

opportunities for adjusting these two factors are limited, especially over short periods of time.

Particularly in cotton-producing areas, the main line or lines of agricultural production seldom fully utilize the farm resources. Hence, for maximum net income the farmer must add supplementary enterprises. To do this the operator must consider the following factors in addition to apparent costs and returns: (1) risks of production arising from unfavorable weather, and damage from insects and diseases, (2) price fluctuations, (3) conservation of farm resources, (4) labor and power requirements and seasonal distribution, (5) interrelationships of alternative enterprises, and (6) cost of items when purchased compared with alternative uses of resources in the case of products grown for family consumption or for feed for the required workstock.

Two or more farm enterprises reduce risks associated with price declines and production disasters common to a one-enterprise system. Although prices change continuously, records show that prices of dairy and poultry products fluctuate within narrower ranges and less abruptly than do prices of cotton. Yields also fluctuate from year to year. From 1936 to 1945, average cotton yields per acre in the Southern Piedmont ranged from 250 to 449 pounds; corn, from 17 to 24 bushels; and wheat, from 10 to 16 bushels. Yields from year to year on individual farms probably varied even more.

Many farms have cropland too steep to be planted in row crops more often than once in two, three, or even four years. This means the acreage of cotton and corn should be limited accordingly, and other enterprises added if the land is to be used profitably. On many farms, land entirely unsuited for cotton might be used profitably to produce pasture or forest products.

The way in which enterprises fit together—supplement or com-

plement each other—is of major importance. For example, lespedeza in the cropping system offers several advantages, even though direct cash returns per acre are relatively low. It can be grown as a second crop on the same land with small grain without reducing yields of small grain. Where land is unsuited to alfalfa, lespedeza is the best alternative for hay. Lespedeza seed may be harvested and sold and the residue plowed under as a source of organic matter and nitrogen. It also may be used for summer grazing. These alternatives make lespedeza a flexible crop for combining with other enterprises.

Barley might be considered as an alternative to corn for increasing the flexibility of the cropping system. Although barley alone does not yield as much feed as corn, it is a close-growing crop that has advantages on the rolling or hilly land of the Piedmont. It can be tended with the same equipment used for wheat and oats and with very little labor. Barley also may be followed by lespedeza, a combination which yields approximately the same amount of total digestible nutrients per acre as corn.

Livestock enterprises often can be combined with crop enterprises to increase farm income through fuller utilization of available labor. Even at low hourly returns, livestock enterprises which utilize labor that otherwise would be idle would increase the total net farm income.

Once a system is established, the nature of its fixed assets influences the profitability of dropping and adding new enterprises and methods of operation.

Labor and power requirements, especially their seasonal distribution, are a problem. Peak labor periods for most of the principal crops in this area occur simultaneously. The acreage that a family can tend is reduced far below what could be operated if labor patterns were evenly distributed. Cotton

requires very little or no labor for about five months of the year. Yet during peak periods eight to ten acres takes the labor equivalent of two men. These extreme variations lead to periods of considerable underemployment. The limiting periods for cotton and corn are during cultivation and harvest. When there is not enough labor to harvest both crops simultaneously, the corn harvest usually is delayed because cotton is more valuable and more susceptible to damage.

The main problem with small grain arises with seeding. The harvest period for cotton and corn extends so far into the fall that it overlaps the period for preparing land to seed small grain. This problem becomes more acute when poor weather conditions interfere.

### Relative Costs and Returns with Present and Improved Practices

The influence of a change in the farming system on net income can be tested by means of a budget analysis of the complete system, though an analysis of individual enterprises helps.

This section shows the effects of improved practices on relative costs and returns for different enterprises. That rates of production can be increased through the use of improved practices has been clearly demonstrated by experimental work and by results on actual farms. The effects of any production increase on net farm income, however, depend upon how much cost is increased to get the additional production.

On the individual farm, many items of cost are more or less fixed. At least their change in response to a change in output is so small that it can be disregarded.

On many farms, the operator's family comprises all or nearly all of the farm-labor force. In such cases, labor is not a variable cash cost. The real problem is how to

employ family labor most profitably.

There are some enterprise fixed costs. For this reason the problem has two phases: (1) selection of enterprises and (2) scale of operation once the selections are made. General farm overhead costs have little influence on either of these phases. Enterprise overhead affects the first but not the second phase of the problem. In terms of costs the second phase of the problem involves only the direct variable costs of the given enterprise. Therefore, emphasis is placed on *relative*, not *absolute*, costs and returns because relative rather than absolute conditions influence opportunities for profitable adjustments.

Costs of getting additional output from a given enterprise varies with different conditions. But for purposes of more general application, this analysis is based on modal relationships.

Prices for 1945 were used in the calculation of specified costs and returns under conditions of 1945 and under improved practices. A comparison of 1945 prices with 1935-39 averages is shown in Table 22.

Crops: The effects that improved practices would have on specified cash costs are shown in Table 23. These items of expense include only direct cash items that are usually variable in nature. These costs must be paid during the production period. They are most directly affected when the volume of the particular enterprise is expanded or reduced, or when an enterprise is added to or dropped from the farm business. Relatively fixed overhead farm expenses, which normally have little effect upon the relative profitability of alternative enterprises, are not included in this phase of the analysis. Items of expense are based upon production with equipment most frequently found on farms included in the sample.