Project title: Field Vegetables: An evaluation of

autumn/winter cauliflower, spring cabbage cultivars and other winter brassica crops.

Project number: FV 202f

Project leader: Bill Herring, Duchy College

Report: Final report August 2014

Previous report: Annual report 2013

Key staff: Bill Herring

Malcolm Millar Ellis Luckhurst

Location of project: Trevarnon Farm, Gwithian, Hayle,

Cornwall TR 27 5EB

Industry representative: Ellis Luckhurst

Date project commenced: 1st April 2011

Date project completed 30TH June 2014

(or expected completion date):

DISCLAIMER

AHDB, operating through its HDC division seeks to ensure that the information contained within this document is accurate at the time of printing. No warranty is given in respect thereof and, to the maximum extent permitted by law the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

Copyright, Agriculture and Horticulture Development Board 2014. All rights reserved.

No part of this publication may be reproduced in any material form (including by photocopy or storage in any medium by electronic means) or any copy or adaptation stored, published or distributed (by physical, electronic or other means) without the prior permission in writing of the Agriculture and Horticulture Development Board, other than by reproduction in an unmodified form for the sole purpose of use as an information resource when the Agriculture and Horticulture Development Board or HDC is clearly acknowledged as the source, or in accordance with the provisions of the Copyright, Designs and Patents Act 1988. All rights reserved.

AHDB (logo) is a registered trademark of the Agriculture and Horticulture Development Board.

HDC is a registered trademark of the Agriculture and Horticulture Development Board, for use by its HDC division.

All other trademarks, logos and brand names contained in this publication are the trademarks of their respective holders. No rights are granted without the prior written permission of the relevant owners.

The results and conclusions in this report are based on an investigation conducted over a one-year period. The conditions under which the experiments were carried out and the results have been reported in detail and with accuracy. However, because of the biological nature of the work it must be borne in mind that different circumstances and conditions could produce different results. Therefore, care must be taken with interpretation of the results, especially if they are used as the basis for commercial product recommendations.

AUTHENTICATION

We declare that this work was done under our supervision according to the procedures described herein and that the report represents a true and accurate record of the results obtained.

Bill Herring	
Curriculum Area Manager/ Trials Coordinator	
Duchy College	
SignatureBill HerringDate	20.08.2014
Report authorised by:	
[Name]	
[Position]	
[Organisation]	
Signature	Date

CONTENTS

Grower summary	1
Headline	1
Background	1
Results	1
Main conclusions	6
Full trial report	7
Introduction	7
Trial site details	16
Production details	16
Trial design	18
Trial records and data collected	18
Discussion	20
Conclusions	20
Technology transfer	21
Appendices	21

GROWER SUMMARY

Headline

The introduction of new Autumn and Winter cauliflower cultivars has again increased Grade 1 marketable product, many being 10% above standard cultivars based on 25315 plants/Hectare (10249/Acre) for the Autumn cultivars and 21193 plants/Hectare (8580/Acre) for the Winter cultivars. Potential income can be increased by £829/Ha. This is a real possibility with many producers now on a fixed price for their produce.

Background

Duchy College working in partnership with eight National seed houses and local growers have carried out the evaluation of commercially available Autumn, Winter Cauliflower and Spring greens cultivars over the past 18 years. Initially introduced into the Confidential/Screening Trials and then within the commercially available Trials each cultivar has been recorded and evaluated year on year. With the improvement in plant breeding and new cultivars being introduced these need to be assessed alongside current and established varieties in order to compare yields and quality of produce. With improved uniformity, disease resistance, and curd protection the need to compare with current cultivars is even more important in order to plan the production of the crop in order to meet market requirements and provide the best returns to the grower.

Results

Please refer to full trial report for full and comprehensive information on the results.

The following cultivars are of most interest to the industry. Some are new introductions to compliment cultivars that have been grown as the standard cultivars for specific production periods.

Overall the 2013-14 season was one of the poorest for marketable yield in the last 15 years of Trials. This was due to a wet planting period in July which resulted in over 25% of the nationally cropped area being planted 2 to 3 weeks later than planned. A late attack of Cabbage rootfly in late August/early September weakened some plants especially those transplanted later in July and was really noticeable on commercial crops transplanted in early August.

The Trials were planted on the 10th and 19th July similar to previous seasons.

This wet period was followed by a very mild September and early October, resulting in rapid plant growth resulting in a number of cultivars showing both white and green bracts in the curds, down grading produce to Class 2. However many of the Late Autumn cultivars performed well despite the weather conditions and some of the Winter cultivars produced high yields of Class 1 product especially in the heading period from February onwards.

The Spring Greens Trial was planted into good conditions however a late attack of Cabbage Root fly in mid September severely damaged a number of varieties resulting in poor yields. This late attack is uncommon in Cornwall with Cabbage rootfly not normally seen after late August.

Results over several seasons will need to be considered when selecting cultivars for production. Full information on all varieties can be found in the 'Full Trial Report'.

Comments on curd protection, disease, uniformity, suitability for various markets, defects and ease of harvesting are found in the Full Trial report Appendices.

Autumn Cauliflower 2013 Top performing cultivars

Transplanted at 25315 plants/Hectare (10249/Acre)

Seed House	Cultivar	% Class 1	Trays/Hectare (Acre)	Heading period
			Grade 1 (8/tray)	10 - 90% dates
Monsanto	Forata	74	2013 (815)	10.10.13 – 21.10.13
Sakata	CF 10827	75	2183 (884)	10.10.13 – 22.10.13
Syngenta	C 4010	77	2248 (910)	12.10.13 – 22.10.13
Monsanto	Aquata	70	2109 (854)	12.10.13 – 24.10.13
Syngenta	C 4018	88	2584 (1046)	14.10.13 – 21.10.13
Clause	Naruto	83	2373 (961)	15.10.13 – 25.10.13
Clause	Optimist	72	2151 (871)	15.10.13 – 28.10.13
Clause	Rafale	75	2359 (955)	15.10.13 – 30.10.13
Clause	Regata	71	2161 (875)	17.10.13 – 27.10.13
Monsanto	5965	74	2188 (886)	17.10.13 – 28.10.13
Sakata	Amadine	79	2329 (943)	27.10.13 – 02.11.13

Winter Cauliflower 2013 - 14 Top performing cultivars.

Yields will vary as there were two transplanting dates (10th and 19th July 2013) although spacings were the same for each cultivar within the Trials.

Transplanted at 21193 plants/Hectare (8580/Acre)

Seed House	Cultivar	% Class 1	Trays/Hectare (Acre)	Heading period
			Grade 1 (8/tray)	10 - 90% dates
Clause	Navalo	76	1803 (730)	25.10.13 – 08.11.13
Syngenta	4022	71	1788 (724)	27.10.13 – 06.11.13
Syngenta	4026	66	1677 (679)	04.11.13 – 20.11.13
Clayse	Diwan	59	1432 (580)	05.11.13 – 25.11.13
Syngenta	4013	53	1402 (568)	16.11.13 – 16.12.13
Vilmorin	Lecatis	58	1539 (623)	11.12.13 – 13.12.13
Elsoms	Paciano	57	1366 (553)	02.01.14 – 18.01.14
Vilmorin	Trevaskis	74	1961 (794)	27.01.14 – 22.02.14
Monsanto	5697	62	1642 (665)	08.02.14 – 27.02.14
Syngenta	Canten	73	1909 (773)	14.02.14 – 08.03.14
Monsanto	Carantic	85	2252 (912)	19.02.14 – 08.03.14
Clause	Brick	75	1919 (777)	19.02.14 – 03.03.14
Vilmorin	Dionis	68	1880 (761)	19.02.14 – 06.03.14
Clause	Fleet	75	1961 (794)	25.02.14 – 08.03.14
Syngenta	5022	75	1901 (770)	25.02.14 – 10.03.14
Tozer	2067	73	1800 (729)	25.02.14 – 15.03.14
Nickerson	AE 6272	73	1879 (761)	27.02.14 – 06.03.14
Syngenta	Clemen	80	1901 (770)	27.02.14 – 11.03.14
Tozer	2042	80	2052 (831)	06.03.14 - 13.03.14
Elsoms	Madiot	79	2100 (850)	10.03.14 – 20.03.14
Tozer	2038	85	2200 (891)	11.03.14 – 25.03.14
Syngenta	5008	77	2020 (818)	11.03.14 – 31.03.14
Elsoms	Isadora	84	1988 (805)	13.03.14 – 24.03.14
Clause	Mascaret	73	1827 (740)	13.03.14 - 05.04.14
Elsoms	Mystique	82	2119 (858)	15.03.14 – 24.03.14
Nickerson	AE 9307	77	2020 (818)	20.03.14 - 03.04.14
Nickerson	AE 9311	70	1842 (746)	22.03.13 – 05.04.14
Syngenta	Danden	82	2139 (866)	25.03.14 – 07.04.14
Syngenta	Drunen	76	1872 (758)	30.03.14 – 10.04.14
Syngenta	Charif	89	2329 (943)	05.04.14 – 14.04.14
Elsoms	Vogue	88	2055 (832)	07.04.14 – 10.04.14

Late heading Winter cauliflower 2013-14 Top performing varieties

These plots were transplanted on the 10th July 2013 aiming to head in the period of April through to late May 2014. Over recent seasons there has been a shortage of Cauliflower for this period which has resulted in the increase of imported produce to maintain supply to the various market outlets. Although fixed price returns to the grower over this heading period are not guaranteed there is scope to aim for this market share.

Transplanted at 21193 plants/Hectare (8580/Acre)

Seed House	Cultivar	% Class 1	Trays/Hectare (Acre)	Heading period
			Grade 1 (8/tray)	10 - 90% dates
Syngenta	Delon	89	2351 (952)	
Syngenta	C5025	85	2223 (900)	10.04.14 – 17.04.14
Clause	CHF 10-106	79	2040 (826)	15.04.14 – 10.05.14
Tozer	2072	81	1714 (694)	15.04.14 – 08.05.14
Elsoms	Fletcher	89	2304 (933)	21.04.14 – 08.05.14
Tozer	3064	66	1743 (706)	26.04.14 – 10.05.14
Tozer	3060	65	1697 (87)	05.05.14 – 12.05.14
Tozer	3008	61	1605 (650)	12.05.14 – 26.05.14

Spring Green cultivars Main Results

Seed House	Comments	Transplanting	Harvest	Pack out yield
Cultivar		Date	dates	Trays/Acre
				(10 bags x
				550grams)
Tozer	Crinkled leaf type.			
Wintergreen	Variable size greens.	06.09.13	12.02.14	448
(Traditional open	Dark green leaf. Some root fly			
pollinated variety)	damage in mid September.			
	(approximately 40% of the			
	crop).			
Monsanto	Slightly crinkled leaf type.			
RX 7014	Paler inner leaf. Very uniform.	06.09.13	12.02.14	630
	Heavy cabbage greens. Very			
	few unmarketable greens.			
	Little waste.			
	Easy to cut.			
Monsanto	Paler inner leaf. Uniform.			
RX 7027	Upright frame. Suffered from	06.09.13	12.02.14	247
	Cabbage root fly damage in			
	mid September.			
	(approximately 60% of the			
	crop)			
Monsanto	Compact. Uniform. Paler inner			
Summer green	leaf. Suffered from Cabbage	06.09.13	12.02.14	220
	root fly damage in mid			
	September. (approximately			
	70% of crop)			
Monsanto	Some variation in plant size.			
Evergreen	Suffered from Cabbage root fly	06.09.13	12.02.14	270
	damage. (approximately 70%			
	of crop)			
Monsanto	Uniform. Slightly crinkled leaf			
Winter Special	type.	06.09.13	12.02.14	580
	Some variation in size. Good			
	greens.			
	Few gaps.			

