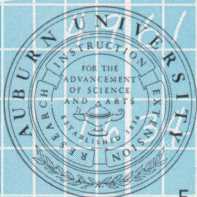PENSES

INCOME

**BULLETIN 330
NOVEMBER 1960**

preparation   4 2 3

value of peanuts   13

ng + fertil.   2 5 8

value of hay

a + weeding   3 8 1

vating   5 3 9

t + disease
ol mat'ls.   4 2 5

fertilizer
erial
d

# COSTS
# AND
# RETURNS

## OF PRODUCING RUNNER PEANUTS
## IN SOUTHEASTERN ALABAMA

dying insect
se control mat.   1 1 0

rest on fertil,
poison   6 4

l charge   7 5 0

pre-harvest

st operation

ting costs   2 0 6

# AUBURN UNIVERSITY

Total returns   1 4

**AGRICULTURAL
EXPERIMENT
STATION**

total costs
per acre   6

E. V. Smith, Director      Auburn, Alabama

costs
acre   6 8 0 1

net return
per acre   7

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*Page*

# Costs and Returns of Producing Runner Peanuts in Southeastern Alabama*

JACK S. ROSS, *Assistant in Agricultural Economics*\*\*
J. H. YEAGER, *Agricultural Economist*

P EANUT PRODUCTION has been subject to acreage controls and marketing quotas since passage of the Agricultural Adjustment Act of 1938, except for the war and post-war years of 1943-48. Because of acreage allotments, only limited adjustments could be made in size of peanut enterprise on an individual farm to increase production efficiency.

Since farmers are unable to increase acreage of peanuts, they need other means of improving efficiency and increasing profits. This calls for producing high yields without excessive production costs. To provide needed information on production costs and returns from peanuts, a study was carried out by the Auburn University Agricultural Experiment Station in the peanut-producing area of southeastern Alabama.

Objectives of the study were to determine (1) physical and dollar value of inputs (costs) and returns, (2) the relationship of size of peanut enterprises and factors associated with size to costs and returns, and (3) the means by which certain growers have become more efficient than others.

## EXPERIMENTAL PROCEDURE

Data were obtained by personal interview with 79 peanut growers in southeastern Alabama during the summer of 1958.

Growers interviewed were located in the following counties: 15 in Butler, 15 in Dale, 26 in Geneva, and 23 in Henry. The sample was drawn by list sampling methods from acreage records of peanut producers in the Agricultural Stabilization and Conservation State Office, Montgomery.

Each grower's peanut enterprise was classified according to the following size groups: small, less than 10 acres; medium, 10 through 29.9 acres; or large, 30 acres or more.

Simple rather than weighted averages were used in arriving at average man-hours, costs, and net returns for groups of farms. The analysis presents a farm picture of what costs and returns were in producing peanuts along with associated factors of labor used, size of peanut enterprise, and method of harvest.

Practically all costs of producing peanuts were included. Values were placed on family and operator's labor used according to "going" wage rates in the area. (See Appendix for method used in arriving at various costs.) Net return, as calculated, represents profit or return to the farm operator for his management, since all labor and capital costs were included.

## DESCRIPTION of FARMS

The average cropland of the 79 farms was 135 acres, but half had less than 100 acres. Seventy-three per cent grew cotton and 97 per cent grew corn. Average cotton acreage per farm reporting was 19.4 and corn, including that hogged, was 68.8 acres. Yields reported by farmers for 1955 through 1957 averaged 415 pounds of lint cotton and 28 bushels of corn per acre. Nearly half of the growers planted oats in 1957. A large part of this crop was planted following peanuts.

Seventy-nine per cent of the farmers reported hogs and 37 per cent beef cattle as major livestock enterprises.

Thirty per cent of the farmers were full owners, 47 per cent part-owners (rented land from others in addition to that owned), and 23 per cent were tenants. No sharecroppers were included in the study.

The average age of farm operators was 45 years. Twenty-seven per cent were 56 or older, with 29 per cent having completed 11 or more grades of school.

Generally, as age of farm operators increased the number of school grades completed decreased. Also, level of formal educa-

tion was associated with size of peanut enterprises. Farmers with large peanut enterprises averaged 9.9 years of formal education. Those with medium-sized enterprises averaged 8.5 years, and those with small enterprises averaged 7.5 years of formal education.

## THE PEANUT ENTERPRISE

Acreage of peanuts harvested in 1958 varied from 2.7 to 233 acres per farm. The average was 33.4 acres. Average yields of peanuts were reported for the period 1955 through 1957. The range in yields was from 700 to 2,200 pounds per acre with an overall average of 1,280 pounds per acre. Average yields by size of enterprise were: small, 1,251 pounds per acre; medium, 1,276 pounds; and large, 1,310 pounds per acre.

Peanut hay was saved on only 54 per cent of the peanut acreage harvested, although 61 out of 79 farmers reported saving some hay. Farmers with small peanut enterprises saved hay from a larger portion of their acreage harvested than did those with medium and large enterprises. Fourteen farmers reported selling peanut hay in 1957. Average amount sold per farm was 6.9 tons. Average yield of hay reported for 1955-57 was highly variable.

Forty-six per cent of the farmers reported some peanuts planted for hogging purposes. The average was 8.2 acres per farm reporting. Hogs were used to glean peanut fields after harvest by two-thirds of the farmers, but on only 50 per cent of the harvested acreage.

Fifty-seven per cent of the farmers (with 28 per cent of the peanut acreage) hired the picking of peanuts on a custom basis. A stationary picker was used on 78 per cent of the farms and 60 per cent of the acreage where custom picking was hired. Pull-type pickers or combines were used on the remaining 22 per cent of farms.

