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PRODUCTION AND PRODUCTION REQUIREMENTS OF CROPS--LOWER RIO GRANDE VALLEY

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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 Cameron, Hidalgo and Willacy counties. Yields and rates of fertilization have been adjusted slightly on the advice of crop specialists.

The three counties constituting the Valley have more than a million acres in cultivation of which slightly more than half are irrigated. This is one of the older and more important irrigated sections in Texas. Most dryland farming is in northeastern Cameron county, eastern Willacy county and northern Hidalgo county.

The Rio Grande Valley has suffered greatly from adverse weather. A heavy freeze in 1951 destroyed more than 85 percent of the citrus trees. The recovery has been slow, partly because of the drouth and partly because of the shortage of irrigation water. By 1956, the production of citrus was still less than 25 percent of production prior to the freeze. The freeze came at the same time that the farmers of the area were adjusting vegetable production from the high levels necessary during the war. After the big freeze, much of the acreage released from citrus was shifted to cotton, which became the principal money crop in the Valley. Later, during 1954, the reinstatement of cotton allotments brought about a substantial reduction in the acreage planted to cotton and a further search for profitable alternatives. The seriousness of the situation is shown by the increased acreage planted to grain sorghum, a low-income crop. The 1954 acreage of sorghum grain was 142,000 or more than seven times the 1949 acreage. The problems involved in adjusting the use of the land to these changing conditions have been complicated by the shortage of good quality irrigation water.

The organization of farms formerly centered around citrus groves; it now centers around cotton. Cotton is the principal user of land. Vegetables, taken collectively, rank next to cotton on fully irrigated farms. On the partly irrigated farms and on dryland farms, grain sorghum was second in importance. There was practically no vegetable production on the dryland farms. Of the vegetable crops, tomatoes led in acreage, followed closely by carrots and cabbage. These three crops occupied more than half of the vegetable acreage in the area. Peas grown largely on dryland were the principal vegetable crop on partly irrigated farms. A small acreage of a large number of vegetables are grown in the area but are not covered in this report. About 10 percent of the cooperating farms reported citrus groves.

Ordinarily, double cropping of land is a common practice in the Lower Rio Grande Valley. However, only a small amount of double cropping was reported on the cooperating farms, probably because of the drouth and the accompanying shortage of irrigation water. Double cropping generally is accomplished by following a winter vegetable crop with a summer crop, such as cotton or grain sorghum. Other double

cropping practices include the growing of two or three short-season crops on the same land within the year or the interplanting of an annual crop between the rows of young trees during the development period of citrus orchards.

In addition to the operator and a small amount of family labor, the labor force is made up largely of regular hands of Spanish-American extraction. These hands do most of the land preparation, planting, cultivating and irrigating. Seasonal day labor is employed for peak-load operations, such as hoeing. The farm labor force would be larger were it not for the practice of selling most crops in the field or contracting the harvesting.

Production and production requirements are given for irrigated and dryland cotton for farms using two-row equipment in Table 1 and for farms using four-row equipment in Table 2. Two-row equipment is used principally on the small irrigated farms; very little two-row equipment is used on dryland farms or on large irrigated farms. Most of the cultivated acreage is now operated with four-row equipment, which has been replacing two-row equipment at a fairly rapid rate. The savings in labor from the use of four-row equipment is relatively small (10 to 15 percent), but the greater rate at which the critical planting and cultivating operations may be done is highly significant.

Although grain sorghum was grown to a limited extent before 1951, it has since become a major crop. It is grown at minimum costs under both dryland and irrigated conditions. No fertilizer or insecticides are used and one irrigation normally will suffice except in extremely dry years, since the crop usually is made by June 1. The production and production requirements for irrigated and dryland grain sorghum for farms using two-row equipment are shown in Table 3 and for farms using four-row equipment in Table 4.

Corn is a minor crop at present, but is considered a promising irrigated crop for the future. Production and production requirements for corn are given in Table 5. Yields in excess of 100 bushels are being obtained in various parts of the Valley in cooperation with the experiment station. These yields are being obtained with adapted hybrids and an abundant supply of nitrogen and water. Corn sometimes is harvested green and marketed as roasting ears and, as such, usually is sold in the field. With the development of adapted sweet corn varieties, the demand for green field corn has declined almost to the vanishing point. There is a strong local demand for corn meal which could be met from local production.