The trials were undertaken at Trevarnon Farm, Gwithian, Cornwall. The soil type being a sandy clay loam. The site is south facing and is part of a farm rotation based around Brassicas, cereals and grass break crops. The Farm has traditionally grown Brassica crops supplying both the multiple and local markets. The Trial itself is treated as a commercial crop undergoing similar field operations as the commercially grown crops. The cultivars are harvested twice a week on a similar basis as commercial crops on the farm.

Main conclusions

All of the cultivars that have performed well during 2013-14 are commercially available to growers, each with their own characteristics, traits and qualities. The large number of cultivars available enables growers to select suitable cultivars for their production systems, which vary from farm to farm and area to area. The cultivars available ensure continuous supply complimenting each other throughout the production period. However there is a continuous need to improve output and quality especially in the production period between late December and early February where yields can be lower. There have been a number of new introductions over this period, which have performed very well alongside established cultivars.

Trials have also been undertaken where a number of confidential cultivars from a range of seed companies have been assessed with some new named cultivars being introduced into the commercially available cultivar Trials for 2014 -15 and a number to follow in subsequent years. There is renewed interest in the late heading cultivars for the heading period of April and into mid May.

The inclement weather patterns of both the 2012-13 and 2013-14 seasons has enabled growers to observe those cultivars that have performed consistently despite the inclement growing conditions. 2012-13 proved to be one of the highest yielding seasons whereas the 2013 -14 season was one of the poorest yielding seasons in the last 20 years.

FULL TRIAL REPORT

Introduction

Working in partnership with a number of national seed-houses the Trials have enabled the evaluation of commercially available Autumn, Winter Cauliflower and Spring Green cultivars, in order that improved cultivars can be assessed alongside current and established cultivars in order to improve yields, quality of produce and continuity of supply.

The Autumn Cauliflower Trial compared established cultivars alongside new introductions for the heading period of early October to late November.

The main Winter Cauliflower Trial compares cultivars transplanted in early and late July and provides detailed information on the advantages/disadvantages of staggered transplanting dates, which is commercially practiced in order to maximize the potential of some cultivars. This Trial covers cultivars heading from late November through to May.

Increased interest and opportunities to market later heading Winter Cauliflower has seen a number of new introductions for the May period and these have been evaluated with some cultivars performing well.

The Spring Greens Trial compares commercially grown hybrid cultivars transplanted alongside the traditional Wintergreen cultivar. These are then assessed for suitability as greens being harvested from late January to March depending on the cultivar and season. All cultivars transplanted as modules in early September 2013.

The Cauliflower Trials provide detailed information on each cultivar including:-

- Harvesting period. 10% 50% and 90% harvest dates.
- %Grade 1, Grade 2 and unmarketable produce.
- Marketable yields.
- Comments on any defects, including disease tolerance especially for Xanthomonas and mildew, pest presence, and the suitability for the various market outlets.
- Evaluation on the ease of harvesting, packing, uniformity, depth and quality of curds.
- Comments on curd protection, leaf quality and crop growth.

Varieties and numbered selections included

The Autumn Cauliflower Trial consisted of 14 cultivars replicated twice, transplanted at 25315 plants/Ha (10249/acre). Transplanted on the 10th July 2013.

The Winter Cauliflower Trial consisted of 59 cultivars transplanted at 21193 plants/Hectare (8580/Acre). Transplanted on the 10th and 19th July 2013.

The Late Variety Trial consisted of 20 cultivars replicated twice, transplanted at 21193 plants/Hectare (8580/Acre).

The Spring Greens Trial compared 5 hybrid cultivars with the traditional Wintergreen cultivar. All from different seed houses.

Field plan is found at the beginning of the Appendices.

AUTUMN CAULIFLOWER VARIETY TRIAL 2013 - 14

PL	ОТ	VARIETY	SEEDHOUSE	HEADING PERIOD
	49	FORATA (RX5710)	MONSANTO	OCTOBER
	50	NARUTO	CLAUSE	MID OCTOBER
	51	DAVID	SYNGENTA	MID OCTOBER
	52	RAFALE	CLAUSE	MID/LATE OCTOBER
	53	BELLAMY	RIJK ZWAAN	LATE OCTOBER
	54	REGATA	CLAUSE	LATE OCTOBER
	55	5965	MONSANTO	LATE OCTOBER
	56	OPTIMIST	CLAUSE	LATE OCTOBER
	57	CF 10827	SAKATA	LATE OCTOBER
	57B	RAYLEIGH	SYNGENTA	LATE OCTOBER
	58	5982	MONSANTO	EARLY NOV
	59	C4010	SYNGENTA	EARLY NOV
	60	AQUATA	MONSANTO	EARLY NOV
	62	FORATA (RX5710)	MONSANTO	OCTOBER
	63	NARUTO	CLAUSE	MID OCTOBER
	65	RAFALE	CLAUSE	MID/LATE OCTOBER
	66	BELLAMY	RIJK ZWAAN	LATE OCTOBER
	67	REGATA	CLAUSE	LATE OCTOBER
	68	5965	MONSANTO	LATE OCTOBER
	69	OPTIMIST	CLAUSE	LATE OCTOBER
	70	CF 10827	SAKATA	LATE OCTOBER
	71	5982	MONSANTO	EARLY NOV
	72	C4010	SYNGENTA	EARLY NOV
	73	AQUATA	MONSANTO	EARLY NOV
	74	4018	SYNGENTA	EARLY NOV

10249 PLANTS/ACRE (34" X 18")

WINTER CAULIFLOWER TIME OF PLANTING TRIAL 2013 – 14 (10.07.13)

PLOT	VARIETY	SEEDHOUSE	HEADING PERIOD
75	AF4158	NICKERSON	NOVEMBER
76	TELDE (BJ 2890)	ELSOMS	NOVEMBER
77	LESTERN	SYNGENTA	MID/LATE NOV
78	NAVALO	CLAUSE	MID NOVEMBER
78B	4022	SYNGENTA	MID NOVEMBER
79	DIWAN	CLAUSE	LATE NOVEMBER
79B	4026	SYNGENTA	LATE NOVEMBER
80	CENDIS	VILMORIN	EARLY DEC
81	GALIOTE	CLAUSE	EARLY DEC
82	LECATIS (AB 9130)	VILMORIN	DECEMBER
83	SGC 4013	SYNGENTA	EARLY DEC
84	BELOT	ELSOMS	MID DECEMBER
85	ALTADIS	SYNGENTA	DECEMBER
87	TRIOMPHANT	CLAUSE	MID/LATE DEC
89	AB 1089	NICKERSON	LATE DEC/JAN
90	FT 1001	TOZER	MID/LATE DEC
91	MAGINOT	ELSOMS	DECEMBER
92	TERMINILLO	MONSANTO	DEC/JAN
93	ALPEN	SYNGENTA	LATE DEC/JAN
95	JUBARTE	CLAUSE	EARLY/MID JAN
96	CHF 12 – 121	CLAUSE	EARLY/MID JAN
97	PACIANO (BJ 2784)	ELSOMS	MID JANUARY
98	5697	MONSANTO	JANUARY
99	FT 1018	TOZER	MID JANUARY
100	ARKWRIGHT	SYNGENTA	MID JANUARY
101	FT 1043 FMS	TOZER	MID JANUARY
102	FT 1039	TOZER	MID/LATE JAN
103	BRICK	CLAUSE	LATE JANUARY
104	TINTAGEL	MONSANTO	JANUARY/FEB
105	AF 6272	NICKERSON	JANUARY/FEB

106	DIONIS	VILMORIN	EARLY FEB
108	FT 1036	TOZER	EARLY FEB
109	REDOUTABLE	CLAUSE	EARLY FEB
110	TREVASKIS (AC 7111)	VILMORIN	EARLY FEB
111	CANTEN	SYNGENTA	EARLY/MID FEB
112	AMOR	ELSOMS	FEBRUARY
113	TREVIGNIS (AC 7140)	VILMORIN	MID FEBRUARY
114	FLEET	CLAUSE	MID FEBRUARY
115	CLEMEN	SYNGENTA	MID/LATE FEB
116	MASCARET	CLAUSE	MID/LATE FEB
119	SGC 5022	SYNGENTA	LATE FEB/MARCH
120	CARANTIC	MONSANTO	LATE FEB/MARCH
121	AE 8206	NICKERSON	LATE FEB/MARCH
122	SGC 5008	SYNGENTA	EARLY/MID MARCH
123	AE 9311	NICKERSON	LATE FEB/MARCH
124	FT 2038	TOZER	EARLY MARCH
125	AE 9307	NICKERSON	LATE FEB/MARCH
126	MADIOT	ELSOMS	EARLY MARCH
128	MYSTIQUE	ELSOMS	EARLY MARCH
129	FT 2063	TOZER	MARCH
130	FT 2042	TOZER	MARCH
131	ISADORA	ELSOMS	EARLY/MID MARCH
132	DANDEN	SYNGENTA	MID/LATE MARCH
133	FT 2050	TOZER	MARCH
134	VOGUE	ELSOMS	LATE MARCH
135	CHARIF	SYNGENTA	LATE MARCH
136	FT 2067	TOZER	LATE MARCH
137	DRUNEN (SG 4717)	SYNGENTA	LATE MAR/APRIL

8580 PLANTS/ACRE (34" x 21")

WINTER CAULIFLOWER TIME OF PLANTING TRIAL 2013 – 14 (19.07.13)

PLOT	VARIETY	SEEDHOUSE	HEADING PERIOD
183	AF4158	NICKERSON	NOVEMBER
184	TELDE (BJ 2890)	ELSOMS	NOVEMBER
185	LESTERN	SYNGENTA	MID/LATE NOV
186	NAVALO	CLAUSE	MID NOVEMBER
186B	4022	SYNGENTA	MID NOVEMBER
187	DIWAN	CLAUSE	LATE NOVEMBER
187B	4026	SYNGENTA	LATE NOVEMBER
188	CENDIS	VILMORIN	EARLY DEC
189	GALIOTE	CLAUSE	EARLY DEC
190	LECATIS (AB 9130)	VILMORIN	DECEMBER
191	SGC 4013	SYNGENTA	EARLY DEC
192	BELOT	ELSOMS	MID DECEMBER
193	ALTADIS	SYNGENTA	DECEMBER
194	TRIOMPHANT	CLAUSE	MID/LATE DEC
195	AB 1089	NICKERSON	LATE DEC/JAN
196	FT 1001	TOZER	MID/LATE DEC
197	MAGINOT	ELSOMS	DECEMBER
198	TERMINILLO	MONSANTO	DEC/JANUARY
199	ALPEN	SYNGENTA	LATE DEC/JAN
201	JUBARTE	CLAUSE	EARLY/MID JAN
202	CHF 12 – 121	CLAUSE	EARLY/MID JAN
203	PACIANO (BJ 2784)	ELSOMS	MID JANUARY
204	5697	MONSANTO	JANUARY
205	FT 1018	TOZER	MID JANUARY
206	ARKWRIGHT	SYNGENTA	MID JANUARY
207	FT 1043 FMS	TOZER	MID JANUARY
208	FT 1039	TOZER	MID/LATE JAN
209	BRICK	CLAUSE	LATE JANUARY
210	TINTAGEL	MONSANTO	JANUARY/FEB

