

Grower Summary

FV 202g

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

Annual 2015

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GROWER SUMMARY

Headline

The introduction of new Autumn and Winter cauliflower cultivars has again increased Grade 1 marketable product, many being over 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 £890/Ha. This is a real possibility with many producers now on a fixed price for their produce.

Background

Duchy College, working in partnership with seven national seed houses and local growers, have carried out the evaluation of commercially available Autumn, Winter Cauliflower and Spring greens cultivars over the past 19 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 to meet market requirements and provide the best returns to the grower.

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 2014-15 season was one of two contrasts, the early Winter Cauliflower varieties heading from early November onwards were in the main below average yields of Class 1, due to the warm Autumn, whereas those varieties heading from February through to June 2015 were well above average yields, with some over 80% Class 1.

Transplanting conditions in July 2014 were very favorable with no delay in planned planting dates and the crop established well. A late attack of cabbage root fly in late August/early September weakened some plants initially however these soon recovered and growth was rapid in September and October.

The Trials were transplanted on the 10th and 18th July, similar to previous seasons. The main bulk of commercial growers transplant from late June to early August.

As a result of higher than normal temperatures in September and early October 2014, a number of early heading Winter Cauliflower cultivars produced both white and green bracts in the curds, down grading produce to Class 2. Cultivars normally harvested early November where 3 weeks ahead of schedule as a result of the mild autumn.

Commercially there was a market for this produce however in times of peak supply these may not always be marketable.

The later transplanting date proved beneficial as there was a marked reduction in bracted curds in nearly all cultivars.

Many of the late autumn cultivars performed well despite the weather conditions as can be seen in the top performing cultivar table below.

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

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

The Spring Greens trial was planted into good conditions on the 9th September 2014 and produced high quality greens, some being harvested in early December and the later cultivars in early February.

Autumn Cauliflower 2014 Top performing cultivars

A number of autumn cultivars also produced large curds. (6/tray). Please refer to the Full Trial Report for details.

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	Naruto	83	2040 (826)	02.10.14 – 07.10.14
Sakata	Amadine	79	1433 (580)	02.10.14 – 06.10.14
Monsanto	5965	82	2067 (837)	04.10.14 – 09.10.14
Monsanto	5982	98	1830 (741)	13.10.14 – 18.10.14

Winter Cauliflower 2014 - 15 Top performing cultivars.

Yields will vary as there were two transplanting dates (10th and 18th July 2014) although spacings were the same for each cultivar within the trials. Some cultivars also produced larger curds that are not included on the table below.

Transplanted at 21193 plants/hectare (8580/acre)

Please refer to the Full Trial Report for details.

Seed House	Cultivar	% Class 1	Trays/hectare (acre) Grade 1 (8/tray)	Heading period 10 – 90% dates
Clause	Navalo	74	1748 (708)	07.10.14 – 16.10.14
Clause	Diwan	80	1511 (612)	18.10.14 – 30.10.14
Clause	Triumphant	65	1509 (611)	04.11.14 – 30.11.14
Cause	Jubarte	70	1855 (751)	23.12.14 – 25.01.15
Vilmorin	Trevignis	76	1969 (797)	02.01.15 – 30.01.15
Seed House	Cultivar	% Class 1	Trays/hectare (acre) Grade 1 (8/tray)	Heading period 10 – 90% dates
A L Tozer	1018	78	2038 (825)	07.01.15 – 04.02.15
Monsanto	5697	82	2174 (880)	09.01.15 – 06.02.15
Vilmorin	Trevaskis	88	2183 (884)	23.01.15 – 13.02.15
Clause	Brick	87	1899 (769)	09.02.15 – 04.03.15
Clause	Redoutable	92	2332 (944)	19.02.15 – 05.03.15
Vilmorin	AE 6272	82	2137 (865)	20.02.15 – 10.03.15
Clause	Fleet	94	2455 (994)	23.02.15 – 07.03.15
A.L.Tozer	2067	81	2097 (849)	02.03.15 – 19.03.15
Elsoms	Gerona	81	2060 (834)	02.03.15 – 16.03.15
Elsoms	Mystique	87	2082 (843)	05.03.15 – 23.03.15
A.L.Tozer	2042	91	1640 (664)	07.03.15 – 18.03.15
Elsoms	Isadora	93	2250 (911)	10.03.15 – 20.03.15
A.L.Tozer	2038	95	2442 (989)	11.03.15 – 30.03.15
Elsoms	Madiot	87	2305 (933)	12.03.15 – 23.03.15
Vilmorin	AE 9307	86	2023 (819)	11.03.15 – 29.03.15
Clause	Mascaret	86	1902 (770)	16.03.15 – 25.03.15
Elsoms	Tempest	84	1976 (800)	21.03.15 – 06.04.15
Clause	CHF 12-273	88	1796 (727)	08.04.15 – 13.04.15
Elsoms	Vogue	94	2393 (969)	06.04.15 – 13.04.15
A.L.Tozer	2072	82	1591 (644)	12.04.15 – 21.04.15

