WAGE LABOR AS A PRIMARY PLANTATION INDICATOR—
THE CASE OF AMERICAN COTTON FARMS*

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Complex economic forms such as farming systems cannot be completely defined by only one or two characteristics. Rather it is a unique combination of several features, many of which are shared by numerous farming systems, that sets apart the particular economic organization. There is no doubt, however, that these combinations have keystones, characteristics that are more fundamental than others and yet reflect many of these other characteristics as well. These are the criteria one searches for when he wishes to discern at least approximate distributions of economic forms that are of continental scale but whose extensiveness makes comprehensive field examination impossible.

For plantation farming the most fundamental criterion is size, although there is much argument over what specific size minimum or minima should be accepted. Nor is there any uniform feeling on how the size qualification should be expressed. If a flat size delimitation is rejected as too arbitrary, then there is the bigger problem of selecting an indicator that ensures a farming operation large enough to guarantee a sizable acreage. The researcher who is interested in the plantation type of farm in the United States soon discovers that the few studies made of large farms deal principally with the scale of operations, something that is by no means always commensurate with large size, particularly when expressed monetarily, as in value of products sold.¹ Some of these studies do consider size specifically, but only as one criterion among several other equally-weighted criteria, not all of which need be included in order to have a small-sized farm classified as "large."² Furthermore, as intensification continues on American farms, the discrepancy between what the economist considers a large scale farm and what the geographer assumes to be a plantation will increase. As intensification proceeds, more and more farms will become "larger" in such

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terms as investment in lands and buildings and in value of production, but not in acreage. To reduce such divergences and to give areal size the greater weight that a plantation designation demands, the following basic qualification of a plantation is proposed: a farm large enough to require an annual cash outlay for the equivalent of at least five resident workers with families.

This index was applied to American cotton farms, using published and unpublished data from the 1959 Census of Agriculture for labor expenditures and farm labor surveys of the Department of Agriculture for wage rates. The selection of cotton farms for a test application of the wage-labor criterion is a logical one. Of all farm types in the United States, large cotton farms have always been viewed as the most representative of the plantation. Yet their full extent has never been appreciated; in fact, they have been increasingly depreciated. Overemphasis of the tenant role, particularly that of the cropper, has figured strongly in this myopia. Tenants have been an inseparable part of the census definition of the cotton plantation, dating from the first report on plantations in 1910. Yet additional statistics compiled during this same period show the South already second only to the West in percentage increase of wage-labor expenditures. Since the last world war the shift from tenant to wage labor in the South has been revolutionary. Between 1954 and 1959 alone, tenants decreased by 46 per cent: for just croppers, it was 55 per cent.

The reaction of the Census Bureau has been to discontinue its regular reports on "multiple units," its term for plantations. But the plantation has not declined, the operator merely substituting the wage hand for the tenant on an ever larger scale. Another adjustment by the operator in favor of cash payments has been the use of the "quasi-share labor" system of sharecropping. This is an arrangement by which the cropper is paid a day wage for pre-harvest work as a member of a crew and given a share of the crop on a patch of land. Furthermore, croppers and other tenants on southern plantations are also paid cash for a variety of non-agricultural jobs, a normal part of the plantation routine that has been going on for decades. Meanwhile large cotton farms have developed to the west of the traditional plantation area and have from their very beginning been heavily dependent on wage labor. An extensive pattern of cotton plantations therefore exists, one that is far larger than previous definitions and most conceptions would admit. It remains only to distinguish that pattern.