21	1 AF 6272	NICKERSON	JANUARY/FEB
21	2 DIONIS	VILMORIN	EARLY FEB
213	3 FT 1036	TOZER	EARLY FEB
21	4 REDOUTABLE	CLAUSE	EARLY FEB
21	5 TREVASKIS (AC 7111)	VILMORIN	EARLY FEB
21	6 CANTEN	SYNGENTA	EARLY/MID FEB
21	7 AMOR	ELSOMS	FEBRUARY
218	8 TREVIGNIS (AC 7140)	VILMORIN	MID FEBRUARY
219	9 FLEET	CLAUSE	MID FEBRUARY
22	O CLEMEN	SYNGENTA	MID/LATE FEB
22	1 MASCARET	CLAUSE	MID/LATE FEB
22	2 SGC 5022	SYNGENTA	LATE FEB/MARCH
22	3 CARANTIC	MONSANTO	LATE FEB/MARCH
22	4 AE 8206	NICKERSON	LATE FEB/MARCH
22	5 SGC 5008	SYNGENTA	EARLY/MID MARCH
22	6 AE 9311	NICKERSON	LATE FEB/MARCH
22	7 FT 2038	TOZER	EARLY MARCH
22	8 AE 9307	NICKERSON	LATE FEB/MARCH
22	9 MADIOT	ELSOMS	EARLY MARCH
23	1 MYSTIQUE	ELSOMS	EARLY MARCH
23	2 FT 2063	TOZER	MARCH
23	3 FT 2042	TOZER	MARCH
23	4 ISADORA	ELSOMS	EARLY/MID MARCH
23	5 DANDEN	SYNGENTA	MID/LATE MARCH
23	6 FT 2050	TOZER	MARCH
23	7 VOGUE	ELSOMS	LATE MARCH
23	8 CHARIF	SYNGENTA	LATE MARCH
23	9 FT 2067	TOZER	LATE MARCH
24	DRUNEN (SG 4717)	SYNGENTA	LATE MARCH/APR

8580 PLANTS/ACRE (34" X 21")

WINTER CAULIFLOWER LATE VARIETY TRIAL 2013 - 14

PLOT	VARIETY		SEEDHOUSE	HEADING PERIOD
1	FLETCHER		ELSOMS	EARLY APRIL
2	FT 2072		TOZER	EARLY APRIL
3	CHF 10-106	(clx33116)	CLAUSE	EARLY/MID APRIL
4	C5025		SYNGENTA	EARLY/MID APRIL
5	DELON (SG	4724)	SYNGENTA	MID/LATE APRIL
7	TENFOLD		MONSANTO	LATE APRIL/MAY
8	MUMBLES	(FT 3062)	TOZER	LATE APRIL/MAY
9	DUNGENES	S (FT 3042)	TOZER	LATE ARPIL/MAY
11	ALDERNEY	(FT 3064)	TOZER	EARLY MAY
12	WRANGLE	(FT 3007)	TOZER	EARLY MAY
14	VT 3001		VILMORIN	EARLY/MID MAY
16	LONGSHIPS	(FT 3008)	TOZER	MID MAY
17	GUNFLEET	(FT 3052)	TOZER	MID MAY
18	MAYFAIR		SYNGENTA	MID/LATE MAY
19	SCARBORO	UGH (FT 305	59) TOZER	MID/LATE MAY
20	GODREVY	(FT 3069)	TOZER	MID/LATE MAY
21	FT 3071		TOZER	MID/LATE MAY
22	FLUGGA	(FT 3060)	TOZER	MID/LATE MAY
23	LISMORE	(FT 3063)	TOZER	MAY
24	FT 3070		TOZER	MAY
25	FLETCHER		ELSOMS	EARLY APRIL
26	FT 2072		TOZER	EARLY APRIL
27	CHF 10-106	(clx33116)	CLAUSE	EARLY/MID APRIL
28	C5025		SYNGENTA	EARLY/MID APRIL
29	DELON (SG	4724)	SYNGENTA	MID/LATE APRIL
31	TENFOLD		MONSANTO	LATE APRIL/MAY
32	MUMBLES	(FT 3062)	TOZER	LATE APRIL/MAY
33	DUNGENES	S (FT 3042)	TOZER	LATE APRIL/MAY
35	ALERNEY	(FT 3064)	TOZER	EARLY MAY

36	WRANGLE (FT 300	07) TOZER	EARLY MAY
38	VT 3001	VILMORIN	EARLY/MID MAY
40	LONGSHIPS (FT 30	08) TOZER	MID MAY
41	GUNFLEET (FT 305	52) TOZER	MID MAY
42	MAYFAIR	SYNGENTA	MID/LATE MAY
43	SCARBOROUGH (F	Γ 3059)TOZER	MID/LATE MAY
44	GODREVY (FT 30	69) TOZER	MID/LATE MAY
45	FT 3071	TOZER	MID/LATE MAY
46	FLUGGA (FT 30	60) TOZER	MID/LATE MAY
47	LISMORE (FT 30	63) TOZER	MAY
48	FT 3070	TOZER	MAY

8580 PLANTS/ACRE (34" X 21")

SPRING CABBAGE TRIALS 2013 - 2014

4 rows / variety 25cm spacing in row

Transplanted 6th September 2013 into moist soil conditions. 300 of each cultivar. Module grown transplants.

SEED HOUSE CULTIVAR

MONSANTO RX 7014

TOZER WINTERGREEN
SEMINIS WINTER SPECIAL
MONSANTO SUMMER GREEN

MONSANTO RX 7027

MONSANTO EVERGREEN

Trial site details

The Trials have been undertaken at Trevarnon Farm, Gwithian, Cornwall by kind permission of Mr. J. Hosking and Son.

Production details

The Trials followed a crop of Winter cereals 2012, and left fallow prior to field operations.

CULTURAL INFORMATION 2013 – 14

AUTUMN and WINTER CAULIFLOWER TRIALS

<u>Fertiliser</u>	07.07.13	Base Dressing	Yara 13.13.21@ 617.75Kg/Ha
			(5cwt/Acre)
	17.09.13	Top Dressing	BUNDS 24-0-17+ 7% SULPHUR @
			271.81Kg/Ha (2.2cwt/Acre)
	24.10.13	Top Dressing	Yara CALCIUM NITRATE 15.5%
			Nitrogen 271.81 Kg/Ha (2.2 cwt/Acre)
	29.11.13	Top Dressing	Yara CALCIUM NITRATE 15.5%
			Nitrogen 370.60Kg/Ha (3.0 cwt/Acre)
	10.01.14	Top Dressing	Yara CALCIUM NITRATE 15.5%
			Nitrogen 321.23Kg/Ha (2.6cwt/Acre)

Weed control

25.07.13 GAMMIT @ 0.2Ltr/Ha SULTAN @0.6Ltrs/Ha in 300 Litres of water.

Inter row cultivations.

<u>Pest control</u> Wire netting prior to transplanting as rabbit control

Chemical plan

09.07.13 CYREN @ 2Ltr/Ha in 300 Litres of water (Pre planting) (cutworm)

01.09.13 in 300Litres of water/Ha

AMISTAR TOP @ 1 Ltr/Ha (Ringspot control)

APHOX @ 420 grams/Ha (Aphid control)

BANDU @ 300mls/Ha BREAKTHRU @ 0.3Ltr/Ha

MAGFLO 300 @ 2 Ltrs/Ha (Magnesium deficiency)

HURON @ 4Kg /Ha (Slug control)

12.10.13 in 300Litres of water/Ha

PLOVER @ 0.3 Ltrs/Ha. @ 0.3Ltrs/Ha BREAKTHRU @

0.3Ltr/Ha (Ringspot)

MAGFLO 300 @ 2 Ltrs/Ha (Magnesium deficiency)

APHOX @ 420 grams/Ha BANDU @ 300mls/Ha (Aphid control)

02.12.13 in 300 Litres of water/Ha

PLOVER @ 0.3 Ltrs/Ha. ACTIVATOR 90 @ 0.3 Ltrs/Ha

22.02.14 in 300 Litres of water/Ha

PLOVER @ 0.3 Ltrs/Ha. ACTIVATOR 90 @ 0.3 Ltrs/Ha

MAGFLO 300 @ 2 Ltrs/Ha (Magnesium deficiency)

Transplanting dates

<u>Cauliflower Trials</u> Time of Planting Trials 10th July and 19th July 2013

Autumn Variety Trial 10th July Late Variety Trial 10th July Confidential plots 10th July

Spring greens 6th September

Trial design

Each plot consisting of 4 rows with the outer rows guards. 50 plants of each cultivar recorded with harvesting occurring every Monday and Thursday throughout the harvesting period of the Trials. (October – May 2012-13).

Trial records and data collected

For each Autumn and Winter Cauliflower cultivar the following record sheet is completed at each harvest and on completion of harvesting summaries are made of all data collected supported by visual observations as appropriate. These to be found in the Full Trial report in the Appendices.

CAULIFLOWER RECORD

Title of	Time of planting Trial		GWITHIAN
Experime	nt	Ref. V	EO3/
	2013 -14		
Plot	0 1		Plot
Co	D. (6-8)		(6-8)

	ole		Def	ects		_	+	÷	RECORDERS PLEASE NOTE		je Se		Def	ects			+	÷
Harvest	Class or Unmarketable	Size	Ricey	Bracted	Loose	Curd Colour	Curd Depth + Immature	Space A not punched	Missing Plants – For each missing plant unrecordable through non varietal factors put harvest OO and 1 under class. Harvest Date – Put harvest date/code	Harvest	Class or Unmarketable	Size	Ricey	Bracted	Loose	Curd Colour	Curd Depth + Immature	Space A not punched
									Class or Unmarketable O – Extra Class, 1 – Class 1, 2 – Class 2, F – Facepack, X – unmarketable.									
									Size O Not sized 1 Button 2 small 6 Facepack 8 Facepack 12 (grade 2) 16 (Grade 2) 8 Blind									
									9 Frost killed in vegetative stage. Ricey or Loose – Put 1 in appropriate column or leave blank. Bracts White fine bracts.									
									2 Green bracts or leave blank. Curd Colour Yellow Pink Discoloured Rotted curd									
									Slight frosted or water soaked. Severe frosted or water soaked. X Leaf Scorch If X and other fault present write									
									X, X etc. 1 2 Curd Depth + Immature									
									Record curd depth on all sized curds Depth 1/2 sphere									
									Depth $\frac{1}{3}$ sphere - $\frac{1}{2}$ sphere Depth $\frac{1}{3}$ sphere Immature at final harvest or leave blank.									
									Space A may be used to record information helpful in interpreting data (e.g. bird damage, stem rot and an additional colour record).									

Discussion

The top performing cultivars are highlighted within the results section, which normally identifies cultivars that have performed above the average yield of 75% Grade 1. However due to the reduced yields this season figures are considerably less than this figure for most cultivars. Each 1% above this average yield increases gross income by £85/Ha based on a price of 40p per cauliflower.

Many of the Autumn heading cultivars produced well above 70% Class 1 with some cutting out over 85%, although the price to the grower is much less than the Winter cauliflower price which was fixed for the main production period in the region of 40p per cauliflower. The larger planting density per hectare would increase yields and returns even at a lower price to the grower.

