

Income per acre over variable costs

Cotton in Yuma and Mohave Counties produces the highest estimated income per acre over variable costs, \$335 per acre (Table 1). In other counties, where the gross income per acre is lower, the income over variable costs is also lower.

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Comparison of Upland Cotton and Long Staple Cotton Yields, Costs, and Returns, By Counties

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In some counties, upland cotton is more profitable than long staple cotton; in other counties, long staple cotton is the most profitable. This is due to differences in relative yields and production costs by counties.

Relative yields of short and long staple cotton, by counties

The highest yields of upland cotton are produced at elevations below 2,000 feet, while the highest yields of long staple cotton are produced in areas at the 2,000 to 3,000-foot elevation.

Yields of solid planted upland cotton and long staple cotton on farms in Maricopa, Pinal, Pima, and Graham Counties are as follows:

Counties	Bales per acre		Yield of long staple cotton as percent of yield of upland cotton
	Upland cotton	Long staple cotton	
Maricopa and Pinal .....	2.25	1.17	52
Pima .....	1.85	1.40	76
Graham .....	1.80	1.47	82

Relative costs of producing upland and long staple cotton

Estimated variable costs per acre for producing upland and short staple cotton in each of these areas are shown in Table 1.

The only significant difference in pre-harvest costs as between the two types of cotton is in the use of fertilizer and in insect and disease control costs (Table 1). Less fertilizer is used on long staple cotton than on short staple cotton. Long staple cotton, because of its higher gossypol content, is less subject to insect attacks than upland cotton.

Table 1. Comparison of yields, costs, and returns for upland cotton and long staple cotton in Arizona, by counties, 1966, assuming solid planted cotton and diversion of 35 percent of upland cotton acreage allotment to conserving uses.

Item	Unit	Maricopa and Pinal Counties <sup>1/</sup>		Pima County		Graham County	
		Upland Cotton	Long Staple Cotton	Upland Cotton	Long Staple Cotton	Upland Cotton	Long Staple Cotton
<u>Yield per acre</u>							
Lint . . . . .	Bale	2.25	1.17	1.85	1.40	1.8	1.47
Cottonseed . . . . .	Lb.	1740	1060	1510	1275	1510	1340
<u>Estimated prices</u>							
Cotton - per pound . . . . .	Cent	21	48	23.5	48	26	48
Cottonseed - per ton . . . . .	Dol.	50	50	49	49	50	50
<u>Gross income per acre</u>							
Cotton marketed . . . . .	Dol.	236.25	268.80	217.38	321.60	234.00	337.44
Cottonseed marketed . . . . .	Dol.	43.50	26.50	37.00	31.24	37.75	33.50
Price support payment . . . . .	Dol.	103.15	----	86.76	----	82.90	----
Diversion payment . . . . .	Dol.	61.91	----	52.07	----	49.75	----
Total gross income . . . . .	Dol.	444.81	295.30	393.21	352.84	404.40	370.94
<u>Variable costs per acre</u>							
Seed . . . . .	Dol.	3.30	3.30	3.30	3.30	3.30	3.30
Seedbed preparation . . . . .	Dol.	8.52	8.52	8.52	8.52	10.20	10.20
Planting and cultivating . . . . .	Dol.	9.91	9.91	9.91	9.91	9.91	9.91
Fertilizer . . . . .	Dol.	21.23	15.94	20.27	15.63	9.22	7.48
Irrigation water . . . . .	Dol.	31.50	31.50	33.66	33.66	13.00	13.00
Irrigation labor . . . . .	Dol.	10.50	10.50	9.62	9.62	9.76	9.76
Insect and disease control . . . . .	Dol.	26.50	20.00	18.00	14.00	13.25	10.00
Chemical weed control . . . . .	Dol.	4.90	4.90	5.05	5.05	.50	.50
Hand thinning and weeding . . . . .	Dol.	9.45	9.45	9.45	9.45	17.50	17.50
Hail insurance . . . . .	Dol.	1.50	1.50	2.50	2.50	6.50	6.50
Defoliation . . . . .	Dol.	4.50	4.50	4.50	4.50	4.50	4.50
Harvesting and hauling . . . . .	Dol.	28.97	29.08	28.47	30.01	36.85	36.44
Ginning . . . . .	Dol.	46.12	41.77	39.22	49.98	38.70	52.48
Supervision of labor . . . . .	Dol.	4.99	4.91	4.77	4.77	4.78	4.76
Production credit . . . . .	Dol.	4.51	4.19	4.29	4.17	3.81	3.74
Miscellaneous expenses . . . . .	Dol.	7.68	8.61	7.16	9.37	7.34	9.85
Total variable costs . . . . .	Dol.	224.08	208.58	208.69	214.44	189.12	199.92
<u>Income per acre over variable costs</u>	Dol.	220.73	86.72	184.52	138.40	215.28	171.02
<u>Total planted acreage, costs, and returns for 100-acre allotments:</u>							
Acres of cotton planted . . . . .	AC.	65	100	65	100	65	100
Total gross income . . . . .	Dol.	28,913	29,530	25,559	35,284	26,286	37,094
Total variable costs . . . . .	Dol.	14,565	20,858	13,565	21,444	12,293	19,992
Total income over variable costs . . . . .	Dol.	14,348	8,672	11,994	13,840	13,993	17,102