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PLANTATION DISTRIBUTION

The overall distribution pattern of those cotton farms that paid wages for the equivalent of at least five resident workers is not only extensive but greatly unequal (Figure 1). More than 9,000 plantations were computed for sixteen states, stretching from coast to coast, but almost 70 per cent of those farms were in just three states—Texas, Arkansas, and Mississippi. Further, of this 70 per cent, Texas alone had 2,780 plantations or almost half. Other farm patterns may be detected on the basis of more geographic regions. About 90 per cent of the cotton plantations appeared to be roughly divided between the semiarid-to-arid areas of Texas, New Mexico, Arizona, Nevada, and California and the humid Mississippi “Delta” portions of Mississippi, Arkansas, Louisiana, Tennessee, Missouri, and Kentucky. The more degraded uplands of Alabama, Georgia, South Carolina, and North Carolina took up most of the remaining plantations.

Lower yields and lesser mechanization account in good part for the rapid falling off in plantations from the Delta area to the east. To the west, yields are even bigger and mechanization still more advanced than in the Delta, but the number of plantations, once beyond the Texas Panhandle, again declines. One reason for this paradox is that greater mechanization, while helping to make short-season (i.e., wage-labor) workers more numerous on western than on southeastern cotton farms, also makes wage labor less important for a greater proportion of the large cotton farms in the West than it does for those in the middle South where mechanization is still not quite so advanced. Another reason is the smaller number of western cotton farms to begin with. Total cotton farms in the four westernmost states were only one-fifth the number of all cotton farms (excluding cropper units) in the four easternmost states. However, plantations were twice as numerous in the western segment as they were in the eastern (1,312 to 651). None of the old cotton plantation states, in fact, equalled the number of plantations in any of the three states of California, Arizona, and New Mexico. Another east-west contrast is in the interstate pattern of plantations. Plantations diminish eastward, from Alabama to North Carolina, without a break; in the west, they increase westward, California having almost twice as many plantations (600) as New Mexico (344).

The overwhelming superiority of the southern midlands in plantation numbers is not without its qualifications from the standpoint of the plantation definition used here. It is difficult to say, however, whether these qualifications would really affect this leadership in any significant way. This regional leadership would undoubtedly be increased if cotton farms that employed a sizable amount of non-wage labor were given plantation status. Such farms, which employ five or more laborers but do not expend cash sufficient to pay for five laborers at current farm wage rates, are especially numerous in the Delta. Nevertheless, they are a distinct minority compared with those farms classified as plantation here. It is also undoubtedly true that the plantation criterion of a cash equivalent of a year-round work force discriminates more against southern cotton farms because their work season is shorter and less intensive than in the West. Still this bias would seem to
be at least considerably modified by the fact that Delta farms hire more than twice as much labor per farm as western farms.\textsuperscript{10}

Another bias in the plantation definition, but one that enhances rather than minimizes delta leadership, is the consideration of farms as supervisory, rather than ownership, units. But, without minimizing the handicap of being unable to obtain from the census information on farm size in terms of ownership, a case for the supervisory unit may also be argued on increasingly stronger grounds. The supervisory unit is becoming more and more a highly individualized economic unit as a growing number of large landowners al-

![Figure 2](image_url)

locate different farming operations among their various land units. Moreover, as cropper and other tenants leave the plantations, the supervisory unit comes closer to being the ownership unit as well. Of course owners have also purchased more land, and, in the process, have often acquired far-flung networks of properties. But this raises the more practical question of where one should draw the line in delimiting the plantation as a spatial unit. Fragmentation is certainly not unusual to plantations, but there would also seem to be a need for some boundary, beyond which a collection of spatial entities could no longer be logically called a plantation but a collection of plantations.\textsuperscript{11} Nor does the pattern of a fragmented ownership neces-


\textsuperscript{11} Prunty would consider fragmented holdings part of one plantation if (1) they were close enough together so that a central machinery pool could service them, and (2) their management were clearly centralized. He also notes that such fragmented complexes in the South, although "occurring often enough to be disturbing," are in the minority. Merle C. Prunty, "Some Problems in Classification of Contemporary Plantation Occupation Types," \textit{Memorandum Folio, S. E. Division, A.A.G.}, IX (1957), p. 84.
sarily correspond to the pattern of operational control by the owner, as leasing becomes more common. From these standpoints, at least, the plantation as defined by the immediate supervisor would appear to be closer to spatial reality than that based on ownership. Plantations, as presented here, were operated almost completely by owners, part owners, or managers.