Conclusions

Within the Autumn and Winter Cauliflower cultivars, a number of seedhouses have introduced numbered cultivars which have performed well alongside established and recently introduced cultivars. As with all new introductions these need to be evaluated over several seasons to ensure consistency within various growing seasons. Those that have done well this season include the following:-

Sakata	CF10827	Mid/Late October
Monsanto	5965	Late October
Syngenta	C4010	Early November
Syngenta	4018	Early November
Syngenta	4022	Mid November
Syngenta	4026	Late November
Monsanto	5697	January
Nickerson	AF 6272	January/February
Syngenta	5022	Late February/March
Nickerson	AE 9311	Late February/March
Nickerson	AE 9307	Late February/March
Syngenta	5088	Early/Mid March
Syngenta	C5205	Early/Mid May

It is to be noted that each cultivar performs differently from season to season, however data is available over the past 18 seasons which provides a basis upon which growers can make an informed decision on which cultivars to grow to provide a continuous supply.

Technology transfer

The Trials are harvested twice a week and results are updated weekly on the following website http://www2.cornwall.ac.uk/research/herring/default.asp

Open days were held in December 2013, January and March 2014 where up to date information was made available to growers and representatives from the industry. A growers evening also took place on the evening of the January meeting to update growers on current work in regards Brassica's developments within the seedhouses represented in the Trials.

Appendices

The following appendices show the summaries of all cultivars in the:-

- Autumn Cauliflower Variety Trials 2013
- Winter Cauliflower Variety Trials for 2013 14
- Late Winter Cauliflower Trials 2014

with additional comments regarding each cultivar.

							BF	RAS	SS	IC	A T	RIA	AL\$	S F	ΊE	LD	PL	_AN	J	20	13	-14															
	Caul		er			Autu Caul		er			ne of	Plan wer	ting				e of I	Planti ver	ng		Conf	fiden	tial p	lots			Time Caulif			g				e of l	Planti ver	ng	
										Pla	nted	10.07	'.13			Plan	ted 1	0.07.	13			w plo	ts				Plante	ed 19	.07.1	3			Plan	ted 1	9.07.	13	
	u nla	4				4	u nla			4		lata				4	mla				34" >		s/Acr				4 = 0.11	nla					4 = 0	u nl			
	v plo (21"	ts				34"	w plo x 18"		1	_	ow p x 21					4 rov	-	l				•	s/ACI - 147				4 row 34" x	•	S			-	34" >	w plo	ts		
	plant	l s/Acı	re						cre	_		nts/A	cre		_			ts/Acı	re								8580 p		Acre	-		_			ts/Acr	re	
lots	s 1 - 4	48				Plots	s 49 ·	- 74		Plo	ts 75	- 101				Plots	s 102	- 137	•				w plo - 182				Plots	183 -	- 207				Plot	s 208	- 240)	
	19	27	38		48	57B	67	Т		Т	81	92	101		Т	111	122	132	Т		141					Т	189	198	207	Т		Т	216	225	235	Т	
9	18	26	36		47	56	66	Т		T	80	91	100		Т	110	121	131	Т		140					Т	188	197	206	Т		Т	215	224	234	Т	C
8	17	25	35		46	55	65	74		Т	79B	90	99		Т	109	120	130	Т		139	148	- 182	2		Т	187B	196	205	Т		Т	214	223	233	Т	Α
7	16	24	34	R	45	54	63	73	R	T	79	89	98	R	Т	108	119	129	Т	R	138	147			R	T	187	195	204	Т	R	Т	213	222	232	Т	В
5	15	23	33	0	44	53	62	72	0	Т	78B	87	97	0	Т	107	116	128	Т	0	137	146			0	Т	186B	194	203	Т	0	Т	212	221	231	240	В
4	14	22	32	Α	43	52	60	71	Α	T	78	85	96	Α	Т	105	115	126	Т	Α	136	145			Α	Т	86	193	202	Т	Α	Т	211	220	229	239	A
3	12	21	31	D	42	51	59	70	D	T	77	84	95	D	Т	104	114	125	Т	D	135	144			D	Т	185	192	201	Т	D	Т	210	219	228	238	G
2	11	21	29		41	50	58	69		T	76	83	94		Т	103	113	124	Т		134	143				Т	184	191	200	Т		Т	209	218	227	237	E
1	10	20	28		40	49	57	68		Т	75	82	93		Т	102	112	123	Т		133	142				Т	183	190	199	Т		Т	208	217	226	236	
_																				GAT	F														\vdash		

ΔΙΙΤ	ПМИ	CALII	IFI OWER	VARIETIES
AUI		CAUL		VARIETIES

SPACING 34" X 18" 10249/Acre 2013

		_									Acre		
VARIETY	PLOT			CUTTING PERIOD		DAYS	Class	Class	Unmarket	Facepack			Class 2
			10%	50%	90%		1	2	%	8	6	16	12
MONSANTO	49		10.10	14.10	21.10	11	69	11	20	768	152	71	0
FORATA	62		10.10	14.10	21.10	11	79	8	13	862	197	49	0
Average			10.10	14.10	21.10	11	74	10	16	815	175	60	0

Good Facepack material. White heads. Crinkly bluey/green leaf. Good curd cover. Paler inner leaf. Good depth. Fairly uniform. Easy to see cut and bag.

Average	03	15.10	21.10	25.10	10	83	4	13	961	128	26	0
NARUTO	63	14.10	21 10	27 10	13	78	3	10	875	171	21	Λ
CLAUSE	50	17.10	21.10	24.10	7	87	5	8	1046	85	32	0

Small frame. Pointed leaf type. Fairly uniform. Well protected curds. Prominent vein to leaf. Very white curds. Good Facepack material. Good weight.

SYNGENTA	51		7.10	10.10	14.10	7	51	15	34	465	248	81	16
DAVID													
Average			7.10	10.10	14.10	7	51	15	34	465	248	81	16
Squat frame, Bluey/green leaf, Slightly twisted leaf over curds. Some good Faceback material. Some wilting plants(Late rootfly attack) Turns off white													

	l avv ta tha away wa						<u> </u>			<u> </u>	U I	
Average		15.10	22.10	30.10	15	75	a	16	955	0	61	7
RAFALE	65	14.10	24.10	2.11	19	69	9	22	885	0	58	0
CLAUSE	52	17.10	21.10	27.1	10	80	10	10	1025	0	64	14

Narrow leaf. Low to the ground. Strong mid rib to leaf. Some irregular shaped curds. Very uniform. Good Facepack material. Some leaf scorch/off white curds.

RIJK ZWAAN	53	21.10	27.10	4.11	14	53	10	37	683	0	64	0
BELLAMY	66	21.10	27.10	4.11	14	57	15	28	683	57	96	0
Average		21.10	27.10	4.11	14	55	13	32	683	29	80	0

Slim frame. Very erect leaf. Some good Facepack material. Reasonable curd cover. Uniform. High% of small plants/curds. White slightly knobbly curds. Some Xanthomonas on outer leaves

Crates /

				1			I				1	1 1
VARIETY	PLOT		CUTTING PERIOD		DAYS	Class	Class	Unmarket	Facepack			Class 2
		10%	50%	90%		1	2	%	8	6	16	12
CLAUSE	54	17.10	21.10	27.10	10	77	13	10	961	28	85	0
REGATA	67	17.10	21.10	27.10	10	65	17	18	788	66	86	33
Average		17.10	21.10	27.10	10	71	15	14	875	47	86	17
Smallish frame	e. Slightly k	nobbly curds. Low t	o the ground. Mediun	n sized curd	ls. Some	good F	acepac	k material. T	wisted leaf ove	r curds. Slightl	y wide base	e.
MONSANTO	55	17.10	21.10	24.10	7	75	20	5	897	85	128	0
5965	68	17.10	27.10	2.11	16	73	8	19	875	85	53	0
Average		17.10	24.10	28.10	11	74	14	12	886	85	90	0
Narrow leaf typ	oe. Leggy/s	preading frame.He	avy curds. Slightly wi	de base to c	urds. W	ill turn o	ff white	if not cut eve	ry 2 days. God	od Facepack m	aterial.	
CLAUSE	56	10.10	17.10	21.10	11	76	12	12	871	137	77	0
OPTIMIST	69	21.10	27.10	4.11	14	68	18	14	871	0	115	0
Average		15.10	22.10	28.10	13	72	15	13	871	69	96	0
Small frame ar	nd curds. G	ood Facepack mate	erial .Lightish curds. <i>F</i>	A few off wh	ite curds	s. Easy t	o see, c	cut and pack.	Reasonable c	urd cover. Lool	ks good in	tray.
SAKATA	57	10.10	14.10	17.10	7	76	8	16	871	137	51	0
CF 10827	70	10.10	14.10	21.10	11	73	7	20	897	57	32	14
Average		10.10	14.10	19.10	9	75	7	18	884	97	41	7
Uniform. Good	Facepack	material. Small stre	eamline frame. A few	small plants	very fe	w other	defects.	Looks good	in tray. Easy to	see, cut and	bag.	
SYNGENTA	57b	10.10	10.10	17.10	7	64	12	24	641	239	26	68
RAYLEIGH	243	14.10	21.10	27.10	13	61	18	21	732	70	163	0
Average		12.10	15.10	22.10	10	63	15	22	687	155	95	34
	Good cure	protection, Crinkly	leaf. Will turn creamy	y. Paler inne	r leaf. S	ome vei	ry good	Facepack ma	aterial. Some s	mall plants/cur	ds.	
Smooth curds.	Cood Care						•	•		•	•	
Smooth curds.	Good care											
Smooth curds. MONSANTO	58	24.10	4.11	8.11	15	68	12	20	832	60	79	0
				8.11 8.11	15 12	68 52	12 20	20 28	832 641	60 28	79 128	0 0
MONSANTO	58	24.10	4.11									

		•							_		/ Acre		
VARIETY	PLOT			CUTTING PERIOD		DAYS	Class	Class	Unmarket	Facepack			Class 2
			10%	50%	90%	1	1	2	%	8	6	16	12
SYNGENTA	59		10.10	17.10	21.10	11	82	4	14	922	171	26	0
C 4010	72		14.10	21.10	24.10	10	72	4	24	897	34	26	0
Average	•		12.10	19.10	22.10	10	77	4	19	910	102	26	0
Uniform curd s	ize. Very g	ood Facep	ack material	l. Reasonable c	urd cover. F	ew defects	. A few sma	all plants/c	urds. Looks	good in trays			

MONSANTO	60	14.10	17.10	24.10	10	76	8	16	897	114	53	0
AQUATA	73	14.10	21.10	24.10	10	63	6	31	811	0	21	0
Average		14.10	19.10	24.10	10	70	7	23	854	57	37	0
Small frame C	rinkly leaf tyn	e Well protected w	hite curde Solid	curde Good	d Facenaci	material I	= 25V to 506	cut and ha	a A faw sm	all nlants/cu	ırde	

SYNGENTA	74	14.10	17.10	21.10	7	88	5	7	1046	114	32	0
C 4018												
Average		14.10	17.10	21.10	7	88	5	7	1046	114	32	0

Large plot. Excellent Facepack material. Uniform. Good weight. Slightly widebase to curds. Solid curds. Good curd protection. Medium sized frame. Dark green leaf. Looks good in trays.

