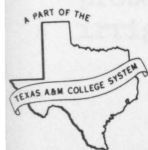


Production and Production Requirements of Crops



Coastal Bend



TEXAS AGRICULTURAL EXPERIMENT STATION

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PRODUCTION AND PRODUCTION REQUIREMENTS OF CROPS--COASTAL BEND

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This is one in a series of reports on production and production requirements of crops in the various types-of-farming areas of Texas. It provides some of the information necessary for analyzing farm management problems and for planning adjustments in systems of farming or testing alternative uses of land and other farm resources.

Information was obtained from 100 farmers in Nueces and San Patricio counties. Twenty-two of the 100 farmers irrigated 2,500 acres of crops which was less than 20 percent of the cropland on these farms. On no farm were all crops irrigated. The average size of the dryland farms was 550 acres with 530 acres in cultivation. Partly irrigated farms were larger, averaging 663 acres with 613 acres in cultivation.

Experience with irrigation has been limited in the Coastal Bend area. Aside from the Robstown water district (in which water for irrigation has not been available during drouth years) a comparatively small number of farms have irrigation facilities. These facilities include small streams and reservoirs and wells which in many cases deliver water of a quality considered too poor for continuing irrigation.

Cotton and grain sorghum are the principal users of water, making up more than 95 percent of all land irrigated. Cabbage and onions account for most of the remainder.

The physical characteristics of the Coastal Bend area make it well adapted to large-scale farm operation. Mile-long rows are not unusual and four-row planters and cultivators are used almost exclusively. It was in this area that the all-purpose tractor was tested and first distributed in the middle 1920's. Before the initiation of acreage control programs, the Coastal Bend was a highly specialized cotton-producing area with as much as 85 percent of the cropland in cotton. As cotton allotments were reduced, grain sorghum was substituted. Cotton and grain sorghum now dominate the cropping systems on both dryland and irrigated farms. On the cooperating farms, grain sorghum occupied 60 percent and cotton 30 percent of the cropland.

Onions and cabbage are the only vegetables grown. Onions are produced largely under dryland conditions. Cotton or grain sorghum usually is interplanted between the rows shortly before onion harvest. The land preparation for and the cultivation of the onion crop make a good seedbed for the following crop and lower the production cost of both crops.

Cabbage is grown to a more limited extent than onions and usually is irrigated. Cabbage has been an important crop in the Robstown water district and probably would regain its place in the cropping system if an adequate supply of irrigation water became available.

As the size of these farms would suggest, the operators hired large amounts of labor. The operator and his family contributed about 30 percent of the total labor force while regular hired labor made up 45 percent and day labor 25 percent. More dependence was placed on regular hired labor as the size of the farm increased. Partly irrigated farms depended on regular labor to a greater extent than dryland farms, regardless of size.

Practically all of the cotton harvesting and a large part of the sorghum harvesting is contracted. Most vegetables are sold in the field. A substantial part of insect control work for cotton is contracted.

The production and production requirements for cotton and grain sorghum, both dryland and irrigated, are presented in Tables 1 and 2. Yields and amounts of fertilizer were adjusted slightly on the advice of crop specialists. The rate of fertilization represents the amounts believed necessary to maintain the indicated normal yield. The reporting of fertilizer use was simplified by listing the total pounds per acre of the three common elements--nitrogen, phosphorus and potassium. The wide range in the kinds of insecticides used was simplified by listing the total amounts of dust and spray and naming only those insecticides most commonly used.

Usually, both cotton and grain sorghum will not need irrigation before the crops are well established. Consequently, the amount of land preparation and cultivation is not affected significantly by irrigation.

Grain sorghum is mature by June 1 and seldom needs more than one irrigation. Since cotton is on the land longer, it usually needs additional irrigation.

Winter vegetables, especially onions and cabbage, were grown widely in the area when winter moisture was more plentiful than it has been during the past several years. With normal rainfall or a dependable supply of irrigation water, probably these two crops again would be grown widely.

Most onions now are produced without irrigation and with minimum costs because no transplanting, fertilizer or special machinery are used. Often the crop is grown under contract for a produce house, which avoids much of the market risk. The production and production requirements are shown in Table 3.

Cabbage generally is irrigated. Seed are planted directly in the field and the plants later are thinned to the desired stand. The crop usually is sold in the field and loaded on the buyer's trucks at the grower's expense. Cutting and loading may be contracted instead of hiring individual workers to do the work. Usually the cost is about the same. The production and production requirements for cabbage are given in Table 4.

As far as possible the data are given in physical quantities and represent usual or normal practices and rates of performance. The actual amounts will vary slightly from year to year with seasonal conditions. Normal amounts will change slowly through time with technological change.

In items such as contract operations, 1956 cost rates are listed. These will vary with changes in the market place or with changes in the price level and price relationships.

