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FACT SHEET

L-903

KEYS TO PROFITABLE PRODUCTION OF CANTALOUPES AND HONEYDEW MELONS

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Cantaloupes and Honeydew melons averaged more than 25,000 acres per year in Texas during the period 1964-68, with an average annual value of over $10 million. These melons generally rank fourth in value of the Texas vegetable crops, exceeded only by carrots, onions and potatoes.

Climatic requirements. Cantaloupes, a warm-weather crop, grow best on well-drained sandy loam or silt loam soils in climates that are hot and dry. Leaf diseases cause severe damage in the humid regions of Texas, which limits production in these areas. Supplemental irrigation is necessary for maximum production.

Areas of production. Cantaloupe production is divided into spring and summer crops. The spring crop is planted in February and March in South Texas and the summer crop from March to June in the northern two-thirds of the State. Harvest begins in South Texas in early May, with the bulk occurring in late May and June. Harvest in the northern two-thirds of the state begins in the last half of June and continues into late September. Figure 1 shows 1964-68 average shipments of Texas cantaloupes by months in carlot equivalents (500 crates per car).

Crop rotation. A crop rotation in which cantaloupes, cucumbers, watermelons or squash are not grown more often than once every 3 years helps to reduce losses from diseases caused by soil-borne fungi and bacteria.

Land preparation. Plowing, disking (often re-disking to break clods) and landplaning to maintain correct slope for irrigation and drainage are important in preparing land for cantaloupe production. The land is then listed into 40-inch rough beds, fertilized (phosphorus only), and every other row is planted.

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Fertilization. A cantaloupe or honeydew crop, in general, requires 60 to 80 pounds of nitrogen and 90 to 100 pounds of phosphorus per acre. Do not apply potash unless soil test reports show a very low amount is available to the crop. Band phosphorus fertilizer directly beneath the seed and sidedress the nitrogen in split applications. The first application of nitrogen should be made at the two to four-leaf growth stage.

Varieties. Perlita is the predominant cantaloupe variety produced in Texas, and is highly recommended in low rainfall areas. Perlita is resistant to powdery mildew, tolerant to downy mildew, but susceptible to altenaria leafspot and gummy-stem blight. Honeydew is the green-fleshed honeydew melon grown in Texas. In 1969, Honeydew did not have resistance to any of the diseases mentioned above.

Planting. Plant cantaloupe seed at the rate of 1½ to 2 pounds per acre, in single drills on alternate 40-inch beds or twin rows 14 inches apart on top of alternate 40-inch beds. Drill seed at a depth of ¾ to 1½ inches. Do not sow cantaloupe until the soil temperature rises to 68 degrees F. at the 2-inch depth. When one to two true leaves appear, thin the plants to 6 inches apart in the row. About 2 to 3 weeks after the first thinning, remove every other plant, leaving a final plant spacing of 12 to 14 inches. Any planned sidedressing of fertilizer should be made after hoeing and the final thinning. Then break out the skip rows to form wide flat beds with the irrigation furrows on 80-inch centers.

Weed control. Prefar is the safest chemical herbicide available for weed control in cantaloupes. When Prefar is used, hold mechanical cultivation to a minimum, and, if needed, keep it shallow. Treflan, which controls only germinating weed seeds, may be applied as a post-emerge

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lay-by application (last cultivation). Both Prefar and Treflan require soil incorporation 1 or 2 inches deep for best results. For detailed information on herbicide application, see L-755 *Chemical Weed Control in Irrigated Vegetables,* available from county Extension agents.

Irrigation. Irrigate as needed during early fruit set and development up to time of netting or first ripe fruit. Apply very light or no irrigation water once the melons begin to ripen.

Pollination. Use at least one good strong colony of honeybees for every 2 to 3 acres of melons. To assure good pollination and fruit set, locate the hives on the windward side of the field when the first blooms appear.