<sup>1/</sup>The figures for upland cotton in Maricopa and Pinal Counties were adapted from the report, Costs and Returns for Major Field Crops in Central Arizona by Size of Farm, by Aaron G. Nelson, Ariz. Agr. Exp. Sta. Technical Bulletin in process of publication.

The charge per 100 pounds of seed cotton for ginning long staple cotton on roller gins is much higher than the charge for ginning upland cotton on saw gins. Long staple cotton also has a lower gin turnout than upland cotton. Ginning charges per bale are estimated to average about 70 percent more for long staple cotton than for short staple cotton.

In Maricopa and Pinal Counties--where long staple cotton produces low yields relative to short staple cotton--it costs less per acre for ginning long staple cotton than for short staple. In Pima and Graham Counties--where high yields of long staple cotton are produced--long staple ginning costs per acre are much greater than those for short staple cotton (Table 1).

Except in Graham County, the average distance that farmers must haul cotton to a roller gin is greater than the average distance to a saw gin. For this reason, the cost of harvesting and hauling long staple cotton is somewhat greater than for upland cotton.

Miscellaneous costs are higher for long staple cotton than short staple cotton because of the contributions that are collected by the gins to support the Supima Association for the promotion of long staple cotton.

In Maricopa and Pinal Counties, where long staple cotton produces relatively low yields, the total variable costs per acre for producing long staple cotton are less than the costs for producing upland cotton (Table 1). In Pima and Graham Counties, on the other hand, it costs more per acre to produce long staple cotton than short staple cotton, because the relatively high yields of long staple cotton result in high ginning costs per acre.

#### Income per planted acre and per allotted acre for upland and long staple cotton

Considering the price support payments and diversion payments that will be made on upland cotton,<sup>1/</sup> it is estimated that in all counties the gross income per planted acre from upland cotton in 1966 will exceed the gross income per planted acre from long staple cotton (Table 1). However, the entire acreage allotment of long staple cotton can be grown, whereas, most Arizona farmers will find it profitable to divert 35 percent of their effective allotment of upland cotton to conserving uses. Therefore, for 1966, the income potential of these two types of cotton can best be compared on the basis of the costs and returns for a 100-acre allotment of each.

Table 1 shows that in Maricopa and Pinal Counties, the total income over variable costs from a 100-acre allotment of upland cotton would greatly exceed that from a 100-acre allotment of long staple cotton. In Pima and Graham Counties, however, the reverse is true. In those counties--due to the higher yields of long staple cotton relative to short staple cotton--a long staple cotton allotment has a much higher value than a short staple cotton allotment.

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<sup>1/</sup>See the article, "Estimated Yields, Costs, and Returns for Solid Planted Upland Cotton in 1966, By Counties," elsewhere in this report for information concerning price support and diversion payments.