

Agricultural Development and Advisory Service

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Contract Report

No. SF/7/87
Strawberries : Stage III
Variety Trialling

Undertaken for the Horticultural
Development Council

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AUTHENTICATION

I declare that this work was done under my supervision according to the procedures described herein and that this report represents a true and accurate record of the results obtained.

..... *R R Stapleton*
Signature

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Date *4 Dec 1989*

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Summary

Stage III Grower Trials co-ordinated by the National Fruit Trials form the last stage of the variety trialling procedure for the evaluation of new strawberry varieties/selections in the United Kingdom. There are a total of nine varieties/selections in Stage III trials at present, with thirty sites in various parts of the UK. The varieties/selections include Melody (71 WC 64), 69 GU 76, and JI 6848 as potential processing varieties, with another selection, ES 582, due to be planted this winter 1989/90. The three mid season/late dessert varieties are Pegasus (ES 608), Rhapsody and Pandora (JILA 33). ES 467 was eliminated from any further work in 1989 due mainly to poor fruit shape compared to Elsanta. JI 6848 did not show any commercial potential and has also been eliminated.

Pandora, now in second cropping season, generally lived up to expectations as a late variety, although there was some variation in response depending on site/pollination. Plants were vigorous, producing runners freely, with a fair/good marketable yield. Some pollination problems were evident, especially on thick matted rows and where rows were distant from a pollinator. Fruit size, flavour and market reaction was good, but there was some indication that berries could be on the soft side.

Pegasus (ES 608) was of medium vigour and is slightly later than Elsanta, with good yield and fruit characteristics. Flavour was described as fair/good, with berries tending to be slightly soft. Market reaction was generally good.

Rhapsody has generally established well except in Scotland and Northumberland, the first significant results being expected in

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the 1990 cropping season. Insufficient information is available on the processing variety 69 GU 76 so far, although this variety will be assessed further in trials planted winter 1989/90. The variety JI 6848 did not show any commercial potential. Melody (71 WC 64), will also be assessed in trials planted 1988/89, results from earlier plantings having shown plants to be moderately vigorous, with moderate runnering. Fruit size was small to medium, yield fair/good with a good colour and with easy calyx removal. This processing variety could be especially useful as a canning variety as it can be used for this purpose without added colour.

Introduction

The National Fruit Trials is responsible for arranging and co-ordinating all fruit variety trialling carried out in the UK, the procedure being divided into three stages. After preliminary (Stage I) trials at Brogdale EHS, promising varieties are evaluated at other Experimental Horticulture Stations and approved sites in the UK (Stage II). Varieties are then selected by the NFT Panels as suitable for Stage III Grower Trials, in order to test the varieties on a larger scale and under commercial conditions.

Various strawberry varieties/selections are at present in Stage III trials and this report summarises the current situation regarding these trials.

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Materials and Methods

Sites of the trials with the varieties/selections involved, number of plants and dates of planting are listed in Appendices I - III. The varieties involved are as follows -

Pegasus (ES 608) [IHREM] - mid-season variety usually a few days later than Elsanta. This is a heavy cropping selection with fruit of good quality.

Pandora (JILA 33) - very late, two to three weeks later than Cambridge Favourite. Fruit of good size and quality. Male sterile, hence needs pollinators.

Rhapsody (SCRI) - about one week later than Cambridge Favourite. Has performed well in multi-centre trials in all parts of the country. Long conical, red fleshed, glossy berries. Resistant to red core.

Processing:

69 GU 76 (SCRI) - heavy yields of red fleshed fruit which have produced good jam in tests.

Melody (71 WC 64) (SCRI) - produces small to medium sized fruit with dark red flesh/skin. Potential variety for the canning industry.

ES 582 (IHREM) - produces medium sized fruit, glossy orange/red in colour with round to round/conical shaped berries. Potential variety for jam production only.

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Plant material was obtained from commercial producers of strawberry plants - W H Cragg, Darby Bros, R W Walpole and Wyetech Limited. Grower sites were selected with the aid of the co-operation of regional ADAS and Scottish Agricultural Colleges (SAC) staff to give a wide range of trials conditions within the strawberry growing areas of the UK. Feedback from the trials was obtained from visits to the sites by ADAS staff and with the aid of reporting forms, sent out and collated by the NFT.

Results and Discussion

Mid-season/Late:

Pandora (JILA 33) - the Hapil pollinators used with this variety were planted as fresh dug runners at a later date than the Pandora during the same season. The exact arrangement of the pollinators were left to the grower concerned.

Site 1 - Kent

7500 plants. Planted 5 August 1987 at 18" x 38" in single rows.

Total Yield: Totally unacceptable.

Pick dates: Not picked.