Pests. Leaf miners and aphids are the most serious insect pests of melons in Texas. These insects normally must be controlled during early growth stages. Other insects, such as cucumber beetles, wireworms, spidermites and pickle worms, may cause injury. For control measures, see MP-675, *Guide for Controlling Insects on Commercial Vegetable Crops,* available from county Extension agents. Apply insecticides in late afternoon to avoid injury to bees.

Diseases. Cantaloupe and honeydew diseases are controlled best by a combination of several practices, which include growing resistant varieties, crop rotation and preventive fungicide applications. Powdery mildew and downy mildew are controlled best by growing resistant varieties such as Perlita and Dulce, supplemented by a preventive fungicide program starting at blooming time and continuing at 10 to 14 day intervals, depending on weather conditions. For powdery mildew, Karathane (½ to 1 pound per acre) is recommended; for downy mildew control, use maneb (2 pounds per acre plus spreader sticker). Maneb applications also control alternaria leaf spot, anthacnose and gummy stem blight. Crop rotation will reduce losses caused by nematode and Fusarium wilt.

If melons are to be planted in nematode-infested land, soil fumigation before planting may be required. No adequate control measures have been developed for viral diseases such as tobacco ring spot virus, curly top and mosaic.

Harvesting and handling. Cantaloupes usually are hand harvested every other day during the first week of harvest and every day during the second week. Most melons are bulk hauled to a shed for grading and packing. Some melons are field graded, bulk loaded into trucks and moved

Table 1. Estimated cost and returns per acre of Texas spring cantaloupes, 1969

	No. of units and value per unit		Value or cost	
1. Production receipts:	150 80 lb. crates	@ $ 5.86*		$879.00
2. Cash expense:				
Tractor and equipment	15 hr.	@ $ .80	$ 12.00	
Tractor labor	17 hr.	@ $ 1.50	25.50	
Other labor (hoeing, moving vines, irrigation)	48 hr.	@ $ 1.40	67.20	
Seed	2 lb.	@ $ 2.50	5.00	
Fertilizer 80-80-0	160 lb.	@ $ .11	17.60	
Insecticide	4 applications	@ $ 2.00	8.00	
Fungicide	2 applications	@ $ 4.00	8.00	
Herbicide	4 lb. Prefar, 1 pt. Treflan		12.00	
Irrigation water	4 applications	@ $ 3.00	12.00	
Bee rental	.4 hives	@ $ 5.00	2.00	
				$169.30
3. Land expense:				
Taxes	0.5 year	@ $10.00	$ 5.00	
Interest on land @ 6% on $400	0.5 year	@ $24.00	12.00	
				$ 17.00
4. Overhead				$ 25.00
5. Harvesting and marketing expense:				
Harvesting	150 crates	@ $ .90	$135.00	
Packing	150 crates	@ $ 2.25	337.50	
Selling	150 crates	@ $ .10	15.00	
				$487.50
6. Total expenses				$698.80
7. Return to management				$180.20

*Average price for spring cantaloupes for 1964-68 from Bulletin 49, **Texas Vegetable Statistics,** Texas Crop and Livestock Reporting Service, Austin.

directly to retail markets near enough for overnight delivery.

Grading and packing. Grading usually consists of removing inferior melons and sorting the melons as to size and maturity. Some cantaloupes are waxed. The melons are packed according to size, with 36 or 45 melons to the crate being the most popular pack. Sizes may range from 27 (large melons) to as many as 60 melons per crate. Extreme care should be taken during the harvesting-packing-shipping period to avoid bruising.

Marketing. Most Texas cantaloupes are sold on the open market at prevailing prices based on a supply-demand system.

Cost and returns. Table 1 gives estimated cost and returns of Texas cantaloupes on a per acre basis. The cash expense, land expense and overhead cost are $211.30 per acre.

Table 2 gives cost of producing and marketing cantaloupes per crate as influenced by yield per acre. The harvesting and marketing cost per acre varies with yield. However, the production cost per crate decreases with increasing yields while the harvesting and marketing cost per crate remains the same.

Table 2. Cost of producing and marketing an 80-pound crate of Texas cantaloupes as influenced by marketable yield per acre.

