid profile results from only two states have been included due to limited data availability.

Weather and Production Review

The Weather

The Season

As occurred in the two previous seasons the 2004 growing season across Australia yet again had a variable start.

Western Australia benefited from a good autumn break in early May in most districts which enabled plantings to be completed on or close to time with crops off to a good start. Whilst there was not a distinct major break in South Australia, autumn rainfall was sufficient to allow most of the crop to be sown within the desired sowing window. However, in the Eastern States poor to marginal soil moisture conditions and below average autumn rainfall forced growers to either sow crops dry or delay planting beyond the optimum sowing window of early to mid May in many districts. The exceptions to this were the Western Districts in Victoria and the North West in NSW where crops were sown on time and into good soil moisture.

In both Victoria and New South Wales timely rain in early winter resulted in a good establishment of most crops although there was a wide range in plant development between districts throughout the season.

In all states the reported incidence of seedling diseases, especially blackleg, was very low and well below normal. Although there were some isolated reports of insect pests such as red legged earth mite and lucerne flea, the general level of insect pest problems was also below normal throughout the winter in all states.

Western Australia experienced favourable winter and spring rainfall and growing conditions across most of the main canola growing areas which secured crop yield potentials and oil levels. In the other states most districts endured periods of hot, dry conditions during early spring which, combined with poor subsoil moisture reserves impacted on crop development raising concerns of reduced yield potentials. In response to these conditions many growers in the Wimmera and Mallee districts in Victoria and the central and southern districts in NSW opted away from their planned fertiliser topdressing programs. Some districts in both these states also experienced frost damage to crops during the spring.

Late spring rain during the latter stages of pod fill benefited crops in South Australia and Victoria resulting in better than expected grain yields and oil levels. In NSW however, the difficult growing conditions experienced for much of the season combined with a severe outbreak of aphids and heliothis caterpillars and below optimum subsoil moisture resulted in disappointing yields and particularly oil contents. In the central west region these adverse conditions caused a significant number of crops to fail and subsequently be grazed off prior to harvest. On the southern slopes there were also reports of deliveries of low weight grain.

One common and favourable aspect of the 2004 growing season right across Australia was the generally low level of blackleg disease after the major problems experienced with the breakdown of the *B. sylvestris* resistance gene in 2003.

Area and Production

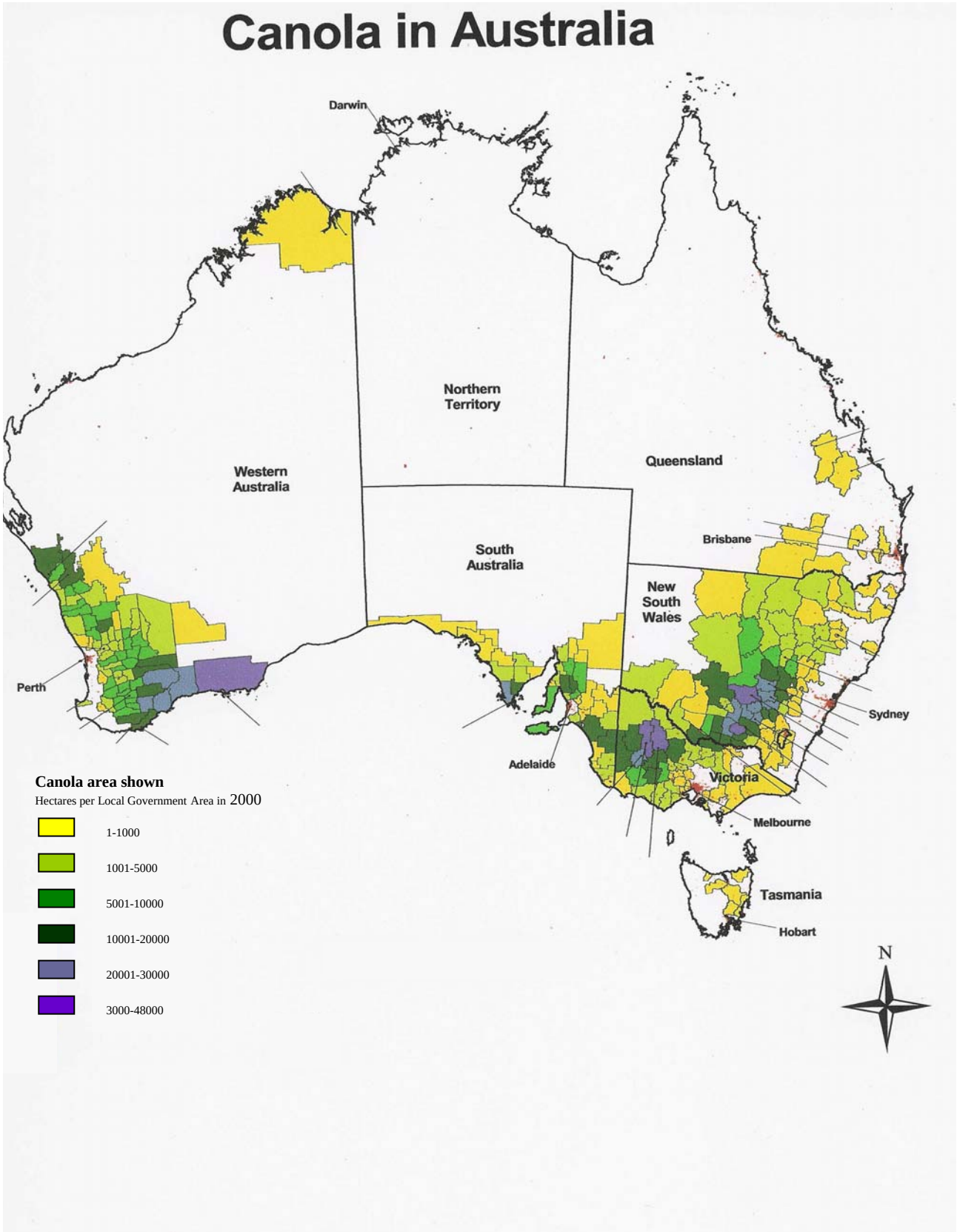

Figure 1 Areas of canola production in Australia

Published with approval of Biotechnology Australia.

The 2004 canola harvest was slightly lower than 2003 with 1,531,000 tonnes harvested from 1,119,000 hectares across the country. The yield varied from a state average of 1.2 t/ha in Western Australia to 1.6 t/ha in Victoria. The national yield of 1.4 t/ha is 0.2 t/ha lower than 2003 average.

Table 1 Canola production in Australia by state 2004

State	Production (kilotonnes)	Area (kilohectares)	Average Yield (tonnes/hectare)
NSW	420	279	1.5
Victoria	395	240	1.6
SA	226	180	1.3
WA	490	420	1.2
Australia	1,531	1,119	1.4

Source: AOF newsletter February 2005

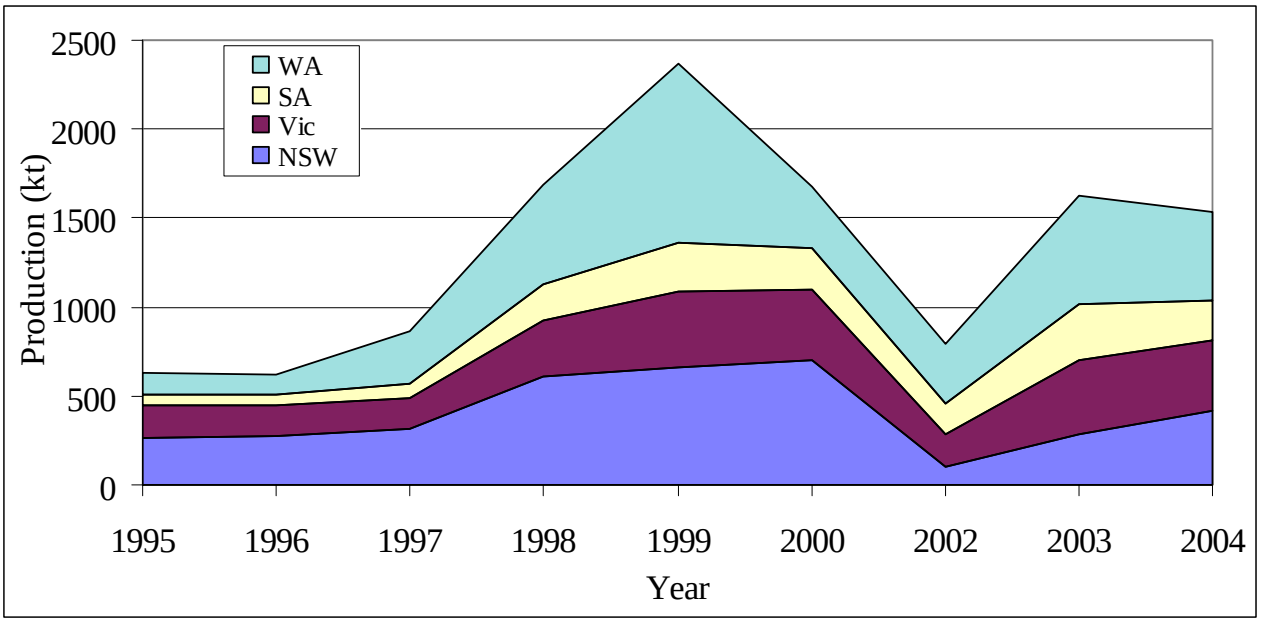

Figure 2 Canola Production in Australia 1995-2004

Australian Quality Parameter Summary

The division, state and Australian mean values for all analysis are calculated on the basis of the tonnage that each site represents. However, due to tonnages being confidential information no individual site tonnages can be reported.

Table 2 Average quality data of Australian canola 2004

Quality Parameter	Australian Mean
Oil content, % in whole seed @ 6% moisture	41.2
Protein content, % in oil-free meal @ 10% moisture	41.6
Glucosinolates, µmoles/g in whole seed @ 6% moisture	10
Volumetric grain weights, lbs/bl	54.3
kg/hL	67.7
Oleic acid concentration (C18:1), % in oil	60.3
Linoleic acid concentration (C18:2), % in oil	20.3
Linolenic acid concentration (C18:3), % in oil	10.6
Erucic acid concentration (C22:1), % in oil	0.1
Saturated fatty acid concentration, % in oil	7.3
Iodine Value	115.9

Oil Content

Oil Content ranged from a low of 33.9% at Gunningbland in New South Wales to a high of 46.5% in Berrybank in Victoria. The Australian average of 41.2% is very similar to the previous two years.

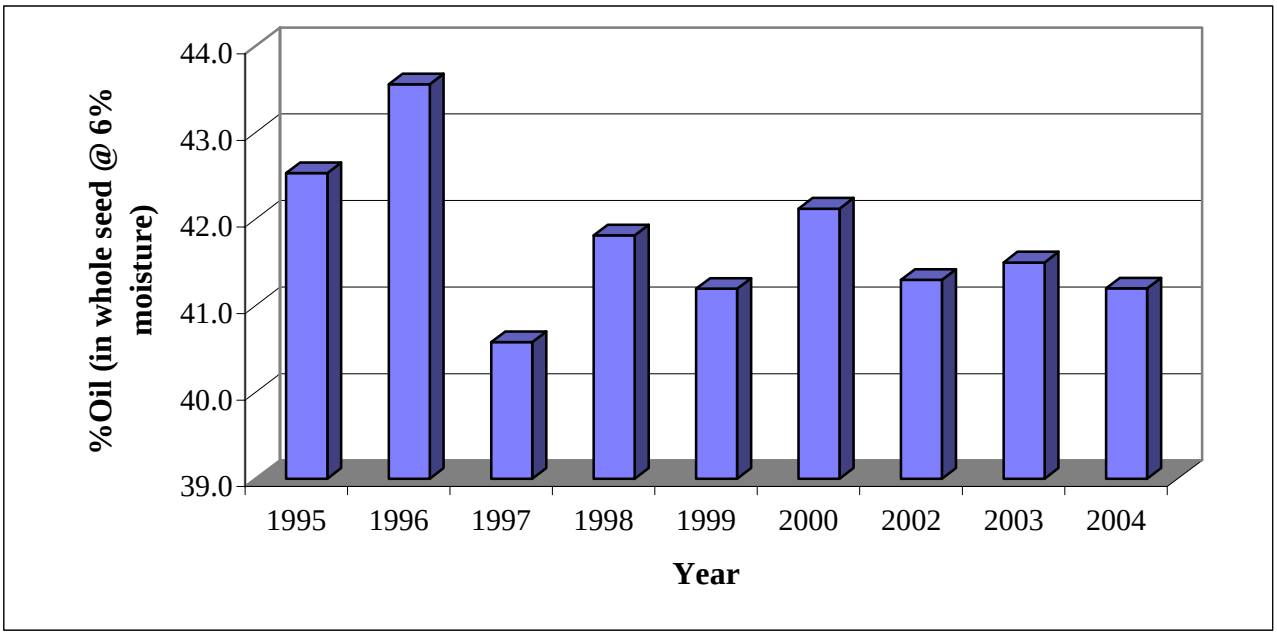

Figure 3 Average Australian oil content in canola 1995-2004

Protein Content

The average protein content for the 2004 harvest is 41.6% in oil free meal. This is an increase of 2.4% from the previous year and the highest levels seen since the booklet was published. The protein ranges from 37.7% at Kingscote (10/12/04) in South Australia to 49.2% at Tailem Bend (6/12/04) also in South Australia.

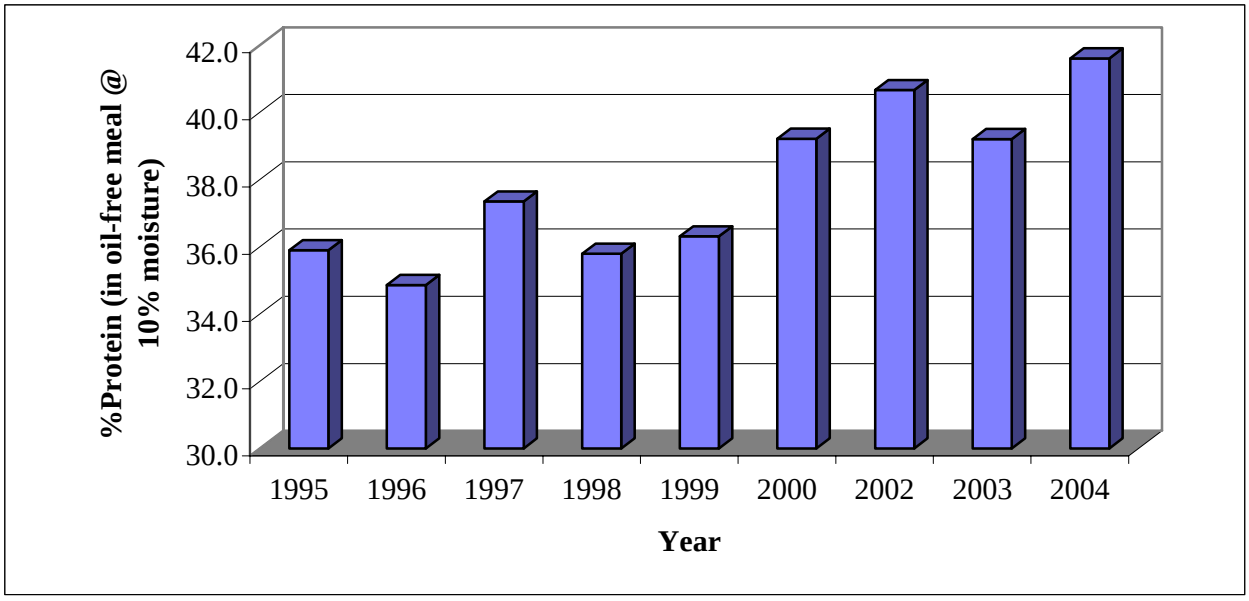

Figure 4 Average Australian protein content in canola meal 1995-2004

Glucosinolate Concentration

The glucosinolate average is 10 µmoles/gram with a range of 6 µmoles/gram from Katanning, Narembeen and York in Western Australia and Willbriggie in New South Wales to a high of 17 µmoles/gram at Mitiamo in Victoria.

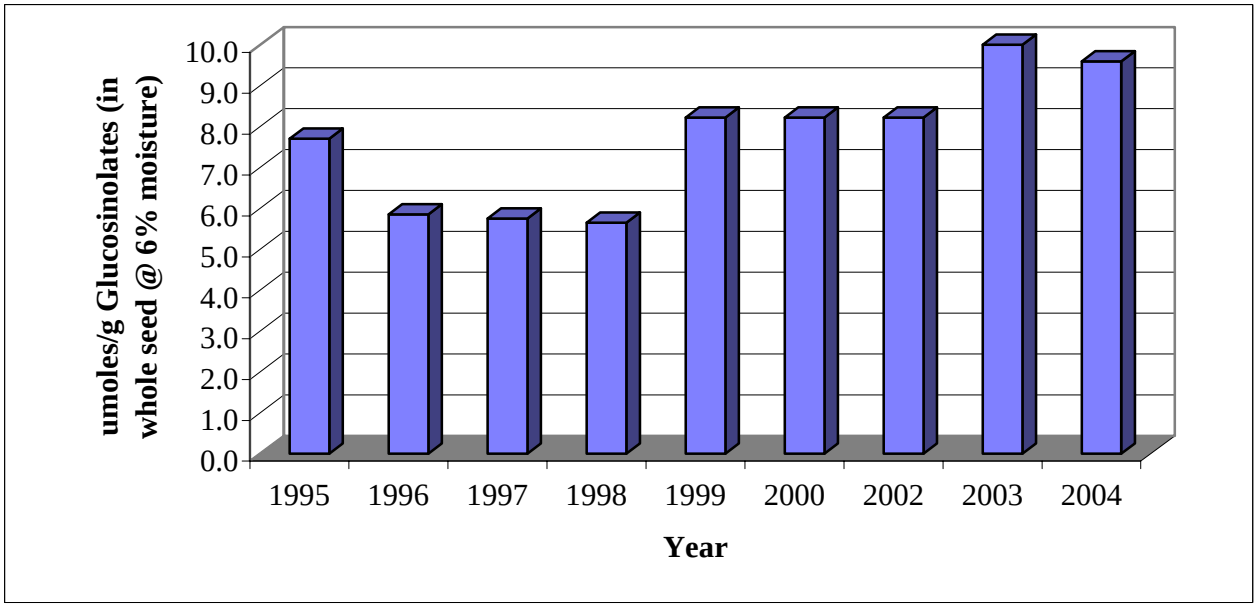

Figure 5 Average Australian glucosinolate concentration in canola 1995-2004

Fatty Acid Composition

The average oleic acid (C18:1) concentration in the oil produced from the 2004 harvest is 60.3%. This is 1.2% lower than 2003 and the lowest value since 1999. The concentration ranges from 52.7% in Kingscote (29/11/04) in South Australia to 64.8% in Milguy in New South Wales.