Tomatoes are primarily a spring crop, but are grown to a limited extent in the fall when moisture or irrigation water is available. They are grown primarily for the green-wrap market, but some are processed when the market for green-wraps becomes unprofitable. Production and production requirements for spring-crop tomatoes are given in Tables 6 and 7. There is no transplanting of spring-crop tomatoes. The seed are planted directly in the field and thinned to a stand. Dryland tomatoes are grown by more extensive methods than are irrigated tomatoes. No fertilizers and only small amounts of insecticides are used. There is no special land preparation such as chiseling or floating.

Carrot production is second only to tomatoes among vegetable crops. Although tomatoes are the leading vegetable crop in the area, the acreage of carrots exceeded the tomato acreage on the larger irrigated farms. There was no dryland production of carrots on any of the cooperating farms. Production and production requirements for carrots, both on farms with two-row equipment and on farms with four-row equipment, are shown in Table 8. Common insects are a minor problem in

carrot production, but control of nematodes is essential and costly. In the early stages of growth in carrots, weed control frequently is obtained through the use of herbicides.

Production and production requirements for cabbage, both dryland and irrigated, are shown in Table 9. When moisture is available some cabbage may be grown without irrigation. However, most cabbage is irrigated. Insect control is more difficult and costly with irrigated cabbage than with dryland cabbage. Irrigated cabbage also must be fertilized heavily. Cabbage harvesting usually is contracted.

Lettuce has been increasing in importance among the vegetable crops of the Valley. It is grown under irrigation only and is fertilized heavily. Probably the most costly item in lettuce production is the tedious job of thinning and hoeing, which requires almost three-fourths of the total amount of labor involved before harvest. Table 10 gives production and production requirements for lettuce for farms using two-row equipment and four-row equipment.

Purple hull peas are grown extensively on the large, partly irrigated farms and to a limited extent on fully irrigated farms. No peas were reported on dryland farms. A large part of the acreage is grown without irrigation. Peas are a low-cost, low-risk crop. No fertilizer is used and labor requirements, before harvest, slightly exceed the requirements for grain sorghum production. The production and production requirements for peas, both dryland and irrigated, are shown in Table 11.

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.

As far as possible the data presented in this report 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. The 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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Harvest (80 percent) at \$2.75 per 100 pounds seed cotton  
Pick and haul (80 percent) at \$2.25 per 100 pounds seed cotton  
Defoliate by plane at \$4 per acre (includes poison)  
Poison--may contract spraying at \$1.25 per acre and dusting at 4 cents per pound  
1/ 1956 insecticides price: DDT at \$9.45 per 100 pounds; BHC at \$2.47 per gallon.

Table 1. Cotton production and production requirements

Variety	Dryland			Irrigated		
	D.P.L.			D.P.L.		
Normal yield, lint, pounds	200			700		
Seed per acre, pounds	23			24		
Average price of seed dollars per 100 pounds	9.00			9.00		
Insecticides						
Dust, pounds <sup>1/</sup>	5			35		
Spray, pints <sup>1/</sup>				12		
Fertilizer, pounds	<u>N</u>	<u>P2O5</u>	<u>K2O</u>	<u>N</u>	<u>P2O5</u>	<u>K2O</u>
	0	0	0	40	40	5
Usual planting period	February			February		
Usual harvesting period	July - August			July - August		
<u>Labor and power inputs per acre, two-row equipment</u>						
<u>Operation</u>	<u>X Over</u>	<u>Total hours</u>		<u>X Over</u>	<u>Total hours</u>	
		<u>Man</u>	<u>Tractor</u>		<u>Man</u>	<u>Tractor</u>
Cut stalks	1.0	.50	.50	1.0	.50	.50
Subsoil				0.7	1.20	1.20
Disk	1.0	.50	.50	3.0	1.50	1.50
Float				.25	.12	.12
Bed	2.0	1.20	1.20	2.0	1.20	1.20
Fertilize				1.0	.50	.50
Harrow	1.0	.24	.24	1.0	.24	.24
Plant	1.2	.60	.60	1.2	.60	.60
Cultivate	4.0	2.00	2.00	6.0	3.00	3.00
Hoe	2.0	12.00		3.0	18.00	
Ditch work				3.0	.80	.50
Irrigate				3.0	9.00	
Poison	3.0	.90	.90	6.0	1.80	1.80
Defoliate				1.0	contract	
Total preharvest	3.0	17.94	5.94	5.0	38.46	11.16
Contract operations						
Harvest	3.00			3.00		
Pick and haul						(80 percent) at \$2.75 per 100 pounds seed cotton
Snap and haul						(20 percent) at \$2.25 per 100 pounds seed cotton
Defoliate by plane at \$4 per acre (includes poison)						
Poison--may contract spraying at \$1.25 per acre and dusting at 4 cents per pound						

<sup>1/</sup> 1956 insecticide price: Toxaphene at \$9.45 per 100 pounds;  
BHC at \$2.47 per gallon.

