



Evaluation of cauliflower and broccoli varieties

Autumn Harvest
(January - April 2007)



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Department of Agriculture & Food
Western Australia
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Introduction

This report is the second in a series of four produced from the evaluation of cauliflower and broccoli varieties conducted at the Manjimup Horticultural Research Institute during 2006 and 2007. The results are provided to allow seed suppliers, seedling nurseries, producers, packers and marketers to identify the best variety for a particular harvest period. All varieties receive exactly the same treatment throughout their growth. This has allowed the identification of agronomic requirements that may be specific to some varieties. Varieties that have specific agronomic requirements may perform better when the growing inputs are exactly tailored to suit these varieties. Contact details for participating seed companies are available in Appendix 2.

Trial Details

Transplanting and Harvesting Dates

Table 1: Transplant and harvest dates for cauliflower and broccoli.

	Transplanting Dates	First Harvest Date	Last Harvest Date
Cauliflower	17 January 2007	29 March 2007	10 April 2007
Broccoli	17 January 2007	16 March 2007	26 March 2007

Note: Not all varieties were harvested on every date. These days represent the total harvest days across all varieties.

Transplanting

Cauliflower seedlings were transplanted into a two row per 1.7m bed configuration at a within row spacing of 40cm and a between row spacing of 80cm (29,000 plants/hectare). Broccoli seedlings were transplanted into a three row per 1.7m bed configuration at a within row spacing of 45cm and a between row spacing of 45cm (39,000 plants/hectare). All varieties were grown in 5.1m x 6m plots and were surrounded by a buffer variety. At harvest, 5m of the four inner rows of each cauliflower plot and 3m of the seven inner rows of each broccoli plot were picked, which provided approximately 100 plants for assessment (50 per replicate).

Insect, Disease and Weed Control

A monitoring program for insects and disease was conducted throughout the life of the crop and were controlled as required. Weeds were controlled prior to transplanting and post transplanting.

Weather Conditions

Weather conditions were monitored daily throughout the life of the crop. Details of the weather can be found in Appendix 1. Average maximum daily temperatures were 25.1°C in January, 25.9°C in February, 24.5°C in March and 20.1°C in April. Crops were irrigated with over-head sprinklers. Irrigation was scheduled according to 100% evaporation replacement.

Soil Characteristics

The Manjimup Horticultural Research Institute (south western region of Western Australia) is located on red earth soils which consist of a sandy loam surface changing gradually to a red clay subsoil. They are generally porous and well drained with ironstone nodules often present. These soils have a high water holding capacity but are highly weathered and usually deficient in P, N, Zn, Mo and occasionally Cu. High levels of aluminium and iron oxides and a neutral to acid soil pH results in phosphorus being easily fixed in this soil.

Fertiliser Applications

Fertiliser was applied both at transplanting and post transplanting. Details of fertiliser application are given below. All varieties received the same fertiliser program. All nitrogenous products were foliar applied to plants whilst under irrigation to prevent fertiliser burn. Summit Spud analysis: 6.9% N, 10.2% P, 10.2% K, 8.0% S, 0.15% Cu, 0.16% Zn, 0.9mg Mo, 0.15% Mn, 1.8% Ca. All Phos analysis: 20.5% P, 1.0% S, 15.0% Ca.

Table 2: Fertiliser application for all varieties.