SAKATA	94	21.10	24.10	27.10	6	91	2	7	1090	109	14	0
AMADINE	200	2.11	4.11	8.11	6	67	18	15	797	76	114	0
Average		27.10	29.10	2.11	6	79	10	11	943	93	64	0

Plot 94 transplanted 10th July. Plot 200 transplanted 19th July. Uniform Tight wrapper leaf over curds. Good Facepack material. Deep solid curds. Some large curds. Few defects. Lighter inner leaf. Later transplanting curds more open and need cutting every 2 days.

	2013-14		WINTE	R CAUI	IFLOW	ER VA	RIETY	TRIAL					
			First Trans	splanting	10 July 20)13			SPACIN	G 8580	Plants/A	cre	
			Second Ti	ransplanti	ng 19 Jul	y 2013				(Crates / Acr	е	
VARIETY	PLOT		CU	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepac	k		Class 2
			10%	50%	90%		1	2	%	8	6	16	12
Nickerson	75		15.11	2.12	13.12	28	44	34	22	472	0	182	0
AF4158	183		15.11	6.12	13.12	28	51	27	22	547	0	147	0
Average			15.11	4.12	13.12	28	47.5	30.5	22	509.5	0	164.5	0
Comments	Uniform. Go	ood Fa	cepack mat	terial. Some	e small whi	te bracts in	curds. A	few off wh	ite curds. G	ood curd p	rotection. C	Sood weight	t.
Elsoms	76		22.10	2.11	11.11	20	44	39	17	466	0	187	31
TELDE	184		8.11	15.11	2.12	24	49	26	25	490	41	138	0
Average			30.10	8.11	21.11	22	46.5	32.5	21	478	20.5	162.5	15.5
Comments	Uniform. Te	ndenc	y to turn off	white, nee	ds cutting e	every 2 or 3	days. Sor	ne good F	acepack m	aterial. Pod	or curd prot	ection.	
Syngenta	77		11.11	18.11	6.12	25	43	35	22	460	0	186	0
LESTERN	185		11.11	22.11	6.12	25	46	26	28	493	0	139	0
Average			11.11	20.11	6.12	25	44.5	30.5	25	476.5	0	162.5	0
Comments	Some good	l Facep	oack materi	al. Some lo	ose, white	bracted cu	rds. Tende	ncy to tu	n off white.	Average we	eight curds.	-	
Clause	78		17.10	22.10	8.11	22	77	10	13	787	48	54	0
NAVALO	186		2.11	4.11	8.11	6	76	10	14	673	196	54	0
Average			25.10	28.10	8.11	14	76.5	10	13.5	730	122	54	0
Comments	Smallish up	oright fi	rame. Twist	ed leaf over	curds. Pu	rple leaves	at base of	curds. W	ell protected	l. Good we	ight. Good	Facepack r	naterial.
Syngenta	78B		21.10	27.10	4.11	14	82	4	14	858	29	21	0
4022	186B		2.11	4.11	8.11	6	60	3	37	590	72	13	0
Average			27.10	31.10	6.11	10	71	3.5	25.5	724	50.5	17	0
Comments	Small frame	e Pale	wrapper lea	f. Good Fa	cepack ma	terial. Untic	y leaf. Ea	sy to see,	cut and bag	g. Some Xa	anthomona	on outer l	eaves.
	High % sm	all curd	ds on later t	ransplantin	g.								
Clause	79		2.11	8.11	15.11	13	50	36	14	493	57	193	0
DIWAN	187		8.11	11.11	6.12	28	67	20	13	667	64	107	0
Average			5.11	9.11	25.11	20.5	58.5	28	13.5	580	60.5	150	0
Comments	Uniform. So	ome sn	nall white b	racts (appro	ox 20%). S	ome good F	acepack	material.	Tendency to	turn off wh	ite if not cu	it every 3 da	ays.
	Good weigh				,	-	•		-				

		First Trans	splanting	10 July 20	013			SPACIN	G 8580	Plants/A	cre	
		Second T	ansplanti	ng 19 Jul	y 2013					Crates / Acr	е	
VARIETY	PLOT	CU	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepac	:k		Class 2
		10%	50%	90%		1	2	%	8	6	16	12
Syngenta	79B	4.11	8.11	18.11	14	74	12	14	794	0	64	0
4026	187B	4.11	8.11	22.11	18	58	25	17	563	72	134	0
Average	1312	4.11	8.11	20.11	16	66	18.5	15.5	678.5	36	99	0
Comments	Untidy leaf. W					Facepacl				s. Some whi	te bracts ir	later crop.
Vilmorin	80	15.11	2.12	13.12	28	44	34	22	472	0	182	0
CENDIS	188	15.11	6.12	13.12	28	51	27	22	547	0	147	0
Average		15.11	4.12	13.12	28	47.5	30.5	22	509.5	0	164.5	0
Comments	Uniform. Good	Facepack ma	terial. Som	e small whi	te bracts in	curds. A	few off wh	ite curds. G	ood curd p	rotection. G	Good weigh	t.
Clause	81	24.10	8.11	15.11	22	35	44	21	371	0	234	0
GALIOTE	189	2.11	8.11	18.11	16	40	43	17	393	48	429	24
Average		28.10	8.11	16.11	19	37.5	43.5	19	382	24	331.5	12
Comments	Some white br	acts(approx 25	%) loose a	and off white	e curds.(Re	sult of very	warm Oc	tober). Unifo	orm in size	e. Some god	od Facepac	k material.
Vilmorin	82	6.12	23.12	10.12	35	56	16	28	601	0	86	0
LECATIS	190	16.12	23.12	17.12	32	60	24	16	644	0	129	0
Average		11.12	23.12	13.12	33.5	58	20	22	622.5	0	107.5	0
Comments	Uniform. Goog	solid Facepac	k material.	Good curd	protection.	Slightly w	ide base	to curds. 20	% small p	lants/curds.		
Syngenta	83	15.11	26.11	16.12	31	53	29	18	572	0	155	0
4013	191	18.11	2.12	16.12	28	53	33	14	563	0	161	18
Average		16.11	29.11	16.12	29.5	53	31	16	567.5	0	158	9
Comments	Uniform. Some	good Facepa	ck materail	. Some loo	se off white	curds. 9%	small cu	ırds. Good c	urd cover.	Looks good	l in trays.	
Elsoms	84	8.11	18.11	13.12	35	29	36	35	312	0	195	0
BELOT	192	15.11	2.12	13.12	28	40	38	22	429	0	204	0
Average		11.11	25.11	13.12	31.5	34.5	37	28.5	370.5	0	199.5	0
Comments	Small white br	acts in some o	urds (appro	ox 40%0. S	ome off wh	ite, small o	curds. Sor	ne solid god	od Facepa	ck material.		
Syngenta	85	13.2	24.2	24.2	11	16	38	46	172	0	204	0
ALTADIS	193	7.2	19.2	25.2	18	40	20	40	429	0	107	0
Average		10.2	21.2	24.2	14.5	29	29	43	301	0	156	0
Comments	Smallish frame	e. Good curd p	otection. S	Some good	Facepack r	naterial. A	few smal	I plants/curd	ds. Looks (good in tray		

			First Trans	splanting	10 July 20)13			SPACIN	G 8580	Plants/A	cre	
			Second Ti	ransplantii	ng 19 Jul	y 2013				(Crates / Acr	е	
VARIETY	PLOT		CU	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepacl	k		Class 2
7744211			10%	50%	90%	27110	1	2	%	8	6	16	12
Clause	87		2.12	13.12	23.12	21	40	36	24	429	0	193	0
TRIOMPHANT	194		6.12	13.12	23.12	17	46	30	24	493	0	161	0
Average	101		4.12	13.12	23.12	19	43	33	24	461	0	177	0
Comments	Some good	d Facer					_		s. Looks go		-		
	Joine good	<u></u>		<u></u>					or Leone ge				
Nickerson	89		10.1	7.2	19.2	40	46	26	28	493	0	139	0
AB 1089	195		3.2	13.2	24.2	21	49	21	30	525	0	114	0
Average			22.1	10.2	21.2	30.5	47.5	23.5	29	509	0	126.5	0
Comments	Some good	d Facep	oack materi	al. Will turr	off white if	not cut eve	ry 3 days	. A few sm	nall plants.	Small/medi	um frame. I	Heavy leaf	drop
Tozer	90		6.12	13.12	19.12	13	42	36	22	450	0	193	0
1001	196		13.12	16.12	23.12	10	42	36	22	452	0	191	0
Average			9.12	14.12	21.12	11.5	42	36	22	451	0	192	0
Comments	Small curd	s. An o	pen frame.	Some good	d Facepack	material. V	Vill turn of	f white if n	ot cut every	3 days. M	edium weig	ht curds.	
Elsoms	91		15.11	26.11	2.12	17	30	43	27	295	36	215	18
MAGINOT	197		15.11	2.12	6.12	21	25	38	37	273	0	205	0
Average			15.11	29.11	4.12	19	27.5	40.5	32	284	18	210	9
Comments	Generally s	small ci	urds. Small	white brac	ts (approx 4	40%). 20%	too small	curds. So	me good Fa	acepack ma	aterail. Rath	er an open	frame.
Monsanto	92		2.1	6.1	17.1	15	30	36	34	323	0	193	0
TERMINILLO	198		2.1	10.1	17.1	15	23	33	44	250	0	179	0
Average			2.1	8.1	17.1	15	26.5	34.5	39	286.5	0	186	0
Comments	30% small	curds.	Some loos	e curds. St	ruggled to r	nake frame	size resu	Iting in sm	nall curds th	at were oft	en off white	in high tem	peratures
Syngenta	93		6.1	9.1	3.2	28	45	20	35	483	0	107	0
ALPEN	199		20.1	3.2	10.2	21	33	28	39	349	0	147	0
Average			13.10	21.10	6.20	24.5	39	24	37	416	0	127	0
Comments									e size. Son		cepack ma	terial.	
	20% small	plants/	curds. The	later transp	olanting stru	uggled even	more to n	nake mark	cetable size	d curds.			
Clause	95		2.1	27.1	3.2	32	34	36	30	365	0	193	0
JUBARTE	201		2.1	3.2	10.2	39	29	35	36	315	0	179	14
Average			2.1	30.1	6.2	35.5	31.5	35.5	33	340	0	186	7
Comments	Heavy rings	spot on	outer leave	s. Heavy le	eaf drop. Pro	one to turn	off white if	not cut e	very 2 or 3 c	lays. Smal	I frame/curd	ls.	