Late heading Winter Cauliflower 2014-15 Top performing varieties

These plots were transplanted on the 10th July 2014 aiming to head in the period 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)

Some cultivars also produced larger curds that are not included on the table below. For example the cultivar Tenfold produced 1889 trays/ha of 6 heads/tray.

Seed House	Cultivar	% Class 1	Trays/hectare (acre) Grade 1 (8/tray)	Heading period 10 – 90% dates
Monsanto	Tenfold	92	1023 (410)	09.04.15 – 16.04.15
Clause	CLX 33116 (Avelmor)	91	1971 (798)	13.04.15 – 10.05.15
A.L.Tozer	3062 (Mumbles)	82	2016 (816)	28.04.15 – 05.05.15
A.L.Tozer	3007 (Wrangle)	91	2356 (954)	30.04.15 – 16.05.15
Elsoms	BJ 2861 (Cartagena)	82	2119 (858)	04.05.15 – 11.05.15
Vilmorin	VT 3004	89	2332 (944)	09.05.15 – 18.05.15
A.L.Tozer	3071	89	2146 (869)	11.05.15 – 19.05.15
Vilmorin	VT 3001	79	2003 (811)	12.05.15 – 26.05.15
A.L.Tozer	3060 (Flugga)	90	2285 (925)	05.05.15 – 12.05.15
A.L.Tozer	3070	71	1776 (719)	09.06.15 – 02.07.15

Spring Green cultivars Main Results

Seed House Cultivar	Comments	Transplanting Date	Harvest dates	Pack out yield Trays/hectare (acre) (10 bags x 550grams)
Tozer Wintergreen (Traditional open pollinated variety)	Crinkled leaf type. Variable size greens. Dark green leaf. Leggy plants	09.09.14	07.12.2014 09.02.2015	1334 (540) 1680 (680)
Monsanto Winter Special	Slightly crinkled leaf type. Compact leaf and stem. Dark green leaf. Very uniform. Heavy cabbage greens. Little waste. Easy to cut. Some tip burn with later harvest date.	09.09.14	07.12.2014 09.02.2015	1927 (780) 1667 (675)
Monsanto Winter Supreme	Paler inner leaf. Very Uniform. Upright frame. Slightly crinkled leaf type. Good greens.	09.09.14	07.12.2014 09.02.2015	1815 (735) 1865 (755)
Hazera Winter Jewel	Compact. Very uniform. Paler inner leaf. Will heart up if not cut as a green. Not large enough to cut in December.	09.09.14	09.02.2015	1687 (683)
Kempsy	Leafy, but smaller than Winter Supreme. Slightly crinkled leaf. Some variations in size of greens.	09.09.14	07.12.2014 09.02.2015	1408 (570) 1507 (610)

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 2014 – 15 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 when 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, 13-14 and 14-15 seasons has enabled growers to observe those cultivars that have performed consistently despite the inclement growing conditions. 2012-13 and 2014-15 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.