Date	Product	Rate of Application	Method of Application
17 January 2007	Summit Spud®	1400 kg/ha	Incorporated at planting
17 January 2007	All Phos®	150 kg/ha	Incorporated at planting
20 January 2007	Potassium sulphate	100 kg/ha	Foliar application
21 January 2007	Urea	50 kg/ha	Foliar application
28 January 2007	Urea	75 kg/ha	Foliar application
30 January 2007	Soluble boron	10 kg/ha	Foliar application
30 January 2007	Sodium molybdate	1 kg/ha	Foliar application
30 January 2007	Zinc sulphate	14 kg/ha	Foliar application
3 February 2007	Calcium chelate	1 kg/ha	Foliar application
4 February 2007	Urea	75 kg/ha	Foliar application
8 February 2007	Soluble boron	10 kg/ha	Foliar application
8 February 2007	Zinc sulphate	14 kg/ha	Foliar application
11 February 2007	Urea	75 kg/ha	Foliar application
18 February 2007	Urea	75 kg/ha	Foliar application
25 February 2007	Urea	75 kg/ha	Foliar application
4 March 2007	Potassium nitrate	100 kg/ha	Foliar application
10 March 2007	Calcium nitrate	150 kg/ha	Foliar application
17 March 2007	Calcium nitrate	100 kg/ha	Foliar application
27 March 2007	Calcium nitrate	70 kg/ha	Foliar application (cauliflower only)
6 April 2007	Calcium nitrate	50 kg/ha	Foliar application (cauliflower only)

Prior to harvest

A visual assessment of vegetative vigour and plant frame was conducted at approximately ten weeks after transplanting. Varieties were given a vigour rating from one to five relative to the vigour of the control variety. Observations on plant frame size and the wrapping ability of the plant (ability of inner heart leaves to self-cover the developing curd) were recorded. The percentage of sibs present was also noted.

Covering

Curds were manually covered by bending the outer leaves surrounding the curd to form a protective barrier from the sun. This operation was conducted as required to prevent curd discolouration. The number of covers required by each variety in addition to curds covered at harvest was recorded. Curds were covered whenever the curd was visible through the frame or if there was a risk that the curd may have become visible before harvest.

Harvesting

All leaves were removed from around the cauliflower curd and broccoli head during the harvesting procedure so that an accurate estimation of yield (t/ha) could be made. Harvesting occurred every three to four days as required. Harvesting was delayed as long as possible, up to when curd/head quality would decrease if delayed longer. Broccoli was cut so the stem was about the same length as the diameter of the heads, giving an evenly proportioned head width and stem length.

Grading

The cauliflower and broccoli were graded to allow a comparison of their yield and quality to be made. All curds and heads were assessed for total and marketable yield and quality. Marketable yield was determined by the weight of the curd or head, a quality grade score and the density of the curd or head. Colour of the curd and head was also taken into account. A marketable cauliflower curd/broccoli head was considered to be of a high standard of quality (with no visible defects or markings).

An acceptable weight for cauliflower was a curd between 0.5 and 2 kg. The curd should be a round, domed shape and creamy white to white in colour. The quality score must be five or greater and the density score two or greater. An acceptable size for broccoli heads was between 5 and 20 cm in diameter or between 100 and 500 g in weight. The head should be a green colour with no purple tinges. The quality score for broccoli must be five or greater and density score two or greater.

Density scores were allocated according to the following table. The quality scores are not presented in the results as they are used only to separate poor quality curds or heads in the grading data sheets from those that are of a high standard of quality. Varieties that had a large proportion of high quality curds/heads have had this noted in the results section.

Table 3: Density scoring system for cauliflower and broccoli.

Broccoli	Cauliflower
1 = Very open head	1 = Very open curd
2 = Reasonable density (head is closed and floret stems in middle of the head cannot be easily seen)	2 = Reasonable density (florets closed but not very close to stem underneath)
3 = Very tight head (no floret stems in the middle of the head can be seen)	3 = Very tight closed curd (florets curved underneath close to stem)

The number of cauliflower curds/broccoli heads that were considered to meet domestic market specifications was recorded and the percentage of heads from each variety that could be sold on the domestic market calculated.

Storage of Product

Immediately after picking and grading cauliflower curds of a high quality standard were pre cooled to 1°C by forced air cooling, individually wrapped in paper and placed in a cardboard box which was stored at a room temperature of 1°C for 14 days. Broccoli heads of a high quality standard were pre cooled to 1°C by forced air cooling, packed into polystyrene cartons filled with ice and then placed in cool store at 1°C for 21 days. After storage, the curds and heads were removed and re-graded for after-storage quality.