Among peanut producers who owned picking machines, the type machine used varied somewhat from those for custom use. Pull-type pickers were used by 44 per cent of the farmers that owned picking machines, stationary pickers by 35 per cent, and combines by 21 per cent. The corresponding portion of acreage picked by type machine when machines were owned was 50, 22, and 28 per cent. In total, stationary pickers were used by 60 per cent of the farmers to harvest 33 per cent of the acreage, pull-type pickers by 24 per cent to harvest 40 per cent of the acreage, and

combines by 16 per cent of the farmers to harvest 27 per cent of the acreage. Thus, 60 per cent of the growers stacked peanuts and 40 per cent harvested from windrows or piles. The acreage harvested from windrows or piles, however, represented 67 per cent of the total.

## SIZE of PEANUT FIELDS

Size of peanut field influences unit time requirements for the various operations in peanut production. For example, a large field normally requires less time per acre per cultivation than a small one. However, other factors, such as shape of field, length of rows, size of equipment, topography, number of terraces, soil type, and condition and stage of crop growth, affect the speed of cultivation and other operations.

Results of the investigations of various relationships with size are presented on the basis of size of peanut enterprise rather than size of fields. The data, however, were obtained on a field basis. Fields were selected as representative of the size of peanut enterprise on farms included in the sample. As a rule, farmers with small peanut enterprises had small fields and those with large enterprises had large fields.

Peanut fields varied in size from ½ to 55 acres. The average was 10 acres. On farms with small peanut enterprises, 87 per cent of the fields were less than 6 acres, Table 1. On large peanut enterprise farms, 76 per cent of the fields were 6 acres or larger.

TABLE 1. DISTRIBUTION OF SIZE OF PEANUT FIELDS IN RELATION TO SIZE OF PEANUT ENTERPRISE, 79 FARMS IN SOUTHEASTERN ALABAMA, 1958

| Size of field | Percentage of various size peanut fields on farms with different size peanut enterprises[1] | | |
| | Small | Medium | Large |
|---|---|---|---|
| *Acres* | *Per cent* | *Per cent* | *Per cent* |
| Less than 3.0 | 33 | 9 | 6 |
| 3.0- 5.9 | 54 | 35 | 18 |
| 6.0- 8.9 | 13 | 26 | 20 |
| 9.0-11.9 | 0 | 19 | 9 |
| 12.0-14.9 | 0 | 5 | 12 |
| 15.0-17.9 | 0 | 3 | 13 |
| 18.0 and over | 0 | 3 | 22 |
| TOTAL | 100 | 100 | 100 |
| Average field size, acres | 3.7 | 7.3 | 13.2 |
| Average number of fields | 1.4 | 3.2 | 5.0 |
| Number of farms | 27 | 23 | 29 |

[1] Small enterprises, less than 10 acres; medium, 10 to 29.9 acres; and large, 30 acres or over.

Fields in which combines or pull-type pickers were used to harvest peanuts averaged almost twice as large as those in which stationary pickers were used. Also, farmers who used machinery throughout in producing peanuts, or used workstock for cultivating only, had an average peanut field size of 10.5 acres compared with 3.8 acres for farmers who used workstock for all operations.

## TIME REQUIREMENTS

### Mechanized or Partially-Mechanized Farms

For purposes of this study, partially-mechanized farms are those on which growers used workstock in cultivating peanuts and tractor equipment for other operations. Only six growers

TABLE 2. AVERAGE MAN AND TRACTOR HOURS PER ACRE IN RELATION TO SIZE OF PEANUT ENTERPRISE, 69 MECHANIZED OR PARTIALLY-MECHANIZED FARMS, SOUTHEASTERN ALABAMA, 1958

| Operation | Man and tractor hours per acre, by size of peanut enterprise | | | Total or average |
| --- | --- | --- | --- | --- |
| | Small | Medium | Large | |
| | *Hours* | *Hours* | *Hours* | *Hours* |
| **Labor** | | | | |
| Pre-harvest | | | | |
| Land preparation[1] | 3.0 | 3.3 | 2.7 | 3.0 |
| Planting and fertilizing | 1.8 | 2.2 | 2.1 | 2.1 |
| Hoeing and hand weeding | 15.4 | 10.5 | 10.8 | 12.0 |
| Cultivating | 5.4 | 4.1 | 3.6 | 4.3 |
| Applying insect and disease control materials | .6 | .6 | .5 | .6 |
| TOTAL | 26.2 | 20.7 | 19.7 | 22.0 |
| Harvest and marketing | | | | |
| Harvesting[2] | 29.0 | 21.8 | 13.3 | 20.2 |
| Marketing | 1.9 | 1.6 | 1.7 | 1.7 |
| TOTAL | 30.9 | 23.4 | 15.0 | 21.9 |
| TOTAL MAN-HOURS | 57.1 | 44.1 | 34.7 | 43.9 |
| **Tractor use** | | | | |
| Pre-harvest | 7.7 | 8.5 | 7.0 | 7.6 |
| Harvest | 3.3 | 2.8 | 2.4 | 2.8 |
| TOTAL TRACTOR HOURS | 11.0 | 11.3 | 9.4 | 10.4 |
| Number of farms | 19 | 21 | 29 | 69 |
| Average acres of peanuts | 5.7 | 24.5 | 65.5 | 36.5 |
| Average acres per field | 3.9 | 7.4 | 13.2 | 10.5 |

[1] Includes such operations as cutting stalks, breaking, and harrowing land.
[2] When a stationary picker was used, the time included digging, shaking, and stacking in addition to picking. When a pull-type picker or combine was used, the time included digging, shaking, and windrowing or piling in addition to picking or combining.

were in this category. Farmers who used tractor power in all operations were classified as mechanized.

Farmers with large peanut enterprises (30 acres or more) averaged using fewer man-hours in both pre-harvest and harvest operations than did farmers with medium (10-29.9 acres) or small (less than 10 acres) enterprises, Table 2. Differences in man-hours among size of enterprise groups were greater for harvest than for pre-harvest operations. This was the result of method of harvest used.

