For Pinal County Growers . . .

Source of Net Returns

*by William E. Martin, Harold M. Stults & Robert A. Young**

General crop farms in Pinal County contained 96.6 percent of all cropped acreage in that county in 1967. Only 3.4 percent of cropped acreage was devoted to vegetables and citrus, mostly on specialized farms. A breakdown of this acreage by crop is shown in the accompanying table.

What are the sources of net income to these general crop farms? It is well-known that cotton is important to the Arizona farm economy, but just how important is it? A recent study of typical Pinal County farming units, based on personal interviews with 120 Pinal County farmers enables us to answer these questions. The answers are illustrated in the accompanying figures.

Figure 1 shows acres of each crop for the county on the horizontal axis and net returns over variable costs per acre on the vertical axis. Therefore, the area of each rectangle shows total net returns over variable costs for each crop for the entire county. Variable costs are those costs which are incurred directly in the production of a given crop and thus may accurately and logically be debited against that specific crop. All fixed costs must still be paid out of net returns above variable costs. Fixed costs include such items as depreciation, interest on investment, taxes, insurance, and certain repairs, as well as any return to management.

Figure 1 shows that the contribution of short staple cotton toward net income is of overwhelming importance. And, of cotton's contribution, over half is income from government price support and acreage diversion pay-

Table 1. Cropped Acres, Pinal County, 1967.

	Acres	*Percent*
Upland Cotton	81,100	36.5
American-Egyptian Cotton	6,300	2.8
Grain Sorghum	40,000	18.0
Barley	45,000	20.2
Wheat	11,700	5.3
Alfalfa	21,000	9.4
Other Field Crops	9,700	4.4
Subtotal	214,800	96.6
Vegetables	7,090	3.2
Citrus	380	0.2
Total	222,270	100.0

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ments. (There is a certain arbitrariness in subtracting variable costs from market returns instead of from government payments. However, since government payments are subject to change by Congress, we have chosen the former course.) The data are shown for the past year, 1967, when the average weighted market price for Pinal County cotton was about 29.7 cents per pound of lint. In 1966, when the market price was about 22.5 cents per pound, total government payments were approximately the same size and constituted about 70 percent of net income over variable costs.

The obvious implication of these data is that total net returns to Pinal County farmers are to a very large degree dependent on government programs. In fact, it is possible that future changes in government programs for upland cotton will have more effect on total farm net income than any other technical or cost factor including the declining water table. This is not to suggest that technology or cost factors should be ignored, but simply that the magnitudes of their possible effects on total net farm income are relatively small when compared to income factors. The large change in net income between 1966 and 1967 because of the change in market price (resulting from reduced acreage allotments), is an illustration of the principle.

So far the discussion has been only in terms of net income after payment of variable costs. How much of this net income is left after fixed costs are paid as well? Figure 2 gives this picture for the county as a whole. Estimates from our study showed fixed costs to vary from about $97 per acre on small sized farms down to about $46 per acre on the largest sized farms. A weighted average for the county as a whole was $53 per cropped acre. We here define fixed costs as depreciation, taxes, insurance, certain repairs not included as variable costs, and interest on investment excluding investment in the land. Thus, any net income left may be considered as net return to land and management.

Note that if fixed costs are spread evenly over all cropped acres at $53 per acre (the low rectangle under the dotted line in Figure 2), only cotton covers its share of the fixed costs. On this basis, the grains and alfalfa cover less than 50 percent of their share of fixed costs per acre. However, a better way of observing the total net return to land and management is to redistribute the leftover fixed costs on the grain and alfalfa acreage to the cotton acreage and observe the remaining areas in the two cotton rectangles. The hatched areas in Figure 2 show that income which is needed to cover these fixed costs. The remaining white areas represent net return to land and management.