Yield, crates per acre	Cost per 80-pound crate		Total f.o.b. cost
	Production*	Harveting, packing, selling*	
75	2.81	3.25	6.06
100	2.11	3.25	5.36
125	1.68	3.25	4.93
150	1.40	3.25	4.65
175	1.20	3.25	4.45
200	1.05	3.25	4.30
225	0.94	3.25	4.19
250	0.84	3.25	4.09

*Based on cost estimates shown in Table 1.

Figure 2 shows the relationship of the f.o.b. cost per crate of cantaloupes to the yield per acre. The dotted lines in figure 2 show that the average yield of 150 crates per acre requires an f.o.b. price of $4.65 per crate to break even.

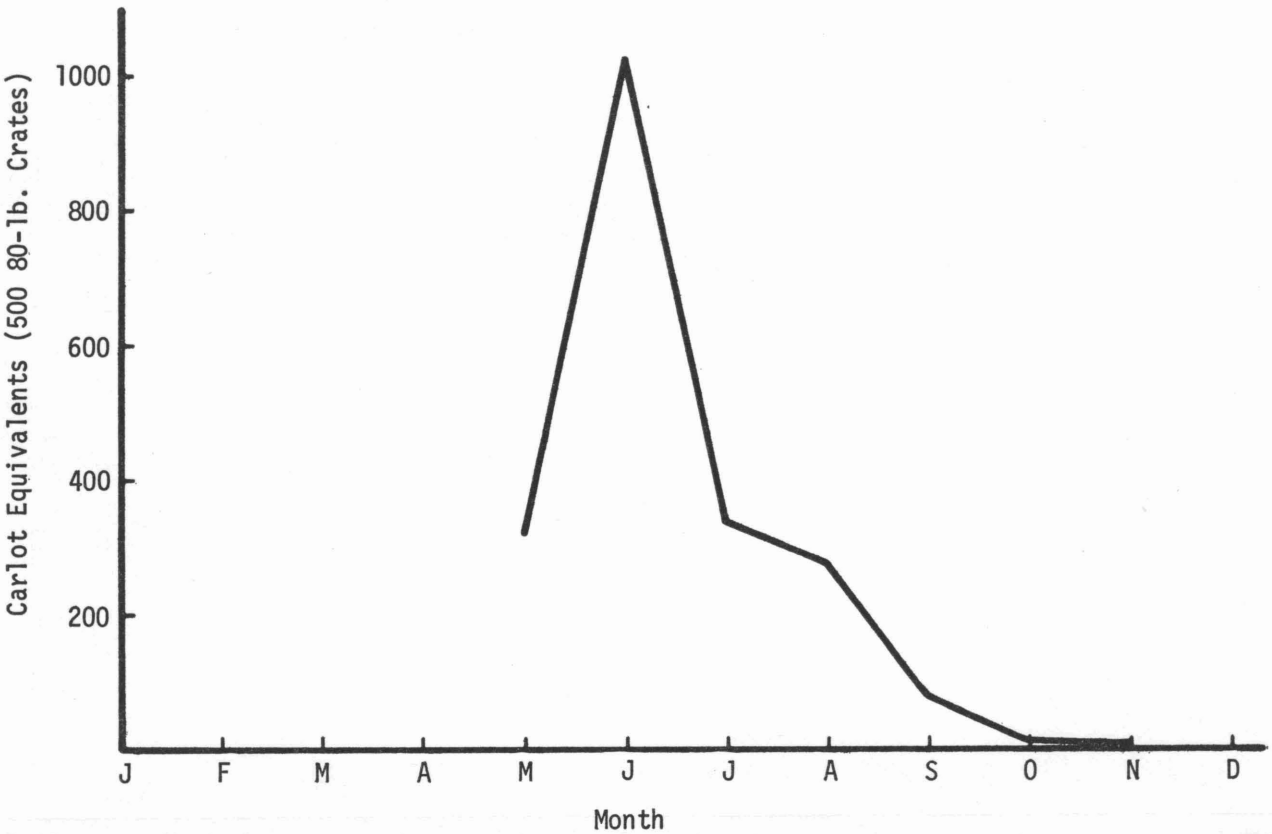

Fig. 1. Average unloads in carlot equivalents of Texas cantaloupes in 41 cities by months, 1964-68. Source: Market News, U. S. Department of Agriculture.*