Twenty-one out of 29 (72 per cent) of farmers in the large enterprise group used combines or pull-type pickers. This compares with 15 per cent of the small peanut enterprise farmers and 30 per cent of the medium-sized group.

Total man-hours per acre for all operations were 57 for small, 44 for medium, and 35 for large enterprises. Thus, farmers with large peanut enterprises spent only 61 per cent as much time in producing an acre of peanuts as did farmers with small enterprises.

As an average on all mechanized or partially-mechanized farms, 50 per cent of total man-hours were for pre-harvest and 50 per cent were for harvest. An average of 12 man-hours per acre was used in hoeing or hand weeding. Total tractor hours for all operations averaged 10.4 per acre.

Man-hours used per acre in land preparation, planting, fertilizing, cultivating, hoeing, and harvesting declined as size of peanut enterprises increased, Figures 1 and 2. For each 10-acre increase in size of enterprise, average man-hours decreased as follows:

| *Job* | *Decrease in man-hours for every 10-acre increase* |
|---|---|
| Land preparation, planting, fertilizing, and cultivating | 0.4* |
| Hoeing | .9* |
| Harvesting | 2.6* |
| Total Man-Hours | 3.9* |

\* Significant at 1 per cent probability level.

Tractor hours used per acre also declined as size of enterprise increased, Figure 3. For every increase of 10 acres in size of enterprise, there was a decrease of 0.4 hour of tractor use per acre.

Differences in man-hours used in harvesting peanuts were greater between farmers using stationary pickers and pull-type
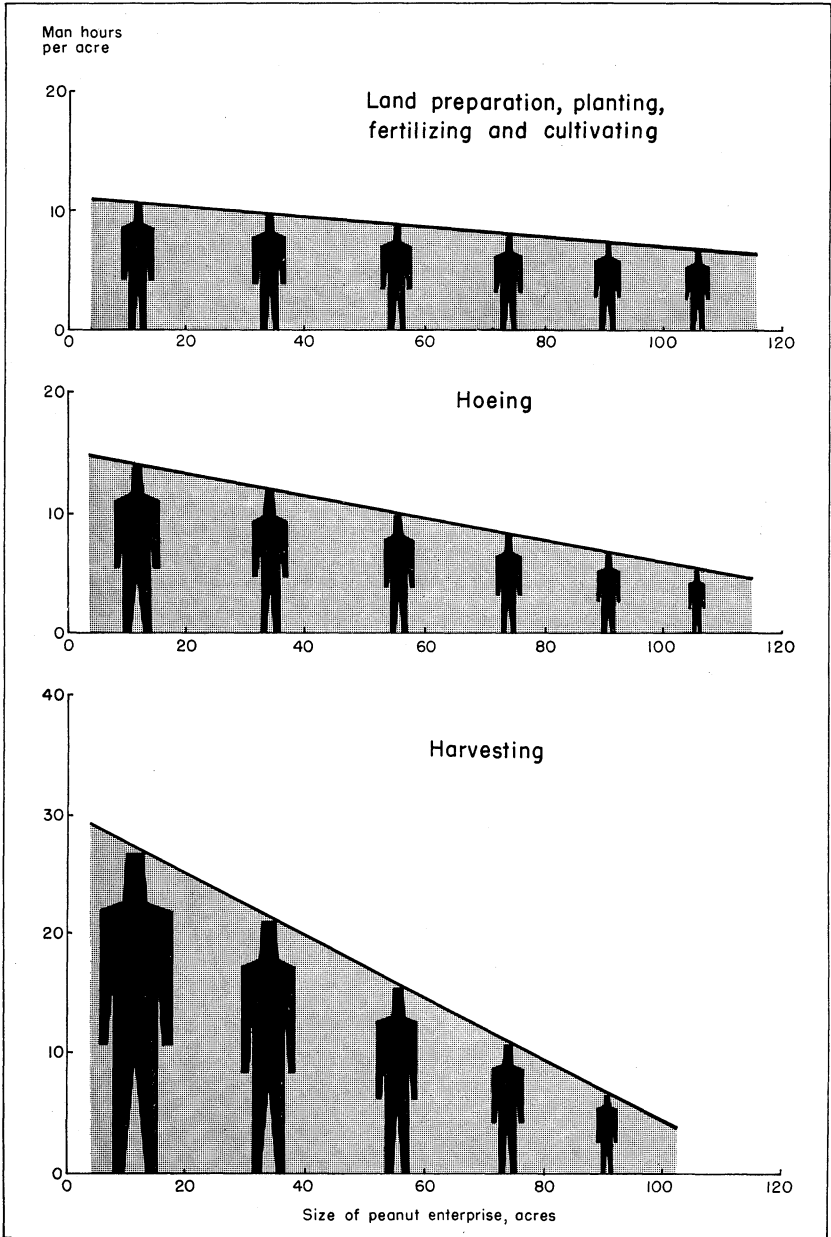
FIG. 1. Man-hours per acre for land preparation, planting, fertilizing, cultivating, hoeing, and harvesting decrease as size of peanut enterprise increases. This relationship on 67 farms in southeastern Alabama in 1958 is illustrated above for the different operations in peanut production.
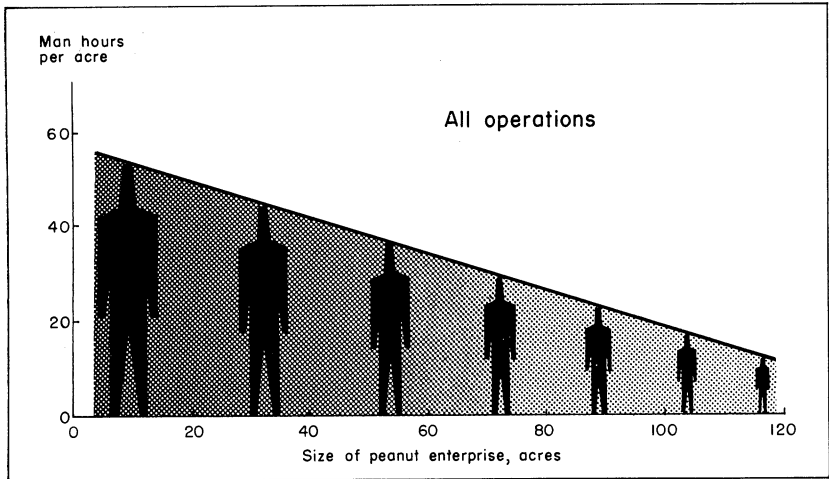
FIG. 2. As size of peanut enterprise increases, man-hour requirements per acre decrease, as shown above for 67 farms in southeastern Alabama in 1958.