Acknowledgment

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Table 1. Cotton production and production requirements

Variety	Dryland			Irrigated		
	Delfos, Lankart, Empire and others			Delfos, Lankart, Empire, D.P.L., Stoneville and others		
Normal yield, pounds	290			800		
Seed per acre, pounds	24			26		
Average value of seed dollars per 100 pounds						
Bought, 50 percent	8.25			8.25		
Home grown, 50 percent	3.75			3.75		
Insecticides						
Spray, pints ^{1/}	5			5		
Dust, pounds ^{1/}	10			60		
Fertilizer, pounds	<u>N</u>	<u>P₂O₅</u>	<u>K₂O</u>	<u>N</u>	<u>P₂O₅</u>	<u>K₂O</u>
	0	0	0	60	40	0
Usual planting period	February - March			February - March		
Usual harvesting period	July - August			July - August		
Labor and power inputs per acre, four-row equipment						
Operation	X Over	Total hours		X Over	Total hours	
		Man	Tractor		Man	Tractor
Cut stalks	1.0	.30	.30	1.0	.35	.35
Disk ^{2/}				1.0	.40	.40
Bed ^{2/}	3.0	1.00	1.00	2.0	.66	.66
Fertilize				1.0	.35	.35
Harrow ^{2/}	2.0	.30	.30	1.0	.15	.15
Plant	1.2	.35	.35	1.2	.35	.35
Roll	1.0	.16	.16	1.0	.16	.16
Cultivate	4.0	1.15	1.15	5.0	1.40	1.40
Hoeing	2.5	10.00		3.0	15.00	
Poison	3.0	.33	.33	3.0	.33	.33
Ditch work				2.0	.50	.50
Irrigate				2.0	6.00	
Total hours preharvest		13.59	3.59		25.65	4.65
Contract operations						
Poison	1.0 at \$1 per acre			4.0 at \$1 per acre		
Harvest, snap and haul dollars per 100 pounds	\$2			\$2		

^{1/} Toxaphene at \$2.49 per gallon, 3-5-40 at \$9.35 per 100 pounds.

^{2/} Eliminated when interplanted with onions.

Table 2. Grain sorghum production and production requirements

Variety	Dryland			Irrigated		
	Martin			Martin		
Normal yield, pounds	2,160			4,000		
Seed per acre, pounds	6.5			8		
Average price of seed dollars per 100 pounds	7			7		
Fertilizer, pounds	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
	0	0	0	40	0	0
Usual planting period	February - March			February - March		
Usual harvesting period	June - July			June - July		

Labor and power inputs per acre, four-row equipment

Operation	X Over	Total hours		X Over	Total hours	
		Man	Tractor		Man	Tractor
Cut stalks	1.0	.30	.30	1.0	.35	.35
Chisel				1.0	.67	.67
Bed	3.0	1.00	1.00	2.0	.67	.67
Cultivate bed	1.0	.31	.31			
Disk				2.0	.72	.72
Fertilize	3.0	.75	.75	1.0	.35	.35
Harrow	2.0			1.0	.15	.15
Plant	1.2	.35	.35	1.2	.35	.35
Roll	1.0	.16	.16	1.0	.16	.16
Cultivate	3.0	.85	.85	3.0	.85	.85
Hoe	spot	.80		spot	1.00	
Ditch work				1.0	.25	.25
Irrigate				1.0	3.00	
Total hours preharvest		3.77	2.97		8.52	4.52
Combine		.30	.30		.35	.35
Contract operations						
Combine		15 to 20 cents per 100 pounds				
Haul		8 cents per 100 pounds				
Combine and haul		25 cents per 100 pounds				

Table 3. Onion production and production requirements

Variety	Dryland		Irrigated	
	Hybrid Yellow	Hybrid Yellow	Hybrid Yellow	Hybrid Yellow
Normal yield, pounds	6,500	13,000		
Seed per acre, pounds	1	1		
Average price of seed dollars per pound	3.75	3.75		
Spray materials, pints ^{1/}	8	8		
Usual planting period	October	October		
Usual harvesting period	March 15-April 30	March 15-April 30		

Labor and power inputs per acre, four-row equipment

Operation	X Over	Total hours		X Over	Total hours	
		Man	Tractor		Man	Tractor
Bed	3.0	1.00	1.00	3.0	1.00	1.00
Harrow	1.0	.15	.15	1.0	.15	.15
Plant	1.0	.30	.30	1.0	.30	.30
Roll	1.0	.16	.16	1.0	.16	.16
Cultivate	3.0	.75	.75	4.0	1.00	1.00
Hoe	2.0	10.00		2.0	15.00	
Poison	4.0	.50	.50	4.0	.50	.50
Ditch work				3.0	.75	.75
Irrigate				3.0	9.00	
Total hours preharvest		12.86	2.86		27.86	3.86
Harvest		Sold in field				

^{1/} Toxaphene at \$2.49 per gallon.

^{2/} Toxaphene and Parathion at \$10 per 100 pounds.

^{3/} Loaded on buyer's trucks at field. Sometimes contracted at \$2.50 per ton.

Table 4. Cabbage production and production requirements

Variety	Irrigated		
	Glory		
Normal yield, tons	10		
Seed per acre, pounds	1.5		
Average price of seed dollars per pound	2.00		
Insecticides Dusts, pounds ^{1/}	100.00		
Fertilizer, pounds	N 40	P ₂ O ₅ 80	K ₂ O 0
Usual planting period	September - November		
Usual harvesting period	January - March		

Labor and power inputs per acre, four-row equipment

Operation	X Over	Total hours	
		Man	Tractor
Bed	3.0	1.05	1.05
Fertilize	1.0	.33	.33
Cultivate beds	1.0	.25	.25
Plant	1.0	.30	.30
Roll	1.0	.15	.15
Cultivate	3.0	.75	.75
Hoeing	3.0	18.00	
Ditch work	3.0	1.05	1.05
Irrigate	3.0	9.00	
Poison	6.0	.72	.72
Cut and load ^{2/}		50.00	
Total hours		81.60	4.60

^{1/} Toxaphene and Parathion at \$10 per 100 pounds.

^{2/} Loaded on buyer's trucks at field. Sometimes contracted at \$2.50 per ton.