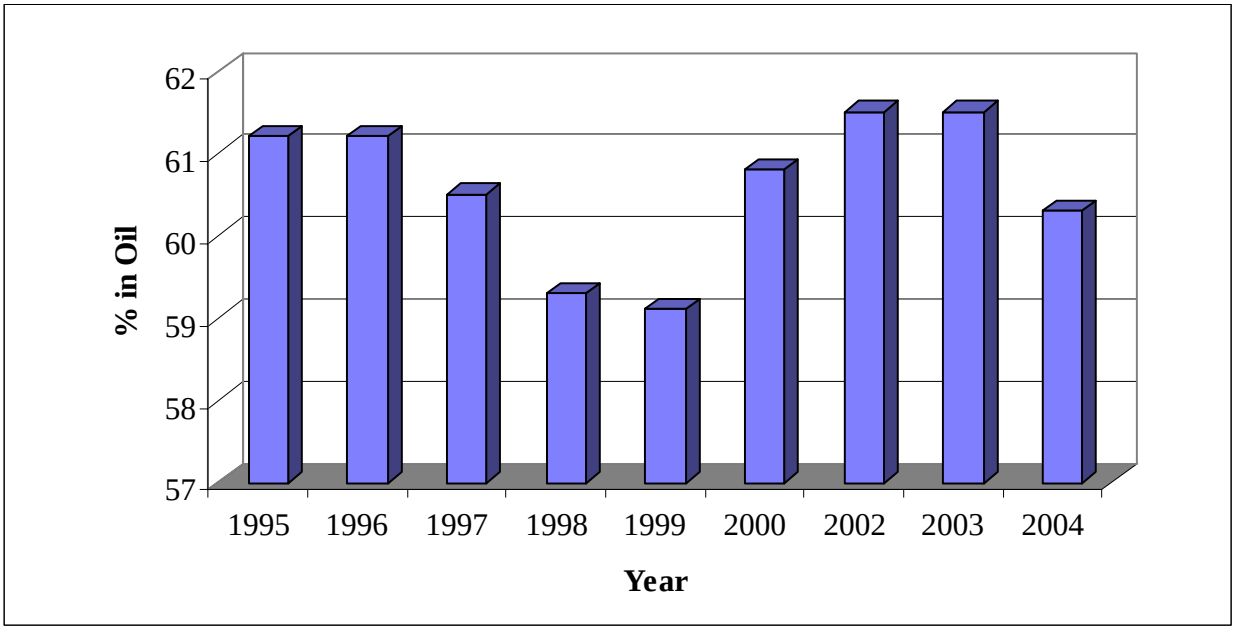

Figure 6 Average Australian oleic acid concentration in canola oil 1995-2004

The linoleic concentrations have remained fairly constant over the last three years at 20.3%. The lowest concentration was from Goroke in Victoria at 18.2% and the highest from Rudall in South Australia at 24.7%.

There was an increase of 1.5% in linolenic acid to 10.6% which lead to an increase in the iodine value to 115.9. Linolenic acid concentrations ranged from 7.2 in Moree in New South Wales to 13.8 in Kingscote (25/11/04) in South Australia.

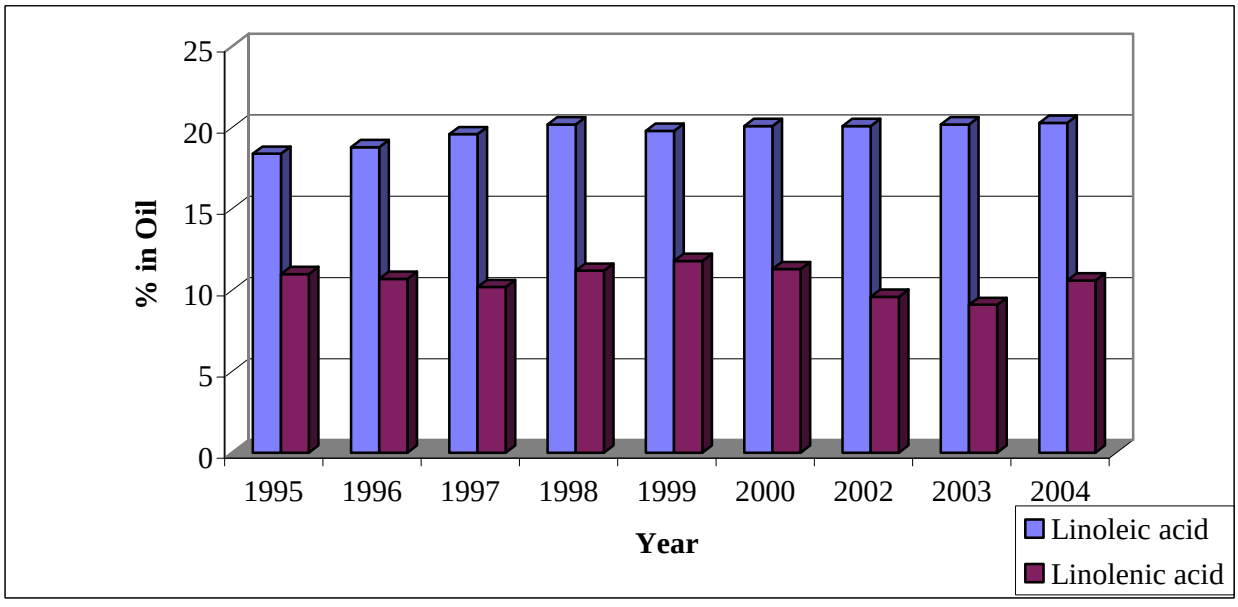

Figure 7 Average linoleic and linolenic acid concentrations in canola oil 1995-2004

The average saturated fatty acid levels are 7.3%. This ranges from 6.7% in Lubeck and Moolort in Victoria and Mingenew in Western Australia to 13.8% in Kingscote (25/11/04) in South Australia.

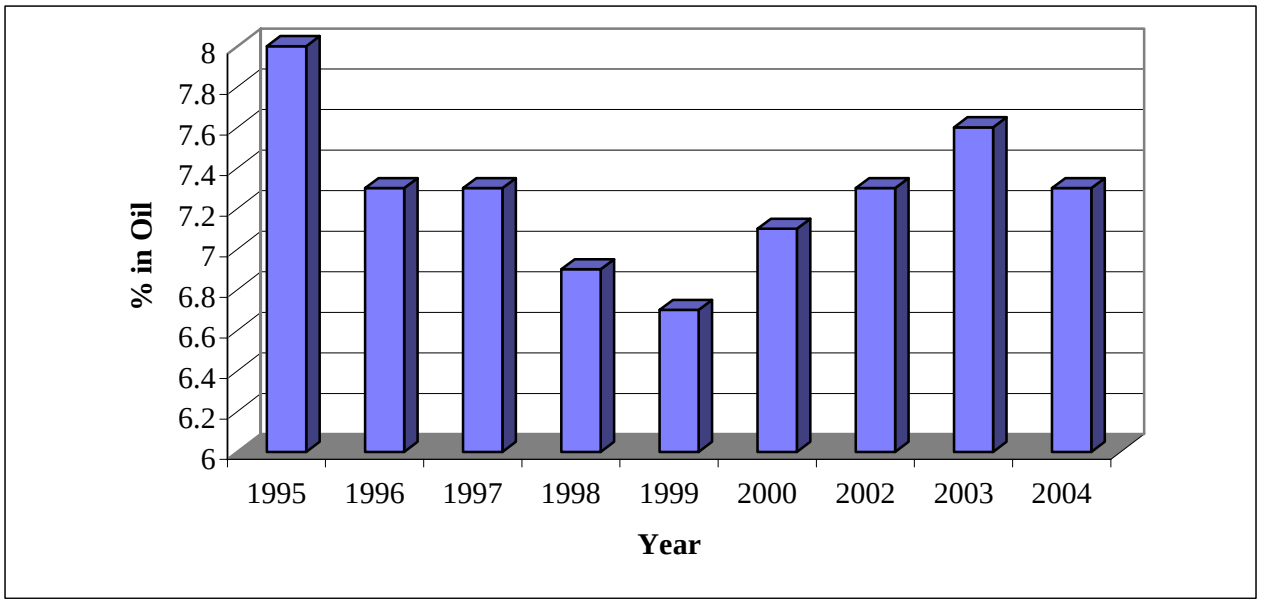

Figure 8 Average Australian saturated fatty acid concentration in canola oil 1995-2004

Quality Data by State

Table 3 Canola quality data 2004 - New South Wales

Division/ Region/ Receival Site	[1] **Oil**	[2] **Protein**	[3] **Glucosinolates**	[4] **Grain Weight** lbs/b	kg/hL
South West Division					
Barellan					
Ardlethan	35.5	45.1	15	55.8	69.5
Ariah Park	34.3	42.7	9	56.6	70.5
Barellan	41.0	41.3	10	54.2	67.5
Goolgowie	39.1	40.0	9	54.6	68.0
Temora sub	38.9	41.8	10	55.0	68.5
Willbriggie	40.0	41.4	6	54.2	67.5
Cootamundra					
Boorowa	39.6	40.9	13	51.7	64.5
Bribbaree	36.1	43.2	11	55.0	68.5
Caragabal	37.3	41.2	11	56.2	70.0
Cootamundra	40.5	40.8	7	53.4	66.5
Cowra	41.4	41.0	8	53.8	67.0
Greenthorpe	39.3	41.9	7	54.2	67.5
Harden	40.8	41.1	9	53.8	67.0
Maimuru	39.5	40.9	7	54.2	67.5
Milvale	37.9	43.2	8	55.0	68.5
Stockinbingal	38.8	41.7	8	54.2	67.5
Lockhart					
Berrigan	38.6	40.5	12	54.6	68.0
Boree Creek	35.2	43.4	8	55.8	69.5
Henty West	41.3	40.3	10	54.2	67.5
Milbrulong	36.0	42.1	9	55.4	69.0
Rand	38.7	39.0	10	55.0	68.5
The Rock	39.4	42.7	10	54.6	68.0
Tocumwal	37.8	42.7	9	55.0	68.5
Wyalong					
Wyalong	35.5	42.4	12	55.8	69.5
Wagga Wagga					
Coolamon	36.9	43.6	8	55.4	69.0
Grong Grong	36.0	42.5	9	55.8	69.5
Junee	39.2	42.7	8	54.6	68.0
South West Mean	**39.2**	**41.6**	**9**	**54.5**	**67.9**
Western Division					
Parkes sub					
Alectown	37.7	42.6	9	INS	INS
Back Creek	37.8	42.3	9	INS	INS
Balladoran	35.3	44.8	10	INS	INS
Elong Elong	36.0	42.7	10	INS	INS
Manildra	42.4	41.0	8	INS	INS
Mungeribar	35.2	44.2	12	INS	INS
Narwonah	36.3	44.1	11	INS	INS
Parkes sub	35.0	41.8	11	INS	INS
Red Bend	35.2	42.9	13	INS	INS
Wongarbon	37.2	41.6	11	INS	INS
Western Mean	**36.3**	**43.0**	**11**	**INS**	**INS**

Table 3 (cont.) Canola quality data 2004 - New South Wales

Division/ Region/ Receival Site	[1] **Oil**	[2] **Protein**	[3] **Glucosinolates**	[4] **Grain Weight** lbs/b	kg/hL
North West Division					
Narrabri					
Burren	35.0	44.6	11	INS	INS
Curban	34.9	46.0	11	INS	INS
Gunningbland	33.9	44.1	11	INS	INS
Milguy	39.0	42.1	11	INS	INS
Moree	36.7	43.7	10	INS	INS
Neilrex	36.9	43.4	10	INS	INS
Premer	38.7	42.5	11	INS	INS
Ulamambri	36.2	42.4	13	INS	INS
Willow Tree	37.7	43.1	11	INS	INS
North West Mean	**36.8**	**43.6**	**11**	**INS**	**INS**
NSW Mean	**38.1**	**42.3**	**10**	**54.5**	**67.9**

[1] % in whole seed @ 6% moisture, [2] % in oil free meal @10% moisture, [3] µmoles/g in whole seed @ 6% moisture

[4] Volumetric Grain Weights- lbs/b: Pounds per bushel, kg/hL: Kilograms per hectolitre

INS- Insufficient sample provided to perform test

Table 4 Canola quality data 2004 - South Australia

Division/ Region/ Receival Site	[1] **Oil**	[2] **Protein**	[3] **Glucosinolates** µmoles/g	[4] **Grain Weight** lbs/b	kg/hL
Andrews	41.1	47.9	11	53.8	67.0
Ardossan	42.5	39.0	8	56.2	70.0
Bowmans	41.0	45.3	12	53.0	66.0
Coomandook 3/12/04	44.8	39.5	8	54.6	68.0
Coomandook 29/12/04	39.6	40.3	7	56.2	70.0
Cummins 17/11/04	40.6	39.2	7	56.2	70.0
Cummins 17/11/04	41.6	37.9	8	56.2	70.0
Cummins 18/11/04	41.2	40.3	9	56.2	70.0
Cummins 19/11/04	41.3	41.2	7	56.6	70.5
Cummins 20/11/04	41.3	41.8	9	56.6	70.5
Cummins 22/11/04	41.8	41.2	8	56.2	70.0
Cummins 22/11/04	41.2	43.2	11	56.6	70.5
Cummins 23/11/04	42.2	40.7	8	56.2	70.0
Cummins 24/11/04	41.6	42.2	8	55.8	69.5
Keith	42.3	43.2	8	52.1	65.0
Kingscote 25/11/04	41.8	45.2	14	INS	INS
Kingscote 29/11/04	40.5	41.4	9	INS	INS
Kingscote 29/11/04	42.6	43.7	9	INS	INS
Kingscote 6/12/04	44.8	40.6	11	INS	INS
Kingscote 6/12/04	44.8	37.8	7	INS	INS
Kingscote 6/12/04	44.9	41.6	10	INS	INS
Kingscote 6/12/04	42.9	43.7	11	INS	INS
Kingscote 6/12/04	41.2	44.3	13	INS	INS
Kingscote 6/12/04	41.3	44.2	11	INS	INS
Kingscote 7/12/04	42.6	42.3	10	INS	INS
Kingscote 7/12/04	45.6	43.3	12	INS	INS
Kingscote 7/12/04	40.3	44.3	13	INS	INS
Kingscote 8/12/04	41.0	39.8	9	INS	INS
Kingscote 10/12/04	45.1	37.7	9	INS	INS
Kingscote 10/12/04	42.3	39.3	8	INS	INS
Kingscote 10/12/04	42.0	41.9	9	INS	INS
Kingscote 13/12/04	39.9	41.2	11	INS	INS
Kingscote 13/12/04	43.3	40.7	9	54.2	67.5
Kingscote 13/12/04	42.9	40.1	8	54.6	68.0
Kingscote 14/12/04	42.2	40.6	9	54.6	68.0
Kingscote 14/12/04	43.2	40.9	10	54.6	68.0
Kingscote 14/12/04	41.0	43.6	11	INS	INS
Kingscote 15/12/04	43.3	41.4	7	INS	INS
Kingscote 15/15/04	43.2	40.1	8	54.2	67.5
Kingscote 15/12/04	40.7	39.0	7	INS	INS
Kingscote 15/12/04	42.8	41.0	12	55.8	69.5
Lock	37.3	42.3	7	57.8	72.0
Port Adelaide	38.8	43.7	11	56.6	70.5
Port Lincoln	40.1	47.2	13	53.0	66.0
Rudall	36.7	46.1	12	56.2	70.0
Wolseley	42.4	45.4	10	54.2	67.5

Table 4 (cont.) Canola quality data 2004 - South Australia

Division/ Region/ Receival Site	[1] **Oil**	[2] **Protein**	[3] **Glucosinolates** µmoles/g	[4] **Grain Weight** lbs/b	kg/hL
Tailem Bend 19/11/04	39.9	40.0	7	55.8	69.5
Tailem Bend 23/11/04	39.7	44.6	11	55.8	69.5
Tailem Bend 23/11/04	40.9	39.6	8	55.8	69.5
Tailem Bend 24/11/04	39.8	42.3	9	56.2	70.0
Tailem Bend 27/11/04	39.9	42.6	7	54.6	68.0
Tailem Bend 2/12/04	40.5	44.7	10	55.0	68.5
Tailem Bend 6/12/04	40.4	49.2	13	54.2	67.5
Tailem Bend 20/12/04	38.4	46.2	10	55.0	68.5
Tailem Bend 29/12/04	40.0	48.4	12	52.1	65.0
Tailem Bend 30/12/04	40.9	48.8	12	52.6	65.5
SA Mean	**41.2**	**43.3**	**10**	**54.6**	**68.1**

[1] % in whole seed @ 6% moisture, [2] % in oil free meal @10% moisture, [3] µmoles/g in whole seed @ 6% moisture

[4] Volumetric Grain Weights- lbs/b: Pounds per bushel, kg/hL: Kilograms per hectolitre

Table 5 Canola quality data 2004 - Victoria

Division/ Region/ Receival Site	[1] Oil	[2] Protein	[3] Glucosinolates µmoles/g	[4] Grain Weight lbs/b	kg/hL
Southern					
Charlton					
Birchip	37.4	43.5	8	54.6	68.0
Borung	43.7	40.9	8	53.8	67.0
Charlton	37.3	44.2	10	55.4	69.0
Cope Cope	39.5	45.0	10	55.4	69.0
Dunolly	41.4	43.0	15	51.7	64.5
Moolort	40.8	44.3	16	53.4	66.5
Dimboola					
Carpolac	43.3	40.4	11	53.4	66.5
Dimboola	40.1	45.9	10	55.0	68.5
Goroke	41.9	40.0	10	53.8	67.0
Horsham	42.2	42.1	10	54.6	68.0
Lillimur	40.1	44.9	12	53.8	67.0
Naracoorte	45.5	39.2	11	53.0	66.0
Natimuk	41.3	43.0	13	55.0	68.5
Nhill	40.8	43.1	11	55.0	68.5
Rainbow	37.4	39.8	10	54.6	68.0
Echuca					
Deniliquin	42.0	39.0	10	54.6	68.0
Echuca	39.2	41.9	10	54.6	68.0
Elmore	42.9	41.0	11	53.0	66.0
Mitiamo	40.6	44.6	17	51.7	64.5
Murchison Est	43.9	39.8	9	54.6	68.0
Raywood	41.9	42.3	11	54.6	68.0
Murtoa					
Berrybank	46.5	38.7	11	51.3	64.0
Beulah St	35.6	42.9	9	55.0	68.5
Hamilton	44.3	40.0	11	53.0	66.0
Laharum	41.1	43.9	12	54.6	68.0
Lubeck	41.6	43.6	13	55.0	68.5
Marmalake	41.2	42.3	11	53.8	67.0
Skipton	41.8	39.5	12	53.4	66.5
Westmere	43.4	39.8	12	53.8	67.0
Willaura	44.2	39.8	9	53.4	66.5
Swan Hill					
Swan Hill	42.1	38.5	9	53.8	67.0
Yarrawonga					
Dookie	40.8	41.3	11	54.6	68.0
Oaklands	42.6	40.4	12	53.8	67.0
Sanger	38.6	43.6	13	54.2	67.5
St James	39.2	40.6	11	55.0	68.5
Wangamong	39.6	42.1	13	54.2	67.5
Yarrawonga St	39.7	42.6	11	53.4	66.5
Vic Mean	**41.7**	**41.4**	**11**	**53.8**	**67.0**

[1] % in whole seed @ 6% moisture, [2] % in oil free meal @10% moisture, [3] µmoles/g in whole seed @ 6% moisture

[4] Volumetric Grain Weights- lbs/b: Pounds per bushel, kg/hL: Kilograms per hectolitre

Table 6 Canola Quality Data 2004 - Western Australia

Division/ Region/ Receival Site	[1] Oil	[2] Protein	[3] Glucosinolates µmoles/g	[4] Grain Weight lbs/b	kg/hL
Geraldton					
Arrino	44.9	39.9	7	54.2	67.5
Geraldton	44.5	39.7	8	54.2	67.5
Mingenew	45.9	41.3	7	53.4	66.5
Northhampton	42.5	39.3	7	55.4	69.0
Kwinana					
Avon	43.0	41.2	7	54.2	67.5
Brookton	43.1	41.8	11	54.2	67.5
Calingiri	43.4	38.4	8	54.6	68.0
Kellerberrin	40.7	41.0	10	55.4	69.0
Merredin	40.8	39.6	7	54.6	68.0
Metro Grain Centre	44.2	39.7	8	53.8	67.0
Moora	42.1	39.7	8	53.4	66.5
Narembeen	42.6	40.0	6	54.6	68.0
Wickepin	42.8	41.9	10	54.6	68.0
York	45.0	40.0	6	54.2	67.5
Albany					
Albany	43.4	39.9	8	55.0	68.5
Borden	42.1	41.0	10	55.0	68.5
Boyup Brook	44.5	40.3	8	53.8	67.0
Cranbrook	42.7	39.9	7	54.6	68.0
Gairdner	43.0	41.0	9	55.0	68.5
Jacup	42.5	41.7	8	54.2	67.5
Katanning	43.3	38.9	6	54.2	67.5
Newdegate	41.2	40.2	11	55.0	68.5
Wagin	43.6	39.5	8	54.2	67.5
Esperance					
Beaumont	43.2	41.2	9	55.0	68.5
Cascades	42.5	39.0	9	55.0	68.5
Esperance	43.2	40.1	8	54.2	67.5
Mt Madden	42.3	41.8	12	55.0	68.5
WA Mean	**43.2**	**40.1**	**8**	**54.3**	**67.7**

[1] % in whole seed @ 6% moisture, [2] % in oil free meal @10% moisture, [3] µmoles/g in whole seed @ 6% moisture

[4] Volumetric Grain Weights- lbs/b: Pounds per bushel, kg/hL: Kilograms per hectolitre

NB. Oil contents were supplied by Grainpool Pty Ltd. All other analysis performed by oils research laboratory.

