EVALUATION OF 'PHYTOPHTHORA/ARD RESISTANT' ROOT STOCKS FROM EAST MALLING   **NACM 89/5.1**

1] Reported properties: HRI East Malling evaluation 1989

Rootstock selection	Reported vigour as	Ease of propagation	Resistance to *P.cactorum*	Resistance to ARD
AR 86.1.20	MM106	Very good	Moderate	Resistant
AR 86.1.25	MM106	Good	Resistant	Resistant
AR 10.2.7	MM106	Poor	Moderate	Susceptible
AR 10.3.2	MM106	Good	Susceptible	Moderate
793	MM111	Poor	Moderate	-
3430	Seedling	Very good	[Susceptible]	-

2] In vitro screening for resistance to *P.cactorum* [LARS 1989]
Dormant budsticks were collected from the mother trees on MM111 at HPB Field Farm and the leaves were removed. Since the susceptibility might vary according to the time of year, material for the assays was collected in November and in January. The material collected on 23.10.89 was held in cold store at 4^0C for 10 weeks, then for 2 ½ weeks more at $20 – 24^0$C in a glasshouse. Further fresh material was collected just prior to screening on 24.1.90.

Test jars [CMA] were inoculated with phytophthora isolates [collected by HRI from Kent, Sussex and Suffolk onto V8] and incubated for 7 days before test twigs [74mm long] were inserted. Growth of *P.cactorum* up the twigs was measured after 14 days.

Results: **Growth of *P.cactorum* isolates in excised twigs of rootstocks [cm]**
Rootstock selection AR 86.1.25 showed almost complete resistance to all the isolates, others showed partial resistance to some of the isolates but MM106 and M25 were very susceptible.

Isolate No.	Age of material	M25	MM 106	86.1.25	10.3.2	10.2.7	3430	793	Michelin
307	Stored	T	T	T	T	T	T	T	10
	Fresh	T	0	0	34	T	42	28	20
101	Stored	T	T	0	25	36	30	34	24
	Fresh	T	18	0	35	43	T	34	34
295	Stored	T	T	0	31	30	T	35	0
	Fresh	T	T	0	22	36	36	44	0
294	Stored	T	T	0	26	36	T	43	T
	Fresh	T	25	0	32	27	26	36	T
286	Stored	T	27	0	28	T	10	0	-
	Fresh	T	T	0	39	30	T	T	-
234	Stored	T	T	0	30	36	T	30	-
	Fresh	T	T	0	31	30	T	30	25
Phytophthora susceptibility		***	***	Resist-ant	**	**	***	**	*

T = totally infected. *** = very susceptible; ** = moderately susceptible; * susceptible to some isolates
Liz Copas, National Association of Cider Makers. 1989