

Grower Summary

SF 096a

East Malling Strawberry
Breeding Club

Annual 2015

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Project Number: SF 096a

Project Title: East Malling Strawberry Breeding Club

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GROWER SUMMARY

Headline

- Eight new selections, four June-bearers and four everbearers, were selected from the 2014 East Malling Strawberry Breeding Club (EMSBC) preliminary trials to go forward to UK growers' trials.

Background

The new contract for the East Malling Strawberry Breeding Club (EMSBC) was signed in June 2013 to follow on from the first tranche of the EMSBC breeding programme which had started in 2008. AHDB Horticulture continues to contribute to the EMSBC via project SF 96a. The main objective of the EMSBC strawberry breeding programme is to develop improved strawberry varieties, both June-and everbearing with increased yield, larger fruit size, an extended season of production and greater resistance to fungal diseases. This report covers three trials (June-bearer main crop, 60-day and everbearer trials) of EMSBC material assessed in 2014 as part of the preliminary trials held at East Malling Research.

This Grower Summary provides a precis of the results from the most promising selections of the 2014 EMSBC strawberry variety trials. More comprehensive information and images of the most promising selections are presented in the Full Trial Report.

All trials were performed on the Ditton Rough plot (sandy loam soil) at East Malling Research, New Road, East Malling, Kent ME19 6BJ. Each trial was planted as double rows at 0.6 m spacing into fumigated raised beds with polythene mulch and trickle irrigation. These beds were covered prior to flowering with polythene clad tunnels for rain protection and also with netting against bird damage.

Main crop (June-bearer) trial

The main crop trial contained 87 new selections, nine advanced, re-cycled or re-trialled selections and five industry/season standard cultivars ('Elsanta', 'Fenella' 'Sonata', 'Malling™ Centenary', and 'Vibrant'). It was established from misted tips planted on 30 July 2013.

60-day trial

The 60-day trial included eight advanced selections, two breeding lines and three standard cultivars ('Elsanta', 'Sonata' and 'Malling™ Centenary'). The trial was established using bare-root, cold-stored runners planted on 15 May 2014. Crown diameters of all plants were measured prior to planting.

Everbearer trial

The everbearer trial contained 37 new selections, and six advanced selections, plus standard cultivars ('Evie 2' and 'Finesse'). It was established from potted plants derived from pinned down tips, taken in August 2013, and planted on 1 April 2014. Plants were de-blossomed during the second week of May and harvesting began on 23 June and continued twice weekly until 29 September 2014.

Results of variety trials

The results from each of the 2014 trials are presented in Tables 1-5:

Table 1. Main crop (June-bearer) trial – yield, fruit size and season

Selection	Class 1 yield (g/plant)	% Class 1	% large fruit (>35mm)	50% pick date
EM2192	862	84	49	5 Jun
EM2206	838	89	60	9 Jun
EM2358	843	80	55	16 Jun
EM2157	739	84	64	23 Jun
<i>Elsanta</i> ¹	580	62	47	11 Jun

¹Mean of two plots

Table 2. Main crop (June-bearer) trial - fruit quality scores

Selection	Appearance (1-9)	Skin firmness (1-9)	Flesh firmness (1-9)	Flavour (1-9)	Shelf life (1-5)	Mean Brix
EM2192	5.6	5.9	6.1	5.2	2.8	7.0
EM2206	5.4	6.4	6.4	5.3	4.3	7.6
EM2358	5.2	5.8	5.9	5.8	3.0	9.6
EM2157	6.1	6.4	6.3	5.3	3.0	8.7
<i>Elsanta</i> ¹	4.8	5.9	5.4	5.0	-	7.2

¹Mean of two plots

Full descriptions of the fruit quality scoring system can be found in Appendix I of the main report, but as a guide 1=poor, 9=excellent, shelf life comparison 1=worse, 3=same, 5 better than standard

Table 3. 60-day trial – yield, crown size and season 60-day yield, crown size and season

Selection	Marketable yield ¹ (g/plant)	% marketable yield	Mean crown diameter (mm)	Marketable (g/plant) yield per mm crown diameter	50% pick date
EM2056	116	72	10.4	11.1	3 Jul
EM2298	88	72	8.1	10.8	3 Jul
EM2044	110	77	8.6	12.8	7 Jul
EM2290	143	86	9.3	15.4	7 Jul
EM2299	78	82	10.1	7.7	7 Jul
EM2320	95	77	9.2	10.3	7 Jul
EM1998	156	74	8.6	18.1	10 Jul
EM2311	138	82	7.8	17.7	10 Jul
EM2335*	98	78	8.5	11.5	10 Jul
EM2344*	187	82	8.9	21.0	10 Jul
<i>Elsanta</i> ³	150	71	11.5	13.0	7 Jul
<i>Sonata</i>	103	70	8.5	12.2	7 Jul
<i>M Centenary</i>	178	88	8.2	21.7	7 Jul

¹ >25 mm, ² mean of two plots

*EMSBC breeding lines

Full descriptions of the fruit quality scoring system can be found in Appendix I of the main report, but as a guide 1=poor, 9=excellent

Table 4. Everbearer trial – yield, fruit size and season

Selection	Class 1 yield (g/plant)	% Class 1	% large fruit (>35mm)	50% pick date
EMR635	1149	79	54	4 Aug
EMR644	1135	82	62	4 Aug
EMR647	1669	85	49	7 Aug
EMR645	1302	88	57	11 Aug
<i>Evie 2</i> ¹	1586	75	66	11 Aug
<i>Finesse</i> ¹	1112	78	45	2 Aug

¹Mean of two plots

Table 5. Everbearer selections. Fruit quality scores

Selection	Appearance	Skin firmness (1-9)	Flesh firmness (1-9)	Flavour (1-9)	Shelf life (1-5)	Mean Brix
EMR635	5.6	5.8	6.4	5.7	2.0	8.1
EMR644	5.9	6.3	6.3	6.1	3.6	8.2
EMR647	5.4	6.2	6.3	5.2	3.0	7.5
EMR645	5.8	6.4	5.8	5.4	3.0	8.6
<i>Evie 2</i> ¹	5.8	5.5	5.9	4.7	2.8	6.2
<i>Finesse</i> ¹	5.3	6.1	6.4	5.0	-	7.6

¹Mean of two plots

Full descriptions of the fruit quality scoring system can be found in Appendix I of the main report, but as a guide 1=poor, 9=excellent, shelf life comparison 1=worse, 3=same, 5 better than standard

Main conclusions

Main crop (June-bearer) trial

- Four new selections, EM2157, EM2192, EM2206 and EM2358 were identified as being of sufficient interest to progress to growers' trials in 2016 (60-day) and 2017 (main crop).

60-day trial

- EM2290 and EM2311 showed potential in the 60-day system, having a comparable marketable yield (grams per plant) to Elsanta, but with a higher percentage of Class 1 fruit.

- All the remaining selections will continue to growers' trials for assessment as 60-day plants in 2014 and main crop in 2015.

Everbearer trial

- Four new selections, EMR635, EMR644, EMR645 and EMR647 were identified as being of sufficient interest to progress to growers' trials in 2016.

Further information

More comprehensive information and images of the most promising selections are provided in the Full Trial Report.