Table 2. Cotton production and production requirements

Variety	<u>Dryland</u>			<u>Irrigated</u>		
	D.P.L.			D.P.L.		
Normal yield, lint, pounds	200			700		
Seed per acre, pounds	23			24		
Average price of seed dollars per 100 pounds	10.00			10.00		
Insecticides						
Dust, pounds <sup>1/</sup>	5			40		
Spray, pints <sup>1/</sup>				12		
	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>
Fertilizer, pounds	0	0	0	40	40	5
Usual planting period	February			February		
Usual harvesting period	July - August			July - August		
<u>Labor and power inputs per acre, four-row equipment</u>						
<u>Operation</u>	<u>X Over</u>	<u>Total hours</u>		<u>X Over</u>	<u>Total hours</u>	
		<u>Man</u>	<u>Tractor</u>		<u>Man</u>	<u>Tractor</u>
Cut stalks	1.0	.33	.33	1.0	.35	.35
Chisel				1.0	.75	.75
Disk	1.0	.35	.35	2.0	.70	.70
Float				.50	.25	.25
Bed	2.0	.60	.60	3.0	.90	.90
Harrow	1.0	.21	.21	1.0	.21	.21
Plant	1.2	.40	.40	1.2	.40	.40
Fertilize				1.0	.38	.38
Cultivate	4.0	1.20	1.20	5.0	1.50	1.50
Hoe	2.0	12.00		3.0	18.00	
Ditch work				3.0	.80	.50
Irrigate				3.0	9.00	
Poison	3.0	.60	.60	6.0	1.20	1.20
Defoliate				1.0	contract	
Total preharvest		15.69	3.69		34.44	7.14
Contract operations						
Harvest	3.00			3.00		
Pick and haul		(80 percent) at \$2.75 per 100 pounds seed cotton				
Snap and haul		(20 percent) at \$2.25 per 100 pounds seed cotton				
Defoliate by plane at \$4 per acre						

<sup>1/</sup> 1956 insecticide prices: Toxaphene at \$9.45 per 100 pounds;  
BHC at 2.47 per gallon.

Table 3. Grain sorghum production and production requirements

Variety	Dryland			Irrigated		
	Martin			Martin		
Normal yield, pounds	1,900			3,000		
Seed per acre, pounds	8			8		
Average price of seed dollars per 100 pounds	6.00			6.00		
Fertilizer, pounds	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>
Fertilizer, pounds	0	0	0	0	0	0
Usual planting period	February - March			February - March		
Usual harvesting period	June			June		

## Labor and power inputs per acre, two-row equipment

Operation	X Over	Total hours		X Over	Total hours	
		Man	Tractor		Man	Tractor
Cut stalks	1.0	.50	.50	1.0	.50	.50
Disk	1.0	.50	.50	1.0	.50	.50
Chisel				.50	.35	.35
Bed	2.0	1.20	1.20	2.0	1.20	1.20
Harrow	1.0	.24	.24	1.0	.24	.24
Plant	1.2	.60	.60	1.2	.60	.60
Cultivate	2.0	1.00	1.00	3.0	1.50	1.50
Hoe	Spot	1.00		Spot	2.00	
Ditch work				1.0	.25	.25
Irrigate				1.0	3.00	
Total preharvest		5.04	4.04		10.14	5.14
Contract operations						
Combine		\$3.50 per acre			\$4.00 per acre	
Haul		10 cents per 100 pounds			10 cents per 100 pound	

Table 4. Grain sorghum production and production requirements

Variety	Dryland			Irrigated			
	Martin	Hybrids 28 and 3	Martin	Martin	Hybrids 28 and 3	Martin	
Normal yield, pounds	1,900		3,000				
Seed per acre, pounds	8		8				
Average price of seed dollars per 100 pounds	6.00		6.00				
Average price of seed dollars per bushel							
Fertilizer, pounds	N 0	P <sub>2</sub> O <sub>5</sub> 0	K <sub>2</sub> O 0	9.00 0	N 0	P <sub>2</sub> O <sub>5</sub> 0	K <sub>2</sub> O 0
Usual planting period	February - March			February - March			
Usual harvesting period	June			June			

