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CANTALOUPE VARIETY TRIALS ON PLASTICULTURE AND DRIP IRRIGATION SYSTEMS FOR EAST TEXAS - 1996

M. L. Baker, D. R. Earhart, J. T. Baker, and F. J. Dainello

Background. Texas is third in the United States in cantaloupe production which also accounts for nine percent of the state's total retail fresh fruit volume at mid-summer. Peak months are June, July, and August. Planting begins in February and March in South Texas and from March to June in the northern two-thirds of the state. Harvest begins in early May in South Texas with the bulk in late May and June. Harvest in the northern two-thirds of the state begins the last half of June and continues into late September.

Historically, East Texas has not been a major cantaloupe producing area. Production has been limited to home gardens or small plots for local sales. Recently, there has been increased interest in larger scale production for direct sales through farmer markets and grocery chain sales. To evaluate adaptability of newer cantaloupe varieties to East Texas growing conditions, yearly studies are initiated by the Texas A&M University Agricultural Research and Extension Center at Overton as part of the statewide trials. Fifteen cantaloupe varieties/lines were evaluated during the spring of 1996 for East Texas growing conditions. The greenhouse grown transplants were planted in a randomized complete block design with three replications on eight feet centered black plastic mulch covered raised beds with two feet in-row spacing on 9 May 1996. Drip irrigation was supplied under the plastic as needed. Fertilization was 600 lbs 13-13-13/ac banded 24 April 1996. Multiple harvest occurred on 1, 3, 5, 8 and 10 July 1996. Additional N was applied at a rate of 60 lbs/ac as calcium nitrate (CaNO_3) in split applications of 30 lbs each through the drip system. The first application was at first bloom and the second at the fruit enlargement stage.

Data were obtained on total marketable yield per acre, percent of marketable yield within six grades, which represent the number of melons it takes to fill a 42-lb box, and soluble solids concentration (represents sugar). No chemical controls were used in the 1996 studies.

Research Findings. Many varieties tested showed yields exceeding 24,000 lbs/ac with soluble solids concentrations of 11% or higher. Entries that appear to be adapted to East Texas growing conditions were the top yielders 'Valley Pac' (XPH 6300) which produced 24,234 lbs/ac and 'Impac' which produced 22,764 lbs/ac. 'XPH 6299' produced the highest percentage of 9's with 71.3% and Valley Pac had the second highest of 9's with 68.3%, followed by 'Pacstart' with 67.4%. 'HMX1603' had the highest percentage of 12's with 59.3% and the second highest of 12's with 'Scout' with 54.0%. A number of cantaloupe varieties/lines evaluated during 1996 showed promise

for production in East Texas. These included 'Gold Rush', 'Gold Mine', 'Caravelle', 'Main Pak', 'Sunre-7045', 'Oro Rico', and 'Super 45'. Plasticulture technology and drip irrigation eliminate the risks of inadequate rainfall and raised beds with plastic mulch eliminates problems associated with diseases and lack of quality during too much rainfall.

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1996 TEXAS A&M UNIVERSITY STATEWIDE CANTALOUPE TRIALS - OVERTON

Entry	Seed Source ^z	Total Marketable (boxes/a)	Grades						Soluble Solids Conc. (%)
			30's	23's	18's	15's	12's	9's	
----- % of Total Marketable -----									
XPH 6300	1	577	0.0	0.0	8.0	12.4	11.3	68.3	10.0
XPH 6299	1	542	0.0	2.1	3.5	11.2	11.9	71.3	11.2
Gold Rush	2	433	1.9	3.1	16.0	31.1	25.0	22.9	11.4
Gold Mine	2	427	2.0	6.9	15.1	45.3	6.7	24.0	8.4
Caravelle	1	403	0.7	8.9	16.9	28.6	21.5	23.4	8.2
Pacstart	1	392	0.0	0.7	3.8	12.8	15.3	67.4	7.4
Main Pak	4	316	0.0	18.7	9.0	46.5	22.0	3.8	11.2
Sunre-7045	4	279	0.0	18.3	19.4	42.0	20.3	0.0	12.2
Oro Rico	2	267	2.4	7.1	56.9	33.6	0.0	0.0	7.4
Super 45	5	246	5.6	21.1	24.3	16.2	21.2	11.6	9.0
HMX 1603	2	220	0.0	1.5	9.6	23.0	59.3	6.6	9.2
Ranger	3	210	0.0	0.0	1.7	36.6	50.5	11.2	10.2
Scout	3	173	0.9	0.0	7.5	37.6	54.0	0.0	10.0
Sunre-7044	4	155	1.6	17.7	21.9	18.9	39.9	0.0	10.2
Gold Eagle	2	144	3.9	0.0	12.6	69.0	14.5	0.0	8.6
LSD (P = 0.05)		218	5.2	16.9	27.9	33.3	38.9	18.5	----

^zSeed Source: 1 - Asgrow; 2 - Harris Moran; 3 - Shamrock; 4 - Sunseeds; 5 - Willwhite
^yBox = 42 lbs.

Establishment: Transplanted on 8 ft. plastic covered raised beds with 2 ft. in row spacing on 9 May.

Design: Randomized complete block with five replications **Irrigation:** Drip as needed

Fertilization: 600 lbs 13-13-13/A - Banded 24 April **Harvest:** 1, 3, 5, 8, 10 July