Fatty Acids Composition by State

Table 7 Fatty acid composition 2004 - New South Wales

Division/ Region/ Receival Site	**14:0**	**16:0**	**16:1**	**18:0**	**18:1**	**18:2**	**18:3**	**20:0**	**20:1**	**22:0**	**22:1**	**24:0**	**24:1**	**[1] Sat.**	**[2] Iodine Value**
South West Division															
Barellan															
Ardlethan	0.1	4.5	0.3	2.2	59.9	20.7	9.9	0.6	1.1	0.3	0.1	0.2	0.2	7.8	114.6
Ariah Park	0.1	4.6	0.3	2.2	57.8	22.1	10.7	0.5	1.0	0.3	0.1	0.2	0.1	7.9	117.1
Barellan	0.1	4.3	0.3	2.1	62.0	20.0	9.0	0.5	1.0	0.3	0.1	0.1	0.1	7.4	112.8
Goolgowie	0.1	4.6	0.3	2.3	62.7	18.6	9.2	0.6	0.9	0.3	0.0	0.2	0.1	8.0	111.4
Temora sub	0.1	4.3	0.3	2.2	59.6	19.8	11.4	0.5	1.0	0.3	0.2	0.2	0.2	7.5	116.6
Willbriggie	0.1	4.3	0.3	2.1	62.6	19.4	9.2	0.5	0.9	0.2	0.1	0.1	0.1	7.4	112.6
Cootamundra															
Boorowa	0.1	4.4	0.3	2.1	61.7	18.9	10.1	0.6	1.0	0.3	0.2	0.2	0.2	7.6	113.4
Bribbaree	0.1	4.4	0.3	2.2	58.6	20.6	11.2	0.6	1.1	0.3	0.2	0.2	0.2	7.7	116.8
Caragabal	0.1	4.6	0.3	2.2	59.6	20.8	10.2	0.5	1.0	0.3	0.1	0.2	0.1	7.9	115.1
Cootamundra	0.1	4.4	0.3	2.1	60.2	19.8	10.9	0.5	1.0	0.3	0.2	0.2	0.2	7.5	115.7
Cowra	0.1	4.2	0.3	2.0	60.9	19.2	11.1	0.5	1.0	0.3	0.1	0.2	0.2	7.2	115.7
Greenthorpe	0.1	4.2	0.3	2.0	59.2	19.9	11.9	0.5	1.1	0.3	0.2	0.2	0.2	7.3	117.7
Harden	0.1	4.2	0.3	2.0	60.6	19.2	11.3	0.5	1.0	0.3	0.1	0.2	0.2	7.3	116.1
Maimuru	0.1	4.2	0.3	2.1	60.1	19.4	11.6	0.5	1.0	0.3	0.1	0.2	0.2	7.3	116.7
Milvale	0.1	4.4	0.3	2.2	59.5	20.0	11.4	0.5	1.0	0.2	0.2	0.1	0.1	7.5	116.8
Stockinbingal	0.1	4.3	0.3	2.2	59.1	20.0	11.9	0.5	0.9	0.2	0.1	0.1	0.2	7.5	117.7
Lockhart															
Berrigan	0.1	4.3	0.3	2.2	60.1	20.3	10.5	0.5	0.9	0.2	0.1	0.1	0.1	7.5	115.7
Boree Creek	0.1	4.6	0.3	2.2	58.3	22.1	10.3	0.5	0.9	0.2	0.1	0.2	0.2	7.8	116.5
Henty West	0.1	4.1	0.3	1.9	61.0	18.9	11.5	0.5	1.1	0.3	0.1	0.2	0.2	7.0	116.4
Milbrulong	0.1	4.5	0.3	2.2	59.0	20.7	11.1	0.5	1.0	0.2	0.1	0.2	0.2	7.7	116.7
Rand	0.1	4.4	0.3	2.1	60.0	20.6	10.4	0.5	0.9	0.2	0.1	0.1	0.1	7.5	115.5
The Rock	0.1	4.3	0.3	2.0	60.4	19.6	11.1	0.5	1.0	0.3	0.2	0.2	0.2	7.3	116.1
Tocumwal	0.1	4.4	0.3	2.1	60.1	20.2	10.6	0.5	1.0	0.2	0.2	0.1	0.1	7.4	115.7
Wyalong															
Wyalong	0.1	4.6	0.3	2.2	58.8	21.5	10.4	0.5	0.9	0.2	0.1	0.2	0.1	7.8	116.2
Wagga Wagga															
Coolamon	0.1	4.5	0.3	2.2	59.1	20.9	10.6	0.6	1.1	0.3	0.1	0.2	0.2	7.7	116.0
Grong Grong	0.1	4.6	0.3	2.2	58.5	21.7	10.4	0.5	0.9	0.2	0.1	0.2	0.1	7.9	116.3
Junee	0.1	4.2	0.3	2.1	60.0	19.4	11.7	0.5	1.1	0.3	0.2	0.1	0.2	7.3	116.9
South West Mean	**0.1**	**4.3**	**0.3**	**2.1**	**60.1**	**19.8**	**11.0**	**0.5**	**1.0**	**0.3**	**0.1**	**0.2**	**0.2**	**7.4**	**116.1**
Western Division															
Parkes sub															
Alectown	0.1	4.6	0.3	2.2	61.5	21.0	8.0	0.6	1.0	0.3	0.1	0.2	0.1	8.0	111.3
Back Creek	0.1	4.3	0.3	2.2	60.4	20.5	10.0	0.5	1.0	0.3	0.1	0.2	0.2	7.5	114.8
Balladoran	0.1	4.7	0.3	2.1	59.8	21.7	9.1	0.5	1.0	0.3	0.1	0.2	0.1	7.8	114.1
Elong Elong	0.1	4.6	0.3	2.2	59.9	21.2	9.8	0.5	0.9	0.2	0.1	0.2	0.1	7.7	114.9
Manildra	0.1	4.2	0.3	2.1	61.4	19.1	10.7	0.5	1.0	0.3	0.1	0.1	0.2	7.3	114.9
Mungeribar	0.1	4.6	0.3	2.1	61.3	20.3	9.3	0.5	1.0	0.3	0.1	0.2	0.1	7.7	113.2
Narwonah	0.1	4.7	0.3	2.2	61.7	20.4	8.6	0.5	0.9	0.2	0.0	0.1	0.1	7.8	112.1
Parkes sub	0.1	4.7	0.3	2.2	59.8	21.4	9.5	0.5	0.9	0.2	0.1	0.2	0.2	7.9	114.3
Red Bend	0.1	4.4	0.3	2.1	59.9	20.6	10.0	0.6	1.1	0.3	0.2	0.2	0.2	7.7	114.7
Wongarbon	0.1	4.5	0.3	2.3	60.5	20.2	9.9	0.6	1.0	0.3	0.1	0.2	0.2	7.8	114.0
Western Mean	**0.1**	**4.5**	**0.3**	**2.1**	**60.5**	**20.7**	**9.5**	**0.5**	**1.0**	**0.3**	**0.1**	**0.2**	**0.2**	**7.7**	**114.0**

Table 7 (cont.) Fatty acid composition 2004 - New South Wales

Division/ Region/ Receival Site	**14:0**	**16:0**	**16:1**	**18:0**	**18:1**	**18:2**	**18:3**	**20:0**	**20:1**	**22:0**	**22:1**	**24:0**	**24:1**	[1] **Sat.**	[2] **Iodine Value**
North West Division															
Narrabri															
Burren	0.1	4.5	0.3	2.2	63.2	20.0	7.4	0.6	1.0	0.3	0.1	0.2	0.1	7.9	109.4
Curban	0.1	4.5	0.3	2.1	61.1	21.3	8.5	0.5	1.0	0.3	0.0	0.2	0.1	7.6	112.8
Gunningbland	0.1	4.7	0.3	2.2	58.8	21.6	10.2	0.5	0.9	0.3	0.1	0.2	0.2	7.9	115.8
Milguy	0.1	4.2	0.3	2.2	64.8	18.8	7.3	0.6	1.0	0.3	0.1	0.2	0.1	7.6	108.6
Moree	0.1	4.4	0.3	2.2	63.9	19.7	7.2	0.6	1.0	0.3	0.1	0.2	0.1	7.8	109.0
Neilrex	0.1	4.5	0.3	2.1	61.2	20.3	9.2	0.6	1.0	0.3	0.1	0.2	0.2	7.7	113.1
Premer	0.1	4.5	0.2	2.0	61.4	20.9	8.9	0.5	0.9	0.3	0.1	0.1	0.1	7.5	113.2
Ulamambri	0.1	4.7	0.3	1.9	60.7	21.0	9.2	0.5	0.9	0.3	0.1	0.2	0.1	7.7	113.6
Willow Tree	0.1	4.4	0.3	2.1	62.2	19.9	8.8	0.5	1.0	0.3	0.1	0.2	0.1	7.5	112.2
North West Mean	**0.1**	**4.4**	**0.3**	**2.1**	**62.6**	**20.1**	**8.1**	**0.6**	**1.0**	**0.3**	**0.1**	**0.2**	**0.1**	**7.7**	**110.9**
NSW Mean	**0.1**	**4.4**	**0.3**	**2.1**	**60.8**	**20.0**	**10.1**	**0.5**	**1.0**	**0.3**	**0.1**	**0.2**	**0.2**	**7.5**	**114.5**

1 Sat- Sum of the saturated fatty acids including 14:0, 16:0, 18:0, 20:0, 22:0 and 24:0

[2] Iodine Value- Calculated from the fatty acid composition

Table 8 Fatty Acid Composition 2004 - South Australia

Division/ Region/ Receival Site	**14:0**	**16:0**	**16:1**	**18:0**	**18:1**	**18:2**	**18:3**	**20:0**	**20:1**	**22:0**	**22:1**	**24:0**	**24:1**	[1] **Sat.**	[2] **Iodine Value**
Andrews	0.1	4.3	0.3	1.9	60.6	20.2	10.7	0.5	0.9	0.2	0.1	0.1	0.1	7.1	116.1
Ardossan	0.1	4.6	0.3	1.9	60.1	21.1	10.2	0.4	0.8	0.2	0.0	0.1	0.1	7.3	115.9
Bowmans	0.1	4.7	0.3	1.9	59.2	21.0	10.7	0.5	1.0	0.2	0.1	0.1	0.1	7.5	116.5
Coomandook 3/12/04	0.1	4.8	0.3	1.8	58.2	23.1	10.1	0.4	0.8	0.2	0.1	0.1	0.1	7.4	117.3
Coomandook 29/12/04	0.1	4.7	0.3	2.0	59.4	21.9	9.6	0.5	1.0	0.3	0.0	0.1	0.2	7.6	115.3
Cummins 17/11/04	0.1	4.8	0.3	2.1	59.7	21.0	10.0	0.5	0.8	0.3	0.0	0.2	0.1	7.9	115.0
Cummins 17/11/04	0.1	4.6	0.3	2.1	60.1	20.9	9.9	0.5	0.9	0.3	0.2	0.1	0.1	7.7	114.8
Cummins 18/11/04	0.1	4.7	0.3	2.0	59.8	20.9	10.2	0.5	0.8	0.3	0.1	0.1	0.1	7.7	115.4
Cummins 19/11/04	0.1	4.6	0.3	1.9	59.4	21.0	10.8	0.5	0.9	0.2	0.1	0.1	0.1	7.4	116.8
Cummins 20/11/04	0.1	4.6	0.3	1.9	59.2	21.0	11.0	0.5	0.9	0.2	0.1	0.1	0.2	7.4	117.0
Cummins 22/11/04	0.1	4.5	0.3	1.9	59.5	20.8	10.9	0.5	0.9	0.2	0.1	0.1	0.1	7.3	116.8
Cummins 22/11/04	0.1	4.6	0.3	1.9	59.4	21.0	10.9	0.5	0.9	0.2	0.1	0.1	0.1	7.3	116.9
Cummins 23/11/04	0.1	4.6	0.3	1.9	59.5	21.0	10.7	0.4	0.9	0.2	0.1	0.1	0.1	7.3	116.8
Cummins 24/11/04	0.1	4.6	0.3	1.9	58.9	21.0	11.2	0.4	0.9	0.2	0.1	0.1	0.1	7.4	117.5
Keith	0.1	4.3	0.3	1.8	59.1	20.6	11.5	0.5	1.1	0.3	0.0	0.2	0.2	7.2	117.8
Kingscote 25/11/04	0.1	5.1	0.3	1.5	52.8	24.3	13.8	0.5	1.0	0.3	0.0	0.1	0.2	7.6	124.7
Kingscote 29/11/04	0.1	5.1	0.4	1.5	52.7	24.6	13.5	0.5	1.0	0.3	0.0	0.1	0.2	7.6	124.4
Kingscote 29/11/04	0.1	4.2	0.3	1.7	58.2	20.4	12.8	0.5	1.1	0.3	0.2	0.1	0.2	6.9	120.1
Kingscote 6/12/04	0.1	4.4	0.3	1.6	59.0	20.3	11.8	0.5	1.1	0.3	0.1	0.1	0.2	7.1	118.2
Kingscote 6/12/04	0.1	4.4	0.3	1.7	59.0	20.3	11.9	0.5	1.1	0.3	0.1	0.2	0.2	7.1	118.4
Kingscote 6/12/04	0.1	4.4	0.3	1.6	59.3	20.0	12.0	0.5	1.1	0.3	0.1	0.1	0.2	7.1	118.2
Kingscote 6/12/04	0.1	4.5	0.3	1.6	56.0	21.6	13.6	0.4	1.0	0.3	0.2	0.1	0.2	7.0	122.5
Kingscote 6/12/04	0.1	4.4	0.3	1.7	57.1	21.1	13.0	0.5	1.1	0.3	0.2	0.1	0.2	7.1	120.8
Kingscote 6/12/04	0.1	4.4	0.3	1.6	57.7	20.4	13.2	0.4	1.0	0.3	0.1	0.1	0.2	7.0	120.8
Kingscote 7/12/04	0.1	4.5	0.3	1.7	57.3	20.9	13.1	0.5	1.0	0.2	0.1	0.1	0.2	7.0	121.0
Kingscote 7/12/04	0.1	4.3	0.3	1.6	59.9	19.5	12.1	0.5	1.1	0.3	0.1	0.1	0.2	6.9	118.1
Kingscote 7/12/04	0.1	4.3	0.3	1.7	57.4	21.2	12.4	0.5	1.2	0.3	0.2	0.2	0.2	7.1	119.9
Kingscote 8/12/04	0.1	4.5	0.3	1.9	56.9	21.2	12.8	0.5	1.0	0.3	0.2	0.1	0.2	7.4	120.3
Kingscote 10/12/04	0.1	4.6	0.3	1.6	56.8	21.5	13.3	0.4	0.9	0.2	0.1	0.1	0.2	7.0	121.9
Kingscote 10/12/04	0.1	4.4	0.3	1.9	57.7	20.5	12.9	0.5	1.0	0.3	0.2	0.2	0.2	7.3	120.0
Kingscote 10/12/04	0.1	4.4	0.3	1.9	58.7	19.9	12.8	0.5	1.0	0.2	0.1	0.1	0.2	7.1	119.4
Kingscote 13/12/04	0.1	4.3	0.3	1.9	58.1	20.5	12.8	0.5	1.0	0.3	0.1	0.1	0.2	7.2	119.9
Kingscote 13/12/04	0.1	4.3	0.3	1.9	58.4	20.3	12.7	0.5	1.0	0.2	0.1	0.1	0.2	7.1	119.6
Kingscote 13/12/04	0.1	4.3	0.3	1.8	58.5	20.1	12.8	0.5	1.0	0.2	0.1	0.1	0.2	7.1	119.6
Kingscote 14/12/04	0.1	4.3	0.3	1.9	58.2	20.3	12.8	0.5	0.9	0.2	0.1	0.2	0.2	7.1	119.8
Kingscote 14/12/04	0.1	4.3	0.3	1.9	58.2	20.4	12.8	0.5	0.9	0.2	0.1	0.1	0.2	7.1	119.9
Kingscote 14/12/04	0.1	4.4	0.3	1.7	56.7	21.6	12.7	0.5	1.2	0.3	0.2	0.2	0.2	7.1	120.7
Kingscote 15/12/04	0.1	4.3	0.3	1.8	58.5	20.1	12.8	0.5	1.0	0.2	0.2	0.1	0.2	7.1	119.6
Kingscote 15/15/04	0.1	4.2	0.3	1.8	59.1	19.6	12.9	0.5	1.0	0.2	0.1	0.1	0.2	6.9	119.5
Kingscote 15/12/04	0.1	4.5	0.3	1.9	57.5	20.6	12.8	0.5	1.0	0.3	0.2	0.1	0.2	7.3	119.9
Kingscote 15/12/04	0.1	4.6	0.3	1.7	56.8	21.2	13.2	0.5	1.0	0.3	0.2	0.1	0.2	7.2	121.1
Lock	0.1	5.3	0.3	2.0	57.7	24.2	8.2	0.5	0.8	0.2	0.3	0.2	0.1	8.3	114.1
Port Adelaide	0.1	4.8	0.3	1.9	58.1	22.2	10.6	0.5	0.9	0.2	0.0	0.1	0.1	7.7	117.2
Port Lincoln	0.1	4.5	0.3	1.8	59.4	20.7	11.2	0.5	0.9	0.3	0.1	0.2	0.2	7.3	117.2
Rudall	0.1	5.3	0.3	2.0	56.2	24.7	9.3	0.5	0.8	0.2	0.3	0.2	0.1	8.2	116.6
Wolseley	0.1	4.3	0.3	2.0	58.3	20.1	12.8	0.5	1.0	0.3	0.0	0.2	0.2	7.3	119.5