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	.33	.33	1.0	.33	.33
Disk	1.0	.35	.35	1.0	.35	.35
Chisel				.5	.35	.35
Bed	2.0	.60	.60	2.0	.60	.60
Harrow	1.0	.24	.24	1.0	.24	.24
Plant	1.2	.40	.40	1.2	.40	.40
Cultivate	2.0	.60	.60	3.0	.90	.90
Hoe	spot	1.00	.25	spot	2.00	.25
Ditch work			1.00	1.0	.25	.25
Irrigate			.60	1.0	3.00	.60
Total preharvest		3.52	2.52		8.42	3.42
Contract operations						
Combine		\$3.50 per acre			\$4.00 per acre	
Haul preharvest		10 cents per 100 pounds			10 cents per 100 pounds	

When harvested green--usually sold in the field.



Table 5. Corn production and production requirements<sup>1/</sup>

Variety	Irrigated		
	Dryland Rutgers	Hybrids 28 and 30	Irrigated Rutgers
Normal yield, bushels	6,000	80	11,000
Seed per acre, pounds	5	11	1
Average price of seed dollars per bushel	4.65	9.00	4.65
Insecticides	6	0	
Fertilizer, pounds		N 60	P <sub>2</sub> O <sub>5</sub> 0 K <sub>2</sub> O 0
Usual planting period	0	0	0
Usual harvesting period	December - January	May - June	December - January

Operation	Labor and power inputs per acre					
	X Over	Two-row		X Over	Four-row	
		Man	Tractor		Man	Tractor
Cut stalks	1.0	.50	.50	1.0	.35	.35
Disk	2.0	.80	.80	2.0	.60	.60
Chisel	.5	.25	.25	.5	.20	.20
Bed	2.0	1.00	1.00	2.0	.60	.60
Plant	1.2	.60	.60	1.2	.36	.36
Cultivate	4.0	1.60	1.60	4.0	1.20	1.20
Fertilize	1.0	.38	.38	1.0	.38	.38
Ditch work	3.00	.75	.75	3.0	.75	.75
Irrigate	3.00	9.00	2.10	3.0	9.00	3.2
Total preharvest	2.0	14.88	5.88	4.0	13.44	4.44
Contract operations						
Harvesting			\$7 per acre			

<sup>1/</sup> When harvested green--usually sold in the field.

Contract operations  
Harvest and haul 4.0 at 1 cent per pound 5.0 at 1 cent per pound

<sup>1/</sup> 1956 insecticide prices - Toxaphene at \$2.43 per gallon; Toxaphene (2) and DDT (1) at \$8.63 per 100 pounds.

<sup>2/</sup> May be distributed in irrigation water.

<sup>3/</sup> May contract at 4 cents per pound dust or \$1.25 per acre spray.

Table 6. Tomato production and production requirements

Variety	Dryland			Irrigated		
	Rutgers			Rutgers		
Normal yield, pounds	6,000			11,000		
Seed per acre, pounds	.5			1		
Average price of seed, dollars per pound	4.65			4.65		
Insecticides						
Spray, pints <sup>1/</sup>	6			3		
Dust, pounds <sup>1/</sup>				60		
Fertilizer, pounds	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>
	0	0	0	40	60	20
Usual planting period	December - January			December - January		
Usual harvesting period	April - June			April - June		

## Labor and power inputs per acre, two-row equipment

Operation	Total hours			Total hours		
	X Over	Man	Tractor	X Over	Man	Tractor
Flat break				1.0	1.25	1.25
Chisel				0.5	.35	.35
Disk	2.00	1.00	1.00	2.0	1.00	1.00
Float				1.0	.35	.35
Bed	1.0	.50	.50	2.0	1.00	1.00
Fertilize <sup>2/</sup>				1.0	.75	.75
Plant	1.0	.60	.60	1.0	.60	.60
Cultivate	3.0	2.10	2.10	5.0	3.50	3.50
Poison <sup>3/</sup>	2.0	.40	.40	4.0	.80	.80
Hoe and thin	2.0	8.00		3.0	13.00	
Ditch work				4.0	.80	.60
Irrigate				4.0	10.00	
Total preharvest		12.60	4.60		33.40	10.20

## Contract operations

Harvest and haul 4.0 at 1 cent per pound 5.0 at 1 cent per pound

<sup>1/</sup> 1956 insecticide prices - Toxaphene at \$2.49 per gallon;

Toxaphene (2) and DDT (1) at \$8.63 per 100 pounds.

<sup>2/</sup> May be distributed in irrigation water.