pickers or combines than among size-of-enterprise groups, Table 3. Only 33 per cent as many man-hours were used in harvesting operations by those who used pull-type pickers or combines as by those who used stationary pickers. Total man-hours per acre for all operations was 47 per cent less for the pull-type picker or combine group than for the stationary picker group.
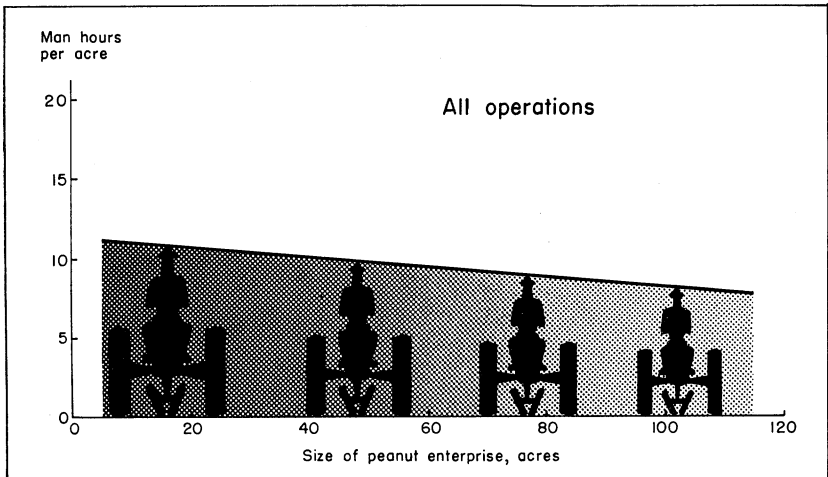


FIG. 3. Relationship of total tractor hours per acre to size of peanut enterprise, illustrated by the graph, shows that tractor hours decrease as peanut acreage increases. Data are from 67 farms in southeastern Alabama in 1958.

TABLE 3. AVERAGE MAN AND TRACTOR HOURS PER ACRE ACCORDING TO METHOD
OF HARVESTING PEANUTS, 69 MECHANIZED OR PARTIALLY-MECHANIZED
FARMS, SOUTHEASTERN ALABAMA, 1958

| Operation | Man and tractor hours per acre, by harvest method | | Total or average |
|---|---|---|---|
| | Stationary picker | Pull-type picker or combine | |
| | Hours | Hours | Hours |
| **Labor** | | | |
| Pre-harvest | | | |
| Land preparation[1] | 3.3 | 2.6 | 3.0 |
| Planting and fertilizing | 2.3 | 1.8 | 2.1 |
| Hoeing and hand weeding | 13.8 | 9.9 | 12.0 |
| Cultivating | 5.2 | 3.2 | 4.3 |
| Applying insect and disease control materials | .6 | .5 | .6 |
| TOTAL | 25.2 | 18.0 | 22.0 |
| Harvest and marketing | | | |
| Harvesting[2] | 29.2 | 9.8 | 20.2 |
| Marketing | 1.4 | 2.0 | 1.7 |
| TOTAL | 30.6 | 11.8 | 21.9 |
| TOTAL MAN-HOURS | 55.8 | 29.8 | 43.9 |
| **Tractor use** | | | |
| Pre-harvest | 8.2 | 7.0 | 7.6 |
| Harvest | 3.1 | 2.4 | 2.8 |
| TOTAL TRACTOR HOURS | 11.3 | 9.4 | 10.4 |
| Number of farms | 37 | 32 | 69 |
| Average acres of peanuts | 22.7 | 52.6 | 36.5 |
| Average acres per field | 7.6 | 12.9 | 10.5 |

[1] Includes such operations as cutting stalks, breaking, and harrowing land.

[2] When a stationary picker was used, the time included digging, shaking, and stacking in addition to picking. When a pull-type picker or combine was used, the time included digging, shaking, and windrowing or piling in addition to picking or combining.

Growers who used pull-type pickers or combines also averaged fewer tractor hours per acre for both pre-harvest and harvest operations than did growers who used stationary pickers.

Reduction of man-hours in harvest operations is important to growers. Peak demands for labor occur at this season of the year. Furthermore, farm wage rates are normally higher during the harvest season than at other times during the year.

## Workstock Farms

Ten farmers used workstock as their source of power in producing peanuts for all operations except picking. These farmers hired peanut picking on a custom basis. Stationary pickers were

TABLE 4. AVERAGE MAN-HOURS PER ACRE FOR VARIOUS OPERATIONS IN PRODUCING PEANUTS, 10 WORKSTOCK FARMS, SOUTHEASTERN ALABAMA, 1958

| Operation | Average man-hours per acre | Percentage of total |
|---|---|---|
| | *Hours* | *Per cent* |
| Pre-harvest | | |
| Land preparation | 10.8 | 11.6 |
| Planting and fertilizing | 5.3 | 5.7 |
| Hoeing and hand weeding | 18.5 | 19.9 |
| Cultivating | 13.7 | 14.8 |
| TOTAL | 48.3 | 52.0 |
| Harvest and marketing | | |
| Harvesting[1] | 42.1 | 45.4 |
| Marketing | 2.4 | 2.6 |
| TOTAL | 44.5 | 48.0 |
| TOTAL MAN-HOURS | 92.8 | 100.0 |

[1] Includes plowing up, shaking, stacking around poles, and picking.

used in all cases. The 10 peanut producers using workstock had 16 fields, averaging 3.8 acres.