			First Trans	splanting	10 July 20)13			SPACIN	G 8580	Plants/A	cre	
			Second T	ransplanti	ng 19 Jul	y 2013				(Crates / Acr	е	
VARIETY	PLOT		CU	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepac	<u> </u>		Class 2
			10%	50%	90%		1	2	%	8	6	16	12
Clause	96		17.1	27.1	7.2	21	57	18	25	610	0	95	0
CHF 12-121	202		17.1	3.2	19.2	33	52	22	26	558	0	118	0
Average			17.1	30.1	13.2	27	54.5	20	25.5	584	0	106.5	0
Comments	Solid curds	s. Good	Facepack	material. L	Iniform. God	od curd cov	er, twisted	wrapper I	eaves. Ros	coff type. S	ome small	plants/curd	ls.
			•				,			, ,			
Elsoms	97		2.1	6.1	17.1	15	60	28	12	570	91	148	0
PACIANO	203		2.1	10.1	20.1	18	54	32	14	536	57	161	14
Average			2.1	8.1	18.1	16.5	57	30	13	553	74	154.5	7
Comments	Solid well	orotecte	ed Facepac	k material.	Uniform. W	ill turn off v	hite if not	cut every	3 days. A f	ew small p	ants/curds	Clean lea	f.
Monsanto	98		7.2	19.2	24.2	17	58	20	22	622	0	107	0
5697	204		10.2	19.2	3.3	21	66	20	14	708	0	107	0
Average			8.2	19.2	27.2	19	62	20	18	665	0	107	0
Comments	Good Face	epack m	naterial. Un	iform. Look	s good in tr	ay. Solid c	urds. Good	d curd cov	er. Easy to	see, cut ar	nd bag.		
Tozer	99		27.1	10.2	19.2	23	50	28	22	536	0	150	0
1018	205		7.2	13.2	19.2	12	50	22	28	515	29	118	0
Average			1.2	11.2	19.2	17.5	50	25	25	525.5	14.5	134	0
Comments	Some good	d Facer	oack materi	al.Odd plar	nt with sides	shoots. Wil	turn off w	hite if not	cut every 3	days. A fe	w loose cur	ds. Reasor	able cover.
Syngenta	100		27.1	7.2	19.2	23	38	30	32	408	0	161	0
ARKWRIGHT	206		27.1	10.2	19.2	23	44	32	24	472	0	172	0
Average			27.1	8.2	19.2	23	41	31	28	440	0	166.5	0
Comments	Some good	d Facer	oack materi	al. Open fra	ame. Needs	cutting eve	ery 3 or 4 o	days. Ten	dency to tui	rn off white.	Heavy leaf	drop.	
Tozer	101		13.12	16.12	19.12	6	57	26	17	583	31	140	0
1043	207		19.12	23.12	27.12	8	52	36	12	555	0	192	0
Average			16.12	19.12	23.12	7	54.5	31	14.5	569	15.5	166	0
Comments	Slightly op	en fram	. Some god	od Facepac	k material.	Will turn of	f white if n	ot cut eve	ry 3 days.G	ood weight	. 15% sma	II plants/cu	rds.
Tozer	102		16.12	2.1	10.1	25	58	24	18	624	0	127	0
1039	208		23.12	6.1	20.1	28	58	19	23	624	0	100	0
Average			19.12	4.1	15.1	26.5	58	21.5	20.5	624	0	113.5	0
Comments	Solid curds	s. Good	l leaf cover.	Clean leaf.	Good Face	epack mate	rial. Looks	good in t	rays. Easy	to see, cut	and bag.		

			First Trans	splanting	10 July 20	13			SPACIN	G 8580		cre	
			Second Ti	ansplantii	ng 19 Jul	y 2013				(Crates / Acr	е	
VARIETY	PLOT		CII	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepaci	<u> </u>		Class 2
VARIETT	FLOI		10%	50%	90%	DAIS	1	2	%	8	6	16	12
Claves	400			24.2	3.3	12	75	7	18		36	40	
Clause BRICK	103 209		19.2 19.2	3.3	10.3	19	75 	10	15	777 778	36	54	0
	209		19.2 19.2	27.2	3.3	15.5	75 75	8.5	16.5	777.5	36	47	0 0
Average Comments	Liniform Tv	victod I	eaf over cur										U
Comments	Offiliofffi. TV	vistea i	ear over cur	us. Mediui	п аеріп. ш	gni weigni c	ulus. Looi	ks good in	tiays. wiii	go loose ii	not cut eve	ay 3 days.	
Monsanto	104		27.1	10.2	19.2	23	56	26	18	601	0	139	0
TINTAGEL	210		7.2	19.2	3.3	24	56	24	20	579	29	129	0
Average			1.2	14.2	25.2	23.5	56	25	19	590	14.5	134	0
Comments	Solid curds	. Dark	green leaf.	Will turn of	f white if no	t cut every	2 or 3 day	s. Good F	acepack m	aterial. A fe	ew small pla	ants/curds.	
Nickerson	105		24.2	3.3	6.3	10	72	14	14	772	0	75	0
AF 6272	211		3.3	6.3	6.3	3	74	12	14	751	57	54	14
Average			27.2	4.3	6.3	6.5	73	13	14	761.5	28.5	64.5	7
Comments	Good Face	pack n	naterial. Uni	form. Medi	um depth. l	_ooks good	in trays. (Good wrap	per leaves.	Quick hea	ding period		
											_		_
Vilmorin	107		19.2	27.2	6.3	15	68	16	16	729	0	86	0
DIONIS	212		19.2	27.2	6.3	15	68	16	16	708	29	86	0
Average			19.2	27.2	6.3	15	68	16	16	718.5	14.5	86	0
Comments	Uniform. Ea	asy to	see, cut an	d bag. Goo	d Facepack	material. <i>I</i>	A few off w	hite curds	. Needs cu	tting every	3 days if m	ıld.	
Tozer	108		2.1	10.1	17.1	15	42	29	29	453	0	155	0
1036	213		2.1	10.1	17.1	15	44	34	22	472	0	182	0
Average	2.0		2.1	10.1	17.1	15	43	31.5	25.5	462.5	0	168.5	0
Comments	Some good	d Facer		-		_					ahtly open		
	J					,					3 - 7 - 1 -		
Clause	109		19.2	24.2	3.3	12	60	24	16	644	0	129	0
REDOUTABLE	214		19.2	27.2	6.3	15	72	14	14	772	0	75	0
Average			19.2	25.2	4.3	13.5	66	19	15	708	0	102	0
Comments	Uniform pla	nts/cu	rds. Good F	acepack m	naterial. Wil	I turn off wh	nite if not c	ut every 3	days. A fe	w small pla	nts/curds.	Reasonable	cover.
Vilmorin	110		27.1	7.2	19.2	23	78	8	14	837	0	43	0
TREVASKIS	215		27.1	13.2	25.2	29	70	20	10	751	0	107	0
Average			27.1	10.2	22.2	26	74	14	12	794	0	75	0
Comments	Very good	Facepa	ack materia	l. Good lea	f cover. Sol	id curds. Lo	oks good	in trays. l	Jniform.				

			First Trans	splanting	10 July 20	013			SPACIN	G 8580	Plants/A	cre	
			Second T	ransplanti	ng 19 Jul	y 2013				(Crates / Acr	e	
VARIETY	PLOT		CI	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepac	<u></u>		Class 2
VAINETT	FLOT		10%	50%	90%	DAIS	1	2	%	8	6	16	12
Syngenta	111		3.2	24.2	6.3	31	68	12	20	708	29	64	0
CANTEN	216		25.2	3.3	10.3	13	78	4	18	837	0	21	0
Average	210		14.2	27.2	8.3	22	73	8	19	772.5	14.5	42.5	0
Comments	Liniform G	ood Fa					_	_	een leaf. Re				U
Comments	Offilofffi. G	oou ra	сераск та	teriai. Look	s very good	ı III ilays. F	ew delect	s. Pale gi	een leal. Re	asonable c	ura protect	IOH.	
E1	440		7.0	40.0	05.0	40	47	05	00	500		404	
Elsoms	112		7.2	19.2	25.2	18	47	25	28	500	0	131	0
AMOR	217		7.2	25.2	25.2	18	50	34	16	536	0	182	0
Average		1 (0	7.2	22.2	25.2	18	48.5	29.5	22	518	0	156.5	0
Comments	Dark green	leat. C	ood frame	sıze. Will tı	urn off white	e if not cut e	every 3 day	ys. Slighti	y open habi	i.			
Vilmorin	113		27.1	19.2	3.3	35	62	8	30	665	0	43	0
TREVIGNIS	218		7.2	25.2	3.3	24	60	16	24	643	0	83	0
Average			1.2	22.2	3.3	29.5	61	12	27	654	0	63	0
Comments	Good Face	pack n	naterial. Un	iform. Look	s good in tr	ays. Easy	to see, cu	t and bag.	Needs cutt	ing every 3	days. 18%	small plar	nts/curds.
Clause	114		24.2	3.3	6.3	10	68	18	14	729	0	97	0
FLEET	219		27.2	3.3	10.3	11	82	7	11	858	32	36	0
Average			25.2	3.3	8.3	10.5	75	12.5	12.5	793.5	16	66.5	0
Comments	Light weigh	nt curds	at earlier t	ransplantin	g. Uniform.	Medium de	epth curds	. Clean lea	af. Very well	protected	curds.		
Syngenta	115		24.2	6.3	10.3	14	80	6	14	815	57	32	0
CLEMEN	220		3.3	10.3	13.3	10	80	5	15	724	179	27	0
Average			27.2	8.3	11.3	12	80	5.5	14.4	769.5	118	29.5	0
Comments	Clean pale	areen					see. cut a		ood weight.			Į	efects.
		J											
Clause	116		13.3	17.3	20.3	7	58	20	22	622	0	107	0
MASCARET	221		13.3	17.3	20.3	7	88	5	7	858	107	27	0
Average			13.3	17.3	20.3	7	73	12.5	14.5	740	53.5	67	0
Comments	Some good	d Facer				epth curds.	_		endency to			_	date.
												-,	
Syngenta	119		24.2	3.3	10.3	14	66	8	26	708	0	43	0
SGC 5022	222		27.2	3.3	10.3	11	83	0	17	831	72	0	0
Average			25.2	3.3	10.3	12.5	74.5	4	21.5	769.5	36	21.5	0

			First Transplanting 10 July 2013 Second Transplanting 19 July 2013 CUTTING PERIOD DAYS 10% 50% 90% 19.2 25.2 6.3 15 19.2 27.2 10.3 19 19.2 26.2 8.3 17 good Facepack material. Looks very good 17.3 20.3 24.3 7 17.3 20.3 24.3 7 17.3 20.3 24.3 7)13			SPACIN	G 8580	Plants/A	cre	
			Second T	ransplanti	ng 19 Jul	y 2013				(Crates / Acr	е	
VARIETY	PLOT		CU	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepac	k		Class 2
07.0.0						27110	1	2	%	8	6	16	12
Monsanto	120					15	80	10	10	858	0	54	0
CARANTIC	223						90	2	8	965	0	13	0
Average							85	6	9	911.5	0	33.5	0
Comments	Solid curds	s. Verv						-	-			5575	
	00	, <u></u>	9000.000			ory good in	,		4.0.00.00				
Nickerson	121		17.3	20.3	24.3	7	24	33	43	262	0	167	16
AE 8206	224		17.3	20.3	24.3	7	33	38	29	340	24	188	24
Average			17.3	20.3	24.3	7	28.5	35.5	36	301	12	177.5	20
Comments	Very light of	curds. F	Reasonable	curd cover	. Tendency	to become	loose (44	% at early	planting).	Crinkly leaf.	Slightly wi	de base to	curds.
Syngenta	122		6.3	13.3	24.3	18	80	4	16	858	0	21	0
SGC 5008	225		17.3	24.3	7.4	21	73	3	24	778	0	13	0
Average			11.3	18.3	31.3	19.5	76.5	3.5	20	818	0	17	0
Comments	Uniform. G	ood lea	f cover. Ve	y good Fac	cepack mat	erial. Looks	good in t	rays. Lon	heading pe	eriod. 15%	small plant	s/curds.	
Nickerson	123		20.3	27.3	31.3	11	57	17	26	606	0	93	0
AE 9311	226		24.3	31.3	10.4	17	83	2	15	885	0	13	0
Average			22.3	29.3	5.4	14	70	9.5	20.5	745.5	0	53	0
Comments	Small fram	e. Solid	d curds. Tig	ht wrapper	leaves. Sor	ne stump r	ot but not	affecting o	urds. Large	frame and	curds. Will	turn off wh	ite.
Tozer	124		6.3	20.3	24.3	18	78	10	12	804	36	54	0
2038	227		17.3	20.3	27.3	10	91	4	5	977	0	24	0
Average			11.3	20.3	25.3	14	84.5	7	8.5	890.5	18	39	0
Comments	Clean leaf.	Very g	ood Facepa	ack materia	I. Uniform.	Looks good	d in trays.	Few defec	ts. Easy to	see,cut ar	nd bag.		
Nickerson	125		17.3	24.3	31.3	14	70	18	12	751	0	97	0
AE 9307	228		24.3	31.3	7.4	14	83	5	12	884	0	27	0
Average			20.3	27.3	3.4	14	76.5	11.5	12	817.5	0	62	0
Comments	Uniform. A	few off	white curds	s. Good Fa	cepack ma	terial. Easy	to see, cu	ut and bag	. Looks ver	y good in th	ne trays. Cl	ean leaf.	
Elsoms	126		10.3	17.3	20.3	10	67	17	16	722	0	88	0
Madiot	229		10.3	17.3	20.3	10	91	4	5	977	0	24	0
Average			10.3	17.3	20.3	10	79	10.5	10.5	849.5	0	56	0
Comments	Good Face	epack n	naterial. Ve	ry uniform.	Large frame	e with later	transplant	ing. Easy	to see,cut a	and bag. G	ood curd co	ver. Few d	efects.