Table 8 (cont.) Fatty Acid Composition 2004 - South Australia

Division/ Region/ Receival Site	**14:0**	**16:0**	**16:1**	**18:0**	**18:1**	**18:2**	**18:3**	**20:0**	**20:1**	**22:0**	**22:1**	**24:0**	**24:1**	[1] **Sat.**	[2] **Iodine Value**
Tailem Bend 19/11/04	0.1	4.8	0.3	2.0	59.3	22.2	9.5	0.4	0.8	0.2	0.1	0.2	0.1	7.7	115.4
Tailem Bend 23/11/04	0.1	4.7	0.3	1.9	58.4	22.3	10.2	0.4	0.9	0.2	0.2	0.2	0.1	7.5	116.8
Tailem Bend 23/11/04	0.1	4.9	0.3	1.9	58.9	21.9	10.2	0.4	0.8	0.3	0.1	0.2	0.1	7.7	116.2
Tailem Bend 24/11/04	0.1	4.7	0.3	1.9	59.2	22.0	9.9	0.4	0.9	0.3	0.1	0.2	0.1	7.5	115.9
Tailem Bend 27/11/04	0.1	4.7	0.3	1.9	58.6	22.7	9.7	0.5	1.0	0.3	0.1	0.2	0.1	7.5	116.2
Tailem Bend 2/12/04	0.1	4.5	0.3	1.8	58.9	21.3	11.0	0.5	1.0	0.3	0.1	0.1	0.1	7.2	117.5
Tailem Bend 6/12/04	0.1	4.3	0.3	1.8	59.6	20.6	11.1	0.5	1.0	0.3	0.1	0.2	0.2	7.1	117.2
Tailem Bend 20/12/04	0.1	4.3	0.3	1.8	59.4	20.8	11.3	0.5	1.0	0.3	0.1	0.1	0.1	7.0	117.7
Tailem Bend 29/12/04	0.1	4.3	0.3	1.8	59.6	20.6	11.3	0.5	1.0	0.3	0.1	0.1	0.1	7.0	117.6
Tailem Bend 30/12/04	0.1	4.2	0.3	1.8	59.4	20.2	12.0	0.5	1.0	0.3	0.1	0.1	0.2	6.9	118.5
SA Mean	**0.1**	**4.6**	**0.3**	**1.9**	**59.2**	**21.0**	**11.0**	**0.5**	**0.9**	**0.3**	**0.1**	**0.1**	**0.1**	**7.4**	**117.1**

[1] Sat.- Sum of the saturated fatty acids including 14:0, 16:0, 18:0, 20:0, 22:0 and 24:0

[2] Iodine Value- Calculated from the fatty acid composition

Table 9 Fatty Acid Composition 2004 - Victoria

Division/ Region/ Receival Site	**14:0**	**16:0**	**16:1**	**18:0**	**18:1**	**18:2**	**18:3**	**20:0**	**20:1**	**22:0**	**22:1**	**24:0**	**24:1**	**[1] Sat.**	**[2] Iodine Value**
Southern															
Birchip	0.1	4.7	0.4	1.9	59.3	21.9	10.3	0.4	0.7	0.1	0.0	0.1	0.1	7.3	116.8
Borung	0.1	4.1	0.3	1.9	62.2	19.7	9.9	0.5	1.0	0.2	0.1	0.1	0.1	6.8	114.4
Charlton	0.1	4.6	0.3	2.0	58.8	21.6	10.8	0.5	0.8	0.2	0.0	0.1	0.1	7.4	117.2
Cope Cope	0.1	4.5	0.3	1.9	58.2	22.1	11.2	0.5	0.9	0.2	0.0	0.1	0.1	7.2	118.7
Dunolly	0.1	4.3	0.3	1.8	59.7	19.4	12.5	0.5	0.9	0.2	0.1	0.1	0.1	6.9	118.7
Moolort	0.1	4.1	0.3	1.8	59.2	19.7	12.8	0.5	1.0	0.2	0.1	0.1	0.1	6.7	119.6
Dimboola															
Carpolac	0.1	4.0	0.3	1.9	60.7	19.1	11.9	0.5	1.0	0.2	0.0	0.1	0.1	6.8	117.5
Dimboola	0.1	4.2	0.3	1.9	60.3	19.8	11.9	0.4	0.9	0.2	0.1	0.1	0.1	6.8	118.3
Goroke	0.1	4.4	0.3	2.0	62.8	18.2	10.7	0.5	0.8	0.1	0.0	0.1	0.1	7.1	114.5
Horsham	0.1	4.5	0.3	1.9	59.1	20.1	12.5	0.4	0.8	0.1	0.1	0.1	0.1	7.1	119.2
Lillimur	0.1	4.4	0.3	1.8	59.6	19.8	12.4	0.4	0.9	0.2	0.1	0.1	0.1	6.9	119.0
Naracoorte	0.1	4.6	0.3	1.8	60.0	20.0	11.7	0.4	0.8	0.1	0.0	0.0	0.1	7.1	117.8
Natimuk	0.1	4.8	0.3	1.8	59.4	19.5	12.7	0.4	0.8	0.1	0.1	0.0	0.0	7.2	119.0
Nhill	0.1	4.7	0.3	1.9	60.2	19.1	12.1	0.4	0.8	0.1	0.1	0.0	0.1	7.3	117.4
Rainbow	0.1	5.4	0.4	1.9	57.2	23.4	10.5	0.4	0.6	0.1	0.0	0.0	0.0	7.9	118.1
Echuca															
Deniliquin	0.1	4.5	0.3	2.1	61.9	20.0	9.5	0.5	0.8	0.2	0.1	0.1	0.1	7.3	113.8
Echuca	0.1	4.7	0.3	2.0	60.9	19.9	10.6	0.4	0.8	0.1	0.1	0.1	0.1	7.4	115.5
Elmore	0.1	4.3	0.3	1.8	60.8	19.3	11.5	0.4	0.9	0.2	0.1	0.1	0.1	6.8	116.9
Mitiamo	0.1	4.3	0.3	1.8	59.4	19.7	12.7	0.5	0.9	0.2	0.1	0.1	0.1	6.8	119.4
Murchison Est	0.1	4.4	0.3	1.9	61.0	19.5	11.4	0.4	0.8	0.1	0.1	0.1	0.1	7.0	117.0
Raywood	0.1	4.7	0.3	1.9	59.8	20.1	11.4	0.4	0.8	0.1	0.1	0.1	0.1	7.3	117.1
Murtoa															
Berrybank	0.1	4.3	0.3	1.8	60.7	19.5	11.5	0.5	0.9	0.2	0.1	0.1	0.1	6.9	117.0
Beluah St	0.1	4.6	0.3	1.9	58.3	22.1	11.1	0.4	0.8	0.2	0.1	0.1	0.1	7.2	118.4
Hamilton	0.1	4.4	0.3	1.8	60.3	19.6	11.6	0.5	0.9	0.2	0.1	0.1	0.1	7.0	117.1
Laharum	0.1	4.4	0.3	1.9	59.7	19.5	12.6	0.4	0.8	0.1	0.1	0.0	0.1	7.0	119.1
Lubeck	0.0	4.2	0.3	1.8	60.3	18.9	12.7	0.4	0.9	0.1	0.1	0.1	0.1	6.7	118.8
Marmalake	0.1	4.2	0.3	1.9	61.3	18.9	11.5	0.5	0.9	0.2	0.1	0.1	0.1	6.9	116.6
Skipton	0.1	4.5	0.3	1.9	60.9	19.6	10.6	0.5	1.0	0.2	0.2	0.1	0.1	7.2	115.2
Westmere	0.1	4.6	0.3	2.0	62.1	19.3	10.0	0.4	0.9	0.2	0.1	0.1	0.1	7.3	113.9
Willaura	0.1	4.6	0.3	1.9	60.5	19.7	11.1	0.5	0.9	0.2	0.1	0.1	0.1	7.3	116.2
Swan Hill															
Swan Hill	0.1	4.7	0.3	2.1	62.6	18.9	9.6	0.5	0.8	0.2	0.0	0.1	0.1	7.6	112.7
Yarrawonga															
Dookie	0.1	4.3	0.3	1.9	60.5	19.4	11.6	0.5	0.9	0.2	0.1	0.1	0.1	7.0	116.9
Oaklands	0.1	4.3	0.3	1.9	61.7	19.0	10.9	0.5	0.9	0.2	0.1	0.1	0.1	7.0	115.5
Sanger	0.1	4.6	0.3	2.0	60.5	19.8	11.0	0.5	0.8	0.1	0.1	0.1	0.1	7.4	116.0
St James	0.1	4.7	0.3	2.0	60.0	20.3	11.1	0.4	0.8	0.1	0.1	0.1	0.1	7.4	116.8
Wangamong	0.1	4.3	0.3	1.9	61.1	19.6	10.7	0.5	1.0	0.2	0.1	0.1	0.1	7.1	115.6
Yarrawonga St	0.1	4.8	0.3	2.0	60.2	20.4	10.7	0.4	0.8	0.1	0.1	0.1	0.1	7.4	116.0
Vic Mean	**0.1**	**4.5**	**0.3**	**1.9**	**60.6**	**19.6**	**11.3**	**0.5**	**0.9**	**0.2**	**0.1**	**0.1**	**0.1**	**7.1**	**116.6**

[1] Sat- Sum of the saturated fatty acids including 14:0, 16:0, 18:0, 20:0, 22:0 and 24:0

[2] Iodine Value- Calculated from the fatty acid composition

Table 10 Fatty Acid Composition - Western Australia

Division/ Region/ Receival Site	**14:0**	**16:0**	**16:1**	**18:0**	**18:1**	**18:2**	**18:3**	**20:0**	**20:1**	**22:0**	**22:1**	**24:0**	**24:1**	**[1] Sat.**	**[2] Iodine Value**
Geraldton															
Arrino	0.1	4.4	0.3	1.8	60.4	21.5	9.5	0.4	0.9	0.2	0.1	0.1	0.1	7.1	115.2
Geraldton	0.1	4.3	0.2	1.7	60.0	21.7	9.9	0.4	1.0	0.2	0.1	0.1	0.2	6.9	116.2
Mingenew	0.1	4.2	0.2	1.8	62.1	20.4	9.3	0.4	0.9	0.2	0.0	0.1	0.2	6.7	114.3
Northhampton	0.1	4.7	0.3	1.7	55.9	24.1	11.1	0.5	1.0	0.3	0.0	0.1	0.2	7.4	119.9
Kwinana															
Avon	0.1	4.4	0.3	1.9	62.4	20.1	8.8	0.4	0.9	0.2	0.1	0.1	0.1	7.2	112.6
Brookton	0.1	4.3	0.3	2.0	61.6	19.4	10.3	0.5	1.0	0.2	0.2	0.2	0.2	7.1	114.6
Calingiri	0.1	4.5	0.3	1.9	60.5	21.0	9.6	0.5	0.9	0.2	0.1	0.1	0.2	7.4	114.6
Kellerberrin	0.1	4.7	0.3	1.9	58.1	22.4	10.3	0.5	1.0	0.3	0.2	0.2	0.2	7.6	116.8
Merredin	0.1	4.5	0.3	1.9	59.4	21.4	9.9	0.5	1.1	0.3	0.3	0.2	0.2	7.4	115.5
Metro Grain Centre	0.1	4.3	0.3	1.9	62.2	19.8	9.4	0.5	0.9	0.2	0.1	0.1	0.2	7.1	113.4
Moora	0.1	4.4	0.3	1.9	61.7	20.6	8.9	0.5	1.0	0.2	0.2	0.1	0.2	7.2	113.1
Narembeen	0.1	4.4	0.3	2.0	61.4	20.2	9.2	0.4	1.2	0.2	0.4	0.1	0.1	7.2	113.3
Wickepin	0.1	4.3	0.3	1.9	60.7	20.2	10.6	0.4	0.9	0.2	0.1	0.1	0.1	7.1	116.1
York	0.1	4.4	0.3	2.0	63.1	20.1	8.4	0.4	0.9	0.2	0.1	0.1	0.1	7.1	112.0
Albany															
Albany	0.1	4.4	0.3	1.8	59.9	20.6	11.0	0.4	1.0	0.2	0.1	0.1	0.2	7.0	117.1
Borden	0.1	4.5	0.3	1.8	57.9	21.8	11.5	0.4	0.9	0.2	0.2	0.1	0.2	7.2	118.8
Boyup Brook	0.1	4.1	0.3	1.9	62.5	18.5	10.3	0.5	1.1	0.3	0.2	0.1	0.2	6.9	114.0
Cranbrook	0.1	4.3	0.3	1.9	59.5	20.3	11.4	0.5	1.0	0.2	0.1	0.2	0.2	7.2	117.3
Gairdner	0.1	4.5	0.3	1.8	58.2	22.2	11.1	0.4	0.9	0.2	0.1	0.1	0.2	7.1	118.6
Jacup	0.1	4.5	0.3	1.7	58.0	22.4	11.1	0.4	0.9	0.2	0.1	0.1	0.2	7.1	118.7
Katanning	0.1	4.5	0.3	1.9	59.2	21.1	10.9	0.5	0.9	0.2	0.1	0.1	0.2	7.3	117.1
Newdegate	0.1	4.7	0.3	1.8	58.3	21.8	10.7	0.5	1.1	0.3	0.2	0.1	0.2	7.4	117.2
Wagin	0.1	4.4	0.3	1.9	60.2	20.5	10.5	0.5	1.0	0.2	0.2	0.1	0.2	7.2	115.9
Esperance															
Beaumont	0.1	4.5	0.3	1.8	60.2	21.1	9.9	0.5	1.0	0.3	0.1	0.2	0.2	7.3	115.3
Cascades	0.1	4.4	0.3	1.9	60.3	20.5	10.3	0.5	1.0	0.2	0.2	0.2	0.2	7.3	115.4
Esperance	0.1	4.4	0.3	1.8	60.7	20.5	10.2	0.5	0.9	0.2	0.1	0.1	0.2	7.1	115.5
Mt Madden	0.1	4.4	0.3	1.9	60.0	21.2	10.1	0.4	0.9	0.2	0.1	0.1	0.2	7.1	116.0
WA Mean	**0.1**	**4.4**	**0.3**	**1.8**	**60.3**	**20.8**	**10.3**	**0.5**	**0.9**	**0.2**	**0.1**	**0.1**	**0.2**	**7.1**	**115.9**

[1] Sat- Sum of the saturated fatty acids including 14:0, 16:0, 18:0, 20:0, 22:0 and 24:0

[2] Iodine Value- Calculated from the fatty acid composition

National Brassica Improvement Project- Quality Data

Table 11 Oil Content for 2004 canola breeding trials

S2 Early Conventional Trials

Variety	W	H	M	N	Mean
03N723C	38.1	40.1	34.7	40.5	**38.4**
44C11	36.1	*	33.8	*	**35.0**
AG-OUTBACK	36.9	40.4	33.3	39.9	**37.6**
AG-SPECTRUM	*	*	*	40.6	**40.6**
BLN2017*SL008-MI201	39.1	41.2	35.5	41.6	**39.3**
BLN2017*SL008-MI202	37.7	41.4	34.9	40.9	**38.7**
BLN2017*SL008-MI204	38.4	41.7	35.6	40.6	**39.1**
BLN2210*SL005-MI204	38.0	40.8	35.6	42.4	**39.2**
BLN2299*SL013-MI203	39.8	42.4	36.9	41.9	**40.3**
BLN2431-1W1	39.9	42.1	36.5	*	**39.5**
BLN3224	37.5	42.6	35.8	42.7	**39.6**
BLN3245	38.0	41.3	35.4	41.7	**39.1**
BLN3342	37.3	39.7	34.6	41.1	**38.2**
BLN3343	38.5	41.3	36.0	43.1	**39.7**
BLN3344	39.0	41.3	35.9	41.8	**39.5**
BLN3345	39.8	42.0	35.9	41.8	**39.9**
BLN3346	40.9	39.0	36.3	42.3	**39.6**
BLN3347	41.9	42.4	37.2	42.4	**41.0**
CBI4403	39.3	41.6	36.8	40.9	**39.6**
CBI4404	40.3	41.5	36.1	*	**39.3**
H4481	*	42.3	37.4	*	**39.9**
H4507	*	41.8	36.3	41.1	**39.7**
H4721	40.5	40.4	35.7	*	**38.9**
H4740	*	41.8	*	*	**41.8**
H4815	40.4	42.4	37.6	*	**40.2**
HYOLA43	*	40.7	*	*	**40.7**
JK14	36.0	38.1	32.0	40.4	**36.6**
MC340	40.6	39.6	35.9	41.2	**39.3**
MC341	40.4	40.5	37.7	43.9	**40.6**
MC342	39.8	40.2	36.3	39.7	**39.0**
MC343	39.5	41.2	36.5	41.6	**39.7**
MC354	39.9	40.7	36.5	41.6	**39.7**
MC359	38.8	41.4	35.6	38.8	**38.6**
Q2	*	*	*	40.0	**40.0**
RAINBOW	*	39.4	*	*	**39.4**
RIVETTE	39.3	42.0	36.0	41.4	**39.7**
RP072-1M1	40.0	41.2	36.3	*	**39.2**
RP080-1M1	38.7	41.7	36.7	*	**39.0**
RQ001*MI202	39.4	43.4	36.7	42.3	**40.5**
RQ007*MI201	38.6	41.0	35.4	41.7	**39.2**
RQ055*MI203	39.6	42.7	36.4	41.5	**40.1**
RT001	40.7	42.5	36.8	43.6	**40.9**
RT002	39.7	41.7	36.3	40.4	**39.5**
RT003	39.2	41.7	36.5	42.9	**40.0**
RT004	39.5	42.0	36.2	40.1	**39.5**
RT005	38.9	40.7	36.5	40.9	**39.2**
RT006	38.2	42.8	36.9	40.8	**39.7**
RT007	37.2	41.9	35.4	40.6	**38.8**
RT008	39.3	42.2	36.6	43.0	**40.3**

S2 Early Triazine Trials

Variety	W	H	M	N	Mean
AGT346	*	40.7	*	*	**40.7**
ATR-BEACON	37.8	39.1	33.6	38.9	**37.2**
ATR-EYRE	*	39.7	*	*	**39.7**
ATR-HYDEN	37.8	37.3	33.6	37.1	**36.0**
ATR-STUBBY	36.6	40.4	33.4	37.6	**37.2**
BLN2367-1M21	38.4	39.5	34.6	*	**37.1**
BLN2858TT	*	39.0	*	*	**39.0**
BLN2905TT	*	40.0	*	*	**40.0**
BLN3355TT	39.3	41.0	36.8	41.6	**39.8**
BLN3356TT	39.7	41.2	36.3	41.4	**39.6**
BLN3357TT	38.8	39.6	34.4	39.2	**37.7**
BLN3358TT	39.4	38.6	35.8	41.3	**38.5**
CBIT419	37.1	39.6	34.2	38.2	**37.4**
CBIT420	*	*	*	38.5	**38.5**
CBIT421	39.2	40.5	35.2	38.5	**38.1**
CBWA-024	35.2	37.7	33.5	38.1	**36.4**
CBWA-025	33.8	35.2	31.8	38.3	**35.1**
CBWA-026	37.1	38.9	33.6	37.5	**36.7**
MT327	37.6	40.4	35.5	40.0	**38.6**
MT331	37.8	41.6	36.4	41.0	**39.7**
MT332	37.9	40.2	35.1	40.0	**38.4**
SURPASS501TT	*	41.3	*	*	**41.3**
T2053	*	39.5	*	38.9	**39.2**
TN4*SL909	*	39.7	*	*	**39.7**
TO073*SP020	36.8	39.5	34.1	40.4	**38.0**
TO080*SP003	*	38.8	*	*	**38.8**
TORNADO555TT	*	41.1	*	*	**41.1**
TP003-1M2	38.7	40.8	35.6	*	**38.2**
TP004	*	40.4	*	*	**40.4**
TP005-1M5	38.0	39.3	34.8	*	**37.1**
TP005-1M8	38.8	40.9	35.5	*	**38.2**
TQ002*MI202	38.4	41.2	35.9	41.5	**39.5**
TQ002*MI205	38.2	40.4	34.6	39.6	**38.2**
TQ002*MI206	37.3	40.7	34.3	39.8	**38.2**
TQ053*MI202	39.3	40.3	35.2	39.8	**38.5**
TR002	*	40.6	*	*	**40.6**
TR053	38.2	40.1	35.2	41.0	**38.8**
TRANBY	*	39.0	*	42.0	**40.5**
TRIGOLD	*	41.6	*	*	**41.6**
TRILOGY	*	38.3	*	*	**38.3**