Results

The varieties were assessed prior to harvest, at harvest and post storage. The vigour of varieties was assessed relative to the control variety prior to harvest, at harvest and post storage.

Table 4: Pre-harvest characteristics of cauliflower and broccoli.

Cauliflower variety	Vigour * (1 – 5)	% Sibs at 10 weeks after transplanting[#]	No. of covers required before harvest[^]	Comments[@]
Castellum	5	3	1	Large upright plant frame. Good wrapper.
CF 581	4	0	1	Medium sized plant frame. Good wrapper.
CLF 4727	4	5	1	Medium sized plant frame. Good wrapper.
CLF 5043	5	3	1	
Dexter	4	2	1	Medium sized plant frame. Reasonable wrapper.
TCF 2816	5	3	1	
TCF 2819	5	3	1	Tall upright plant frame. Average wrapper.
Summer Love - control	5	2	0	

Broccoli variety	Vigour * (1 – 5)	% Sibs at 10 weeks after transplanting[#]	No. of covers required before harvest[^]	Comments
BRC 5211	4	na	na	
Federer	5	na	na	
Viper - control	5	na	na	

* 1 = low vigour (less growth)
5 = high vigour (greatest growth)

[#] Seed was supplied as trial samples only and may not be subject to normal quality checks. Sibs are in-bred plants that have lower vigour than normal plants and produce low weight open curds.

[^] The number of covers prior to harvest indicates those varieties that require covering in addition to the covering procedure carried out during harvest.

[@] Wrapping ability refers to the ability of inner heart leaves to self-cover the developing curd from exposure to the sun.

Table 5: Maturity times, spread of harvest and total and marketable yield of cauliflower and broccoli at harvest.

Cauliflower variety	Days from transplant to first harvest[^]	Number of picks required (total yield)	Total Yield (t/ha)*	Marketable Yield (t/ha)[#]	Percentage of curds suitable for domestic market sale
Castellum	71	2	30.5	23.5	92
CF 581	71	3	30.8	27.8	99
CLF 4727	75	3	33.5	31.0	97
CLF 5043	75	3	31.1	27.5	85
Dexter	71	2	34.6	30.0	92
TCF 2816	71	4	32.7	29.4	92
TCF 2819	71	3	30.4	21.8	83
Summer Love - control	75	2	30.2	28.6	99

Broccoli Variety	Days from transplant to first harvest[^]	Number of picks required (total yield)	Total Yield (t/ha)*	Marketable Yield (t/ha)[#]	Percentage of heads suitable for domestic market sale
BRC 5211	58	2	8.6	7.8	93
Federer	61	3	10.2	10.1	98
Viper - control	58	2	12.1	11.4	98

[^] Days from transplant to first harvest have been averaged for the two replicates of each variety.

* Yields may be greater in trials than commercial practice due to all curds being picked. Curds that mature early or late compared to the main harvest period may not be included in commercial yield estimates.

[#] Yield when curds/heads not suitable for market are removed.

Table 6: Characteristics of cauliflower and broccoli at harvest.

Cauliflower variety	Average marketable curd weight (g)	Average marketable curd diameter (cm)	Density[^]	Colour[*]
Castellum	1063.2	15.4	2.9	White
CF 581	1052.7	15.6	3.0	Creamy
CLF 4727	1177.8	16.1	2.9	Off white
CLF 5043	1203.1	15.9	2.7	Off white
Dexter	1200.4	16.1	2.9	Off white
TCF 2816	1150.2	16.0	3.0	Off white
TCF 2819	1045.2	15.7	2.8	White
Summer Love - control	1044.0	15.8	3.0	Off white

Broccoli variety	Average marketable head weight (g)	Average marketable head diameter (cm)	Density[^]	Colour
BRC 5211	316.8	12.4	2.7	Green
Federer	336.5	12.7	2.9	Dark green
Viper - control	400.3	13.7	2.4	Green

[^] Average density of total yield.