		First Tran	splanting	10 July 20	013			SPACIN	G 8580	cre		
		Second T	ransplanti	ng 19 Jul	y 2013		Class		(Crates / Acr	е	
VARIETY	PLOT	CU	TTING PERI	OD	DAYS	Class		Unmarket	Facepac	k		Class 2
		10%	50%	90%		1	2	%	8	6	16	12
Elsoms	128	13.3	20.3	24.3	11	83	7	10	885	0	40	0
MYSTIQUE	231	17.3	20.3	24.3	7	80	5	15	831	36	27	0
Average		15.3	20.3	24.3	9	81.5	6	12.5	858	18	33.5	0
Comments	Very iniform. S	Slightly wide ba	se to curds	s. Good Fac	cepack mat	terial. Look	s good in	trays. Few	defects.			
Tozer	129	27.3	7.4	7.4	11	26	30	44	279	0	188	18
2063	232	24.3	7.4	14.4	21	38	25	37	402	0	107	36
Average		25.3	7.4	10.4	16	32	27.5	40.5	340.5	0	147.5	27
Comments	Variation in pla	ant and curd si	zes. Tende	ncy to turn	off white. S	ome good		material. N		pth. Tall upr	ight leaves	
Tozer	130	6.3	10.3	13.3	7	80	4	16	858	0	24	0
2042	233	6.3	10.3	13.3	7	80	5	15	804	72	27	0
Average		6.3	10.3	13.3	7	80	4.4	15.5	831	36	25.5	0
Comments	Uniform, Clear	leaf. Good wr			le base to d							
									g_			
Elsoms	131	10.3	17.3	24.3	14	84	4	12	858	64	24	0
ISADORA	234	17.3	20.3	24.3	7	83	0	17	751	179	0	0
Average		13.3	18.3	24.3	10.5	83.5	2	14.5	804.5	121.5	12	0
Comments	Crinkled leaf.		uniform. \		acepack m	naterial. Go	od curd c					
				, ,								
Syngenta	132	24.3	31.3	7.4	14	76	8	16	794	29	43	0
DANDEN	235	27.3	31.3	7.4	11	87	5	8	938	0	27	0
Average		25.3	29.3	7.4	12.5	81.5	6.5	12	866	14.5	35	0
Comments	Some good Fa	cepack materi	al. Slightly	wide base	to curds. S	oft light gr	een wrapp	er leaves. L	ight weight	curds. Flat	t/medium d	epth curds.
		j	J ,						0			
Tozer	133	27.3	31.3	7.4	11	75	10	15	804	0	54	0
2050	236	24.3	31.3	7.4	14	89	4	7	953	0	24	0
Average		25.3	31.3	7.4	12.5	82	7	11	878.5	0	39	0
Comments	Some very god	od Facepack m								_		d curds.
		1 222 233					,	,	<u> </u>		,	-
Elsoms	134	7.4	7.4	10.4	3	88	2	10	912	36	13	0
Vogue	237	7.4	7.4	10.4	88	0	12	751	250	0	0	0
Average		7.4	7.4	10.4	3	88	1	11	831.5	143	6.5	0
Comments	Very uniform	Clean leaf. God			od Facena	k amteria	Some la	rae curds \		heading per		

		First Tran	splanting	10 July 20	013			SPACING 8580 Plants/Acre				
VARIETY		Second T	ransplanti	ng 19 Jul	y 2013					Crates / Acr	е	
	PLOT	CL	CUTTING PERIO		DD DAYS		Class	Unmarket	Facepack			Class 2
		10%	50%	90%		1	2	%	8	6	16	12
Syngenta	135	3.4	7.4	14.4	11	93	4	3	1001	0	12	16
CHARIF	238	7.4	7.4	14.4	7	85	8	7	885	36	40	0
Average		5.4	7.4	14.4	9	89	6	5	943	18	26	8
Comments	Very uniform	ı. Easy to see, c	material. Very few defects. Good curd cover. Good weight									
Tozer	136	24.2	6.3	17.3	21	66	22	12	686	29	118	0
2067	239	27.2	6.3	13.3	14	80	8	12	772	114	43	0
Average		25.2	6.3	15.3	17.5	73	15	12	729	71.5	80.5	0
Comments	Some good	Facepack mater	ial. A few s	mall plants	curds. Crin	kled leaf ty	pe. Tend	ency to turn	off white.	Uniform siz	ed marketa	able curds.
0	407	07.0	7.4	40.4	4.4	75	-	00	200			40
Syngenta	137	27.3	7.4	10.4	14	75	5	20	800	0	20	13
DRUNEN	240	3.4	7.4	11.4	8	77	7	16	715	143	9	36
Average		30.3	7.4	10.4	11	76	6	18	757.5	71.5	14.5	24.5
Comments	Very uniform	. Good curd cov	er. Very go	od Facepad	ck material.	Slight twis	st to frame	e. Solid curd	ls. Well pro	otected. Lai	rge frame a	ind curds.

	2013-	14	LATE	WINTER	R CAUL	IFLOW	ER VAR	IETY T	RIAL				
			Transplai	nted 10 J	uly 2013				SPACIN	G 8580			
										Crates / Acre			
VARIETY	PLOT		CU	TTING PERI		D DAYS		Class	Unmarket	•			Class 2
			10%	50%	90%		1	2	%	8	6	16	12
Elsoms	1		21.4	21.4	28.4	7	92	2	6	965	29	11	0
FLETCHER	25		21.4	21.4	24.4	3	86	4	10	901	29	21	0
Average			21.4	21.4	26.4	5	89	3	8	933	29	16	0
Uniform. Dark green	leaf. Rosc	off t	ype. Excell	ent Facepa	ck material	. Very few	defects. Lo	oks good ir	n trays. Goo	d weight			
Tozer	2		17.4	21.4	24.4	7	89	8	3	864	119	45	0
2072	26		14.4	21.4	24.4	10	73	22	5	524	350	71	64
Average			15.4	21.4	24.4	8.5	81	15	4	694	234.5	58	32
Slightly open frame.	Tight twist	ed I	eaf over cur	ds. Wide b	ase to curd	s. Not eas	to pack. S	Some large	curds. Goo	d Facepac	k material.	Few defect	S.
Clause	3		17.4	21.4	24.4	7	76	10	14	794	29	54	0
CHF 10 -106	27		14.4	21.4	28.4	14	82	10	8	858	36	54	0
Average			15.4	21.4	26.4	10.5	79	10	11	826	32.5	54	0
Slightly crinkled leaf	. Good cur	d cc	ver. Good I	acepack n	naterial. Lo	oks very go	od in trays.	A few sma	all curds. Ea	sy to see,	cut and pa	ck.	
,				•		, ,	,						
Syngenta	4		10.4	14.4	17.4	7	83	2	15	866	28	10	0
C5025	28		10.4	14.4	17.4	7	87	3	10	934	0	17	0
Average			10.4	14.4	17.4	7	85	2.5	12.5	900	0	17	0
Slightly pointed leav	es. Good d	curd	protection.	Uniform. M	ledium dept	h curds. G	ood Facepa	ck materia	l. Easy to b	ag and pag	k.		
<u> </u>										, , , ,			
Syngenta	5		17.4	21.4	24.4	7	93	2	5	992	0	13	0
DELON	29		17.4	21.4	21.4	4	85	2	13	912	0	13	0
Average			17.40	21.40	22.40	5.5	89	2	9	952	0	13	0
Very good Facepacl	k material.	Unif							eaf. Slightly		to curds.		
. , g				. 3 300						5.5 .5 .6 .6			
Monsanto	7		3.4	10.4	10.4	7	44	44	12	365	143	172	86
TENFOLD	31		3.4	10.4	10.4	7	26	50	24	279	0	172	129
Average	<u> </u>		3.4	10.4	10.4	7	35	47	18	322	71.5	172	107.5
,			_	curds. Tend	_	-				_			107.10

