

ANNUAL REPORT 1993

HDC PROJECT - SF/32

PLUM: SCREENING AND ASSESSMENT OF SEEDLINGS FOR YIELD AND FRUIT QUALITY

Project Leader: R. P. Jones

Location: HRI East Malling

Co-ordinators: A. D. Webster and K. Tobbutt

Project commenced 01.01.93

Project completion 01.01 95

Key Words: plum, screening, seedlings

Science Section.

Introduction.

To assess the commercial potential of the remaining seedlings left after the closure of the plum breeding programme at HRI East Malling in 1991. The main aim is to identify the most promising ones so larger grower trials, under commercial conditions, can be organised as quickly as possible. Self-compatibility tests will be carried out on those seedlings which have good fruit quality.

Materials and Methods.

Four trees of each of the seedlings EM 1 to EM 51 (except for EM 10 and EM 13 which had died) and 2 trees each of 11 selections (WJ 110, WJ 111, WJ 63, WJ 71, WJ 73, WJ 75, WJ 82, WJ 83, WJ 84, WJ 92 and WJ96) from earlier trials were planted on 16 February 1993. All the trees had been grafted onto Pixy rootstocks in January 1991 and were grown in pots until planting out this year.

Results.

Only 7 selections had all trees remaining vegetative but generally the amount of flower was low which was to be expected for young plum trees. The earliest selections flowered on 20 March and the latest on 10 April.

Flowering.

Selection	Date 1st Flower	No Trees Flowering	Selection	Date 1st Flower	No Trees Flowering
EM 1	30/3	4	EM 19	26/3	3
EM 2	28/3	4	EM 20	30/3	2
EM 3	30/3	1	EM 21	4/4	3
EM 4	20/3	2	EM 22	—	0
EM 5	25/3	4	EM 23	7/4	1
EM 6	30/3	1	EM 24	6/4	2
EM 7	27/3	2	EM 25	30/3	3
EM 8	28/3	2	EM 26	9/4	1
EM 9	26/3	3	EM 27	5/4	4
EM 10	—	—	EM 28	2/4	3
EM 11	30/3	2	EM 29	4/4	3
EM 12	—	0	EM 30	5/4	2
EM 13	—	—	EM 31	—	0
EM 14	26/3	2	EM 32	26/3	1
EM 15	—	0	EM 33	4/4	3
EM 16	—	0	EM 34	—	0
EM 17	7/4	1	EM 35	27/3	4
EM 18	26/3	4	EM 36	7/4	2

The length of the juvenile phase (precocity) will also be determined. Any selections that have enough flowers (>100) will be emasculated, bagged and then self pollinated. The degree of self compatibility will then be determined from the records of initial fruit set.

August/September 1993, 1994, 1995

The final fruit set will be recorded when the plums ripen. Initial yields will be estimated and fruit samples will be taken for size gradeouts. A detailed description of fruit characters will be recorded for all the selections that crop.

October 1993, 1994, 1995

A report describing the results obtained in the trials will be submitted to the HDC.

Some selections will take place during the trial period with more detailed recording on the best seedlings. Any poor seedlings will be rejected.

7. COMMENCEMENT DATE AND DURATION

Start date 01.01.93; duration 3 years (8 months work in year 1; 7 months work in years 2 and 3).

8. STAFF RESPONSIBILITIES

R P Jones

Additional support from: A D Webster, K Tobbutt

9. LOCATION

HRI East Malling