<sup>3/</sup> May contract at 4 cents per pound dust or \$1.25 per acre spray.

Table 7. Tomato production and production requirements

Variety	Dryland			Irrigated		
	Rutgers			Rutgers		
Normal yield, pounds	6,000			11,000		
Seed per acre, pounds	.5			1		
Average price of seed dollars per pound	4.65			4.65		
Insecticides						
Spray, pints <sup>1/</sup>	6			3		
Dust, pounds <sup>1/</sup>				60		
Fungicides, pounds						
Fertilizer, pounds	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
	0	0	0	40	60	20
Usual planting period	December - January			December - January		
Usual harvesting period	April - June			April - June		
Labor and power inputs per acre, four-row equipment						
Operation	X Over	Total hours		X Over	Total hours	
		Man	Tractor		Man	Tractor
Flat break				1.0	1.25	1.25
Chisel				0.5	.35	.35
Disk	2.0	.70	.70	2.0	.70	.70
Float				1.0	.35	.35
Bed	1.0	.30	.30	2.0	.60	.60
Fertilize				1.0	.50	.50
Plant	1.0	.40	.40	1.0	.40	.40
Cultivate	3.0	1.80	1.80	5.0	3.00	3.00
Poison <sup>2/</sup>	2.0	.40	.40	4.0	.80	.80
Hoe and thin	2.0	8.00		3.0	13.00	
Ditch work				4.0	.80	.60
Irrigate				4.0	10.00	
Total preharvest		11.60	3.60		31.75	8.55
Contract operations						
Harvest and haul	4.0 at 1 cent per pound			5.0 at 1 cent per pound		

<sup>1/</sup> 1956 insecticide prices - Toxaphene at \$2.49 per gallon; Toxaphene (2) and DDT (1) at \$8.63 per 100 pounds.  
<sup>2/</sup> May contract at 4 cents per pound dust or \$1.25 per acre spray.

<sup>1/</sup> 1956 insecticide price - Toxaphene at \$2.49 per gallon.  
<sup>2/</sup> Insecticides, fungicides and herbicides one time each.

Table 8. Carrot production and production requirements

Variety	Imperator	Yellow and Glory
Normal yield, pounds	16,000	20,000
Seed per acre, pounds	1.8	
Average price of seed dollars per pound	1.87	
Insecticides, pints <sup>1/</sup>	2.00	
Fungicides, pounds	40.00	
Herbicide, gallons	45.00	
Fertilizer, pounds		
	N 30	P <sub>2</sub> O <sub>5</sub> 20
		K <sub>2</sub> O 0
Usual planting period	September - October	
Usual harvesting period	January - February	

Operation	Labor and power inputs per acre					
	Two-row			Four-row		
	X Over	Total hours		X Over	Total hours	
	Man	Tractor		Man	Tractor	
Chisel	1.0	.80	.80	1.0	.42	.42
Disk	2.0	1.00	1.00	3.0	1.00	1.00
Bed	2.0	1.00	1.00	2.0	.78	.78
Fumigate	.5	contract		.5	contract	
Plant	1.0	.80	.80	1.0	.40	.40
Cultivate	4.0	3.20	3.20	4.0	1.80	1.80
Poison <sup>2/</sup>	3.0	.60	.60	3.0	.60	.60
Ditch work	4.0	.48	.40	4.0	.48	.40
Irrigate	4.0	10.00		4.0	10.00	
Hoe and thin	2.0	12.00		2.0	12.00	
Total preharvest		29.88	7.80		27.48	5.40
Contract operations						
Harvesting		Sold in field			Sold in field	

Fumigate at \$12.00 per acre alternate years

<sup>1/</sup> 1956 insecticide price - Toxaphene at \$2.49 per gallon.

<sup>2/</sup> Insecticide, fungicide and herbicide one time each.

Table 9. Cabbage production and production requirements

Variety	Dryland			Irrigated		
	Glory			Globe Yellow and Glory		
Normal yield, pounds	10,000			20,000		
Seed per acre, pounds	1			1		
Average price of seed dollars per pound	2.65			2.65		
Insecticides						
Dust, pounds <sup>1/</sup>	11			110		
Spray, pints <sup>1/</sup>				3		
Fertilizer, pounds	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>
	0	0	0	60	20	0
Usual planting period	August - October			August - October		
Usual harvesting period	December - March			December - March		

