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TESTING TOMATO VARIETIES IN GUADELOUPE

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Material and crops methods

Twenty five tomato varieties were compared. 4 repetitions of 5 plants per variety were grown. This trial was seeded 12/26/69, planted 1/26/70, harvested till 4/20/70.

Rainfall amounted only to 260 mm during the trial, making some irrigation (by aspersion) neccessary. Maximum temperatures and minimum night temperatures average 26,9°C and 19,7°C respectively.

The type of soil is ferralitic. The preceding plantation was sugarcane. The parcel was limed (3 metric tons of lime/ha) before planting. Mineral fertilizer was added (N 120 kg/ha, P_2O_5 140 kg/ha, K_2O 200 kg/ha). Nitrogen dressing was fractionated.

Planting density was 17 000/ha. The trial was performed on stakes and plants pruned to one branch.

Some phytosanitary treatments were made necessary: a) insecticide - Aldrin, soil treatment before planting and Diazinon (Basudin) after occurrence of leaf miners. b) fungicides - Copper (cupravit) and mancozebe (Dithane M 45) alternated.

R E S U L T S

Disease Resistance

The prevalent disease was the bacterial wilt (Pseudomonas solanacearum). No variety was found resistant or tolerant. This result was in conformity with other studies (1). Three fungal diseases caused some defoliation. Phoma destructiva, Cladosporium fulvum, Stemphylium solani. They were previously observed in French West Indies (2) (3).

All the varieties tested were found susceptible to the first disease. On the contrary, some of them were rated resistant to the two other ones (Table I).

Fruit Qualities

Fruits were harvested at turning stage. Fruits were rotten rapidly after maturity in spite of moderate rains. This was the reason for frequent harvests (5 days intervals). Fruits of commercial value were the only ones to be rated.

Cracking resistance

Crack ratings were increased three fold after rains. Statistical analysis of the data of four harvests was made (see Table 2).

Fruit weight and color: A strong decrease in fruit weight was observed in the last harvests (Table 3). Some varieties presented - fruits of low coloration. This is possible due to excessive temperature.

Earliness and Yield: Earliness is measured from seeding till the first ripe fruit. The meadians of individual data are given in Table 4. Commercial yield is given.

Table I RESISTANCE RATING TO TWO FUNGAL DISEASES FOR 25 TOMATO VARIETIES

Variedades	Cladosporium	Stemphylim
Anahu	Very susceptible	Resistant
Atkinson	S	R
Bradley	S	S
Campbell 17	S	S
Campbell 135	S	S
Campbell 146	S	S
Cuyano	S	S
Scout	S	S
Floradel	R	R
Floralou	R	R
C 17	R	R
Glamour	S	S
Gulf state Market	Not very susceptible	S
Hotset	S	S
Indian River	R	R
Manalucie	R	R
Manapal	R	R
Marglobe	S	S
Marion	S	R
Pearl Harbor	Very susceptible	S
Pink dal	S	S
Saint-Pierre	S	S
Sioux	S	S
Supermarmande	S	S
Supersioux	S	S

R=resistant
S=susceptible

Table 2 CRACKING RESISTANCE OF 25 TOMATO VARIETIES

Varieties	Average crack ratings (from 0 to 5)	
Pinkdeal	0,1	a*
Campbell 146	0,4	ab
Campbell 17	0,5	abc
Supermarmande	0,5	abcd
G 17	0,6	abcd
Campbell 135	0,8	abcd
Scout	0,9	abcde
Floradel	0,9	abcde
Indian River	1,0	abcde
Bradley	1,1	abcde
Floralou	1,3	abcdef
Glamour	1,4	bcdef
Gulf state Market	1,4	bcdef
Hotset	1,4	bcdef
Marglobe	1,4	bcdef
Anahu	1,5	bcdef
Cuyano	1,5	bcdef
Manalucie	1,5	bcdef
Manapal	1,6	cdef
Marion	1,6	cdef
St-Pierre	1,6	cdef
Pearl Harbor	1,8	defg
Atkinson	2,1	efg
Sioux	2,5	fg
Supersioux	3,0	g

*Varieties sharing the same letter are not significantly different. (Duncan's multiple range test 5%).

Table 3 FRUIT WEIGHT AND COLOR FOR 25 TOMATO VARIETIES

Varieties	Coloration	Weight/fruit (g)
Atkinson	5*	208 a**
Campbell 146	2	205 ab
Floradel	4	193 abc
Marion	4	185 bcd
Manalucie	4	183 cd
Campbell 135	1	173 cde
Pinkdeal	3	170 def
Glamour	2	168 def
St-Pierre	5	168 def
Manapal	4	165 defg
Marglobe	3	165 defg
Bradley	Pink	155 efg
G 17	3	155 efg
Indian River	4	155 efg
Campbell 17	1	148 fg
Supersioux	2	148 fg
Floralou	4	145 g
Gulf state Market	Pink	143 gh
Anahu	2	143 gh
Hotset	3	123 hi
Cuyano	3	118 ij
Sioux	3	115 ijk
Supermarmande	2	105 ijk
Pearl Harbor	1	100 jk
Scout	1	95 k

*5 very well colored to 1 badly colored
**Varieties with the same letter not significantly different (Duncan's multiple range test 5%).

Table 4 YIELDS AND EARLINESS OF 25 TOMATO VARIETIES

Varieties	Yield Kg/plant	Earliness days seeding to maturity
Manapal	2,30 a*	88
Floradel	2,20 ab	88
Floralou	2,20 ab	87
Indian River	2,15 abc	86
Hotset	2,00 abcd	81
Atkinson	1,95 abcd	86
Supersioux	1,90 abcd	85
G 17	1,90 abcd	86
Campbell 146	1,85 abcd	87
Manalucie	1,85 abcd	89
Marion	1,85 abcd	86
Pinkdeal	1,85 abcd	87
Anahu	1,80 abcd	85
Scout	1,75 abcd	87
St-Pierre	1,75 abcd	89
Pearl Harbor	1,70 bcd	82
Sioux	1,70 bcd	81
Bradley	1,65 bcd	86
Gulf state Market	1,65 bcd	86
Campbell 17	1,60 cd	85
Campbell 135	1,60 cd	86
Supermarmande	1,60 cd	78
Cuyano	1,55 d	78
Marglobe	1,50 d	88
Clamour	1,45 d	87

*Varieties sharing the same letter are not significantly different.
(Duncan's multiple range test 5%).

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