^{*} Off white describes a curd that has a slightly creamy colour although it is predominately white.

Table 7: Percentage (%) of total yield picked at each harvest*.

Cauliflower variety	29 March (71)	02 April (75)	05 April (78)	10 April (83)	Total
Castellum	26	74			100
CF 581	15	46	39		100
CLF 4727		12	36	52	100
CLF 5043		4	56	40	100
Dexter	30	70			100
TCF 2816	2	51	33	14	100
TCF 2819	23	62	15		100
Summer Love - control		18	82		100

Broccoli variety	16 March (58)	19 March (61)	22 March (64)	26 March (68)	Total
BRC 5211	31	69			100
Federer		23	45	32	100
Viper - control	51	49			100

* The percentage of yield picked at each harvest has been averaged for the two replicates of each variety.

() Figure in brackets represents the number of days from transplanting to first harvest (days after transplanting).

Table 8: Cauliflower curd and broccoli head comments

Cauliflower variety	Comments (Harvest)	Comments (Post-storage)*
Castellum	Reasonable harvest quality. Marketable yield reduced due to curd yellowing.	Minor loss of post storage quality due to cell collapse.
CF 581	Good harvest quality. Minor reduction in marketable yield due to curd yellowing.	Excellent post storage quality.
CLF 4727	Very good harvest quality. Minor reduction in marketable yield due to curd yellowing.	Minor loss of post storage quality due to cell collapse and deterioration.
CLF 5043	Good harvest quality. Minor reduction in marketable yield due to the presence of 'off-types' and curd yellowing.	Minor loss of post storage quality due to cell collapse.
Dexter	Very good harvest quality. Minor reduction in marketable yield due to yellowing and splitting of curds.	Excellent post storage quality.
TCF 2816	Good harvest quality. Minor reduction in marketable yield due to irregular curd shape (lumpy) and splitting.	Excellent post storage quality.
TCF 2819	Reasonable harvest quality. Reduction in marketable yield due to presence of 'ricey' curds and yellowing.	Minor loss of post storage quality due to cell collapse.
Summer Love - control	Good harvest quality. Minor reduction in marketable yield due to curd yellowing.	Excellent post storage quality.

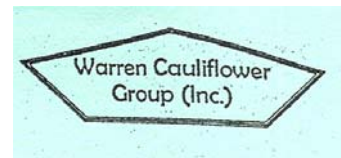
Broccoli variety	Comments (Harvest)	Comments (Post-storage)*
BRC 5211	Good harvest quality. Marketable yield reduced due to uneven beading and an uneven dome shape.	Excellent post storage quality. Minor cell deterioration.
Federer	Excellent harvest quality.	Excellent post storage quality.
Viper - control	Good harvest quality. Marketable yield reduced due to uneven beading and presence of leaf in head.	Excellent post storage quality. Minor cell deterioration.

* Collapse is the breakdown of individual 'flowers' within a floret. Discolouration of the affected 'flowers' has not yet occurred. Deterioration is the next stage from cell collapse, when the individual 'flowers' have started to turn brown or black.

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- *Rijk Zwaan*
- *Springall Nursery*
- *Syngenta*
- *Terranova Seeds*
- *Warren Cauliflower Group (Inc)*



Appendix 1

Weather records at Manjimup Horticultural Research Institute (January – April 2007)