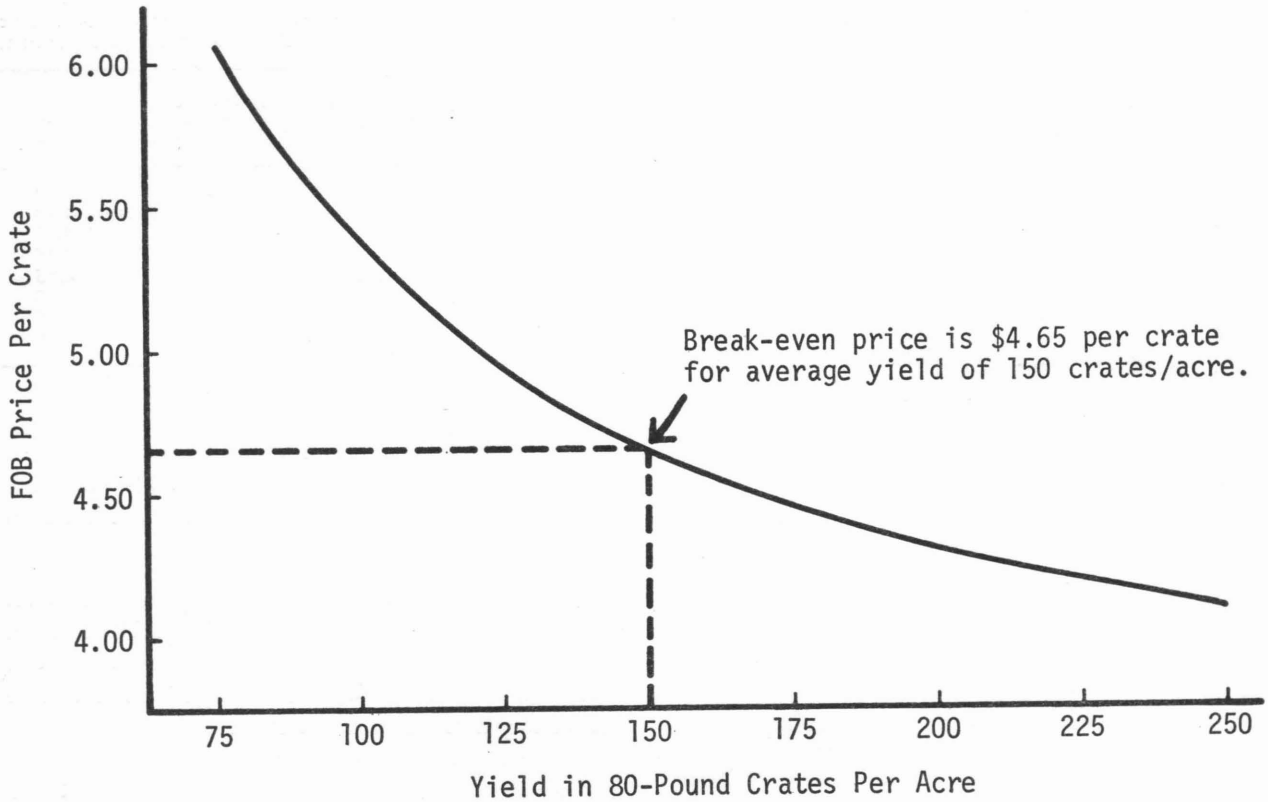

Fig. 2. Relationship of total production and marketing cost per 80-pound crate of Texas cantaloupes to the yield per acre, indicating the f.o.b. price required to break even at a given yield. (Based on cost figures in Table 1.)

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