

MELON (*Cucumis melo* L.)
Mosaic - Watermelon Mosaic Virus (WMV-1)

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AGRONOMIC EVALUATION OF "AMARELO" MELON LINES RESISTANT TO WMV-1, 1985: Nine WMV-resistant 'Amarelo' melon lines obtained from the Centro Nacional de Pesquisa de Hortaliças's melon breeding program and the WMV-susceptible 'Amarelo' were field sown in 20 Aug 85 on a dystrophic sandy oxisol, pH = 6.1 and M.O. = 1%, in Petrolina (PE), Brazil and harvested on 30 Oct 85. Mean temperature in °C (MT), Rainfall in mm (RF) and Relative humidity in % (RH) were as follows: [Aug (20-31): MT = 24.9 RF = 0.0 RH = 62.2; Sep: MT = 27.6 RF = 0.9 RH = 58.0; Oct: MT = 27.7 RF = 14.1 RH = 58.8]. Plots were arranged in a randomized complete block design with ten treatments and four replications. Area/treatment was 80m², each plot consisting of four ten-hill rows, two plants/hill. Two guard rows for each plot were sown with 'Amarelo'. Harvestable plot area was 40m², consisting of two ten-hill rows, two plants/hill. Rows were spaced 2,0 m and hills within rows 1,0 m apart. Crop management followed the usual procedures for the melon crop in the Vale do São Francisco, except that pesticides were not applied to the crop. After harvest, the fruits of each plot were counted, weighted and measured, giving origin to the following parameters (Table 1): Production (PROD¹), Average Fruit Weight (AFW²), Length/Diameter Relation (L/D³) and Flesh Width (FW⁴). Data on Brix (Brix⁵) and Seed Production (SP⁶) were obtained from 3 fruits randomly collected in each plot. Aphid incidence (AI⁷) was visually assessed in each plot in the field at harvest time. Shoots and leaves of all plants were individually assessed for WMV-1 presence by the Agar-gel Double Immune Diffusion Test, (WMV-1⁸).

Lines 85-242/697 and 85-242/286 were closer to 'Amarelo' in terms of plant and fruit characteristics. Although not being the most productive, they resembled 'Amarelo' in color, fruit size, fruit shape, brix and seed production. Lines 85-238/822 and 85-239/325, the most productive, had light yellow - colored fruits with low brix; Line 85-241/157), high yielding, presented a globular fruit shape (L/D³ = 0,913); Lines 85-241/624 and 85-241/2002 produced large fruits, not suitable for the brazilian market. The inability to recover WMV-1 from plant parts, after laboratory analyses, constitutes an evidence that all the resistant lines were able to stand natural infection at the Vale do São Francisco, PE, Brazil.

Genotypes	PROD ¹ (kg)	AFW ² (kg)	L/D ³	FW ⁴ (cm)	BRIX ⁵ (%)	SP ⁶ (g)	AI ⁷	WMV-1 ⁸
85-238/822..	58.975 a	1.182	d.. 1.141 a	3.800 ab..	9.775 b	342.50 ab	.. 2.00 a	(-)
85-239/325..	57.975 ab	1.401 bc	.. 0.966	de. 4.125 ab..	7.950 c	376.25 a	.. 1.00 b	(-)
85-240/274..	28.375 c	1.200 cd	.. 1.021 cd	.. 3.350 b..	11.075 ab	272.50 bc	.. 1.25 ab	(-)
85-241/157..	57.400 ab	1.531 b	.. 0.913	e. 4.225 a	.. 10.125 b	323.75 abc	.. 1.50 ab	(-)
85-241/624..	36.050 bc	1.838 a	.. 1.086 abc	4.025 ab..	10.050 b	335.00 ab	.. 1.00 b	(-)
85-241/2002.	45.750 abc	1.942 a	.. 0.985 d	4.075 ab..	11.875 a	255.00 c	.. 1.00 b	(-)
85-241/481..	43.400 abc	1.212 cd	.. 1.072 abc	3.475 ab..	9.950 b	260.00 c	.. 1.50 ab	(-)
85-242/697..	49.900 abc	1.579 b	.. 1.068 bc	3.900 ab..	10.650 ab	345.00 ab	.. 1.25 ab	(-)
85-242/286..	49.925 abc	1.434 bc	.. 1.106 ab	3.600 ab..	10.375 ab	313.75 abc	.. 1.50 ab	(-)
Amarelo	41.025 abc	1.215 cd	.. 1.091 abc	3.775 ab..	11.250 ab	306.25 abc	.. 1.00 b	(+)
\bar{X}	46.877	1.447	1.045	3.835	10.307	313.00	1.30	-
F	2.20*	11.78**	10.74**	1.54 ^{ns}	5.11**	3.11**	1.41 ^{ns}	-
C.V. (%)	28.84	11.25	4.16	12.21	9.10	14.47	42.65	-

1 - Production (kg/plot), 2 - Average fruit weight (kg), 3 - Length/diameter relation, 4 - Flesh width (cm), 5 - Brix (%), 6 - Seed production (g)/3 fruits, 7 - Aphid incidence: (1 = very high, 2 - high, 3 - low, 4 - absent), 8 - Serological reaction to WMV-1: (+) positive (-) negative.

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Computer 52