Labor and power inputs per acre, four-row equipment

Operation	X Over	Total hours		X Over	Total hours	
		Man	Tractor		Man	Tractor
Flat break	1.0	1.25	1.25	1.0	1.25	1.25
Disk	2.0	.66	.66	2.0	.66	.66
Bed	2.0	.60	.60	2.0	.60	.60
Plant	1.0	.33	.33	1.0	.33	.33
Fertilize				1.0	.25	.25
Cultivate	3.0	1.00	1.00	4.0	1.33	1.33
Hoe and thin	2.0	12.00		3.0	24.00	
Poison <sup>2/</sup>	3.0	.60	.60	6.0	1.20	1.20
Ditch work				5.0	.75	.50
Irrigate				4.0	10.00	
Total preharvest		16.44	4.44		40.37	6.12
Contract operations						
Harvest and haul						

\$3 per ton or 17 cents per bag

1/ 1956 insecticide price - Toxaphene at \$2.49 per gallon; per crate (50 pounds)  
Toxaphene (2) and DDT (1) at \$8.63 per 100 pounds.

2/ Plane dusting at \$2.75 per acre including dust or apply at 4 cents per pound.  
Plane spraying at \$2 per acre including spray.

Table 10. Lettuce production and production requirements

	<u>Irrigated</u>						
Variety	Great Lakes						
Normal yield, pounds	13,000						
Seed per acre, pounds	1						
Average price of seed dollars per pound	3.50						
Insecticides, spray, pints <sup>1/</sup>	12						
Fertilizer, pounds	<table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><u>N</u></td> <td style="text-align: center;"><u>P<sub>2</sub>O<sub>5</sub></u></td> <td style="text-align: center;"><u>K<sub>2</sub>O</u></td> </tr> <tr> <td style="text-align: center;">80</td> <td style="text-align: center;">40</td> <td style="text-align: center;">16</td> </tr> </table>	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>	80	40	16
<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>					
80	40	16					
Usual planting period	September - October						
Usual harvesting period	December - January						

Operation	Labor and power inputs per acre					
	Two-row			Four-row		
	X Over	Total hours		X Over	Total hours	
	Man	Tractor		Man	Tractor	
Chisel	1.0	.60	.60	1.0	.50	.50
Disk	1.0	.33	.33	1.0	.33	.33
Bed	2.00	1.00	1.00	2.0	.60	.60
Plant	1.0	.60	.60	1.0	.35	.35
Cultivate	4.0	4.00	4.00	4.0	3.00	3.00
Hoe and thin	3.0	45.00		3.0	45.00	
Poison	4.0	1.00	1.00	4.0	1.00	1.00
Fertilize	1.0	applied in water		applied in water		
Ditch work	4.0	1.00	1.00	4.0	1.00	1.00
Irrigate	4.0	11.00		4.0	11.00	
Total preharvest		64.53	8.53		62.78	6.78
Contract operation						
Harvest and haul	90 cents per crate (50 pounds)					

<sup>1/</sup> 1956 insecticide price - Toxaphene at \$2.49 per gallon.

Table 11. Pea production and production requirements

Variety	<u>Dryland</u>			<u>Irrigated</u>		
	Purple Hull			Purple Hull		
Normal yield, pounds	1,300			2,000		
Seed per acre, pounds	15			15		
Average price of seed dollars per 100 pounds	15			15		
Insecticide, dust, pounds <sup>1/</sup>	15			20		
Fertilizer, pounds	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>	<u>N</u>	<u>P<sub>2</sub>O<sub>5</sub></u>	<u>K<sub>2</sub>O</u>
	0	0	0	0	0	0
Usual planting period						
Spring crop	January - February			January - February		
Fall crop	September - October			September - October		
Usual harvesting period						
Spring crop	April - May			April - May		
Fall crop	November - December			November - December		

Labor and power inputs per acre, four-row equipment

Operation	X Over	Total hours		X Over	Total hours	
		Man	Tractor		Man	Tractor
Disk	1.0	.40	.40	2.0	.80	.80
Bed	2.0	.80	.80	2.0	.80	.80
Plant	1.0	.30	.30	1.0	.30	.30
Cultivate	3.0	.90	.90	3.0	1.00	1.00
Hoe	spot	2.00		spot	3.00	
Poison	1.0	.20	.20	1.0	.20	.20
Ditch work				2.0	.50	.40
Irrigate				2.0	7.00	
Total preharvest		4.60	2.60		13.60	3.50
Contract operations						
Harvest and haul	\$30 per ton					

<sup>1/</sup> 1956 insecticide prices - DDT and sulfur (10-40) at \$7 per 100 pounds.