



# **Grower Summary**

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## **SF 128a**

To assess the performance of new June-bearing strawberry varieties and advanced selections in a commercial UK substrate production system over two harvest periods.

Annual 2014

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AHDB Horticulture,  
AHDB  
Stoneleigh Park  
Kenilworth  
Warwickshire

CV8 2TL

Tel – 0247 669 2051

AHDB Horticulture is a Division of the Agriculture and Horticulture Development Board.

**Project Number:** SF 128a

**Project Title:** To assess the performance of new June-bearing strawberry varieties and advanced selections in a commercial UK substrate production system over two harvest periods.

**Project Leader:** Sarah Troop, Meiosis Ltd

**Contractor:** Sarah Troop, Meiosis Ltd  
Bradbourne House, Stable Block, East Malling,  
Kent, ME19 6DZ

**Industry Representative:** Stephen McGuffie, New Farm Produce

**Report:** Annual 2014

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**Previous report/(s):** None

**Start Date:** 1<sup>st</sup> March 2013

**End Date:** 30<sup>th</sup> September 2015

**Project Cost:** £26,290

## **Headline**

- Jive and Vivaldi produce high yields as tray plants in this substrate grown strawberry variety trial.

## **Background**

For the strawberry industry to make the best use of substrate production, varieties are a key ingredient for success. Elsanta remains the most widely grown June-bearing variety in substrate production but it has limitations, which include the production of a high proportion of medium size berries, a characteristic that leads to higher picking costs, and it has a tendency to produce misshapen fruit due to its sensitivity to cool temperatures at flowering. Finding a variety that reliably produces large size berries with a high proportion of class 1 fruit could significantly increase profitability without requiring any major change to current production systems. The purpose of this project is to assess a range of new strawberry varieties and numbered selections from a range of European strawberry breeding programmes and compare them with Elsanta for yields, fruit quality, plant habit and pest and disease resistance.

New Farm Produce hosted the variety trial on their site in Elmhurst in Staffordshire. Particular thanks are extended to Stephen McGuffie of New Farm Produce for his support with the project. The trial was housed within a permanently skinned enclosed poly tunnel with vents and removable doors for ventilation as required. The tunnel contained four double rows of table top production. The trial was located in the centre three double rows. The trial used half metre troughs filled with coir substrate. The rows ran north to south. Truss supports were used. Fertigation was supplied to each trough. The trial was managed by New Farm Produce for all fertigation and agrochemical inputs. The feeding regime was based on a standard crop of Elsanta.

The trial was planted from 4 – 8 February 2014. The harvest began on 30 April (week 18) and continued until 30 June (week 27), a total of nine weeks. Fruit was picked three times per week for the majority of harvest.

During the trial assessments were made for plant vigour, plant habit, runner production, truss number, incidence of powdery mildew. During the harvest period, records were collected for berry size categories, percentage class 1 and class 2. Fruit appearance, quality, flavour and shelf-life were also assessed.

The trial details and results are only briefly summarised in this Grower summary section. For full and comprehensive information about the trial and the full results, refer to the full trial report below this Grower summary.

Table 1 lists the varieties included, breeding programmes, country of origin, production season and plant types used.

**Table 1:** Varieties and numbered selections included in the trial

<b>Variety/ Selection</b>	<b>Breeder</b>	<b>Country</b>	<b>Season</b>	<b>Plant Type</b>
EM1552	East Malling Research	UK	Early	Tray 9cm x 7cm
Magnum	Marionnet SARL	France	Early	Tray 9cm x 7cm
Fleurette	Goossens Flevoplants	Netherlands	Early	Tray 9cm x 7cm
Garda	CRA - FRF	Italy	Early-mid	Tray 9cm x 7cm
Malling Centenary	East Malling Research	UK	Early-mid	Tray 9cm x 7cm
EM1677	East Malling Research	UK	Mid	Tray 9cm x 7cm
Elsanta	Plant Research International (PRI)	Netherlands	Mid	Tray 9cm x 7cm
EM1996	East Malling Research	UK	Mid-late	Tray 9cm x 7cm
EM1998	East Malling Research	UK	Mid-late	Tray 9cm x 7cm
EM2044	East Malling Research	UK	Mid-late	Tray 9cm x 7cm
EM2056	East Malling Research	UK	Mid-late	Tray 9cm x 7cm
Vivaldi	Fresh Forward	Netherlands	Mid-late	Tray 9cm x 7cm
Jive	Fresh Forward	Netherlands	Late	Tray 9cm x 7cm

## Results

The trial results are only briefly summarised in this Grower summary section. For full and comprehensive results from year 1 (2014), refer to the full trial report below this Grower summary. A summary of plant characteristics in year 1 of the trial is presented in Table 2.

**Table 2:** Plant characteristics

Variety	Plant losses <i>out of 60 planted</i>	Plant vigour <i>1 = low  5 = very vigorous</i>	Runner productio n <i>1 = none  5 = prolific</i>	Average crown number per plant	Average flower number per truss	Powdery mildew <i>1 = none  5 = high incidence</i>
EM1552	5	3.5	3.5	2.0	31	2
Magnum	0	4.0	1.0	3.0	30	0
Fleurette	2	5.0	2.5	4.0	21	2
Garda	1	2.3	0.5	3.0	29	1
Malling Centenary	0	3.5	1.0	2.0	79	0
EM1677	0	3.3	0.7	2.0	43	0
<b>Elsanta</b>	<b>0</b>	<b>3.2</b>	<b>1.3</b>	<b>2.0</b>	<b>65</b>	<b>2</b>
EM1998	0	4.0	3.5	2.5	17	1
EM2044	1	3.5	3.0	2.5	23	0
EM2056	0	4.2	3.5	2.0	53	0
Jive	0	4.3	1.5	3.0	21	1
Vivaldi	0	4.3	1.5	4.0	16.5	0
EM1996	0	3.4	2.3	2.5	43	2

A summary of yield data collected during year 1 harvest (2014) is presented in Table 3.

**Table 3:** 2014 Year 1 fruit yield data

Variety	50% pick date	Total yield (g/plant)	Class 1 yield (g/plant)	% Class 1
EM1552	14/05/14	165.9	158.7	95.7
Magnum	20/05/14	330.9	314.0	95.0
Fleurette	21/05/14	340.8	332.4	97.5
Garda*	18/05/14	203.1	177.3	87.3
Malling Centenary	21/05/14	290.5	286.7	98.7
EM1677	19/05/14	205.0	198.9	97.0
Elsanta	20/05/14	374.0	326.9	87.4
EM1996	22/05/14	153.3	137.3	89.6
EM1998	19/05/14	102.5	98.3	96.3
EM2044	20/05/14	156.6	153.4	98.0
EM2056	15/05/14	131.0	128.8	98.3
Vivaldi	30/05/14	577.7	542.8	94.0
Jive	06/05/14	603.2	567.8	94.1

## Conclusions

In this first year of the project the following conclusions are drawn from 60-day cropping of 12 varieties in a commercial UK substrate production system in comparison with Elsanta:

- Jive and Vivaldi produced significantly higher fruit yields than Elsanta and the other nine varieties/selections in trial, though both had weak fruit flavour.
- EM2056, EM1677, EM1996, EM2044, Fleurette and Jive all produced a high proportion of large berries.
- Garda and EM1552 are the least promising varieties in trial in year 1 production. Both gave lower fruit yields and poorer fruit quality than Elsanta.



- A number of varieties in trial have the potential for successful production in the UK but their year 2 main crop performance will be the deciding factor for profitable production.

The second year main crop results are required before any firm conclusions can be drawn.