S2 Early Clearfield Trials

Variety	W	H	M	N	Mean
03N734I	38.3	40.2	35.6	38.7	38.2
44C73	38.0	40.0	34.4	39.1	37.9
45C75	*	38.8	*	*	38.8
46C74	*	39.8	*	*	39.8
BLN3363CL	40.4	42.2	37.1	43.0	40.6
BLN3364CL	39.6	41.6	36.4	42.8	40.1
BLN3365CL	39.6	42.0	36.2	40.6	39.6
BLN3366CL	40.5	42.4	36.8	43.9	40.9
SURPASS402CL	*	41.5	*	*	41.5
SURPASS603CL	*	43.0	*	*	43.0

W= Wagga Wagga- NSW, H= Horsham- Vic, M= Minnipa- SA, N= Newdegate- WA

Table 11 (cont.) Oil Content for 2004 canola breeding trials

S2 Mid Conventional Trials

Variety	W	H	S	K	Mean
03N726C	38.1	40.2	45.5	44.5	**42.1**
AG-SPECTRUM	37.5	40.2	44.8	42.5	**41.2**
AV-SAPPHIRE	38.5	41.7	46.7	44.5	**42.8**
BLN3189	39.9	41.9	45.9	46.3	**43.5**
BLN3348	39.1	42.3	45.8	46.1	**43.3**
BLN3349	39.3	42.2	46.1	45.3	**43.2**
BLN3350	40.2	43.1	47.8	46.1	**44.3**
BLN3351	39.4	41.9	46.4	46.7	**43.6**
BLN3352	37.7	42.0	46.0	45.1	**42.7**
BLN3353	39.2	42.3	46.5	46.1	**43.5**
BLN3354	39.4	*	47.1	47.8	**44.8**
CBI4401	41.1	42.6	47.0	*	**43.6**
CBI4409	37.6	40.4	45.3	*	**41.1**
CBI4410	36.5	40.1	44.8	*	**40.5**
H4383	39.5	38.6	40.9	*	**39.7**
H4540	39.4	42.2	47.8	46.2	**43.9**
H4729	39.4	41.1	45.2	0.0	**31.4**
H4822	41.2	41.1	46.7	47.0	**44.0**
H4908	40.7	42.4	46.5	46.1	**43.9**
LANTERN	39.9	*	47.1	*	**43.5**
HYOLA43	*	*	*	45.8	**45.8**
HYOLA60	*	*	*	46.5	**46.5**
HYOLA61	*	40.8	*	*	**40.8**
J9743	*	41.6	*	*	**41.6**
J9747	*	41.3	*	*	**41.3**
MC344	39.5	42.0	46.4	47.5	**43.9**
MC345	38.4	41.8	45.4	43.9	**42.4**
MC367	38.4	42.9	46.6	46.4	**43.6**
MC368	39.0	42.3	47.4	46.3	**43.7**
MC382	39.9	42.4	47.3	46.6	**44.0**
MC385	39.4	41.7	47.8	48.1	**44.2**
MC386	39.8	41.1	47.9	47.6	**44.1**
Q2	*	*	*	43.4	**43.4**
RAINBOW	*	39.7	*	*	**39.7**
RT009	37.4	42.0	46.4	44.5	**42.6**
RT010	39.2	41.8	46.2	46.4	**43.4**
RT011	37.7	42.1	46.7	47.0	**43.4**
RT012	37.8	42.4	46.5	44.7	**42.9**
RT013	39.0	42.3	46.5	46.9	**43.7**
RT014	39.4	42.6	46.6	46.2	**43.7**
RT015	37.5	41.1	45.1	44.4	**42.0**
RT016	37.6	41.5	44.5	43.6	**41.8**

S2 Mid Triazine Trials

Variety	W	H	S	K	Mean
AGT111	*	40.0	*	*	**40.0**
ATR-BEACON	37.6	39.1	43.3	40.4	**41.0**
ATR-GRACE	37.0	39.1	43.8	40.2	**41.0**
ATR-HYDEN	36.1	37.3	41.8	40.9	**40.0**
BLN2861TT	*	39.4	*	*	**39.4**
BLN2893TT	*	39.8	*	*	**39.8**
BLN3359TT	38.5	40.7	45.5	43.3	**43.2**
BLN3360TT	38.2	40.6	43.7	42.8	**42.4**
BLN3361TT	38.1	39.6	44.6	42.4	**42.2**
BLN3362TT	38.4	40.4	43.9	41.7	**42.0**
CBIT405	37.6	39.5	43.4	42.3	**41.7**
CBIT406	*	39.6	43.7	*	**41.6**
CBIT418	37.3	39.1	43.3	41.2	**41.2**
CBIT424	*	*	*	42.5	**42.5**
MT301	37.3	40.1	44.4	42.2	**42.2**
MT312	37.3	40.9	45.5	42.2	**42.9**
MT328	36.5	39.5	43.9	41.0	**41.5**
T2049	37.6	*	43.4	42.0	**42.7**
SURPASS501TT	*	40.8	*	*	**40.8**
T2051	37.3	39.9	43.0	41.1	**41.4**
T2062	38.1	40.1	44.4	41.5	**42.0**
TI1PINNACLE	*	*	*	40.6	**40.6**
TN4*SL909-ST202	37.0	39.6	45.0	41.7	**42.1**
TN4*SL910-ST207	38.0	40.6	44.9	42.9	**42.8**
TORNADO555TT	*	41.1	*	*	**41.1**
TP004	*	40.1	*	*	**40.1**
TP004*ST201	36.2	40.0	44.0	41.1	**41.7**
TR004	*	39.4	*	*	**39.4**
TR050	35.4	38.9	44.0	39.5	**40.8**
TR051	36.2	39.2	43.6	40.8	**41.2**
TR054	37.0	40.0	43.8	42.8	**42.2**
TR061	38.5	40.6	44.8	42.9	**42.8**
TR062	37.7	40.3	44.5	42.7	**42.5**
TR064	37.1	40.1	44.7	41.4	**42.1**
TR065	36.4	40.5	45.1	41.4	**42.3**

S2 MidClearfield Trials

Variety	W	H	S	K	Mean
03N733I	39.6	40.6	44.8	45.3	**42.6**
03N736I	39.6	40.8	45.2	44.9	**42.6**
03N737I	38.7	39.6	43.7	43.4	**41.4**
44C73	*	39.5	*	43.4	**41.5**
45C75	37.8	40.1	43.9	*	**40.6**
46C74	*	40.4	*	*	**40.4**
46C76	38.1	*	44.8	*	**41.5**
BLN3367CL	38.9	41.3	45.1	45.0	**42.6**
BLN3368CL	40.4	42.5	46.6	45.9	**43.8**
BLN3369CL	40.3	41.6	46.1	45.7	**43.4**
BLN3370CL	41.1	42.2	46.0	46.2	**43.9**
J9743	40.7	41.8	46.5	45.7	**43.7**
J9747	39.9	41.0	44.5	44.9	**42.6**
SURPASS402CL	*	41.4	*	*	**41.4**
SURPASS603CL	*	42.5	47.0	*	**44.8**

W= Wagga Wagga- NSW, H= Horsham- Vic, S= Struan- SA, K= Katanning- WA

Table 12 Protein content in meal for 2004 canola breeding trials

S2 Early Conventional Trials

Variety	W	H	M	N	Mean
03N723C	44.5	44.8	45.5	41.3	**44.0**
44C11	42.7	*	46.1	*	**44.4**
AG-OUTBACK	44.3	44.0	44.5	41.3	**43.5**
AG-SPECTRUM	*	*	*	40.6	**40.6**
BLN2017*SL008-MI201	44.5	46.3	46.2	41.1	**44.5**
BLN2017*SL008-MI202	44.0	47.0	46.7	42.4	**45.0**
BLN2017*SL008-MI204	43.7	47.0	45.4	41.3	**44.3**
BLN2210*SL005-MI204	44.5	45.4	44.4	40.4	**43.7**
BLN2299*SL013-MI203	44.5	45.5	45.3	42.4	**44.4**
BLN2431-1W1	44.6	46.1	44.9	*	**45.2**
BLN3224	42.7	46.2	44.7	40.6	**43.5**
BLN3245	45.3	46.0	45.0	41.5	**44.5**
BLN3342	42.7	45.9	43.4	40.5	**43.1**
BLN3343	45.4	46.7	44.8	42.4	**44.8**
BLN3344	43.9	46.0	45.8	40.4	**44.0**
BLN3345	45.5	44.4	46.0	42.9	**44.7**
BLN3346	45.2	46.0	45.7	40.6	**44.3**
BLN3347	44.9	45.2	46.0	39.9	**44.0**
CBI4403	43.1	43.5	46.6	41.6	**43.7**
CBI4404	42.0	43.0	45.2	*	**43.4**
H4481	*	46.6	47.7	*	**47.1**
H4507	*	45.5	47.3	42.7	**45.2**
H4721	44.4	45.2	47.1	*	**45.5**
H4740	*	46.8	*	*	**46.8**
H4815	43.7	46.1	43.5	*	**44.4**
HYOLA43	*	45.1	*	*	**45.1**
JK14	41.0	44.8	43.5	39.3	**42.1**
MC340	44.5	45.5	45.8	41.1	**44.2**
MC341	44.3	45.9	45.7	41.0	**44.2**
MC342	42.6	44.7	45.3	40.7	**43.3**
MC343	44.8	45.6	46.2	40.7	**44.3**
MC354	45.7	43.5	45.8	41.3	**44.1**
MC359	46.5	46.7	47.6	42.7	**45.9**
Q2	*	*	*	45.1	**45.1**
RAINBOW	*	44.0	*	*	**44.0**
RIVETTE	45.9	47.3	48.7	43.0	**46.2**
RP072-1M1	44.8	46.2	46.8	*	**45.9**
RP080-1M1	41.4	45.3	44.7	*	**43.8**
RQ001*MI202	43.6	46.2	44.4	40.5	**43.7**
RQ007*MI201	43.6	44.9	44.7	40.3	**43.4**
RQ055*MI203	45.9	46.0	46.4	42.7	**45.3**
RT001	46.7	47.1	47.5	43.5	**46.2**
RT002	46.4	46.8	47.9	43.4	**46.1**
RT003	42.1	44.7	44.5	40.4	**42.9**
RT004	44.9	45.8	46.7	41.1	**44.6**
RT005	44.4	45.4	45.6	41.8	**44.3**
RT006	44.2	46.1	45.6	42.0	**44.5**
RT007	44.6	44.6	46.4	41.2	**44.2**
RT008	45.5	46.6	46.5	41.3	**45.0**

S2 Early Triazine Trials

Variety	W	H	M	N	Mean
AGT346	*	47.0	*	*	**47.0**
ATR-BEACON	45.7	46.3	45.3	42.2	**44.6**
ATR-EYRE	*	45.4	*	*	**45.4**
ATR-HYDEN	47.5	45.1	46.4	43.8	**45.1**
ATR-STUBBY	42.8	43.9	43.6	40.9	**42.8**
BLN2367-1M21	45.5	47.0	46.0	*	**46.5**
BLN2858TT	*	45.7	*	*	**45.7**
BLN2905TT	*	45.7	*	*	**45.7**
BLN3355TT	45.2	46.4	46.2	42.6	**45.1**
BLN3356TT	46.3	47.2	46.3	44.7	**46.1**
BLN3357TT	46.2	46.9	46.0	44.3	**45.7**
BLN3358TT	44.8	45.0	45.1	40.5	**43.5**
CBIT419	44.0	42.9	45.7	41.4	**43.3**
CBIT420	*	*	*	44.0	**44.0**
CBIT421	45.0	46.0	46.2	43.3	**45.2**
CBWA-024	40.9	43.3	40.0	37.6	**40.3**
CBWA-025	39.1	44.6	38.6	34.4	**39.2**
CBWA-026	45.5	46.4	44.3	42.2	**44.3**
MT327	45.9	47.3	44.5	43.3	**45.0**
MT331	45.5	47.2	46.3	42.8	**45.4**
MT332	45.7	47.1	46.6	43.8	**45.8**
SURPASS501TT	*	46.8	*	*	**46.8**
T2053	*	45.0	*	42.3	**43.7**
TN4*SL909	*	46.2	46.5	0.0	**30.9**
TO073*SP020	42.7	43.2	42.2	38.0	**41.1**
TO080*SP003	*	46.3	*	*	**46.3**
TORNADO555TT	*	45.4	*	*	**45.4**
TP003-1M2	45.6	45.3	45.5	*	**45.4**
TP004	*	43.5	*	*	**43.5**
TP005-1M5	45.7	46.9	45.1	*	**46.0**
TP005-1M8	46.3	46.5	46.8	*	**46.7**
TQ002*MI202	46.2	46.4	46.0	43.5	**45.3**
TQ002*MI205	45.0	45.2	44.8	43.8	**44.6**
TQ002*MI206	45.1	46.1	45.7	43.3	**45.0**
TQ053*MI202	46.4	46.9	47.8	43.9	**46.2**
TR002	*	46.4	*	*	**46.4**
TR053	44.2	43.9	44.7	41.3	**43.3**
TRANBY	*	46.6	*	41.8	**44.2**
TRIGOLD	*	45.4	*	*	**45.4**
TRILOGY	*	44.3	*	*	**44.3**

S2 Early Clearfield Trials

Variety	W	H	M		Mean
03N734I	44.9	45.5	46.0	42.5	**44.7**
44C73	42.4	43.9	43.6	39.5	**42.3**
45C75	*	45.6	*	*	**45.6**
46C74	*	44.3	*	*	**44.3**
BLN3363CL	46.2	46.8	46.7	43.8	**45.9**
BLN3364CL	44.3	44.7	45.1	41.3	**43.9**
BLN3365CL	45.3	46.1	46.6	42.9	**45.3**
BLN3366CL	45.7	46.3	46.5	43.2	**45.4**
SURPASS402CL	*	45.3	*	*	**45.3**
SURPASS603CL	*	46.7	*	*	**46.7**

W= Wagga Wagga- NSW, H= Horsham- Vic, M= Minnipa- SA, N= Newdegate- WA

Table 12 (cont.) Protein content in meal for 2004 canola breeding trials

S2 Mid Conventional Trials						S2 Mid Triazine Trials						S2 MidClearfield Trials					
Variety	**W**	**H**	**S**	**K**	**Mean**	**Variety**	**W**	**H**	**S**	**K**	**Mean**	**Variety**	**W**	**H**	**S**	**K**	**Mean**
03N726C	44.1	45.3	40.5	36.7	**41.7**	AGT111	*	45.8	*	*	**45.8**	03N733I	45.3	45.6	42.7	38.0	**42.9**
AG-SPECTRUM	41.0	44.0	38.9	34.5	**39.6**	ATR-BEACON	46.1	45.9	41.9	41.0	**43.0**	03N736I	45.3	44.9	41.7	37.6	**42.3**
AV-SAPPHIRE	44.0	44.4	42.1	37.7	**42.0**	ATR-GRACE	45.7	45.7	42.1	41.6	**43.1**	03N737I	44.9	45.6	42.2	38.3	**42.8**
BLN3189	45.7	46.5	43.3	37.4	**43.2**	ATR-HYDEN	46.0	45.4	41.5	40.1	**42.3**	44C73	*	43.6	*	36.4	**40.0**
BLN3348	44.0	45.4	43.1	37.2	**42.4**	BLN2861TT	*	45.4	*	*	**45.4**	45C75	44.9	45.7	42.6	*	**44.4**
BLN3349	45.0	46.5	43.9	38.6	**43.5**	BLN2893TT	*	45.3	*	*	**45.3**	46C74	*	44.4	*	*	**44.4**
BLN3350	44.1	46.3	42.5	38.4	**42.8**	BLN3359TT	45.2	45.5	41.8	40.4	**42.6**	46C76	44.1	*	40.6	*	**42.4**
BLN3351	45.7	44.9	43.1	38.5	**43.1**	BLN3360TT	46.5	46.5	43.5	41.6	**43.9**	BLN3367CL	45.1	45.7	42.7	38.3	**43.0**
BLN3352	44.8	47.2	41.7	37.4	**42.8**	BLN3361TT	46.6	46.7	42.7	41.0	**43.5**	BLN3368CL	45.6	46.0	44.1	39.2	**43.7**
BLN3353	45.3	46.9	44.2	38.1	**43.6**	BLN3362TT	46.3	46.6	42.5	40.4	**43.2**	BLN3369CL	46.0	46.6	44.9	39.9	**44.4**
BLN3354	46.1	*	44.0	37.8	**42.6**	CBIT405	45.0	45.3	41.5	41.1	**42.7**	BLN3370CL	45.4	46.3	44.6	39.4	**43.9**
CBI4401	44.6	45.0	40.6	*	**43.4**	CBIT406	*	44.9	41.4	*	**43.2**	J9743	44.9	44.3	42.3	38.0	**42.4**
CBI4409	44.6	45.4	41.3	*	**43.8**	CBIT418	45.8	44.7	41.8	41.5	**42.6**	J9747	46.3	45.4	44.2	40.1	**44.0**
CBI4410	44.5	43.5	40.7	*	**42.9**	CBIT424	*	*	*	38.4	**38.4**	SURPASS402CL	*	44.9	*	*	**44.9**
H4383	43.4	44.3	41.3	*	**43.0**	MT301	45.7	45.3	43.8	41.8	**43.6**	SURPASS603CL	*	46.7	44.9	*	**45.8**
H4540	45.9	46.6	43.2	40.1	**44.0**	MT312	43.7	44.1	40.6	40.2	**41.6**						
H4729	45.7	47.2	43.4	38.5	**43.7**	MT328	45.1	45.5	41.9	40.9	**42.7**						
H4822	47.4	46.7	44.8	38.5	**44.4**	T2049	44.9	*	42.5	41.5	**42.0**						
H4908	44.0	44.5	41.4	37.8	**41.9**	SURPASS501TT	*	46.5	*	*	**46.5**						
LANTERN	45.9	*	45.2	*	**45.5**	T2051	45.5	44.3	41.0	40.9	**42.0**						
HYOLA43	*	*	*	36.0	**36.0**	T2062	46.0	46.4	42.6	42.5	**43.8**						
HYOLA60	*	*	*	39.3	**39.3**	TI1PINNACLE	*	46.7	*	40.3	**43.5**						
HYOLA61	*	44.5	*	*	**44.5**	TN4*SL909-ST202	46.7	*	42.0	40.4	**41.2**						
J9743	*	44.7	*	*	**44.7**	TN4*SL910-ST207	46.3	46.3	42.6	41.9	**43.6**						
J9747	*	45.2	*	*	**45.2**	TORNADO555TT	*	46.3	*	*	**46.3**						
MC344	44.1	44.0	40.1	33.5	**40.4**	TP004	*	44.2	*	*	**44.2**						
MC345	44.6	46.3	43.0	37.4	**42.8**	TP004*ST201	44.5	44.8	41.0	39.2	**41.7**						
MC367	43.7	44.1	41.3	37.3	**41.6**	TR004	*	43.6	*	*	**43.6**						
MC368	45.0	45.0	42.3	38.0	**42.6**	TR050	44.6	46.4	41.4	39.9	**42.6**						
MC382	45.4	44.7	43.2	38.3	**42.9**	TR051	44.7	46.0	42.0	40.5	**42.8**						
MC385	44.0	43.4	41.6	35.3	**41.1**	TR054	44.7	44.9	43.2	41.7	**43.2**						
MC386	44.4	42.6	41.0	35.7	**40.9**	TR061	47.7	46.0	43.8	42.4	**44.1**						
Q2	*	*	*	39.5	**39.5**	TR062	46.8	46.5	43.7	41.7	**44.0**						
RAINBOW	*	42.9	*	*	**42.9**	TR064	45.8	45.6	42.9	41.7	**43.4**						
RT009	43.1	43.3	40.3	36.5	**40.8**	TR065	45.8	45.6	41.4	41.0	**42.7**						
RT010	43.8	45.3	42.1	35.0	**41.6**												
RT011	43.0	45.5	42.2	35.9	**41.6**												
RT012	43.8	44.3	40.0	36.5	**41.1**												
RT013	44.6	45.8	44.1	36.8	**42.8**												
RT014	45.6	46.2	45.3	39.1	**44.1**												
RT015	42.5	44.7	40.6	35.4	**40.8**												
RT016	43.3	45.3	41.5	37.5	**41.9**												