To determine the number of plantations, the daily wage rate of a farm worker supplied with a house was multiplied consecutively by 26 (days), 12 (months), and 5 (workers) to obtain the annual amount paid five workers. This figure was then interpolated within wage-expenditure classes of farms, as provided by the agricultural census, to secure the total number of farms that were paying at least that amount.

**Plantation Acreage**

The 14,676,000 acres of farm land in cotton plantations were distributed about the same as the plantations (Figure 2). Some important nuances may be seen, however. Those states sharing the Delta area had only 31 per cent of all the farm land in plantations, compared with 55 percent of all the plantations. Texas, however, was again the state leader, and with a higher percentage of farm land than it had for plantations (38 vs. 31). This improvement, combined with the equally-improved status of California, Arizona, and New Mexico, gave the plantations in the drier West a heavy edge over the Delta states in acreage.

Acreage in plantations was obtained by assuming that plantations were the largest farms and then interpolating their position among the farm-size classes provided by the census for all cotton farms. To avoid the open-end acreage class for the largest farms, means of acreage classes for non-plantation farms were multiplied by the number of farms corresponding to each farm-size class, totaled, and then deducted from the total acreage in cotton farms.

Much plantation land is not cropland (Figure 3). The nadir is reached in Nevada and New Mexico, where lack of water was undoubtedly the main reason for only 10 to 15 per cent of the farm land being in cropland. Proportions were also low in the Southeast, ranging from 25 to 50 per cent. Even in Texas and the delta states, with the exception of Missouri and Kentucky whose share of delta plantations is quite small, cropland proportions were no more than 50 per cent. But not all non-cropland can be considered idle land, particularly on the cotton plantations in the humid eastern sections where additional income is obtained by pasturing woodland and cutting timber. The only state that had both a respectable number of plantations and well over half of its plantation land in cropland was California (66 per cent). Larger blocks of land suitable for cotton growing and an abundance of irrigation water are the main explanations for this high cultivation intensity.

Cropland acreage for cotton plantations was obtained in the same way as farm land acreage, except that plantations were matched with cropland-acreage classes instead of farm-size classes.

**Value of Products Sold by Plantations**

California has shown a considerably improved position in the distri-
bution of value of products sold by cotton plantations (Figure 4). Texas again led all states with 255 million dollars, but California was a respectable second with 207 million. Together, they yielded slightly more than half of the 901 million dollars worth of products sold by all cotton plantations. If Mississippi and Arkansas, two other outstanding producers, are added, the proportion of the 901 million increases to almost 80 per cent. On a more geographic basis, the huge totals of Texas and California, when compared with the respectable ones of New Mexico and Arizona, give the plantations of the arid and semiarid areas a definite margin over the Delta states. When the value of products sold is related to individual plantations, the Far Southwest stands out even more prominently, with California again the most conspicuous (Figure 5). Unlike the distribution pattern previously described, that of production value describes an uninterrupted gradient from the Pacific to the Atlantic. The gradient is steepest in the West, where production value per California plantation ($346,000) was more than twice that of the second-ranking state, Arizona ($155,000); it is at its shallowest in the three easternmost states of Georgia, South Carolina, and North Carolina, with values per farm ranging from $41,000 to $45,000.

Value of products sold by cotton plantations was computed on the basis of the ratio of cropland on cotton plantations to cropland on all cotton farms. All cotton farms that sold less than $10,000 worth of products were excluded from the computations, as they were throughout the study. Their number, in any case, was negligible.