Monthly weather summary – January 2007

Date	Temperature		Evaporation mm	Rain mm	Comment
	Max	Min			
1-Jan-07	30.1	14.1	8.1	0.0	Fine, hot
2-Jan-07	26.0	14.3	6.7	1.8	Rain developing, warm
3-Jan-07	15.3	10.8	0.4	19.2	Showers, cool
4-Jan-07	16.9	10.8	2.7	0.8	Overcast, windy, cool
5-Jan-07	15.8	12.1	1.9	0.2	Cloudy, cool
6-Jan-07	18.4	12.4	3.9	0.0	Fine, mild
7-Jan-07	23.8	9.9	7.4	0.0	Fine, warm
8-Jan-07	28.8	12.0	7.9	0.0	Fine, hot
9-Jan-07	24.7	13.8	7.1	0.0	Windy, showers, warm
10-Jan-07	20.0	12.2	2.8	9.0	Showers, mild
11-Jan-07	17.3	11.3	3.0	0.8	Windy, cloudy, drizzle, mild
12-Jan-07	21.1	12.3	4.7	0.0	Fine, mild
13-Jan-07	25.9	13.2	7.4	0.0	Fine, warm
14-Jan-07	31.2	14.9	7.8	0.0	Fine, hot
15-Jan-07	35.4	15.4	7.5	0.0	Drizzle, overcast, hot
16-Jan-07	18.2	9.9	3.5	1.2	Fine, mild
17-Jan-07	20.1	9.4	5.9	0.0	Fine, mild
18-Jan-07	23.4	10.1	5.7	0.0	Cloudy, isolated drizzle, warm
19-Jan-07	18.7	8.3	2.9	0.2	Overcast drizzle, mild
20-Jan-07	18.4	6.6	4.3	0.0	Fine, mild
21-Jan-07	24.4	9.4	5.9	0.0	Fine, warm
22-Jan-07	29.0	12.2	7.8	0.0	Fine, hot
23-Jan-07	27.0	14.0	6.8	0.0	Fine, hot
24-Jan-07	25.5	11.4	6.4	0.0	Fine, warm
25-Jan-07	28.5	12.8	7.6	0.0	Fine, hot
26-Jan-07	30.3	14.8	8.4	0.0	Fine, hot
27-Jan-07	32.2	15.3	9.0	0.0	Fine, hot
28-Jan-07	34.1	18.6	8.8	0.0	Fine, very hot
29-Jan-07	37.0	20.0	7.5	1.8	AM Thundery showers, hot
30-Jan-07	33.1	15.3	6.5	0.0	Fine, hot
31-Jan-07	28.5	16.5	6.7	0.0	Overcast, hot

Monthly weather summary – February 2007

Date	Temperature		Evaporation mm	Rain mm	Comment
	Max	Min			
1-Feb-07	23.4	15.1	4.4	0.0	Fine, warm
2-Feb-07	25.6	12.1	6.8	0.0	Fine, warm
3-Feb-07	33.5	18.2	8.1	0.0	Fine, very hot
4-Feb-07	34.8	16.4	5.6	0.0	Windy, cloudy, drizzle, hot
5-Feb-07	20.6	11.6	4.1	0.0	Windy, fine, warm
6-Feb-07	23.7	10.8	7.6	0.0	Cloudy, warm
7-Feb-07	24.4	11.1	6.7	0.0	Windy, cloudy, warm
8-Feb-07	28.2	13.9	6.9	0.0	Drizzle, cloudy, warm
9-Feb-07	19.2	11.1	2.2	0.0	Fine, mild
10-Feb-07	27.2	15.9	7.4	0.0	Fine, warm
11-Feb-07	28.8	10.8	5.0	0.0	Windy, cloudy, warm
12-Feb-07	26.3	13.4	7.1	0.2	Fine, hot
13-Feb-07	23.3	11.5	6.5	0.0	Fine, warm
14-Feb-07	27.5	10.7	6.9	0.0	Fine, warm
15-Feb-07	24.2	13.9	6.3	1.0	AM Drizzle, cloudy, warm
16-Feb-07	21.2	9.2	4.1	0.4	Windy, cloudy, warm
17-Feb-07	20.2	13.3	3.5	4.0	Showers, windy, mild
18-Feb-07	18.5	7.9	3.9	0.0	Fine, mild
19-Feb-07	23.7	11.5	6.4	0.2	Cloudy, warm
20-Feb-07	24.4	11.9	5.8	0.0	Fine, warm
21-Feb-07	30.0	13.3	6.9	0.0	Fine, hot
22-Feb-07	33.0	13.6	6.9	0.0	Fine, hot
23-Feb-07	26.2	16.6	6.5	0.0	Fine, warm
24-Feb-07	24.8	15.1	5.9	0.0	Fine, warm
25-Feb-07	25.3	17.2	6.8	0.0	Fine, warm
26-Feb-07	28.9	16.8	7.2	0.0	Warm, thundery showers, hot
27-Feb-07	27.7	17.1	3.5	1.0	Cloudy, warm
28-Feb-07	31.7	16.3	6.0	1.2	Windy, showers, hot