W= Wagga Wagga- NSW, H= Horsham- Vic, S= Struan- SA, K= Katanning- WA

Table 13 Glucosinolate concentrations for 2004 canola breeding

S2 Early Conventional Trials

Variety	W	H	M	N	Mean
03N723C	9	9	6	10	**8**
44C11	7	*	7	*	**7**
AG-OUTBACK	10	12	9	9	**10**
AG-SPECTRUM	*	*	*	9	**9**
BLN2017*SL008-MI201	9	13	10	8	**10**
BLN2017*SL008-MI202	6	12	8	10	**9**
BLN2017*SL008-MI204	6	10	11	10	**9**
BLN2210*SL005-MI204	8	9	6	6	**7**
BLN2299*SL013-MI203	7	11	6	9	**8**
BLN2431-1W1	7	12	7	*	**9**
BLN3224	6	8	9	8	**8**
BLN3245	9	10	8	7	**8**
BLN3342	9	10	8	10	**9**
BLN3343	8	9	7	8	**8**
BLN3344	4	11	8	7	**7**
BLN3345	11	12	9	11	**11**
BLN3346	6	13	2	8	**7**
BLN3347	8	13	9	10	**10**
CBI4403	7	9	8	10	**9**
CBI4404	7	12	7	*	**9**
H4481	*	13	10	*	**12**
H4507	*	15	8	11	**12**
H4721	13	16	10	*	**13**
H4740	*	12	*	*	**12**
H4815	7	11	7	*	**8**
HYOLA43	*	15	*	*	**15**
JK14	7	12	6	9	**8**
MC340	6	18	7	7	**9**
MC341	7	16	8	8	**10**
MC342	9	14	9	11	**11**
MC343	9	9	7	8	**8**
MC354	11	10	7	9	**9**
MC359	7	11	7	12	**9**
Q2	*	*	*	16	**16**
RAINBOW	*	11	*	*	**11**
RIVETTE	9	10	9	9	**9**
RP072-1M1	8	11	5	*	**8**
RP080-1M1	7	10	2	*	**6**
RQ001*MI202	9	11	9	10	**10**
RQ007*MI201	8	9	9	9	**9**
RQ055*MI203	10	11	12	11	**11**
RT001	9	10	10	9	**10**
RT002	9	10	13	11	**11**
RT003	6	9	9	6	**7**
RT004	10	15	9	12	**11**
RT005	8	10	8	11	**9**
RT006	9	11	6	10	**9**
RT007	12	14	8	12	**12**
RT008	7	11	3	7	**7**

S2 Early Triazine Trials

Variety	W	H	M	N	Mean
AGT346	*	13	*	*	**13**
ATR-BEACON	14	11	10	11	**11**
ATR-EYRE	*	11	*	*	**11**
ATR-HYDEN	13	11	9	12	**11**
ATR-STUBBY	12	12	6	11	**10**
BLN2367-1M21	9	12	7	*	**9**
BLN2858TT	*	16	*	*	**16**
BLN2905TT	*	15	*	*	**15**
BLN3355TT	10	13	7	7	**9**
BLN3356TT	9	11	2	9	**8**
BLN3357TT	9	10	6	10	**9**
BLN3358TT	10	12	7	8	**9**
CBIT419	8	7	6	7	**7**
CBIT420	*	*	*	11	**11**
CBIT421	5	6	4	6	**5**
CBWA-024	13	15	11	9	**12**
CBWA-025	15	34	11	9	**17**
CBWA-026	7	10	5	6	**7**
MT327	12	11	11	11	**11**
MT331	15	17	12	13	**14**
MT332	13	13	11	11	**12**
SURPASS501TT	*	11	*	*	**11**
T2053	*	11	*	6	**8**
TN4*SL909	*	10	*	*	**10**
TO073*SP020	6	6	4	6	**6**
TO080*SP003	*	12	*	*	**12**
TORNADO555TT	*	8	*	*	**8**
TP003-1M2	10	11	8	*	**10**
TP004	*	9	*	*	**9**
TP005-1M5	8	11	4	*	**8**
TP005-1M8	8	8	5	*	**7**
TQ002*MI202	15	17	15	12	**15**
TQ002*MI205	12	13	10	11	**12**
TQ002*MI206	11	12	7	11	**10**
TQ053*MI202	10	9	8	8	**9**
TR002	*	12	*	*	**12**
TR053	10	8	8	8	**9**
TRANBY	*	11	*	7	**9**
TRIGOLD	*	10	*	*	**10**
TRILOGY	*	10	*	*	**10**

S2 Early Clearfield Trials

Variety	W	H	M	N	Mean
03N734I	11	13	10	18	**13**
44C73	7	9	7	9	**8**
45C75	*	10	*	*	**10**
46C74	*	10	*	*	**10**
BLN3363CL	6	8	5	8	**7**
BLN3364CL	9	10	7	9	**9**
BLN3365CL	9	11	7	13	**10**
BLN3366CL	8	8	5	9	**8**
SURPASS402CL	*	10	*	*	**10**
SURPASS603CL	*	8	*	*	**8**

W= Wagga Wagga- NSW, H= Horsham- Vic, M= Minnipa- SA, N= Newdegate- WA

Table 13 (cont.) Glucosinolate concentrations for 2004 canola breeding

S2 Mid Conventional Trials

Variety	W	H	S	K	Mean
03N726C	10	12	8	5	**9**
AG-SPECTRUM	8	9	7	4	**7**
AV-SAPPHIRE	11	11	10	9	**11**
BLN3189	7	9	9	6	**8**
BLN3348	8	7	6	3	**6**
BLN3349	10	7	11	8	**9**
BLN3350	7	11	6	5	**7**
BLN3351	10	11	8	8	**9**
BLN3352	11	13	10	8	**10**
BLN3353	9	8	7	6	**7**
BLN3354	8	*	8	6	**7**
CBI4401	10	11	11	*	**11**
CBI4409	9	9	8	*	**9**
CBI4410	8	7	8	*	**7**
H4383	11	13	12	*	**12**
H4540	8	9	7	7	**8**
H4729	9	12	9	6	**9**
H4822	9	14	8	7	**9**
H4908	9	11	12	9	**10**
LANTERN	10	*	9	*	**10**
HYOLA43	*	*	*	8	**8**
HYOLA60	*	*	*	6	**6**
HYOLA61	*	12	*	*	**12**
J9743	*	7	*	*	**7**
J9747	*	7	*	*	**7**
MC344	8	7	7	6	**7**
MC345	9	9	10	7	**9**
MC367	10	10	9	9	**10**
MC368	11	12	9	11	**11**
MC382	9	8	9	7	**8**
MC385	12	12	10	8	**11**
MC386	12	12	9	9	**11**
Q2	*	*	*	10	**10**
RAINBOW	*	9	*	*	**9**
RT009	10	9	10	9	**10**
RT010	10	8	13	8	**10**
RT011	11	14	11	9	**11**
RT012	10	10	8	8	**9**
RT013	9	7	6	6	**7**
RT014	9	9	7	6	**8**
RT015	7	8	7	5	**7**
RT016	9	9	10	7	**9**

S2 Mid Triazine Trials

Variety	W	H	S	K	Mean
AGT111	*	15	*	*	**15**
ATR-BEACON	12	13	10	12	**12**
ATR-GRACE	14	14	12	12	**13**
ATR-HYDEN	12	12	11	8	**10**
BLN2861TT	*	14	*	*	**14**
BLN2893TT	*	16	*	*	**16**
BLN3359TT	8	11	8	6	**8**
BLN3360TT	10	11	8	7	**9**
BLN3361TT	8	11	6	6	**7**
BLN3362TT	7	8	8	9	**8**
CBIT405	10	12	9	8	**10**
CBIT406	*	11	8	*	**10**
CBIT418	10	11	9	9	**10**
CBIT424	*	*	*	5	**5**
MT301	8	9	6	8	**8**
MT312	14	14	13	13	**13**
MT328	13	17	14	12	**14**
T2049	7	*	6.1	2	**4**
SURPASS501TT	*	11	*	*	**11**
T2051	8	10	10	8	**9**
T2062	7	9	4	6	**6**
TI1PINNACLE	*	*	*	9	**9**
TN4*SL909-ST202	12	12	10	11	**11**
TN4*SL910-ST207	9	11	7.0	5	**7**
TORNADO555TT	*	10	*	*	**10**
TP004	*	10	*	*	**10**
TP004*ST201	9	11	8	6	**8**
TR004	*	9	*	*	**9**
TR050	8	9	9	6	**8**
TR051	9	10	9	7	**8**
TR054	12	12	9.5	9	**10**
TR061	13	13	11	9	**11**
TR062	9	7	8	4	**6**
TR064	11	12	10	10	**11**
TR065	12	11	10	10	**10**

S2 MidClearfield Trials

Variety	W	H	S	K	Mean
03N733I	12	13	9	7	**11**
03N736I	10	10	8	4	**8**
03N737I	9	10	7	7	**8**
44C73	*	9	*	6	**7**
45C75	10	10	8	*	**9**
46C74	*	9	*	*	**9**
46C76	10	*	6	*	**8**
BLN3367CL	8	9	7	5	**7**
BLN3368CL	8	8	5.7	5	**7**
BLN3369CL	8	8	7	5	**7**
BLN3370CL	8	7	7	3	**6**
J9743	8	8	8	6	**8**
J9747	7	8	7	4	**6**
SURPASS402CL	*	9	*	*	**9**
SURPASS603CL	*	7	7	*	**7**

W= Wagga Wagga- NSW, H= Horsham- Vic, S= Struan- SA, K= Katanning- WA

National Brassica Improvement Project- Fatty Acid Composition

Table 14 Fatty acid composition for 2004 breeding trials- S2 early conventional Bellata (NSW) (NSW)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N723C	0.1	4.6	0.3	2.2	61.2	22.0	7.7	0.5	0.9	0.3	0.0	0.2	0.2
44C11	0.1	4.6	0.3	1.9	61.3	21.7	8.2	0.5	1.0	0.0	0.0	0.2	0.2
AG-OUTBACK	0.1	4.5	0.3	2.2	65.2	18.3	7.0	0.6	1.0	0.4	0.1	0.2	0.2
BLN2017*SL008-MI201	0.1	4.5	0.3	1.8	63.4	19.3	8.5	0.5	0.9	0.3	0.0	0.2	0.2
BLN2017*SL008-MI202	0.1	4.3	0.3	1.8	64.0	18.8	8.4	0.5	1.0	0.4	0.0	0.2	0.2
BLN2017*SL008-MI204	0.1	4.7	0.3	1.7	62.2	20.1	8.5	0.5	1.2	0.0	0.4	0.2	0.2
BLN2210*SL005-MI204	0.1	4.6	0.3	1.8	59.6	21.4	9.9	0.5	0.9	0.3	0.0	0.2	0.2
BLN2299*SL013-MI203	0.1	4.6	0.3	1.9	63.2	21.1	7.1	0.5	1.0	0.0	0.1	0.2	0.2
BLN2431-1W1	0.1	4.4	0.3	2.1	65.7	18.3	7.2	0.6	1.0	0.0	0.0	0.2	0.2
BLN3224	0.1	4.5	0.3	2.0	62.3	20.9	7.6	0.5	1.0	0.3	0.1	0.2	0.2
BLN3245	0.1	4.5	0.2	2.0	64.0	19.8	8.0	0.4	0.8	0.0	0.0	0.0	0.2
BLN3342	0.1	4.3	0.2	2.0	61.0	22.0	8.4	0.5	1.0	0.0	0.0	0.2	0.2
BLN3343	0.1	4.5	0.3	1.9	63.0	21.3	6.9	0.5	1.0	0.3	0.0	0.0	0.2
BLN3344	0.1	4.8	0.2	1.9	60.5	23.0	7.4	0.5	0.9	0.3	0.0	0.2	0.2
BLN3345	0.1	4.6	0.2	1.6	63.2	20.0	8.1	0.5	1.1	0.3	0.0	0.0	0.2
BLN3346	0.1	4.8	0.3	2.0	64.4	19.5	6.9	0.5	0.9	0.3	0.0	0.2	0.2
BLN3347	0.1	4.1	0.2	2.1	63.7	19.7	7.9	0.5	1.0	0.3	0.0	0.0	0.2
CBI4403	0.1	5.1	0.3	1.8	60.9	21.5	8.1	0.5	0.9	0.4	0.0	0.2	0.2
CBI4404	0.1	4.8	0.3	1.8	62.7	20.0	8.4	0.5	1.0	0.3	0.0	0.0	0.2
H4721	0.1	4.7	0.4	1.9	65.9	17.1	7.7	0.5	1.0	0.3	0.1	0.2	0.2
H4815	0.1	4.5	0.4	2.2	64.3	19.3	6.7	0.6	1.0	0.4	0.1	0.2	0.2
JK14	0.1	4.9	0.3	1.6	57.1	23.8	9.9	0.5	0.9	0.3	0.0	0.2	0.2
MC340	0.1	4.1	0.3	2.1	68.3	16.2	7.0	0.6	1.1	0.0	0.0	0.2	0.2
MC341	0.1	3.9	0.3	2.1	53.7	15.3	5.8	0.7	8.4	0.3	9.0	0.2	0.3
MC342	0.1	4.2	0.3	2.2	66.8	16.7	7.2	0.6	1.1	0.3	0.1	0.2	0.2
MC343	0.1	4.5	0.3	1.9	63.3	20.3	7.8	0.5	1.0	0.0	0.1	0.2	0.2
MC354	0.1	4.1	0.3	2.2	66.4	17.3	7.5	0.5	1.0	0.3	0.1	0.2	0.2
MC359	0.1	4.5	0.3	1.8	63.8	19.2	7.9	0.5	1.0	0.4	0.0	0.2	0.2
RIVETTE	0.1	4.5	0.3	1.8	63.5	19.3	7.9	0.5	1.2	0.3	0.2	0.2	0.2
RP072-1M1	0.1	4.5	0.3	1.9	62.8	19.8	8.3	0.5	1.0	0.3	0.1	0.2	0.2
RP080-1M1	0.1	4.6	0.3	1.9	61.7	21.5	8.3	0.4	0.8	0.0	0.1	0.2	0.2
RQ001*MI202	0.1	5.2	0.3	1.8	58.6	22.8	9.0	0.5	0.9	0.3	0.0	0.2	0.2
RQ007*MI201	0.1	4.9	0.3	1.9	61.1	22.0	7.6	0.5	1.0	0.3	0.0	0.2	0.2
RQ055*MI203	0.1	4.6	0.3	2.1	61.5	21.2	8.5	0.4	0.8	0.2	0.0	0.1	0.2
RT001	0.1	4.7	0.3	2.0	62.2	21.0	8.1	0.4	0.8	0.0	0.1	0.1	0.2
RT002	0.1	4.8	0.3	1.9	61.4	21.5	8.1	0.4	0.8	0.3	0.0	0.2	0.2
RT003	0.1	4.3	0.3	2.0	62.1	20.9	8.2	0.4	1.0	0.3	0.1	0.2	0.2
RT004	0.1	4.7	0.3	1.9	61.7	20.9	8.6	0.4	0.8	0.2	0.0	0.2	0.2
RT005	0.1	4.9	0.3	1.7	59.9	20.7	10.0	0.5	1.1	0.3	0.1	0.2	0.2
RT006	0.1	4.7	0.3	1.9	61.5	19.4	9.8	0.5	1.0	0.4	0.0	0.2	0.2
RT007	0.1	4.6	0.3	2.0	63.3	18.0	9.5	0.5	1.0	0.3	0.0	0.2	0.2
RT008	0.1	4.8	0.3	2.0	61.6	20.8	8.4	0.5	1.0	0.0	0.1	0.2	0.2