**Plantation Size**

An east-west progression similar to that for plantation production value may be seen in plantation farm sizes, but with two major exceptions, Cali-
ifornia and Mississippi (Figure 6). Mean size of plantations in California (2,266 acres) was anywhere from one-fifth to one-half that of Nevada, Arizona, or New Mexico. Mississippi had a plantation mean of 850 acres, the smallest size of any of the states except Kentucky. Also like the average value of products sold per plantation, mean sizes show a large range, from the 4,200 acres of Nevada to the 830 acres of Kentucky. However, only two of the sixteen states with cotton plantations had a mean of less than 1,000 acres.

Since only a few large plantations can distort the average, a more realistic picture of plantation size can be obtained by securing the median (Figure 7). Median sizes were derived by interpolating the median number of plantations in each state within the proper farm-size classes. The result was considerably smaller sizes for most states, ranging from 2,000-acre median for Nevada to 600 acres for Kentucky. With a greater proportion of their plantations in the “exceptionally large” category, the four western states show the greatest variances between mean and median sizes. The median size of cotton plantations in California, 653 acres, and the smallest median for any state except Kentucky, was 75 per cent smaller than the mean. In Georgia, South Carolina, and North Carolina, on the other hand, the very large farms were apparently minor enough to allow median sizes to be slightly larger than means. Thus, contrary to the usual belief, the major cotton-producing states of California, Mississippi, and Arkansas have generally smaller plantations than those of the less important cotton states of Louisiana, Georgia, Oklahoma, Missouri, and the Carolinas.

**CONCLUSION: PLANTATIONS AND THE COTTON INDUSTRY**

When plantation data are related to those for all cotton farms, they show plantations to be an impressive part of the cotton economy, especially
in light of their minority position in numbers. Plantations in 1959 comprised less than 5 per cent of all cotton farms (and excluding cropper units). By states, the share was greater but still fairly small. In fifteen of the sixteen cotton states, plantations formed no more than 10 to 12 per cent of the farms (Figure 8). Moreover, the smallest shares were in the more traditional southern cotton areas, and this applied almost as much to the highly productive delta area as it did to the marginal Southeast. Plantations were relatively most important in the newer cotton areas of Arizona, New Mexico, and Nevada, but their combined number formed only 8 per cent of all the cotton plantations in the nation. Even in California, where much publicity has been given to its large cotton farms, plantations were but 12 per cent of the farms specializing in cotton.

![SHARE OF COTTON-FARM ACREAGE IN STATE](image)

Figure 9

In contrast are the positions of the plantation in total cotton-farm acreage and value of products sold by cotton farms. About a third of both were accounted for by plantations. By states, these proportions increase still more, with plantations in some states accounting for as much as 60 to 80 per cent of the acreage and 45 to 75 percent of the value of products sold (Figures 9-10). And although, like plantation numbers, the smallest shares for these two categories were in the Southeast, the shares in the Delta area were considerably higher. However, the relative importance of plantations was again greatest in the states from New Mexico westward. In California, plantation production was so intensive that it accounted for two-thirds of all the value of products sold by cotton farms in the state. In no other state was the disparity between plantation numbers and productivity so great.
Figure 12

Comparison with all cotton farms in state in respective national rankings: farm land acreage.

- 3-5% higher
- About the same
- 2-3% lower
- 5%

Figure 13

Comparison with all cotton farms in state in respective national rankings: value of products sold.

- 10% higher
- 2-3%
- About the same
- 2-3% lower
- 5%
A comparison of the national rankings of cotton plantations and all cotton farms also illustrates the significance of the larger farms. This is represented (Figures 11-13) as the differences between the shares which each farm group had of its national total.

Plantations in the leading cotton states were generally more dominant among all plantations than were all cotton farms in those states among the nation's cotton farms. Conversely, plantations in the less important cotton states were generally inferior to all cotton farms in national rankings. Disparities between the two farm groups, however, were less in acreage and value of products sold than they were in number of farms, reflecting both the greater number and intensity of production on small farms. These two characteristics were emphatic enough to assign to Texas plantations a negative disparity which exceeded that of any other state.