

Table 16.—Present and improved annual rates of fertilization and seeding, principal crops, Southern Piedmont, North Carolina

Crop	Fertilizer applications per acre				Seeding rates per acre	
	1945		Improved		1945	Improved
	Planting time (4-10-6)	Top or side dressing (16-0-0)	Planting time ¹	Top or side dressing ²		
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Cotton	600	100	600	125	38	38
Corn	350	125	400	400	7	10
Wheat	300	100	300	200	90	75
Oats	200	100	300	200	80	64
Barley	*	*	300	200	*	96
Lespedeza	0	0	0	0	40	40

¹ Based on the equivalent of 6-8-6.

² Based on the equivalent of 16-0-0.

* Reported by only 15 per cent of the 217 farmers.

land had been covered sufficiently. About one ton of lime per acre, applied every fifth year, was suggested for cropland used for general rotations of cotton-grain-lespedeza.

Yields: Opportunity for increasing yields of grain and hay crops appears to be greater than for raising the level of cotton yields (Table 17). Yields of most crops can be raised from 25 to 100 per cent by improved practices. In terms of total digestible nutrients, corn ranks first among the major feed crops. However, combined yields of small grain-lespedeza hay

produced with present or improved practices compared favorably with other sources of feed.

Labor and Power Requirements:¹² A summary of the hours of man labor and power used to produce

¹² For more detailed information on labor distribution and power costs, see: *Cost and Utilization of Power and Equipment on Farms in the Central Piedmont*, by R. E. L. Greene, H. Brooks James, and C. G. Dawson, North Carolina Agricultural Experiment Station, and the Bureau of Agricultural Economics, USDA, cooperating (N. C. Agr. Expt. Sta. Tech. Bul. 84); and, *Major Farming System, 1939, and Usual Production Practices, Lincoln County, North Carolina*, a preliminary report by R. E. L. Greene and W. W. McPherson.

Table 17.—Average yield per acre, principal crops, 217 farms, Southern Piedmont, North Carolina¹

Crop	Unit	Yield per acre			Yield of total digestible nutrients	
		1945	With improved practices	Percentage increase over 1945	1945	Improved
Cotton: lint	Pound	498	525	5	*	*
seed	Pound	789	821	5	*	*
Corn	Bushel	25	50	100	13.3	26.7
Wheat	Bushel	17	30	76	8.6	15.0
Oats	Bushel	33	60	82	7.6	13.7
Barley	Bushel	2	30	2	2	11.3
Lespedeza hay	Ton	1.2	1.5	25	12.3	15.7
Alfalfa hay	Ton	2	3.0	2	2	30.2
Silage	Ton	2	10.0	2	2	37.4
Lespedeza seed, 1st year	Pound	261	300	15	*	*
Lespedeza seed, reseeded	Pound	261	400	53	*	*

¹ Actual yield for 1945 and yields estimated upon adoption of improved practices.

² Insufficient data available to estimate a yield for 1945.

* Item does not apply.

the principle crops is shown in Tables 18 and 19. These requirements are based on the more common practices followed in 1945. Tractor hours are based on the operations more commonly performed by tractors rather than on conditions under which tractors were used to the fullest extent.

On farms where tractors were owned, tractor work generally was limited to preparation of land. Tractors also were used for harvesting small grain and lespedeza on farms where combines were owned. Since less than half the tractor farmers owned combines, the more common practice was to hire small grains and lespedeza harvested on a custom basis. Disking land was a more common practice on farms with tractors than on non-tractor farms. These differences in operations account for the relatively small variation between hours of labor and workstock used per acre on tractor and non-tractor farms.

The estimated use under conditions of improved seeding, fertilization, and rotation practices, compared with 1945 circumstances, is

adjusted for changes in yields only, and not for potential use of tractor equipment. A small proportion of the farmers are using tractor equipment for planting and cultivating row crops which means a large reduction in requirement of man and workstock hours. But the extent to which present equipment is adapted to general use in this area could not be ascertained from available data. Thus the potential uses of tractors for more economical employment of resources must be left for further study.

Livestock

Feed, Land, and Labor: Quantities of feed, land and labor needed to support units of principal classes of livestock are shown in Table 20. In 1945, 1.6 acres of cropland, excluding pasture, were required to produce the home-grown feed for a dairy cow and 4.1 acres for 100 hens. With improved practices, less cropland is required for a unit of livestock even though the rate of feeding per head is increased. If improved practices for crops and livestock were followed,

Table 18.—Man labor used per acre, principal crops, on farms with and farms without tractors, Southern Piedmont, North Carolina¹

Crop	With 1945 practices		With improved agronomic practices ²	
	Farms without tractors	Farms with tractors	Farms without tractors	Farms with tractors
	Hours	Hours	Hours	Hours
Cotton	147	144	151	148
Corn	41	33	45	37
Wheat	14	7	14	7
Oats, grain	12	8	12	8
Oats, hay	21	18	21	18
Barley	*	*	14	7
Lespedeza, 1st year:				
Seed	1	1	1	1
Hay	10	10	12	12
Lespedeza, reseeded:				
Seed	1	1	1	1
Hay	9	9	11	11
Alfalfa	*	*	27	27
Corn silage	*	*	49	41
Permanent pasture	0	0	3	3

¹ Hours of labor do not include that which is usually hired on a custom basis.

² Adjusted from 1945 for difference in yields only and not for possible differences in use of tractor.

* Not a common enterprise.