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SUMMARY OF ROOTSTOCK WORK IN ENGLAND

Submission by Dr. Anthony Webster

Synopsis by George Ing

Tony Webster, rootstock specialist at East Malling, provided a complete and timely update of pear rootstock work. The paper is 12 pages; 9 pages of tables and three pages describing the results. The entire paper can be made available to anyone interested. Just ask Muriel or George for a copy. For brevity, we have the following synopsis and table 4.

1. East Malling continues to have poor fruit set year after year. Thus production is low and the best information available relates to tree growth, trunk size, comparative blossoming and comparative production. Much of the information relates to new quince stocks which constitutes about half of the pear rootstock program at EM.
2. Pyrus 708-36 continues to show most promise. It has more cropping, more tree growth and more consistent bloom. Europe is concerned it may be a larger tree than they desire which might make it ideal for our purposes, perhaps 40 to 50 % of current trees. Tony reports that Bruno Essner, the French Nurseryman with distribution rights to the 708 series, finds that 708-36 propagates very readily from hardwood cuttings.
3. Experiments at EM are principally with Conference, an average vigor tree. One pertinent plot is with Bartlett (Williams) as requested by us some years ago. Some experiments are with Comice.
4. Some new quinces are quite promising but none are considered winter hardy. There is formation of a European consortium to work with rootstocks and which will result in sharing of promising materials from cold countries. This consortium will include pyrus in its selections and evaluations. A batch of pyrus from Sweden were planted at East Malling last year.
5. EM has Pyrodwarf through third leaf. There is some negativism from two standpoints. One is that the rootstock may be too dwarfing at least for some varieties and some locations. Pyrodwarf stock sent to EM was weak upon arrival and has grown slowly; only making decent growth in its third leaf. The second concern is that Pyrodwarf has had very low numbers of flowers through its first three seasons, particularly contrasted with other pyrus selections and quinces.
6. 708-2, 708-36 and 708-12 are currently in plots at Hood River.
7. TABLE 4--Attached. Lists comparisons of micropropagation versus rooted cuttings for 10 pyrus and two quinces planted in 1995. Note highest production is with 708-36.

NOTES FROM TONY WEBSTER TALK AT IDFTA MEETING

At the recent International Dwarf Fruit Tree Association meeting in New Zealand, Tony Webster discussed both pome and stone fruit rootstocks. East Malling has an aggressive program and two of the most promising new apple rootstocks are from EM. In the pear world, Tony noted that there may be as many pear dwarf rootstock candidates as there are for apples or cherries. It is more a matter of gathering them and testing. Some of his comments:

Rootstock 193-16, from EM produced larger fruit.

EM is experiencing difficulty in growing the rootstocks from the BP series from South Africa. High death rate from decline. A similar plot in Italy also had high mortality with BP rootstocks.

Fox, from Bologna, Italy appears to be quite vigorous, not a good candidate for the size of tree desired in Western Europe. Fox # 11 is at OSU.

The Retuziere series from France appears to be too vigorous. Number 11, named pyrium may be suitable for "bony" soils in Southern Europe. OSU has pyrium.

Brossier # 39 from France might be useful as an interstem.

Rootstock # 5-79 is very fire blight resistant.

OVERALL PROGRESS---The liaison with East Malling has resulted in opportunity for early work with propagation techniques, development of some numbers which now have scions and will be tested. Such liaison should also result in continued early availability of promising rootstocks which come to or through the East Malling Program.

FUNDING---While the East Malling work is intense and produces data, rootstock development and evaluation is a slow process. After several years of contributing \$ 30,000 to \$ 35,000 to the East Malling program, for last year the funding was \$ 20,000. It is requested that \$ 20,000 be considered for 2000-2001.

Effect of *Pyrus* rootstock clone and propagation technique on the tree size and yields of Williams pear trees [planted as 'maidens' in 1995]

Rootstock	Trunk girth (cm) 1999		Yield/tree (kg) 1999	
	Microprop.	Conventional	Microprop.	Conventional
311-17	12.2	12.0	2.0	3.4
515-24	11.5	11.4	2.7	2.1
517-9	12.5	7.7	0.4	2.2
708-2	12.3	11.0	1.4	1.8
708-13	11.3	9.5	2.0	1.7
708-23	11.9	11.6	1.6	1.1
708-36	-	11.6	-	6.1
708-63	-	14.1	-	3.3
G 28-119	8.3	-	2.2	-
RV 113	11.9	-	4.1	-
QA	-	13.2	-	1.7
QC	-	13.5	-	5.3