Total man-hours per acre used in producing peanuts on workstock farms were more than twice as great as the average for mechanized or partially-mechanized farms (92.8 compared with 43.9), Table 4. In all operations, farmers using workstock took a longer time than did farmers using tractors. Workstock farmers also spent over 50 per cent more time hoeing and hand weeding than did tractor farmers. No workstock farmers reported applying any insect or disease control material.

## COSTS of PRODUCTION

### Mechanized or Partially-Mechanized Farms

Total costs of producing peanuts were $90.40, $80.45, and $68.01 per acre on farms with small, medium, and large peanut enterprises, respectively, Table 5. The difference in total costs per acre between large and small peanut enterprises was not as great as the difference in total man-hours used.

Farmers with large enterprises used more fertilizer and seed per acre. Also, they spent more on insect and disease control materials than did farmers with medium and small enterprises. Method of harvest was the major factor accounting for lower costs per acre for large peanut enterprises.

As an average, for every 10-acre increase in size of peanut enterprise, total costs decreased $2.40 when peanuts were harvested

TABLE 5. AVERAGE COSTS PER ACRE OF PRODUCING PEANUTS IN RELATION TO SIZE
OF ENTERPRISE, 69 MECHANIZED OR PARTIALLY-MECHANIZED FARMS,
SOUTHEASTERN ALABAMA, 1958

| Cost item | Per acre costs, by size of peanut enterprise | | | Total or average |
|---|---|---|---|---|
| | Small | Medium | Large | |
| | *Dollars* | *Dollars* | *Dollars* | *Dollars* |
| Pre-harvest | | | | |
| Land preparation[1] | 6.48 | 6.73 | 4.23 | 5.61 |
| Planting and fertilizing | 3.35 | 3.74 | 2.58 | 3.15 |
| Hoeing and hand weeding | 5.66 | 3.79 | 3.81 | 4.32 |
| Cultivating | 9.86 | 7.64 | 5.39 | 7.31 |
| Applying insect and disease control materials | 1.56 | 1.34 | 1.10 | 1.33 |
| All fertilizer materials | 6.84 | 8.19 | 9.86 | 8.52 |
| Seed | 8.21 | 9.31 | 10.25 | 9.40 |
| Insect and disease control materials | 2.86 | 3.18 | 4.25 | 3.46 |
| Interest on fertilizer, seed, and poison materials[2] | .48 | .58 | .64 | .58 |
| Land charge | 7.50 | 7.50 | 7.50 | 7.50 |
| TOTAL PRE-HARVEST | 52.80 | 52.00 | 49.61 | 51.18 |
| Harvest operation | 34.64 | 26.71 | 16.34 | 24.54 |
| Marketing[3] | 2.96 | 1.74 | 2.06 | 2.07 |
| TOTAL COSTS | 90.40 | 80.45 | 68.01 | 77.79 |
| Number of farms | 19 | 21 | 29 | 69 |
| Average acres of peanuts | 5.7 | 24.5 | 65.5 | 36.5 |
| Average acres per field | 3.9 | 7.4 | 13.2 | 10.5 |

[1] Includes cutting stalks, breaking, and disking land.
[2] Charged at 3 per cent for 6 months.
[3] Does not include growers who had peanuts harvested on a custom basis. In such cases, marketing costs are included in harvest operations costs.

with a combine or pull-type picker, Figure 4. When harvested with a stationary picker, the decrease in costs was $3.30 for every 10-acre increase, Figure 5. There was little difference in relationship between total costs per acre and size of enterprises when peanuts were harvested by farmers with their own machines and when harvesting was done on a custom-hire basis.
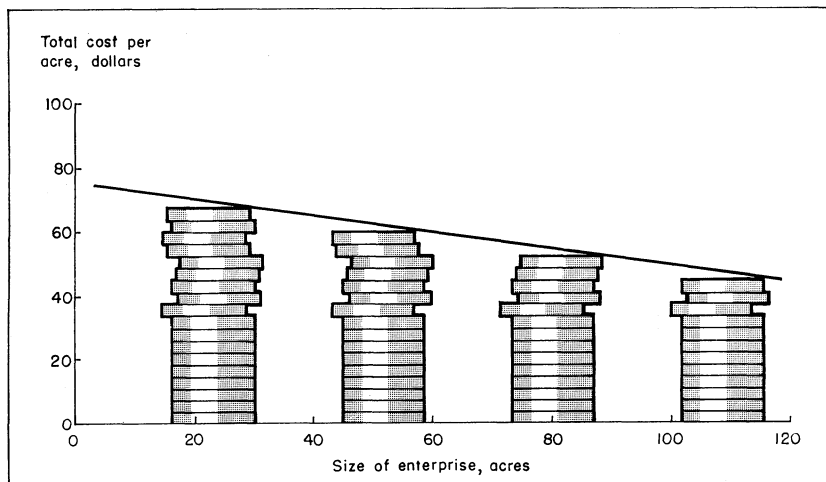