Table 15 Fatty acid composition for 2004 canola breeding trials- S2 early conventional Lameroo (SA)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N723C	0.1	5.1	0.3	2.3	56.7	23.7	9.9	0.5	0.8	0.3	0.1	0.2	0.1
44C11	0.1	4.9	0.4	1.9	55.9	24.0	10.3	0.6	1.0	0.4	0.2	0.2	0.2
AG-OUTBACK	0.1	4.9	0.4	2.3	58.7	21.6	9.5	0.7	1.0	0.4	0.2	0.2	0.2
BLN2017*SL008-MI201	0.1	5.1	0.3	1.9	58.3	21.6	10.6	0.5	0.9	0.3	0.0	0.2	0.1
BLN2017*SL008-MI202	0.1	5.0	0.4	1.9	58.9	21.4	10.1	0.6	1.0	0.3	0.0	0.2	0.1
BLN2017*SL008-MI204	0.1	5.2	0.4	1.9	57.9	22.0	10.2	0.6	1.0	0.3	0.1	0.2	0.2
BLN2210*SL005-MI204	0.1	5.0	0.4	1.9	56.4	22.3	11.6	0.5	1.0	0.3	0.2	0.2	0.2
BLN2299*SL013-MI203	0.1	5.4	0.3	2.0	58.4	23.2	8.4	0.5	0.9	0.3	0.0	0.2	0.1
BLN2431-1W1	0.1	4.8	0.3	2.1	60.1	21.1	9.1	0.6	1.0	0.3	0.1	0.2	0.1
BLN3224	0.1	5.3	0.3	1.9	56.7	23.8	9.6	0.6	1.0	0.3	0.1	0.1	0.1
BLN3245	0.1	5.1	0.4	2.1	56.5	23.7	10.1	0.5	0.8	0.2	0.1	0.2	0.1
BLN3342	0.1	5.1	0.4	2.0	56.9	22.8	10.4	0.6	1.0	0.3	0.0	0.2	0.1
BLN3343	0.1	5.1	0.3	1.8	59.7	22.6	8.4	0.5	0.9	0.3	0.0	0.1	0.1
BLN3344	0.1	5.0	0.3	2.0	59.5	22.0	8.7	0.6	1.0	0.3	0.1	0.2	0.1
BLN3345	0.1	4.7	0.3	1.9	59.2	21.5	9.8	0.5	1.1	0.3	0.2	0.2	0.1
BLN3346	0.1	5.4	0.3	2.0	58.8	22.3	9.1	0.5	0.9	0.2	0.2	0.2	0.1
BLN3347	0.1	4.6	0.3	2.1	59.3	22.1	9.3	0.6	1.0	0.3	0.2	0.1	0.1
CBI4403	0.1	5.1	0.3	1.9	58.6	21.7	10.4	0.5	0.9	0.3	0.0	0.1	0.1
CBI4404	0.1	5.1	0.3	1.9	58.2	21.9	10.4	0.5	1.0	0.3	0.0	0.2	0.1
H4481	0.1	4.6	0.4	2.2	59.3	21.1	9.4	0.7	1.1	0.4	0.4	0.2	0.2
H4507	0.1	4.8	0.3	2.2	58.9	22.1	9.4	0.6	0.9	0.3	0.0	0.2	0.1
H4721	0.1	4.9	0.4	2.0	60.7	19.2	10.5	0.6	1.0	0.3	0.0	0.2	0.1
H4815	0.1	5.0	0.4	2.1	58.6	21.8	9.3	0.6	1.1	0.4	0.3	0.2	0.2
JK14	0.1	5.7	0.3	1.7	52.5	26.0	11.4	0.5	0.9	0.3	0.1	0.2	0.2
MC340	0.1	4.7	0.3	1.9	62.1	19.2	9.2	0.6	1.1	0.3	0.1	0.2	0.1
MC341	0.1	4.5	0.3	2.0	51.3	18.4	7.7	0.6	6.7	0.3	7.7	0.1	0.3
MC342	0.1	4.6	0.3	2.3	62.1	18.7	9.5	0.6	1.0	0.3	0.1	0.2	0.1
MC343	0.1	5.0	0.3	2.0	58.9	22.0	9.6	0.5	0.9	0.3	0.1	0.2	0.1
MC354	0.1	4.2	0.3	2.1	61.3	19.4	10.3	0.5	1.0	0.3	0.2	0.1	0.1
MC359	0.1	4.8	0.3	1.9	60.1	20.8	9.8	0.5	1.0	0.3	0.0	0.1	0.1
RIVETTE	0.1	5.0	0.3	2.0	58.7	21.5	10.0	0.6	1.1	0.3	0.2	0.1	0.1
RP072-1M1	0.1	5.0	0.3	1.9	58.1	21.5	10.7	0.6	1.1	0.4	0.2	0.2	0.1
RP080-1M1	0.1	4.9	0.3	2.0	59.3	21.6	9.8	0.5	0.9	0.3	0.2	0.2	0.1
RQ001*MI202	0.1	5.7	0.4	1.9	54.9	24.4	10.3	0.6	0.9	0.4	0.1	0.2	0.2
RQ007*MI201	0.1	4.6	0.3	2.1	58.0	22.9	9.6	0.6	1.0	0.3	0.1	0.2	0.2
RQ055*MI203	0.1	5.2	0.3	2.2	56.9	22.8	10.7	0.5	0.8	0.2	0.1	0.1	0.1
RT001	0.1	5.1	0.3	2.2	57.6	22.0	10.5	0.5	0.9	0.2	0.4	0.1	0.1
RT002	0.1	4.9	0.3	2.1	57.8	22.3	10.3	0.5	0.8	0.2	0.3	0.1	0.1
RT003	0.1	4.8	0.3	2.0	59.4	21.6	9.7	0.5	1.0	0.2	0.2	0.2	0.1
RT004	0.1	5.1	0.3	1.9	56.3	23.4	10.9	0.5	0.8	0.2	0.1	0.1	0.1
RT005	0.1	5.4	0.3	1.8	57.0	22.0	11.1	0.5	1.0	0.3	0.2	0.2	0.2
RT006	0.1	5.2	0.3	1.9	57.5	21.3	11.3	0.6	1.0	0.3	0.3	0.2	0.1
RT007	0.1	4.7	0.3	2.1	59.8	18.5	12.1	0.6	1.0	0.3	0.2	0.1	0.1
RT008	0.1	5.2	0.3	2.0	57.7	21.8	10.2	0.5	1.1	0.3	0.4	0.1	0.1

Table 16 Fatty acid composition for 2004 canola breeding trials- S2 early triazine Bellata (NSW)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
ATR-BEACON	0.1	4.8	0.3	2.0	62.0	19.9	8.9	0.5	0.9	0.2	0.2	0.2	0.2
ATR-HYDEN	0.1	4.7	0.4	2.1	62.2	19.4	8.6	0.6	1.1	0.4	0.0	0.3	0.3
ATR-STUBBY	0.1	5.4	0.4	1.7	56.2	24.4	10.0	0.5	0.9	0.3	0.0	0.0	0.2
BLN2367-1M21	0.1	5.0	0.3	1.8	60.1	21.7	8.6	0.4	1.0	0.3	0.2	0.2	0.2
BLN3355TT	0.1	5.1	0.3	1.7	59.5	22.3	9.0	0.4	0.9	0.2	0.0	0.2	0.2
BLN3356TT	0.1	4.6	0.3	1.8	61.2	21.0	9.1	0.4	0.9	0.3	0.0	0.2	0.2
BLN3357TT	0.1	4.4	0.2	2.0	63.8	19.4	8.3	0.4	0.8	0.2	0.0	0.2	0.2
BLN3358TT	0.1	4.8	0.3	2.1	63.3	20.2	7.5	0.4	0.8	0.2	0.0	0.2	0.1
CBIT419	0.1	5.6	0.3	1.7	57.7	22.9	9.6	0.5	0.9	0.3	0.0	0.2	0.2
CBIT421	0.1	5.1	0.3	1.8	61.4	19.9	9.4	0.5	0.9	0.3	0.0	0.2	0.2
CBWA-024	0.1	4.9	0.3	1.8	57.1	23.3	10.2	0.5	1.0	0.3	0.0	0.2	0.2
CBWA-025	0.1	5.0	0.4	1.8	54.9	23.8	11.6	0.5	1.0	0.3	0.1	0.3	0.2
CBWA-026	0.1	5.0	0.3	2.0	59.7	22.3	9.3	0.4	0.8	0.0	0.0	0.0	0.2
MT327	0.1	4.9	0.3	1.8	61.6	20.7	8.4	0.5	1.0	0.3	0.0	0.2	0.2
MT331	0.1	4.9	0.3	1.6	60.2	22.4	8.4	0.5	1.0	0.4	0.0	0.0	0.2
MT332	0.1	4.9	0.3	1.8	61.8	20.6	8.2	0.5	1.0	0.4	0.0	0.2	0.2
TO073*SP020	0.1	5.1	0.3	1.8	57.1	22.7	11.0	0.4	0.8	0.3	0.0	0.2	0.2
TP003-1M2	0.1	4.6	0.3	1.9	61.9	20.0	9.0	0.4	1.1	0.3	0.2	0.2	0.2
TP005-1M5	0.1	4.7	0.3	1.8	60.2	20.9	8.7	0.5	1.4	0.3	0.8	0.2	0.2
TP005-1M8	0.1	4.5	0.3	1.7	61.6	20.3	8.9	0.5	1.1	0.4	0.1	0.2	0.2
TQ002*MI202	0.1	4.5	0.3	2.0	60.2	21.6	8.8	0.5	1.1	0.3	0.3	0.2	0.2
TQ002*MI205	0.1	4.8	0.3	1.7	61.7	20.1	9.0	0.5	1.0	0.3	0.0	0.2	0.2
TQ002*MI206	0.1	5.0	0.3	1.7	60.0	21.6	8.6	0.5	1.2	0.3	0.3	0.2	0.2
TQ053*MI202	0.1	4.6	0.3	1.8	61.3	21.6	8.3	0.5	0.9	0.3	0.0	0.0	0.2
TR053	0.1	4.7	0.3	1.9	63.2	19.2	8.9	0.5	0.8	0.2	0.0	0.0	0.2

Table 17 Fatty acid composition for 2004 canola breeding trials- S2 early triazine Lameroo (SA)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
ATR-BEACON	0.1	4.9	0.3	2.1	55.9	22.4	11.9	0.5	0.9	0.2	0.1	0.5	0.1
ATR-HYDEN	0.1	5.1	0.3	1.9	57.8	20.3	12.3	0.5	1.0	0.3	0.0	0.5	0.0
ATR-STUBBY	0.1	6.0	0.5	1.8	51.9	25.9	11.7	0.5	0.9	0.3	0.0	0.3	0.1
BLN2367-1M21	0.1	5.1	0.4	2.0	57.3	22.5	10.2	0.5	1.1	0.2	0.4	0.3	0.0
BLN3355TT	0.1	4.8	0.3	2.1	59.1	21.4	10.6	0.5	0.9	0.2	0.0	0.2	0.0
BLN3356TT	0.1	5.1	0.3	1.8	56.4	22.8	11.2	0.5	0.9	0.2	0.1	0.4	0.0
BLN3357TT	0.1	5.7	0.4	1.8	53.7	25.2	11.2	0.5	0.9	0.3	0.0	0.2	0.1
BLN3358TT	0.0	5.5	0.4	2.1	56.1	22.9	10.4	0.5	0.8	0.2	0.0	0.6	0.6
CBIT419	0.1	5.0	0.3	1.8	56.0	22.8	11.8	0.5	1.0	0.3	0.1	0.2	0.0
CBIT421	0.1	5.6	0.4	1.8	56.2	22.0	12.0	0.5	1.0	0.3	0.0	0.2	0.0
CBWA-024	0.0	6.1	0.5	1.9	50.6	26.9	11.9	0.6	1.1	0.0	0.1	0.3	0.1
CBWA-025	0.1	6.1	0.5	1.9	49.6	26.7	12.9	0.6	0.9	0.4	0.0	0.2	0.0
CBWA-026	0.1	6.1	0.4	2.0	51.0	26.3	12.2	0.4	0.8	0.2	0.0	0.4	0.1
FILLER	0.0	6.1	0.5	1.8	50.5	26.3	11.6	0.5	0.9	0.3	0.1	0.8	0.7
MT327	0.1	5.5	0.4	1.9	56.6	23.3	10.4	0.6	1.0	0.0	0.0	0.0	0.0
MT331	0.0	5.3	0.3	1.8	56.6	23.5	10.5	0.6	1.1	0.0	0.0	0.2	0.0
MT332	0.1	5.2	0.4	1.8	57.5	22.5	10.1	0.6	1.0	0.3	0.0	0.3	0.1
TO073*SP020	0.1	5.6	0.4	1.9	53.3	23.8	12.7	0.5	0.8	0.3	0.0	0.5	0.0
TP003-1M2	0.1	5.0	0.3	2.1	58.4	21.0	11.2	0.5	0.9	0.2	0.0	0.2	0.0
TP005-1M5	0.1	5.5	0.3	1.8	56.2	22.7	10.9	0.5	1.1	0.3	0.3	0.2	0.0
TP005-1M8	0.1	5.0	0.3	1.7	56.9	22.8	11.1	0.5	1.0	0.3	0.0	0.2	0.0
TQ002*MI202	0.1	5.4	0.3	1.7	57.5	22.9	10.2	0.5	0.8	0.3	0.0	0.2	0.0
TQ002*MI205	0.0	5.3	0.4	1.9	54.7	22.8	11.9	0.6	1.0	0.1	0.2	0.8	0.2
TQ002*MI206	0.1	5.4	0.4	1.8	55.1	23.7	11.6	0.5	1.2	0.0	0.0	0.0	0.0
TQ053*MI202	0.1	4.9	0.4	2.0	56.5	23.1	11.0	0.5	1.0	0.2	0.3	0.1	0.0
TR053	0.1	4.8	0.3	1.9	59.4	20.4	11.3	0.5	0.9	0.2	0.0	0.2	0.1

Table 18 Fatty acid composition for 2004 canola breeding trials- S2 early clearfield trials Bellata (NSW)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N734I	0.1	4.5	0.3	2.1	63.9	19.5	7.5	0.5	1.0	0.3	0.0	0.2	0.1
44C73	0.1	4.3	0.4	2.0	62.1	20.6	8.8	0.4	0.9	0.2	0.0	0.1	0.1
BLN3363CL	0.1	4.5	0.3	1.9	62.9	21.4	6.7	0.5	1.1	0.3	0.0	0.2	0.1
BLN3364CL	0.1	4.4	0.3	2.2	64.1	20.6	6.3	0.5	0.9	0.2	0.0	0.1	0.1
BLN3365CL	0.1	4.4	0.3	2.2	65.0	19.0	7.1	0.5	1.0	0.2	0.0	0.2	0.1
BLN3366CL	0.1	4.5	0.3	1.9	63.3	21.3	6.4	0.5	1.1	0.3	0.0	0.2	0.1

Table 19 Fatty acid composition for 2004 canola trials- S2 early clearfield trials Lameroo (SA)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N734I	0.1	4.6	0.3	2.1	59.6	21.3	10.1	0.5	0.9	0.0	0.0	0.2	0.2
44C73	0.1	4.9	0.4	2.1	57.1	22.8	10.6	0.4	0.9	0.2	0.2	0.2	0.2
BLN3363CL	0.1	4.7	0.3	1.9	59.8	23.4	7.8	0.5	1.1	0.0	0.1	0.2	0.2
BLN3364CL	0.1	4.7	0.3	2.2	59.3	23.0	8.6	0.5	0.9	0.0	0.0	0.2	0.2
BLN3365CL	0.1	4.7	0.3	2.2	60.5	21.0	9.4	0.5	0.9	0.0	0.0	0.2	0.2
BLN3366CL	0.1	4.7	0.2	1.9	60.4	22.6	8.0	0.5	1.1	0.0	0.0	0.2	0.2

Table 20 Fatty acid composition for 2004 canola breeding trials- S2 mid conventional Katanning (WA)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N726C	0.1	4.4	0.3	2.0	62.0	19.8	9.6	0.5	0.9	0.2	0.0	0.1	0.1
AG-SPECTRUM	0.1	4.2	0.3	2.2	60.3	20.5	10.7	0.5	0.8	0.2	0.0	0.1	0.1
AV-SAPPHIRE	0.1	4.4	0.3	2.1	61.1	19.3	10.5	0.4	1.0	0.2	0.3	0.1	0.1
BLN3189	0.1	4.1	0.3	1.9	64.2	18.4	9.2	0.5	0.9	0.2	0.0	0.1	0.1
BLN3348	0.1	4.7	0.3	2.2	62.1	18.6	10.2	0.5	0.9	0.2	0.0	0.1	0.1
BLN3349	0.1	4.5	0.3	2.0	63.0	18.0	10.5	0.4	0.8	0.2	0.0	0.1	0.1
BLN3350	0.1	4.2	0.3	2.0	62.8	19.6	9.5	0.4	0.8	0.2	0.0	0.1	0.1
BLN3351	0.1	4.1	0.2	1.9	63.7	18.5	9.6	0.5	0.9	0.2	0.0	0.1	0.1
BLN3352	0.1	4.3	0.3	1.9	63.1	18.8	9.5	0.5	1.0	0.3	0.0	0.1	0.1
BLN3353	0.1	4.2	0.3	2.1	64.7	16.2	10.5	0.5	0.9	0.3	0.0	0.2	0.1
BLN3354	0.1	4.0	0.3	2.2	64.5	18.6	8.3	0.6	0.9	0.3	0.0	0.1	0.1
FILLER	0.1	4.2	0.3	2.0	62.6	18.6	10.3	0.5	1.0	0.3	0.0	0.1	0.1
H4540	0.1	4.2	0.2	2.0	63.5	18.4	9.6	0.5	1.0	0.2	0.0	0.1	0.1
H4822	0.1	4.1	0.3	2.2	64.0	18.1	9.2	0.5	0.9	0.2	0.0	0.1	0.1
H4908	0.1	4.1	0.3	2.1	63.7	18.1	9.4	0.6	1.0	0.3	0.0	0.1	0.1
HYOLA43	0.1	4.6	0.2	2.2	64.1	19.2	8.1	0.4	0.7	0.2	0.0	0.1	0.1
HYOLA60	0.1	4.3	0.3	1.8	62.4	19.5	9.7	0.5	1.0	0.3	0.0	0.1	0.1
MC344	0.1	4.0	0.3	2.2	65.5	17.3	8.7	0.5	0.9	0.3	0.0	0.1	0.1
MC345	0.1	4.6	0.3	1.9	61.7	19.6	9.9	0.5	0.9	0.3	0.0	0.1	0.1
MC367	0.0	3.9	0.3	1.9	66.8	15.6	9.4	0.5	1.0	0.3	0.1	0.2	0.1
MC368	0.1	3.9	0.2	1.9	67.1	15.5	9.5	0.5	1.0	0.3	0.0	0.1	0.1
MC382	0.1	4.2	0.3	2.0	63.1	19.2	9.1	0.5	1.0	0.3	0.0	0.1	0.1
MC385	0.1	4.1	0.2	1.9	64.5	17.1	10.1	0.5	0.9	0.2	0.0	0.1	0.1
MC386	0.1	4.1	0.3	1.9	64.0	17.6	10.1	0.5	1.0	0.3	0.0	0.1	0.1
Q2	0.1	4.0	0.3	1.8	62.6	18.6	10.1	0.6	1.2	0.3	0.1	0.1	0.1
RT009	0.1	4.5	0.3	2.2	61.7	18.8	10.8	0.4	0.9	0.2	0.0	0.1	0.1
RT010	0.1	4.5	0.3	2.0	63.1	17.7	10.4	0.5	1.0	0.3	0.0	0.1	0.1
RT011	0.1	4.2	0.3	2.0	63.9	17.8	9.7	0.5	0.9	0.3	0.0	0.1	0.1
RT012	0.1	4.4	0.3	2.1	62.2	18.3	10.8	0.5	0.8	0.2	0.0	0.1	0.1
RT013	0.1	4.4	0.3	2.1	62.6	19.5	9.5	0.4	0.8	0.2	0.0	0.1	0.1
RT014	0.1	4.3	0.3	1.9	62.9	17.4	11.2	0.5	0.9	0.3	0.0	0.1	0.1
RT015	0.1	4.4	0.3	2.1	60.9	20.6	9.7	0.5	0.9	0.3	0.0	0.1	0.1
RT016	0.1	4.2	0.3	2.2	61.3	20.1	9.8	0.5	1.0	0.3	0.0	0.2	0.2