Comments: Crop was not picked due to the very low yield. The Hapil pollinators flowered two weeks earlier than Pandora, resulting in poor pollination and hence misshapen fruit/reduced yields. Fruit

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size and flavour was good but firmness was described as poor, with fair external and flesh colour.

Site 2 - Kent

3750 plants. Planted late July 1987 at 18" x 12" in 2 row beds.

Yield: Not known.

Comments: Plants vigorous and originally planted too close. A better planting density has been established by thinning plants to 50 cms (20 inches) on some rows, by removing every other plant. There was some indication that fruit quality was better from the thinned plants.

Site 3 - Cheddar

750 plants. Planted 21 August 1987 at 25cms under black polythene.

Total yield: 0.25 kg per plant.

Pick dates: First - 18 June 1988 : Last - 30 July 1988.

Comments: Fruit described as having excellent flavour, firm with 80% of crop being greater than 25 mm. No pollination problems were evident. Fruit sent to the Supermarket chain Tesco's was

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favourably received. The very hot and dry weather resulted in a short picking season and some of the last fruit had to be left on the plant, due to being over ripe.

Site 4 - Somerset

3000 plants. Planted 1 September 1987 at 18" x 12" in double row beds, half with black polythene, half with white on black polythene.

Yield: 300 g per plant marketed.

Pick dates: First - 23 June 1989 : Last - 4 July 1980.

Comments: An increase in yield was evident on those plants planted in black polythene ie 153 kg for white compared to 298 kg for black polythene (picked for Supermarket). Berries had a red external colour with pink flesh, average firmness and very good flavour. There was some indication that berries could go very dark when overripe. Consumer and market reaction was good but picking had to be good to ensure no overripe or bruised fruit was sent to market.

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Site 5 - Shropshire

3750 plants. Planted 10 August 1987.

Yield: Fair yield.

Pick dates: First - 30 June 1989 : Last - 29 July 1989.

Comments: Plants described as very vigorous, producing many runners, with only a fair yield. Fruit size, external colour, runners and flavour was described as good. Consumer and market reaction was also good.

Site 6 - Scotland

3750 plants. Planted 14 August 1987 at 18" x 36".

Yield: Good.

Pick dates: First - 20 July 1989 : Last - 1 August 1989.

Comments: Fruit size, colour, firmness and flavour were all described as very good, with a good yield and vigour. Consumer and market reaction was also very good. Due to hot, dry conditions, up to 25% of main crop strawberries were lost. Pandora did not suffer from hot conditions as much as other varieties.

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General Comments

Yields although generally good, were disappointing at sites 1 and 5.

At site 1, the early flowering of Hapil and the fact that no other varieties were planted nearby, resulted in poor pollination/fruit shape and subsequently an unacceptable yield. On some sites, including 5, pollination problems arose on thick matted rows and where rows were distant from a pollinator.

Pandora would benefit from a wider spacing than most varieties. Season was late, although somewhat contracted due to hot dry conditions. No particular pest and disease problems were noted. Fruit size, flavour and market reaction was good, with some indication that berries can be on the soft side.

Pandora was generally well liked by growers and marketing outlets. The major problems being due to pollination requirements, the vigour of the variety and possibly the slight softness of the berry.

Pegasus (ES 608)

Site 1 - Kent

2000 plants. Planted mid July 1987 at 18" x 12" in two row beds.

Total Yield: Not known.

Pick Dates: Not known.

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Comments: Berry size good, ie mostly medium, with colour and appearance good. Flavour generally poor/fair with berries being slightly soft. Stood up to dry conditions better than Elsanta.

Site 2 - Shropshire

2500 plants. Planted 10 August 1987.

Yield: Good.

Pick Dates: First - 14 June 1989 : Last - 12 July 1989.

Comments: Very good external colour, with good yield, fruit size and firmness. Flavour was only fair, market reaction good.

Site 3 - Scotland

2500 plants. Planted 14 August 1987 at 18" x 36".

Yield: Good.

Pick Dates: First - 28 June 1989 : Last - 12 July 1989.

Comments: Plants were described as having medium vigour with moderate runnering, fair yield, fruit size, external colour and only a fair flavour. Berries were less firm than Pandora, receiving a favourable market reaction.

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Site 4 - Norfolk

2500 plants. Planted 19 August 1987 at 24" x 36".

Yield: Very Good.

Pick Dates: About ten days later than Elsanta.
First - 20 June 1989 : Last - 22 July 1989.

Comments: Very good fruit size and colour, fair firmness and variable flavour, improving as picking continued. A fair/good market reaction.

Site 5 - Somerset

2000 plants. Planted 18 August 1987.

Yield: Good.

Pick Dates: First - 8 June 1989 : Last - 29 July 1989.