FIG. 4. Total cost per acre for producing peanuts on farms where combine or pull-type picker was used decreased as size of enterprise increased. This is shown by the graph from 1958 data on 30 farms in southeastern Alabama.
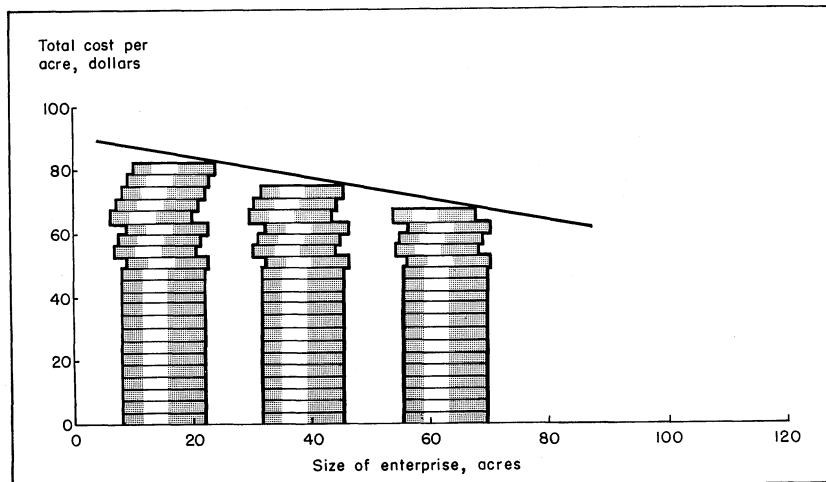


FIG. 5. Relationship of total cost per acre to size of peanut enterprise for farmers using a stationary picker for harvesting is illustrated here. Cost decreased as acreage increased on the 37 southeastern Alabama farms in 1958.

TABLE 6. AVERAGE COST PER ACRE OF PRODUCING PEANUTS ACCORDING TO
METHOD OF HARVEST, 69 MECHANIZED OR PARTIALLY-MECHANIZED
FARMS, SOUTHEASTERN ALABAMA, 1958

| Cost item | Per acre cost, by harvest method | | Total or average |
|---|---|---|---|
| | Stationary picker | Pull-type picker or combine | |
| | *Dollars* | *Dollars* | *Dollars* |
| Pre-harvest | | | |
| Land preparation[1] | 6.53 | 4.54 | 5.61 |
| Planting and fertilizing | 3.74 | 2.46 | 3.15 |
| Hoeing and hand weeding | 5.17 | 3.32 | 4.32 |
| Cultivating | 9.12 | 5.21 | 7.31 |
| Applying insect and disease control materials | 1.43 | 1.16 | 1.33 |
| All fertilizer materials | 7.21 | 10.04 | 8.52 |
| Seed | 8.83 | 10.06 | 9.40 |
| Insect and disease control materials | 3.51 | 3.40 | 3.46 |
| Interest on fertilizer, seed, and poison material[2] | .53 | .64 | .58 |
| Land charge | 7.50 | 7.50 | 7.50 |
| TOTAL PRE-HARVEST | 53.57 | 48.33 | 51.18 |
| Harvest operation | 31.49 | 16.50 | 24.54 |
| Marketing[3] | 1.99 | 2.12 | 2.07 |
| TOTAL COSTS | 87.05 | 66.95 | 77.79 |
| Number of farms | 37 | 32 | 69 |
| Average acres of peanuts | 22.7 | 52.6 | 26.5 |
| Average acres per field | 7.6 | 12.9 | 10.5 |

[1] Includes cutting stalks, breaking, and disking land.
[2] Charged at 3 per cent for 6 months.
[3] Does not include growers who had peanuts harvested on a custom basis. In such cases, marketing costs are included in harvest operations costs.

Total harvest costs per acre for farmers using combines or pull-type pickers were 56 per cent as great as for those using stationary pickers, Table 6. In other words, farmers who used combines or pull-type pickers harvested the equivalent of 1.8 acres for the same costs as harvesting 1 acre with a stationary picker.

Harvest operations accounted for 38 per cent of total costs per acre on small peanut enterprise farms, 33 per cent on medium, and 24 per cent on large. Comparisons between method of harvest groups showed that harvest costs equaled 36 per cent of total costs on farms using stationary pickers and 25 per cent on farms using pull-type pickers or combines.

## Workstock Farms

Total costs per acre were almost 59 per cent greater for workstock than for mechanized or partially-mechanized farms, Table

TABLE 7. AVERAGE COSTS PER ACRE OF PRODUCING PEANUTS, 10 WORKSTOCK
FARMS, SOUTHEASTERN ALABAMA, 1958

| Cost item | Average cost per acre | Percentage of total |
|---|---|---|
| | *Dollars* | *Per cent* |
| Pre-harvest | | |
| Land preparation[1] | 18.99 | 15.4 |
| Planting and fertilizing | 6.97 | 5.7 |
| Hoeing and hand weeding | 7.21 | 5.9 |
| Cultivating | 24.05 | 19.6 |
| All fertilizer materials | 6.10 | 5.0 |
| Seed | 8.74 | 7.1 |
| Interest on fertilizer and seed purchased[2] | .43 | -- |
| Land charge | 7.50 | 6.1 |
| TOTAL PRE-HARVEST | 79.99 | 64.8 |
| Harvest and marketing[3] | 43.40 | 35.2 |
| TOTAL PER ACRE | 123.39 | 100.0 |

[1] Includes cutting stalks, breaking land, and row preparation.
[2] Charged at 3 per cent for 6 months.
[3] Includes plowing-up, shaking, stacking, picking, and marketing of peanuts.

7. All individual costs except fertilizer, seed, and interest on fertilizer and seed purchased were higher for workstock than for mechanized or partially-mechanized farms. Workstock farmers had no insect or disease control costs since no insecticides or disease control materials were used. Land was charged at the same rate on all farms.

Harvesting accounted for 35 per cent of total costs. Cultivating was the most important pre-harvest cost.

## NET RETURNS

Net returns were derived by subtracting total costs of production, as calculated, from gross returns. Gross returns were based on average yield of peanuts reported by growers for 1955-57 at the price per pound for the quality of peanuts produced. Regardless of whether hay was actually saved, a credit was given for hay. Hay yields were reported by a number of farmers. For those who did not report yields, amount of hay was estimated in relation to quantity of peanuts produced. Baled hay was valued at $18 per ton and loose hay, including the value of that returned to the soil, at $12 per ton. Cost of baling was included in production costs when hay was baled.