Monthly weather summary – March 2007

Date	Temperature		Evaporation mm	Rain mm	Comment
	Max	Min			
1-Mar-07	18.8	12.5	2.5	9.8	Gales, mild
2-Mar-07	19.9	14.1	3.9	4.4	Drizzle, mild
3-Mar-07	18.7	12.3	2.9	1.2	Fine, mild
4-Mar-07	22.1	10.6	5.7	0.2	Fine, warm
5-Mar-07	28.4	14.7	7.1	0.0	Fine, hot
6-Mar-07	34.7	19.6	8.1	0.0	Fine, very hot
7-Mar-07	37.7	22.9	9.2	0.0	Fine, very hot
8-Mar-07	39.3	21.4	8.9	0.0	Fine, very hot
9-Mar-07	29.3	14.9	6.0	0.0	Showers, hot
10-Mar-07	18.8	8.9	4.2	0.0	Fine, mild
11-Mar-07	21.3	9.3	4.8	0.0	Fine, warm
12-Mar-07	24.8	12.1	6.7	0.0	Windy, fine, warm
13-Mar-07	27.2	14.7	7.0	0.0	Fine, hot
14-Mar-07	30.2	15.7	5.6	0.0	Fine, hot
15-Mar-07	24.7	13.0	4.8	0.0	Cloudy, warm
16-Mar-07	22.6	12.2	4.8	0.0	Fine, warm
17-Mar-07	24.7	11.9	4.9	0.0	Fine, warm
18-Mar-07	30.3	16.1	6.5	0.0	Cloudy, Overnight shower, hot
19-Mar-07	32.0	16.1	4.8	4.4	Cloudy, hot
20-Mar-07	24.9	13.0	4.4	0.0	Fine, warm
21-Mar-07	26.8	11.2	5.4	0.0	Fine, warm
22-Mar-07	24.1	12.3	5.0	0.0	Windy, showers, warm
23-Mar-07	19.2	7.2	2.7	2.2	Cloudy, mild
24-Mar-07	17.4	6.8	4.1	0.0	Fine, mild
25-Mar-07	23.7	11.0	5.8	0.0	Fine, warm
26-Mar-07	26.6	10.7	4.6	0.0	Windy, showers, warm
27-Mar-07	18.4	6.2	1.6	14.2	Showers, mild
28-Mar-07	13.4	5.3	3.0	2.0	Cloudy, cool
29-Mar-07	13.4	7.4	1.9	0.0	Fine, cool
30-Mar-07	20.3	9.4	5.1	0.0	Fine, mild
31-Mar-07	26.1	12.2	5.8	0.0	Cloudy, warm