Table 21 Fatty acid composition for 2004 canola breeding trials- S2 mid conventional Lake Bolac (Vic)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N726C	0.1	4.5	0.3	2.0	62.2	20.2	8.9	0.5	0.9	0.2	0.0	0.2	0.1
AG-SPECTRUM	0.1	4.3	0.2	2.1	61.4	20.4	9.8	0.4	0.8	0.2	0.0	0.1	0.1
AG-SPECTRUM	0.1	4.2	0.3	2.1	60.9	20.7	9.9	0.5	0.9	0.2	0.0	0.1	0.1
AV-SAPPHIRE	0.1	4.5	0.3	2.1	62.7	19.2	9.4	0.4	0.8	0.2	0.1	0.1	0.1
AV-SAPPHIRE	0.1	4.5	0.3	2.1	61.0	20.2	10.0	0.4	0.9	0.2	0.1	0.1	0.1
BLN3189	0.1	4.1	0.3	1.9	64.5	18.7	8.4	0.5	1.0	0.3	0.0	0.2	0.1
BLN3348	0.1	4.9	0.3	2.2	61.7	19.3	9.6	0.5	0.9	0.2	0.0	0.1	0.1
BLN3350	0.1	4.5	0.2	1.9	62.0	21.0	8.7	0.4	0.8	0.2	0.0	0.1	0.1
BLN3351	0.1	4.3	0.3	2.0	60.3	21.3	9.6	0.5	1.0	0.3	0.0	0.2	0.2
BLN3352	0.1	4.3	0.3	1.9	63.8	19.3	8.4	0.5	1.0	0.3	0.0	0.1	0.1
BLN3353	0.1	4.3	0.3	2.2	64.4	17.4	9.4	0.5	1.0	0.3	0.0	0.1	0.1
BLN3354	0.1	4.2	0.3	2.2	63.5	19.5	8.0	0.6	1.0	0.3	0.0	0.2	0.1
CBI4401	0.1	4.2	0.3	1.9	63.6	18.8	9.0	0.6	1.1	0.3	0.0	0.2	0.1
CBI4409	0.1	4.6	0.3	2.0	62.2	20.3	8.8	0.4	0.8	0.2	0.0	0.1	0.1
CBI4410	0.1	4.7	0.3	1.9	61.0	20.6	9.6	0.5	0.9	0.2	0.0	0.2	0.1
H4383	0.1	4.4	0.3	2.5	65.2	16.5	9.3	0.5	0.9	0.3	0.0	0.1	0.1
H4540	0.1	4.5	0.3	1.9	63.0	19.6	8.5	0.5	1.0	0.3	0.0	0.2	0.1
H4729	0.1	4.6	0.4	2.1	62.8	19.4	8.6	0.6	0.9	0.3	0.0	0.2	0.1
H4822	0.1	4.2	0.3	2.2	64.4	18.3	8.3	0.6	1.0	0.3	0.0	0.2	0.1
H4908	0.1	4.3	0.2	2.1	64.4	17.9	8.8	0.6	0.9	0.3	0.0	0.2	0.2
HYOLA61	0.1	4.4	0.4	2.4	64.4	17.0	9.2	0.6	0.9	0.3	0.0	0.2	0.1
J9743	0.1	4.4	0.3	2.1	60.8	20.7	9.3	0.6	1.1	0.3	0.0	0.2	0.1
J9747	0.1	4.0	0.2	2.4	65.0	17.7	8.3	0.6	1.1	0.3	0.0	0.2	0.1
MC344	0.1	4.0	0.3	2.1	65.3	18.1	8.1	0.6	1.0	0.3	0.0	0.1	0.1
MC345	0.1	4.9	0.3	1.9	62.5	19.2	9.2	0.5	0.9	0.3	0.0	0.1	0.1
MC367	0.1	4.0	0.3	2.0	67.5	16.0	7.9	0.6	1.0	0.3	0.0	0.2	0.1
MC368	0.1	3.9	0.2	2.0	67.2	16.3	8.2	0.6	1.0	0.3	0.0	0.1	0.1
MC382	0.1	4.4	0.3	2.0	63.2	19.8	8.1	0.6	1.0	0.3	0.0	0.2	0.1
MC385	0.1	4.1	0.2	1.9	66.1	17.0	8.6	0.5	0.9	0.3	0.0	0.1	0.1
MC386	0.1	4.2	0.3	1.9	65.1	17.8	8.7	0.5	1.0	0.3	0.0	0.1	0.1
RAINBOW	0.1	4.4	0.3	2.4	61.1	19.8	9.8	0.5	0.9	0.3	0.1	0.2	0.1
RAINBOW	0.1	4.4	0.3	2.3	60.1	20.3	10.5	0.5	0.9	0.2	0.1	0.2	0.1
RT009	0.1	4.6	0.3	2.2	61.2	19.6	10.4	0.5	0.9	0.2	0.0	0.1	0.1
RT010	0.1	4.5	0.3	2.2	62.1	18.8	10.0	0.6	1.0	0.3	0.0	0.1	0.1
RT011	0.1	4.3	0.3	1.9	63.4	18.7	9.2	0.5	0.9	0.3	0.0	0.1	0.1
RT012	0.1	4.5	0.3	2.1	61.5	19.3	10.4	0.5	0.9	0.2	0.0	0.1	0.1
RT013	0.1	4.6	0.3	2.1	62.8	19.8	8.6	0.4	0.8	0.2	0.0	0.1	0.1
RT014	0.1	4.3	0.3	2.0	62.3	18.4	10.6	0.5	1.0	0.3	0.0	0.1	0.1
RT015	0.1	4.4	0.3	2.1	60.1	21.7	9.4	0.5	1.0	0.3	0.0	0.2	0.2
RT016	0.1	4.3	0.3	2.1	60.8	21.0	9.4	0.5	1.0	0.3	0.0	0.2	0.2

Table 22 Fatty acid composition for 2004 canola breeding trials- S2 mid triazine Katanning (WA)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
ATR-BEACON	0.1	4.2	0.3	1.9	59.1	19.8	12.0	0.5	1.1	0.2	0.4	0.2	0.2
ATR-GRACE	0.1	4.2	0.3	1.9	59.7	19.6	11.9	0.5	1.1	0.3	0.1	0.2	0.2
ATR-HYDEN	0.1	4.1	0.3	1.9	61.0	18.5	11.7	0.5	1.1	0.3	0.0	0.2	0.2
BLN3359TT	0.1	4.5	0.3	1.9	60.1	21.0	10.5	0.4	0.8	0.2	0.0	0.1	0.1
BLN3360TT	0.1	4.1	0.2	1.9	62.4	19.5	9.9	0.5	1.0	0.2	0.0	0.1	0.1
BLN3361TT	0.1	4.5	0.3	1.8	59.9	20.5	11.0	0.5	0.9	0.2	0.0	0.2	0.2
BLN3362TT	0.1	4.8	0.3	1.7	59.8	20.7	10.8	0.4	0.9	0.2	0.0	0.1	0.1
CBIT405	0.1	4.3	0.3	2.0	60.7	20.1	10.8	0.4	0.9	0.2	0.0	0.2	0.2
CBIT418	0.1	4.4	0.3	1.9	60.0	21.0	10.5	0.5	1.0	0.2	0.0	0.1	0.2
CBIT424	0.1	4.2	0.3	2.0	59.9	19.2	12.6	0.4	0.8	0.2	0.0	0.1	0.1
MT301	0.1	4.8	0.3	1.7	57.8	21.6	11.6	0.5	1.0	0.3	0.0	0.1	0.2
MT312	0.1	4.6	0.3	2.0	58.7	20.8	11.4	0.5	1.0	0.3	0.0	0.1	0.2
MT328	0.1	4.5	0.3	1.9	59.8	20.3	10.9	0.5	1.1	0.3	0.1	0.2	0.1
T2049	0.1	4.6	0.3	1.8	57.4	21.1	12.5	0.5	1.1	0.2	0.0	0.2	0.1
T2051	0.1	4.8	0.3	1.7	55.3	22.4	13.2	0.5	1.1	0.4	0.0	0.2	0.1
T2062	0.1	4.4	0.2	1.9	59.9	20.6	11.4	0.4	0.8	0.2	0.0	0.1	0.0
TI1PINNACLE	0.1	4.3	0.3	1.7	58.9	20.2	12.1	0.5	1.1	0.3	0.2	0.2	0.2
TN4*SL909-ST202	0.1	4.1	0.3	2.0	60.7	19.1	11.8	0.5	0.9	0.2	0.0	0.1	0.2
TN4*SL910-ST207	0.1	4.3	0.3	2.0	61.3	19.2	11.2	0.4	0.9	0.2	0.0	0.1	0.1
TP004*ST201	0.1	4.6	0.3	1.9	58.6	20.8	11.4	0.5	1.0	0.3	0.0	0.2	0.2
TR050	0.1	4.7	0.3	1.8	59.9	20.1	10.7	0.5	1.1	0.3	0.0	0.2	0.2
TR051	0.1	4.5	0.2	1.8	60.0	20.0	11.4	0.4	0.9	0.2	0.0	0.2	0.1
TR054	0.1	4.2	0.2	1.9	63.4	17.7	10.9	0.4	0.8	0.2	0.0	0.1	0.1
TR061	0.1	4.3	0.3	2.0	60.6	18.7	12.2	0.5	0.9	0.2	0.0	0.1	0.2
TR062	0.1	4.3	0.3	1.9	61.4	17.8	12.3	0.5	0.9	0.2	0.0	0.1	0.1
TR064	0.1	4.1	0.3	2.2	60.4	18.8	12.2	0.5	0.8	0.2	0.0	0.1	0.1
TR065	0.1	4.2	0.3	2.0	59.5	19.8	12.4	0.4	0.8	0.2	0.0	0.1	0.1

Table 23 Fatty acid composition 2004 canola breeding trials- S2 mid triazine Lake Bolac (Vic)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
AGT111	0.1	4.5	0.3	2.0	62.2	19.8	9.2	0.5	1.0	0.3	0.0	0.1	0.1
ATR-BEACON	0.1	4.3	0.3	2.3	62.8	18.6	9.6	0.6	0.9	0.3	0.0	0.2	0.1
ATR-GRACE	0.1	4.4	0.3	2.2	62.1	19.2	9.4	0.6	1.0	0.3	0.0	0.2	0.2
ATR-GRACE	0.1	4.4	0.3	2.2	62.6	18.7	9.4	0.6	1.0	0.3	0.0	0.2	0.2
ATR-HYDEN	0.1	4.3	0.3	2.2	62.7	18.5	9.3	0.6	1.2	0.3	0.2	0.2	0.2
BLN2861TT	0.1	4.6	0.3	2.1	60.7	20.5	9.5	0.6	1.0	0.3	0.0	0.2	0.1
BLN2893TT	0.1	4.8	0.3	1.9	61.1	20.7	8.6	0.6	1.0	0.3	0.2	0.2	0.2
BLN3359TT	0.1	4.6	0.3	2.2	62.6	20.0	8.5	0.5	0.8	0.2	0.0	0.1	0.1
BLN3360TT	0.1	4.2	0.2	2.3	65.4	17.9	8.0	0.5	0.9	0.2	0.0	0.1	0.1
BLN3361TT	0.1	4.9	0.3	2.2	61.7	19.9	8.7	0.6	0.9	0.3	0.0	0.2	0.1
BLN3362TT	0.1	4.8	0.3	1.8	60.2	21.0	9.9	0.5	0.9	0.2	0.0	0.1	0.1
CBIT405	0.1	4.5	0.2	2.1	63.6	19.5	8.3	0.4	0.8	0.2	0.0	0.1	0.1
CBIT406	0.1	4.7	0.3	2.2	62.0	19.5	9.0	0.6	0.9	0.3	0.0	0.2	0.1
MT301	0.1	5.3	0.4	2.0	57.7	22.2	10.2	0.6	0.9	0.3	0.0	0.2	0.2
MT312	0.1	4.8	0.3	2.0	59.8	20.7	10.0	0.6	1.0	0.3	0.0	0.2	0.2
MT328	0.1	4.9	0.3	1.9	59.6	21.2	9.7	0.6	1.1	0.3	0.1	0.2	0.1
SURPASS501TT	0.1	4.3	0.2	1.9	63.7	20.1	8.0	0.4	0.8	0.2	0.0	0.1	0.1
T2051	0.1	4.8	0.3	1.9	56.3	22.4	11.8	0.6	1.1	0.4	0.0	0.2	0.1
T2062	0.1	4.8	0.3	2.2	60.5	20.7	9.7	0.4	0.8	0.2	0.0	0.1	0.1
TN4*SL909-ST202	0.1	4.3	0.3	2.2	62.4	19.1	9.9	0.5	0.9	0.2	0.0	0.1	0.1
TN4*SL910-ST207	0.1	4.7	0.3	2.3	60.9	20.1	9.5	0.5	0.9	0.2	0.2	0.1	0.1
TORNADO555TT	0.1	4.6	0.3	2.2	62.3	19.7	9.0	0.5	0.9	0.2	0.0	0.1	0.1
TP004	0.1	4.7	0.3	2.0	60.3	21.0	9.5	0.5	1.0	0.3	0.1	0.2	0.2
TP004*ST201	0.1	4.8	0.3	2.0	60.2	20.7	9.7	0.6	1.0	0.3	0.0	0.2	0.2
TR004	0.1	4.4	0.3	2.4	62.1	20.0	8.8	0.6	0.9	0.2	0.0	0.2	0.1
TR050	0.1	5.0	0.2	1.7	61.5	20.3	9.2	0.5	0.9	0.3	0.0	0.2	0.1
TR051	0.1	4.7	0.3	1.9	60.3	20.8	10.0	0.5	0.9	0.3	0.0	0.2	0.1
TR054	0.1	4.5	0.2	2.1	63.2	19.0	9.4	0.4	0.8	0.2	0.0	0.1	0.1
TR061	0.1	4.7	0.3	2.2	62.1	18.8	9.6	0.6	0.9	0.3	0.0	0.2	0.2
TR062	0.1	4.5	0.3	2.2	62.1	18.5	10.4	0.5	0.9	0.3	0.0	0.2	0.1
TR064	0.1	4.3	0.3	2.5	61.9	19.0	10.2	0.5	0.8	0.2	0.0	0.1	0.1
TR065	0.1	4.4	0.3	2.4	62.2	19.1	9.8	0.5	0.8	0.2	0.0	0.1	0.1

Table 24 Fatty acid composition for 2004 canola breeding trials- S2 mid clearfield Katanning (WA)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N733I	0.1	4.2	0.3	2.1	61.3	18.8	11.2	0.5	1.0	0.3	0.0	0.0	0.1
03N736I	0.1	4.3	0.3	2.1	61.4	18.7	11.1	0.6	1.0	0.3	0.0	0.0	0.1
03N737I	0.1	4.3	0.3	2.0	63.6	17.5	10.3	0.5	1.0	0.3	0.0	0.0	0.1
44C73	0.1	4.3	0.3	2.2	58.8	20.5	11.6	0.6	1.0	0.3	0.0	0.2	0.2
44C73	0.1	4.3	0.3	1.9	62.1	18.5	11.0	0.5	1.0	0.3	0.0	0.0	0.1
44C73	0.1	4.0	0.3	2.1	63.9	18.3	10.0	0.4	0.8	0.2	0.0	0.1	0.0
BLN3367CL	0.1	4.4	0.2	2.1	62.5	19.2	9.8	0.5	0.9	0.2	0.0	0.0	0.0
BLN3368CL	0.1	4.1	0.2	1.8	63.9	19.4	8.4	0.5	1.1	0.3	0.0	0.0	0.1
BLN3369CL	0.1	4.1	0.2	1.8	64.0	19.0	8.8	0.5	1.1	0.3	0.0	0.0	0.1
BLN3370CL	0.1	4.1	0.2	1.9	64.3	18.8	8.7	0.5	1.1	0.3	0.0	0.0	0.0
J9743	0.1	4.3	0.3	2.0	60.7	20.2	10.6	0.5	1.1	0.3	0.0	0.0	0.0
J9747	0.1	3.8	0.2	2.3	64.5	16.9	10.0	0.6	1.2	0.3	0.0	0.0	0.1

Table 25 Fatty acid composition for 2004 canola breeding trials- S2 mid clearfield Struan (SA)

Sample	C14:0	C16:0	C16:1	C18:0	C18:1	C18:2	C18:3	C20:0	C20:1	C22:0	C22:1	C24:0	C24:1
03N733I	0.1	4.1	0.3	2.0	60.3	19.2	11.8	0.5	1.2	0.3	0.0	0.1	0.2
03N736I	0.1	4.2	0.3	1.9	60.1	18.9	12.0	0.6	1.2	0.3	0.0	0.2	0.2
03N737I	0.1	4.1	0.3	1.9	62.3	17.7	11.4	0.5	1.1	0.3	0.0	0.2	0.1
45C75	0.1	4.2	0.3	1.8	60.7	18.6	12.3	0.5	1.1	0.3	0.0	0.0	0.2
46C76	0.1	4.1	0.2	2.0	58.5	20.0	12.6	0.6	1.2	0.3	0.2	0.2	0.2
BLN3367CL	0.1	4.2	0.2	1.9	60.8	19.8	10.8	0.5	1.1	0.3	0.0	0.1	0.1
BLN3368CL	0.1	3.9	0.2	1.8	63.4	19.0	9.2	0.5	1.2	0.3	0.0	0.1	0.1
BLN3369CL	0.1	3.9	0.2	1.8	63.7	18.5	9.6	0.5	1.3	0.3	0.0	0.1	0.1
BLN3370CL	0.1	3.8	0.2	1.8	63.6	18.9	9.2	0.5	1.3	0.3	0.0	0.1	0.2
J9743	0.1	4.3	0.3	2.0	59.3	20.4	11.4	0.6	1.1	0.3	0.0	0.1	0.1
J9747	0.1	3.8	0.2	2.2	63.9	16.9	10.2	0.6	1.3	0.4	0.0	0.2	0.2
SURPASS603CL	0.0	3.8	0.2	1.8	63.7	19.1	8.9	0.5	1.3	0.3	0.0	0.1	0.2

Definition

Canola is a term used to describe seed of the species *Brassica napus or Brassica campestris*, the oil component of which seed contains less than 2% erucic acid (C22:1) and the solid component of which seed contains less than 30 micromoles of any one of, or any mixture of, 3-butenyl glucosinolate, 4-pentenyl glucosinolate, 2-hydroxy-3-butenyl glucosinolate and 2-hydroxy-4-pentenyl glucosinolate per gram of air-dry, oil-free solid as measured by the gas chromatographic method of the Canadian Grain Commission (Canola Council, Winnipeg, Manitoba, Canada).

Methods

Moisture Content:

Moisture is determined on whole seed using a 6500 near infrared (NIR) spectrometer calibrated using AOF 4-1.6, "Moisture content of oilseeds oven method". The moisture contents are used to convert the raw data for oil and protein to the appropriate moisture content for reporting.

Oil Content:

Oil content is determined by NIR calibrated using from results obtained by supercritical fluid extraction (SCFE) AOF 4-1.27, "Oil content of oilseeds-supercritical fluid extractor". The SCFE uses low temperature and high pressure carbon dioxide to extract the oil from ground canola seed. Settings of extraction chamber temperature 120^0C, extraction chamber pressure 7500 psi, restrictor temperature 150^0C and extraction time of 1hr give good correlation with the previous reference method (petroleum ether (40-60^0C) extraction using a Goldfische apparatus). The results are reported as a percentage of the seed at 6% moisture.

Protein Content:

Protein content is determined on whole seed by NIR, calibrated from samples analysed by the LECO elemental determinator using AOF 4-3.3, "Protein, crude, of meals (combustion)". Results are reported as percent protein (nitrogen x 6.25) and calculated to 10% moisture on oil-free meal.

Glucosinolate Content:

Total glucosinolate concentration is determined by NIR, calibrated by method AOF 4-1.22 "Glucosinolate content, Glucose method, Canola and Rapeseed". The method involves an enzymatic hydrolysis to release glucose followed by a colorimetric reaction and determination by a UV-Vis spectrophotometer. The method has compared favourably with the HPLC methodology of the AOCS with the added advantage of speed and economy. Results are reported as µmoles glucosinolates/gram whole seed at 6% moisture.

Fatty Acid Composition:

Fatty acid composition involves methylation of fatty acids with sodium methoxide, AOF 4-2.18, “Preparation of fatty acid methyl esters”. The methyl esters are then separated on a gas chromatograph using a BPX70 capillary column. Fatty acids are reported as a percentage of the total fatty acids.

Iodine Values:

Iodine values are calculated from the fatty acid profile using AOF 4-2.14, “Iodine value by fatty acid composition”.

Volumetric Grain Weights:

Volumetric grain weights are measured using a Franklin chrondrometer and reported as both lbs/bushel and kg/hectolitre.