	2013-	14	LATE	WINTER	CAUL	IFLOW	ER VAR	IETY T	RIAL				
			Transpla	nted 10 J	uly 2013				SPACIN	G 8580 I	cre		
										Crates / Acre			
VARIETY	PLOT		CU	TTING PERI	OD	DAYS	Class	Class	Unmarket	Facepack			Class 2
			10%	50%	90%		1	2	%	8	6	16	12
Tozer	8		24.4	28.4	1.5	7	45	27	28	482	0	142	0
MUMBLES (3062)	32		24.4	28.4	1.5	7	51	13	36	548	0	69	0
Average			24.4	28.4	1.5	7	48	20	32	515	0	105.5	0
Open frame. Some go	od Face	pack	material.	Some off wh	nite curds.	Needs cutti	ng every 2	days. Will	turn loose.				
Tozer	9		19.5	22.5	2.6	24	58	20	22	622	0	107	0
DUNGENESS (3042)	33		12.5	22.5	26.5	14	50	29	21	536	0	140	17
Average			15.5	22.5	29.5	14	54	24.5	21.5	579	0	123.5	8.5
Strong vigour. Some v	ery good	Fac	epack mat	erial. Slight	ly wide bas	se to curds.	Will turn o	ff white at b	pase of curd	s if not cut	every 2 or	3 days.	
Tozer	11		28.4	8.5	15.5	17	56	8	36	596	0	45	0
ALDERNEY (3064)	35		24.4	1.5	5.5	11	76	4	20	815	0	21	0
ALDERNEY (3064) Average	35		24.4 26.4	1.5 4.5	5.5 10.5	11 14	76 66	4 6	20 28	815 705.5	0 0	21 33	0 0
Average		acep	26.4	4.5	10.5	14	66	6	28	705.5	0	33	0
		acep	26.4	4.5	10.5	14	66	6	28	705.5	0	33	0
Average Some small curds and		acep	26.4	4.5	10.5	14	66	6	28	705.5	0	33	0
Average Some small curds and	d good F	acep	26.4 pack materi	4.5 al. Some in	10.5 regular sha	14 ped curds v	66 vhich are n	6 ot easy to	28 pack. Slight	705.5 y wide bas	0 e to curds.	33 Loose wrap	0 oper leaf.
Average	good F	acer	26.4 pack materi	4.5 al. Some in	10.5 regular sha 19.5	14 ped curds v	66 which are no	6 ot easy to	28 pack. Slight	705.5 y wide bas 286	o e to curds.	33 Loose wrap	oper leaf.
Average Some small curds and Tozer WRANGLE (3007)	12 36		26.4 pack materion 1.5 1.5 1.5	4.5 al. Some in 12.5 8.5 10.5	10.5 regular sha 19.5 14.5 16.5	14 ped curds v 18 13 15.5	66 which are no 27 55 41	6 ot easy to 17 30 23.5	28 pack. Slight	705.5 y wide bas 286 536 411	0 e to curds. 0 71 35.5	Loose wrap	0 oper leaf. 0 89
Average Some small curds and Tozer WRANGLE (3007) Average	12 36		26.4 pack materion 1.5 1.5 1.5	4.5 al. Some in 12.5 8.5 10.5	10.5 regular sha 19.5 14.5 16.5	14 ped curds v 18 13 15.5	66 which are no 27 55 41	6 ot easy to 17 30 23.5	28 pack. Slight	705.5 y wide bas 286 536 411	0 e to curds. 0 71 35.5	Loose wrap	0 oper leaf. 0 89
Average Some small curds and Tozer WRANGLE (3007) Average	12 36		26.4 pack materion 1.5 1.5 1.5	4.5 al. Some in 12.5 8.5 10.5	10.5 regular sha 19.5 14.5 16.5	14 ped curds v 18 13 15.5	66 which are no 27 55 41	6 ot easy to 17 30 23.5	28 pack. Slight	705.5 y wide bas 286 536 411	0 e to curds. 0 71 35.5	Loose wrap	0 oper leaf. 0 89
Average Some small curds and Tozer WRANGLE (3007) Average Open frame. Slightly of	12 36		26.4 pack materi 1.5 1.5 1.5 ype. Gener	4.5 al. Some in 12.5 8.5 10.5 ally small c	10.5 regular sha 19.5 14.5 16.5 curds howe	14 ped curds v 18 13 15.5 wer a range	27 55 41 of curd size	6 t easy to 17 30 23.5 es within the	28 pack. Slightl 56 15 35.5 e crop. Som	705.5 by wide bas 286 536 411 be off white	0 e to curds. 0 71 35.5 curds.	89 94 91.5	0 oper leaf. 0 89 44.5
Average Some small curds and Tozer WRANGLE (3007) Average Open frame. Slightly of	12 36 crinkled le		26.4 back materi 1.5 1.5 1.5 ype. Gener	4.5 al. Some in 12.5 8.5 10.5 ally small o	10.5 regular sha 19.5 14.5 16.5 curds hower	14 ped curds v 18 13 15.5 wer a range	27 55 41 of curd size	6 ot easy to 17 30 23.5 es within th	28 pack. Slight 56 15 35.5 e crop. Som	705.5 y wide bas 286 536 411 ne off white	0 e to curds. 0 71 35.5 curds.	89 94 91.5	0 oper leaf. 0 89 44.5
Average Some small curds and Tozer WRANGLE (3007) Average Open frame. Slightly of Vilmorin VT 3001 Average	12 36 crinkled le	eaf t	26.4 back materi 1.5 1.5 1.5 ype. Gener 12.5 19.5 15.50	4.5 al. Some in 12.5 8.5 10.5 ally small c 19.5 22.5 20.50	19.5 14.5 16.5 curds however 26.5 26.5 26.50	14 ped curds v 18 13 15.5 wer a range 14 7 10.5	27 55 41 of curd size 28 53 40.5	6 t easy to 17 30 23.5 es within th 16 17 16.5	28 pack. Slightl 56 15 35.5 e crop. Som 56 30 43	705.5 y wide bas 286 536 411 ne off white 300 572	0 e to curds. 0 71 35.5 curds.	89 94 91.5	0 oper leaf. 0 89 44.5
Average Some small curds and Tozer WRANGLE (3007) Average Open frame. Slightly of Vilmorin VT 3001 Average	12 36 crinkled le	eaf t	26.4 back materi 1.5 1.5 1.5 ype. Gener 12.5 19.5 15.50	4.5 al. Some in 12.5 8.5 10.5 ally small c 19.5 22.5 20.50	19.5 14.5 16.5 curds however 26.5 26.5 26.50	14 ped curds v 18 13 15.5 wer a range 14 7 10.5	27 55 41 of curd size 28 53 40.5	6 t easy to 17 30 23.5 es within th 16 17 16.5	28 pack. Slightl 56 15 35.5 e crop. Som 56 30 43	705.5 y wide bas 286 536 411 ne off white 300 572	0 e to curds. 0 71 35.5 curds.	89 94 91.5	0 oper leaf. 0 89 44.5
Average Some small curds and Tozer WRANGLE (3007) Average Open frame. Slightly of Vilmorin VT 3001 Average High% of small curds.	12 36 crinkled le	eaf t	26.4 back materi 1.5 1.5 1.5 ype. Gener 12.5 19.5 15.50	4.5 al. Some in 12.5 8.5 10.5 ally small c 19.5 22.5 20.50	19.5 14.5 16.5 curds however 26.5 26.5 26.50	14 ped curds v 18 13 15.5 wer a range 14 7 10.5	27 55 41 of curd size 28 53 40.5	6 t easy to 17 30 23.5 es within th 16 17 16.5	28 pack. Slightl 56 15 35.5 e crop. Som 56 30 43	705.5 y wide bas 286 536 411 ne off white 300 572	0 e to curds. 0 71 35.5 curds.	89 94 91.5	0 oper leaf. 0 89 44.5
Average Some small curds and Tozer WRANGLE (3007) Average Open frame. Slightly of Vilmorin VT 3001	12 36 crinkled le 14 38	eaf t	26.4 Dack materi 1.5 1.5 1.5 ype. Gener 12.5 19.5 15.50 Deturn off wh	4.5 al. Some in 12.5 8.5 10.5 ally small c 19.5 22.5 20.50 iite. Mediun	19.5 14.5 16.5 curds however 26.5 26.5 n depth cur	14 ped curds v 18 13 15.5 ver a range 14 7 10.5 rds. Turning	27 55 41 of curd size 28 53 40.5 yellow at b	17 30 23.5 es within th	28 pack. Slightl 56 15 35.5 e crop. Som 56 30 43 ds.	705.5 by wide bas 286 536 411 be off white 300 572 436	0 e to curds. 0 71 35.5 curds.	89 94 91.5 86 89 87.5	0 oper leaf. 0 89 44.5

	2013-	14	LATE \	WINTER	RCAUL	IFLOW	ER VAR	IETY T	RIAL				
			Transpla	nted 10 J	uly 2013				SPACIN	G 8580 Plants/Acre			
									Crates / Acre				
VARIETY	PLOT			TTING PERI		DAYS	Class	Class	Unmarket	Facepacl	<		Class 2
			10%	50%	90%		1	2	%	8	6	16	12
Tozer	17		19.5	22.5	26.5	7	35	42	23	380	0	225	0
GUNFLEET (3052)	41		2.5	19.5	26.5	14	60	18	22	605	52	98	0
Average			15.5	20.5	26.5	10.5	47.5	30	22.5	492.5	26	161.5	0
Tendency to turn off w	hite at b	ase	of curds. U	niform curd	size. Very	leggy frame	e. Twisted I	eaf over cu	rds. Difficult	to see cure	ds. Paler in	ner leaves.	I
Syngenta	18		21.4	24.4	28.4	7.0	14	36	50	150	0	193	0
MAYFAIR	42		14.4	24.4	28.4	14	3	38	59	24	0	203	0
Average			17.4	24.4	10.5	8.5	37	54.5	87	. 0	198	0	
Tall frame. Clean sligh	ntly crink	led l	ight green l	eaves. Man	ıy smallli cı	ırds. Open	habit. Knob	bly curds.	Off white cu	rds.			
Tozer	19		14.5	19.5	26.5	12	35	21	44	379	0	110	0
SCARBOROUGH (3059) 44		14.5	19.5	26.6	12	50	23	27	536	0	121	0
Average			14.5	19.5	26.5	12	42.5	22	35.5	457.5	0	115.5	0
Small curds. Open fra	me. Ten	dend	y to turn of	f white. Str	ong vigour t	o frame. So	me good F	acepack m	naterial.				
Tozer	20		14.5	19.5	22.5	8	30	10	60	322	0	54	0
GODREVY (3069)	44		14.5	19.5	26.5	12	50	22	28	536	0	121	0
Average			14.5	19.5	24.5	10	40	16	44	429	0	87.5	0
Low growing frame. W	/ide base	to o	curds. Sma	II open curd	ds. Tendend	cy to turn of	f white. Ver	y leafy. Cl	ean leaf.				
							_						
Tozer	21		14.5	19.5	22.5	8	38	12	50	402	0	67	0
3071	45		8.5	19.5	22.5	14	46	18	36	472	29	97	0
Average			11.5	19.5	22.5	11	42	15	43	437	14.5	82	0
High % small curds. \	Will turn	off w	hite at base	of curds if	not cut eve	ery 2 days.	A few good	Facepack	curds. Loos	se wrapper	leaf. Slightl	y wide bas	e to curds.
Tozer	22		5.5	8.5	12.5	7	60	20	20	644	0	107	0
FLUGGA (3060)	46		5.5	8.5	12.5	7	70	18	12	729	29	97	0
Average			5.5	8.5	12.5	7	65	19	16	686.5	14.5	102	0
Crinkly leaf type. Wid	e base to	cur	ds. Variabl	e plant/curd	d sizes. So	me very god	od Facepac	k material.	Will turn of	white and	become lo	ose in warm	weather.

	2013-	14	LATE	WINTER	CAUL	RIAL							
			Transplai	nted 10 J	uly 2013				SPACIN	G 8580 I	Plants/A	cre	
										(re		
VARIETY	PLOT		CU	ITTING PERI	OD	DAYS	Class	Class	Unmarket	Facepac	k		Class 2
			10%	50%	90%		1	2	%	8	6	16	12
Tozer	23		2.6	13.6	16.6	14	24	28	48	257	0	150	0
LISMORE (3063)	47		5.6	13.6	19.6	14	38	18	44	402	0	94	0
Average			3.6	13.6	17.6	14	31	23	46	329.5	0	122	0
Strong vigour to plan	t. Frame.	Ten	dency for cu	urds to beco	ome loose a	and turn off	white. Vari	able curd s	sizes with se	veral small	curds.		
Tozer	24		9.6	23.6	30.6	21	38	20	42	407	0	107	0
3070	48		16.6	26.6	30.6	14	35	25	40	375	0	134	0
Average			12.6	24.6	30.6	17.5	36.5	22.5	41	391	0	120.5	0
Some good Facepac	k material	. Ur	niform. Clea	n leaf. Tenc	lency to be	come loose	and turn o	ff white. No	eeds cutting	every 2 or	3 days.		