In 1967, net return to land and management is represented by the two small cotton rectangles above the hatched area plus the government payments rectangle (see Figure 2). If the cotton price situation of 1966 (22 cents per pound) had been illustrated, only a part of the government payments rectangle would have been left. That is, there is no net return to land and management on typical Pinal County farms without government payments when cotton sells at 22 cents per pound.

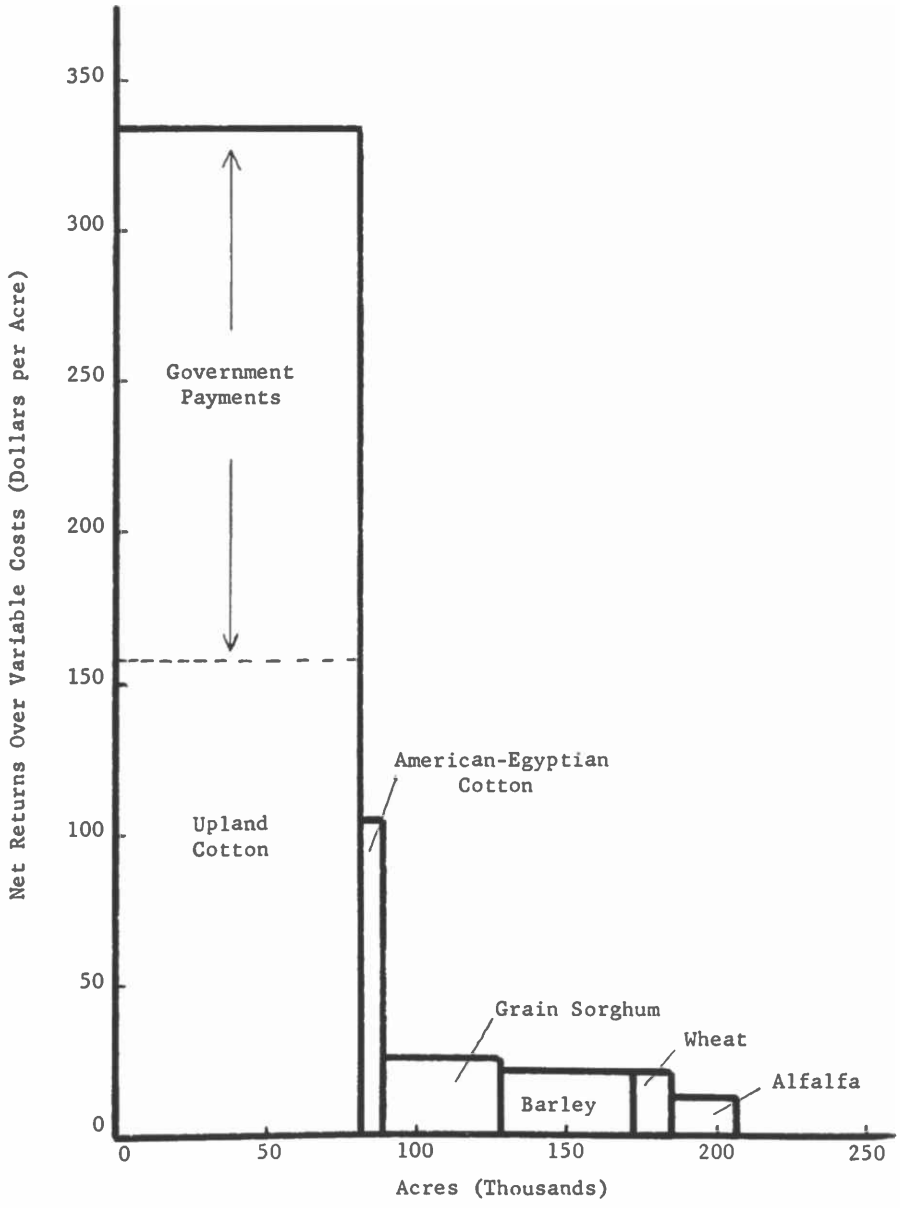

Figure 1. Estimated Net Returns Over Variable Costs, Pinal County, 1967.