Comments: Fruit size was very good, with good firmness and colour. Flavour was fair with a good market reaction, although colour of berry can go too dark if left on plant too long.

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Site 6 - Cheddar

Terminated - ploughed in by mistake.

General Comments - Pegasus (ES 608) was well liked by all the growers and seems to be a promising variety for the UK. It is slightly later in season than Elsanta and also more disease resistant than this variety. Although the variety does not score very highly on flavour, it is thought that the flavour is acceptable. Plant Variety Rights are expected to be granted in the near future. Pegasus was placed into Category 2 (Provisionally Approved) in the NFT List of Approved New Fruit Varieties this year.

Processing

Insufficient information is available on the processing variety 69 GU 76 at present and this variety will be assessed further in trials planted this winter. Melody (71 WC 64) will also be assessed in future trials along with the variety ES 582. Results from earlier plantings of Melody are given below.

Site 1 - Dundee, Scotland

30,000 plants. Planted mid April 1987.

Total Yield: 4.6 tons/acre (good).

Pick Dates: First - 27 June 1989 : Last - 14 July 1989.

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Comments: Vigorous plants producing runners freely, with a good yield and generally small fruit. Flesh colour is described as very good with a good external colour. Fruit is firm with a good flavour. Market reaction is favourable, the fruit was sent for canning.

Site 2 - Fife, Scotland

400 plants. Planted 17 April 1987.

Total Yield: Good.

Pick Dates: First - 1 July 1989 : Last - 30 July 1989.

Comments: Plants of medium vigour but very weak runnering, fair yield, size and external colour. Good flesh colour but firmness and flavour was described as poor. Consumer reaction was fair, sold as PYO and at farm shop.

General Comments

Melody will be assessed further in trials planted 1989/90, together with the varieties ES 582 and 69 GU 76.

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Conclusions

Pandora performed well giving generally good yields, but disappointing at some sites due to pollination problems. Season was late but somewhat contracted due to hot, dry conditions. There were good reactions to the quality of the fruit from the various market outlets, but softness of fruit may be a slight problem.

Pegasus (ES 608) has been placed into Category 2 (Provisionally Approved) of the NFT List of Approved New Fruit Varieties.

The processing variety Melody (71 WC 64) and ES 582 are to be assessed further in future trials, in collaboration with the processing industry and the NFU.

Recommendations

Continue to monitor existing trial sites, with particular reference to Pandora to assess the performance of the variety as three year old plants.

Acknowledgements

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Storage of Data

The raw data will be stored at the National Fruit Trials, Brogdale Experimental Horticulture Station, Brogdale Road, Faversham, Kent ME13 8XZ.

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Appendix I

Mid-Season/Late Varieties

<u>Site</u>	<u>Variety/Selection - Numbers</u>	<u>Date Planted</u>
Mereworth, Maidstone Kent	Pandora - 7500	August 1987
Sedlescombe, Kent	Pandora - 3750)	August 1987
	Pegasus (ES 608) - 2000)	
Invergowrie, Dundee Scotland	Pandora - 3750)	August 1987
	Pegasus (ES 608) - 2500)	
Donnington, Telford Salop	Pandora - 3750)	August 1987 October 1988
	Pegasus (ES 608) - 2500)	
	Rhapsody - 2000	
North Lopham, Diss Norfolk	Pegasus (ES 608) - 2500	August 1987
East Nynehead Wellington, Somerset	Pandora - 3000	September 1987
Rodney Stoke, Cheddar Somerset	Pandora - 750	August 1987
Yeovil, Somerset	Pegasus (ES 608) - 2000	August 1987

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Appendix II

Processing Varieties

<u>Site</u>	<u>Variety/Selection - Numbers</u>	<u>Date Planted</u>
North Petherton		
Somerset	Melody (71 WC 64) - 500)	
	69 GU 76 - 500)	Winter 1986/87
Tunstead, Norfolk	69 GU 76 - not known)	
	Melody(71 WC 64) - not known)	Spring 1986
Cairnie, Cupar Fife		
Scotland	Melody (71 WC 64) - 400	April 1987
Liff, Nr Dundee		
Scotland	Melody (71 WC 64) - 30,000	April 1987

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Appendix III

Processing Varieties (in collaboration with the industry and NFU)

<u>Site</u>	<u>Variety/Selection - Numbers</u>	<u>Date Planted</u>
Wisbech, Cambridgeshire (2 sites)	69 GU 76 - 3500	Winter 1989/90
	ES 582 - 3500	
-	69 GU 76 - 11500	Winter 1989/90
	ES 582 - 1500	
Scunthorpe, South Humberside	69 GU 76 - 5000	Winter 1989/90
	ES 582 - 5000	
Sites unknown	Melody (71 WC 64) - 60000	Autumn/Winter 1989/90

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