



Grower Summary

FV 202f

Field Vegetables: An evaluation of autumn/winter cauliflower, spring cabbage cultivars and other winter brassica crops.

Final 2014

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HDC Project Cost (Total project cost): £29,700.00 (£54,790.00)

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 10 – 90% dates
			Grade 1	(8/tray)	
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 Cultivar	Comments	Transplanting Date	Harvest dates	Pack out yield Trays/Acre (10 bags x 550grams)
Tozer Wintergreen (Traditional open pollinated variety)	Crinkled leaf type. Variable size greens. Dark green leaf. Some root fly damage in mid September. (approximately 40% of the crop).	06.09.13	12.02.14	448
Monsanto RX 7014	Slightly crinkled leaf type. Paler inner leaf. Very uniform. Heavy cabbage greens. Very few unmarketable greens. Little waste. Easy to cut.	06.09.13	12.02.14	630
Monsanto RX 7027	Paler inner leaf. Uniform. Upright frame. Suffered from Cabbage root fly damage in mid September. (approximately 60% of the crop)	06.09.13	12.02.14	247
Monsanto Summer green	Compact. Uniform. Paler inner leaf. Suffered from Cabbage root fly damage in mid September. (approximately 70% of crop)	06.09.13	12.02.14	220
Monsanto Evergreen	Some variation in plant size. Suffered from Cabbage root fly damage. (approximately 70% of crop)	06.09.13	12.02.14	270
Monsanto Winter Special	Uniform. Slightly crinkled leaf type. Some variation in size. Good greens. Few gaps.	06.09.13	12.02.14	580

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.