

HORTICULTURE FIELD DAY REPORT - 1998

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HYBRID WATERMELON EVALUATIONS FOR EAST TEXAS - 1997

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Background. Watermelons are adapted to a wide range of growing conditions. Texas annually ranks first in watermelon production acreage in the United States. East Texas is considered as Texas' major production area with an estimated 25,000 acres. East and Northeast Texas produce approximately one-third of the state's watermelons, which are mainly hybrids. The major shipment centers are around Henderson, Texarkana, Dallas, and Houston for East Texas, Bowie County in Northeast Texas, and Comanche County in Central Texas. Eighty percent of the melons are marketed in June, July, August, and September. The East Texas watermelon production area is characterized by family farming operations although many hybrid fields reach 500 to 600 acres in size. In 1997, several 600 acre fields used plasticulture technology and chicken litter to grow watermelons for early markets. Watermelons are generally grown on three or four year rotations with sweet potatoes, sudan, legumes and other vegetables. Hybrid watermelon varieties showing greater yield, earlier maturity, higher quality, and improved disease resistance/tolerance open up new market potentials for such operations.

Selected hybrid watermelons were evaluated in a 1997 study (1997 Hybrid Watermelon Table). Transplants were grown in the greenhouse using plastic pots measuring 2 in. X 2.5 in. X 3 in. filled with a commercial peat-vermiculite growing media. The statistical design used was a randomized complete block with three replications. In the field, raised beds were covered with black plastic mulch 60 inches wide and 1.5 mil thick. Drip tape was laid beneath the plastic for irrigation. No chemical controls were used in any of the studies. The 1997 study was on the Texas A&M University Agricultural Research and Extension Center at Overton's North Farm on a Bowie fine sandy loam soil. Transplants were planted three feet apart in row spacing on black plastic mulch covered beds spaced eight feet on 9 May 1997. Fertilization was 700 lbs 13-13-13/ac banded 23 April 1997.

Research Findings. 'Royal Sweet' produced the highest yields with 70,691 lbs/ac; 'Midnight' had the second highest yields with 66,741 lbs/ac; and 'Royal Flush' had the third highest yields with 59,314 lbs/ac. 'WM 8007' produced the largest percent of watermelons over 30 lbs (48.6%); and 'C270' produced the largest percent of watermelons in the 25-29 lb range (61.4%). 'ACX 5413' produced the highest total of melons in the 20-24 lb range (57.6%). Other promising entries were 'RWM 8032', 'Super Gold', 'WX 16', and 'Big Stripe'.

Applications. Sustainable profitability of watermelon production in East Texas depends on information about production potential of newer varieties.

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1997 TAEX Statewide Hybrid Watermelon Trial at Overton

Entry	Seed Source	Total Yield (lbs/A)	% Fruit harvested/Size range (lbs)					
			<30	25-29	20-24	15-19	10-14	>10
Royal Sweet	4	70,691	10.7	14.0	35.3	13.5	23.1	3.4
Midnight	7	66,741	0.0	5.2	27.2	34.5	24.8	8.3
Royal Flush	4	59,314	12.6	21.2	30.2	22.2	11.5	2.3
Sweet Amigo	3	55,615	34.2	11.5	25.0	29.3	0.0	0.0
RWM 8032	5	55,154	21.7	14.9	22.4	23.4	17.6	0.0
ACX 5413	1	51,470	12.9	0.0	57.6	20.0	9.5	0.0
WX 7	7	51,088	14.8	37.1	9.4	36.1	2.6	0.0
Super Gold	7	50,871	46.9	16.2	11.0	26.0	0.0	0.0
WX 16	7	50,076	32.7	13.1	23.7	20.8	9.7	0.0
Big Stripe	7	49,549	30.2	19.0	11.6	25.4	2.5	11.3
P5R 36594	4	49,509	9.5	15.2	5.5	18.8	1.5	0.0
WM 8036	5	48,950	19.7	21.0	32.3	23.1	3.9	0.0
Summer Gold	7	46,642	13.6	11.6	37.1	29.7	8.0	0.0
All Sweet	7	46,010	28.9	14.7	23.5	17.5	12.4	3.0
WM 8007	5	45,850	48.6	18.1	23.8	5.4	4.1	0.0
Mardi Gras	5	44,801	0.0	15.6	35.3	39.0	10.1	0.0
Patriot	7	42,721	10.0	24.0	21.6	35.8	8.6	0.0
LF - 1390	2	42,235	0.0	0.0	4.9	34.4	34.3	26.4
Fiesta	5	41,092	0.0	25.9	24.6	31.1	18.4	0.0
WX 9	7	40,489	23.4	11.3	38.2	21.3	5.8	0.0
LF - 1832	2	39,712	0.0	7.0	17.7	20.6	36.3	18.4
Desert Storm	7	39,458	8.4	6.8	51.1	24.2	5.9	3.6
ACX 5411	1	38,975	9.0	14.2	47.2	26.8	2.8	0.0
ACX 5451	1	38,590	21.6	36.1	20.6	12.8	6.4	2.5
C 270	7	36,162	12.0	61.4	18.2	6.3	2.1	0.0
DF 662	2	31,447	0.0	0.0	0.0	0.0	17.9	82.1
LF 1402	2	24,266	0.0	0.0	6.7	29.0	42.2	19.1
SSC 460068	6	15,852	0.0	42.2	33.4	17.1	0.0	0.0
SF-829	2	13,438	0.0	0.0	0.0	0.0	6.5	93.5
LSD (P=0.05)		29,929	32.0	30.3	35.3	34.4	22.0	18.6

Seed Source: 1 = Abbott & Cobb; 2 = CDM Fast Track; 3 = De Palmer; 4 = PetoSeed; 5 = Rogers Sandoz; 6 = Shamrock; 7 = Willhite

Established: May 9 on 8' wide raised beds mulched with black plastic. **Irrigation:** Drip as needed.

Fertilization: 700 lbs 13-13-13/A banded April 23. **Design:** Randomized complete block with 3 replicates.

****NOTE** = YIELD PROJECTIONS BASED ON ASSUMED 100% PLANTED ACRES.**