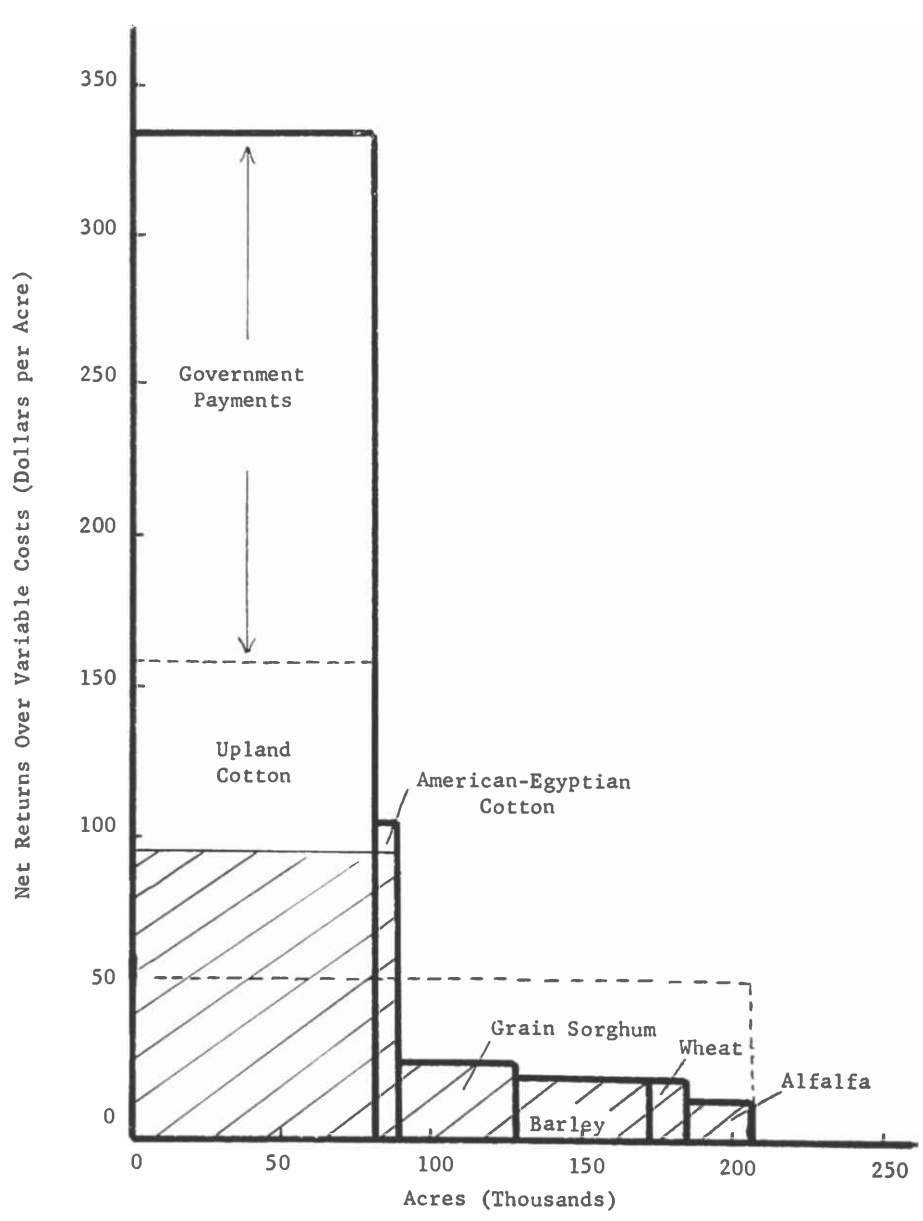

Figure 2. Estimated Net Returns Over Variable and Fixed Costs, Pinal County, 1967.