

Apparently, under this system the farm operator's income would be maintained near, or even raised above, the systems in which cropper labor would be employed to produce cotton.

Recent developments indicate that in the future it may become feasible to mechanize cotton production more completely, especially on farms of this size.¹⁹ Cultiva-

¹⁹ The Use of Mechanical Cotton Harvesters in North Carolina, By McPherson, W. W., and Greene, R. E. L., Progress Report, Dept. of Agr. Econ. AE—Information Series No. 13 Agr. Expt. Sta. in cooperation with Bur. Agr. Econ. July 1947. Mechanical Harvesting of Cotton in North Carolina, 1947 by Sutherland, J. G., and James, H. B., Progress Report, Dept. of Agr. Econ. AE—Information Series No.

FARM SIZE, PRODUCTION EFFICIENCY, AND INCOMES

In cases where management is not the limiting factor many farms of the Southern Piedmont are too small in land area for achievement of maximum efficiency in the use of the other resources. However, where management is the limiting factor, a larger scale of operation would not increase net incomes. Instead, employment of larger quantities of other resources would tend to lower their efficiency level. Also, in many cases, farms provide an occupation that is secondary to off-farm employment for farmers.

In addition to economic problems involved, physical and institutional limitations to farm enlargement must be considered. These limitations are due mainly to location and ownership patterns. In cases where adjustments in the combination of land and labor and improvements in managerial capacities are feasible, a period of time generally will be required for accomplishing such changes. In view of these conditions, opportunities for increasing net incomes on farms with their present acreages of land need to be examined in addition to a study of the opportunities for adjustments in the combination of productive factors and

tors, hoeing, and harvesting limit the acreage a family can tend, under present production methods, to only a few acres. If it proves economical to perform these tasks with tractor equipment, one family would be able to tend a much larger acreage. This would raise the relative advantage of cotton under current and historical price relationships, compared with alternatives on large farms. Under such conditions, about 34 acres of cotton could be substituted for an equal acreage of small grain-lespedeza in the livestock-small grain system.

²⁰ N. C. Agr. Expt. Sta. in cooperation with Bur. Agr. Econ. Dec. 1948.

scales of operation that require a longer period of time.

In the predominate farming systems of 1945, the labor, land, power, and equipment on large farms were used very little more efficiently than those on smaller farms. The problems of the most effective employment of labor living on farms were aggravated by the extreme fluctuations or peak periods in labor requirements. Based on semi-monthly periods production of cotton required about 20 hours an acre during peak periods, but during ten periods of the year it required less than one hour per acre. The problem was complicated further by the fact that critical periods for corn and small grains occurred almost simultaneously with cotton. Labor requirements for livestock were distributed relatively evenly throughout the year. To a limited extent livestock did not compete with the major crops. Livestock chores on small enterprises were performed before and after the field work. On the other hand, larger livestock enterprises would reduce the labor available for field work. To some extent, the available labor, influenced by members of the operator's family of school

Table 39.—Proportion of labor living on farms utilized in productive work, representative farms, 1945 and reorganized systems, Southern Piedmont, North Carolina

System and size of farm	Percentage of available labor used	
	1945	Reorganized systems
Small	61	72
Medium size	62	93
Large:		
Total farm	57	88
Family labor	63	87
Cropper labor	54	88
Reorganized systems:		
Small		72
Medium size		93
Large (cotton-livestock)		
Total farm		88
Family labor		87
Cropper labor		88
Large (livestock-small grains)		95

age who were available during the cultivating and harvesting seasons, varied directly with labor requirements.

In 1945, there was very little difference in labor efficiency, measured by the proportion used, on the three predominant sizes of

farms (Table 39). In terms of labor returns per unit, there were some differences; but these were relatively small (Table 40). Acreage of cotton per unit of labor was fairly constant throughout the range of farm sizes.

Use of power and equipment was

Table 40.—Returns per unit of labor on representative farms, 1945 and reorganized systems, Southern Piedmont, North Carolina¹

Price level and size of farm	Per hour of labor used directly ²		Per man equivalent of labor available	
	1945	Reorganized	1945	Reorganized
	Dollars	Dollars	Dollars	Dollars
1945 prices:				
Small	.39	.71	588	1,271
Medium size	.44	.68	689	1,575
Large (with cropper) ³				
Family	.71	1.12	1,102	2,441
Cropper ⁴	.30	.34	408	755
Total farm ⁴	.47	.63	668	1,386
Large (without cropper) ⁵	*	1.43	*	3,400
1935-39 prices:				
Small	.11	.25	166	447
Medium size	.13	.24	202	566
Large (with cropper) ³				
Family	.01	.17	16	364
Cropper ⁴	.21	.24	284	524
Total farm ⁴	.13	.21	183	464
Large (without cropper) ⁵	*	.58	*	1,385

¹ Based on net income.

² Hours do not include general overhead jobs.

³ Reorganized system is the cotton-livestock organization.

⁴ Does not include value of cropper's farm privileges; returns to cropper labor are not comparable to those of operator and family because of the differences in production functions.

⁵ Livestock-small-grains organization.

* Not a predominant system in 1945.