### Mechanized or Partially-Mechanized Farms

For producers with large peanut enterprises, average net return per acre was 56 per cent greater than for those with small

TABLE 8. AVERAGE NET RETURN PER ACRE AND PER TON OF PEANUTS IN RELATION TO SIZE OF ENTERPRISE, 69 MECHANIZED OR PARTIALLY-MECHANIZED FARMS, SOUTHEASTERN ALABAMA, 1958

| Return item | Average net return per acre, by size of peanut enterprise | | | Total or average |
|---|---|---|---|---|
| | Small | Medium | Large | |
| | Dollars | Dollars | Dollars | Dollars |
| Value of peanuts | 123.77 | 125.03 | 130.08 | 126.88 |
| Value of hay | 15.95 | 12.41 | 14.90 | 14.03 |
| Total return | 139.72 | 137.44 | 144.98 | 140.91 |
| Total costs per acre[1] | 90.40 | 80.45 | 68.01 | 77.79 |
| Net returns per acre | 49.32 | 56.99 | 76.97 | 63.12 |
| Average costs per ton | 141.69 | 124.44 | 103.83 | 120.05 |
| Net returns per ton | 77.31 | 94.15 | 117.53 | 97.41 |
| Farms, number | 19 | 21 | 29 | 69 |
| Average peanut yield per acre, pounds[2] | 1,276 | 1,293 | 1,310 | 1,296 |
| Average value of peanuts per pound, dollars | 0.0970 | 0.0967 | 0.0993 | 0.0979 |
| Average hay yield per acre, pounds[2] | 1,833 | 1,495 | 2,014 | 1,754 |
| Average value of hay per pound, dollars | 0.0087 | 0.0083 | 0.0074 | 0.0080 |

[1] From Table 5.

[2] Average of yields for 1955, 1956, and 1957.

enterprises, Table 8. The difference in net returns per acre among size of enterprise groups was not solely a result of differences in yield. It was caused largely by lower production costs of farmers with large peanut enterprises. Net return per ton averaged $77.31, $94.15, and $117.53 for producers with small, medium, and large enterprises on mechanized or partially-mechanized farms.

Thirty-seven mechanized or partially-mechanized peanut producers who harvested with stationary pickers had an average net return per acre of $52.30, compared with $74.82 for those using pull-type pickers or combines, Table 9. There was a difference of only 42 pounds per acre in average yield between the two groups.

Gross receipts and net returns per acre were closely related to yields. For every 100-pound increase in yield, there was an increase of $13.55 in gross receipts per acre for farmers who used combines or pull-type pickers, Figure 6. Added cost for this increase in yield was only 50 cents per acre. Thus, net return per acre increased $13.05 for every 100-pound increase in yield.

For farmers who used a stationary picker, gross receipts per

TABLE 9. AVERAGE NET RETURN PER ACRE AND PER TON OF PEANUTS ACCORDING
TO METHOD OF HARVEST USED, 69 MECHANIZED OR PARTIALLY-MECHANIZED
FARMS, SOUTHEASTERN ALABAMA, 1958

| Return item | Average net return per acre, by harvest method | | Total or average |
| --- | --- | --- | --- |
| | Stationary picker | Pull-type picker or combine | |
| | *Dollars* | *Dollars* | *Dollars* |
| Value of peanuts | 123.77 | 130.35 | 126.88 |
| Value of hay | 15.58 | 11.42 | 14.03 |
| Total return | 139.35 | 141.77 | 140.91 |
| Total costs per acre[1] | 87.05 | 66.95 | 77.79 |
| Net returns per acre | 52.30 | 74.82 | 63.12 |
| Average costs per ton | 136.44 | 101.59 | 120.05 |
| Net returns per ton | 81.97 | 113.54 | 97.41 |
| Farms, number | 37 | 32 | 69 |
| Average peanut yield per acre, pounds[2] | 1,276 | 1,318 | 1,296 |
| Average value of peanuts per pound, dollars | 0.0970 | 0.0989 | 0.0979 |
| Average hay yield per acre, pounds[2] | 1,731 | 1,903 | 1,754 |
| Average value of hay per pound, dollars | 0.0090 | 0.0060 | 0.0080 |

[1] From Table 6.

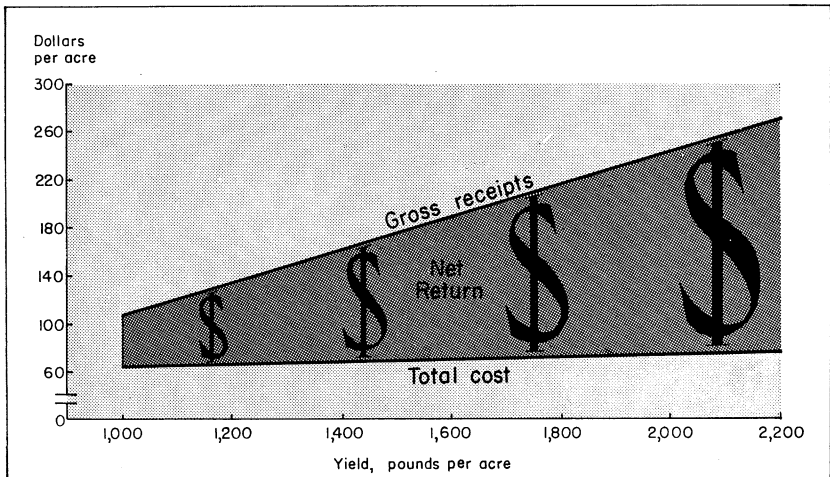[2] Average of yields for 1955, 1956, and 1957.