Monthly weather summary – April 2006

Date	Temperature		Evaporation mm	Rain mm	Comment
	Max	Min			
1-Apr-07	20.9	11.3	2.7	4.0	Showers, warm
2-Apr-07	16.9	13.2	1.8	0.8	Cloudy, mild
3-Apr-07	22.4	12.4	3.2	0.2	Fine, warm
4-Apr-07	26.9	13.2	4.9	0.0	Fine, warm
5-Apr-07	27.6	16.6	5.1	0.0	Fine, hot
6-Apr-07	28	13.0	3.6	0.0	Fine, hot
7-Apr-07	24.1	12.2	4.1	0.0	Cloudy, warm
8-Apr-07	24.5	12	3.4	3.4	Showers, warm
9-Apr-07	15.4	9.2	2.1	2.2	Overcast, mild
10-Apr-07	15.0	9.5	1.3	0.0	Overcast, mild
11-Apr-07	18.9	12.5	2.8	0.2	Fine, warm
12-Apr-07	22.0	10.5	2.9	0.0	Fine, warm
13-Apr-07	23.7	13.1	4.2	0.0	Cloudy, warm
14-Apr-07	20.3	15.2	1.5	0.0	Cloudy, warm
15-Apr-07	23.4	14.5	2.9	11.4	Widespread showers, warm
16-Apr-07	16.2	9.1	0.3	19.0	Drizzle, mild
17-Apr-07	16.2	9.5	1.9	0.2	Overcast, Overnight showers, mild
18-Apr-07	17.5	10.5	1.7	2.6	Cloudy, mild
19-Apr-07	16.8	6.0	3.1	0.2	Cloudy, mild
20-Apr-07	17.1	10.5	1.8	0.4	Cloudy, mild
21-Apr-07	17.0	9.5	1.4	2.4	Fine, mild
22-Apr-07	20.2	10.1	2.9	0.0	Thundery showers, warm
23-Apr-07	20.6	11.4	2.0	3.0	Partly cloudy, warm
24-Apr-07	22.4	11.7	2.5	0.4	Showers, warm
25-Apr-07	16.9	8.0	1.4	5.4	Overcast, Overnight showers, mild
26-Apr-07	15.2	6.2	2.0	0.0	Fine, mild
27-Apr-07	18.2	7.8	3.2	0.2	Cloudy, mild
28-Apr-07	19.0	8.7	3.1	0.0	Windy, cloudy, mild
29-Apr-07	18.9	13.1	2.7	0.0	Windy, mild
30-Apr-07	19.4	9.6	1.6	14.8	Showers, mild

Appendix 2

Seed company details (Western Australia):

Cauliflower Variety	Seed Company	Contact Person	Mobile Number
Castellum (formerly WA 05 – 3)	Rijk Zwaan	Dusanka Milunovic	0439 330 123
CF 581	Syngenta Seeds	Kevin Gugiatti	0408 499 990
CLF 4727	Lefroy Valley	Alek Moreno	0418 914 714
CLF 5043	Lefroy Valley	Alek Moreno	0418 914 714
Dexter (formerly WA 05 - 1)	Rijk Zwaan	Dusanka Milunovic	0439 330 123
TCF 2816	Terranova seeds	Jamie Hagart	0417 930 233
TCF 2819	Terranova seeds	Jamie Hagart	0417 930 233
Summer Love - control	Syngenta Seeds	Kevin Gugiatti	0408 499 990

Broccoli Variety	Seed Company	Contact Person	Mobile Number
BRC 5211	Lefroy Valley	Alek Moreno	0418 914 714
Federer (formerly WA 05 – 2B)	Rijk Zwaan	Dusanka Milunovic	0439 330 123
Viper - control	Lefroy Valley	Alek Moreno	0418 914 714

Important Disclaimer

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This document has been prepared from a cauliflower and broccoli variety evaluation trial conducted at the Manjimup Horticultural Research Institute, South Western Highway, Manjimup WA 6258. The results reflect the growth characteristics, yield, quality and density of the cauliflower and broccoli varieties as recorded at this site during the conditions of the growing period (January to April 2007).

Variations in the characteristics of the cauliflower and broccoli varieties may occur during other growth period, locations and management programs. The availability of the document does not imply suitability to other areas, growth periods or management programs and any interpretation is the responsibility of the user.