



New Project Summary Report for SF 096a: The East Malling Strawberry Breeding Club (EMSBC)

Project Number	31700961
Title	East Malling Strawberry Breeding Club (EMSBC)
Short Title	SF 096a
Lead Contractor	East Malling Research
Start & End Dates	01 June 2013 - 31 May 2018
Project Budget	£1,330,445
AHDB Contribution	£265,454

The Problem

The strawberry breeding programme at East Malling has been developing new varieties for all sectors of the strawberry industry in the UK since 1983. In this time it has released 35 varieties, of which 32 are still being propagated for sale, with total sales of these varieties now exceeding 250 million plants.

In 2008, The East Malling Strawberry Breeding Club (EMSBC) was established to continue the breeding programme, with funding coming from both public and private sources. (Defra, HDC, BerryGardens, CPM Retail Ltd, East Malling Ltd, European Strawberry Nurseries Association, Mack Multiples and United Kingdom Strawberry Nurseries Association (Meiosis Ltd). HDC is a member of the EMSBC and contributed funding via project SF 96, which finished on 31 May 2013. In addition the programme has benefitted from, and will continue to benefit from, associated research projects funded at EMR that feed into the main breeding programme. These include:

- TSB-funded project aimed at developing markers for resistance to powdery mildew
- BBSRC-funded and HDC-funded (SF 135) projects aimed at developing and utilising resistance markers to Verticillium wilt
- Defra-funded research to investigate improved water use efficiency, heat tolerance and improved 60-day yields in strawberry
- BBSRC LINK proposal on developing markers for resistance to Phytophthora species. This project requires matched industry funding to proceed, and HDC funding for this proposal would count as part of this industry funding

It is the intention of the breeding programme to release new varieties which show some advantage over those currently available for a particular purpose or slot in the season. This advantage may be in terms of fruit quality, yield, resistance to diseases (to minimise pesticide applications), fruit size and display (to reduce picking costs) or a combination of these characters.

Since the formation of the EMSBC in 2008, two new varieties ('Buddy' and 'Serenity') have been named

and released, with two further selections in the process of commercialisation for launch in 2013-15 (EM1764 provisionally named 'Malling Centenary', and EMR470). In addition there are currently 20 (16x June bearer, 4x everbearer) advanced selections that have been identified for growers' trial.

Aims and Objectives

The aim of the project is to develop improved strawberry varieties, both June- and everbearing for the UK industry. These improved varieties will have increased yield and fruit size, with excellent fruit quality (high Brix, good overall flavour, attractive appearance, good firmness, good shelf-life), improved percentage of Class 1 fruit, an extended season of production (improved early and late-season June-bearers), good 60-day cropping performance and increased resistance to fungal diseases (powdery mildew, crown rot and Verticillium wilt).

The industry will benefit from the release of new, improved strawberry varieties that will be adapted for UK conditions and production systems and have fruit quality suited to UK markets and consumers. It is the intention of the breeding programme to develop varieties for all sectors of the industry, including growers supplying supermarkets as well as PYO and direct sales businesses. Propagators will also benefit through the opportunity to produce the plants of these varieties to satisfy demand from UK and overseas.

HDC members will have an opportunity to see the progress and results from the breeding programme via annual HDC strawberry trial events and at HDC/EMRA soft fruit days. Advanced selections will be included in HDC variety trials (e.g. SF 128). Results will also be disseminated via annual reports/factsheets and to HDC representatives at quarterly Board meetings of the EMSBC.

Approach

The aims of the project will be achieved by:

1. Carrying out an annual crossing programme to produce a population of seedlings (60% June-bearer and 40% everbearer)
2. Annually selecting the best individuals from the population of seedlings
3. Trialling and assessing the selections in 60-day, main crop and everbearer trials at East Malling Research to select advanced lines
4. Screening advanced lines for resistance to powdery mildew, crown rot and Verticillium wilt
5. Distributing advanced lines for trial and assessment on EMSBC grower members' farms (including HDC variety trial)
6. Disseminating the results to growers via an annual 'Fruit Walk' each June for HDC members and the production of annual fact sheets