FIG. 6. Since total production costs are about the same regardless of yield, gross receipts and net returns become greater as yield increases. The relationship of gross receipts, total cost, and net return per acre to yield is illustrated in the graph for 30 farms in southeastern Alabama on which a combine or pull-type picker was used for harvesting peanuts in 1958.
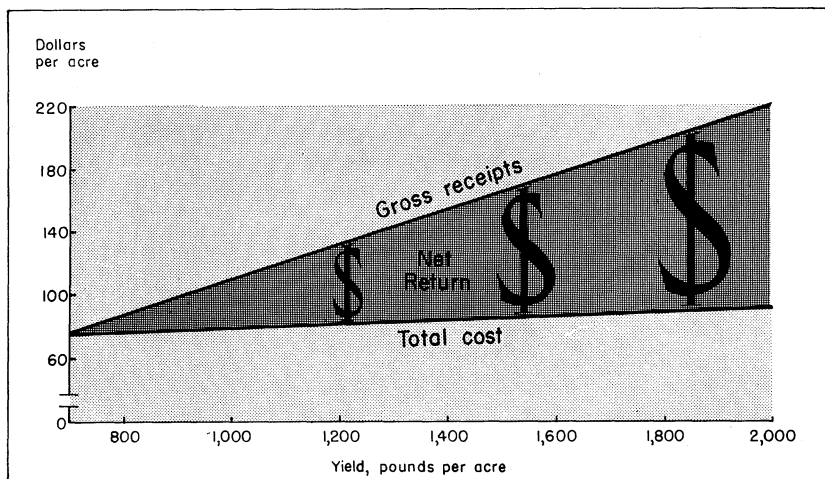
FIG. 7. Relationship of gross receipts, total cost, and net return per acre to yield is shown above for 37 farms in southeastern Alabama on which a stationary peanut picker was used in 1958. Highest net returns were realized on farms that had the greatest per acre yield, as shown by the graph.

acre increased $10.72 and total costs increased only $1.13 per acre for every 100-pound increase in yield, Figure 7. Thus, net return increased $9.59 per acre for every 100-pound increase in yield.

## Workstock Farms

Seven of the 10 producers who used workstock as their major source of power in producing peanuts had a negative net return per acre. Average for the 10 producers was −$2.65 per acre or −$4.51 per ton, Table 10. Yields of peanuts on these farms were lower than the average on mechanized or partially-mechanized farms. The difference in yields, nevertheless, did not account for a major part of the large difference in net returns per acre or per ton. Of major importance was the difference in per acre costs of production.

The negative net return per acre or per ton did not mean that producers lost money, since family labor was included in production costs. All labor used in producing peanuts was charged against the enterprise at prevailing rates in the area. Even though the 10-farm average showed a negative net return for peanut production, all expenses except labor costs were covered.

TABLE 10.  AVERAGE NET RETURN PER ACRE AND PER TON OF PEANUTS,
10 WORKSTOCK FARMS, SOUTHEASTERN ALABAMA, 1958

| Return item | Average net return |
|---|---|
| | *Dollars* |
| Value of peanuts | 105.89 |
| Value of hay | 14.85 |
| Total return | 120.74 |
| Total costs per acre[1] | 123.39 |
| Net returns per acre | −2.65 |
| Average costs per ton | 210.20 |
| Net returns per ton | −4.51 |
| Average peanut yield per acre, pounds[2] | 1,174 |
| Average value of peanuts per pound, dollars | 0.0902 |
| Average hay yield per acre, pounds[2] | 1,650 |
| Average value of hay per pound, dollars | 0.0090 |

[1] From Table 7.
[2] Average of yields for 1955, 1956, and 1957.

## COST and NET RETURNS COMPARISONS
## by HARVEST MACHINE USED

Harvest and total man-hours per acre were least for farmers who used combines and pull-type pickers as compared with stationary pickers, Table 11. The same was true for harvest costs and total costs per acre. Average yields per acre were not greatly different according to type of harvest machine used. Size of peanut enterprise, however, was twice as large for farmers who used combines as those that used a stationary picker. Net returns per acre and per ton were highest for farmers who used peanut combines.

Farmers who hired picking on a custom basis had smaller acreages of peanuts regardless of type of harvest machine used. Average harvest time and total time per acre were somewhat greater for custom harvesting with a stationary picker or a combine compared with average time reported by owners of these machines.

TABLE 11. COMPARISONS OF LABOR AND TRACTOR REQUIREMENTS AND COSTS AND RETURNS FOR FARMERS USING STATIONARY PICKERS, PULL-TYPE PICKERS, AND COMBINES IN HARVESTING PEANUTS, 69 MECHANIZED OR PARTIALLY-MECHANIZED FARMS, SOUTHEASTERN ALABAMA, 1958

| Item | Unit | Resultant, by type of picker | | | | | |
|---|---|---|---|---|---|---|---|
| | | Stationary picker | | Pull-type picker | | Combine | |
| | | Owned | Hired | Owned | Hired | Owned | Hired |
| Harvest time per acre, av. | Man-hr. | 25 | 31 | 12 | 9 | 6 | 8 |
| Harvest time per ton, av. | Man-hr. | 42 | 54 | 20 | 15 | 9 | 13 |
| Harvest cost per acre, av. | Dol. | 23 | 35 | 15 | 21 | 14 | 19 |
| Harvest cost per ton, av. | Dol. | 39 | 59 | 24 | 34 | 20 | 30 |
| Total time per acre, av. | Man-hr. | 49 | 59 | 33 | 24 | 26 | 29 |
| Total time per ton, av. | Man-hr. | 85 | 101 | 52 | 40 | 38 | 48 |
| Total tractor time per acre, av. | Hr. | 10 | 12 | 10 | 9 | 9 | 9 |
| Total cost per acre, av. | Dol. | 74 | 88 | 63 | 69 | 61 | 64 |
| Total cost per ton, av. | Dol. | 123 | 146 | 100 | 112 | 90 | 102 |
| Net return per acre, av. | Dol. | 73 | 48 | 78 | 67 | 93 | 84 |
| Net return per ton, av. | Dol. | 101 | 70 | 118 | 105 | 125 | 116 |
| Farms | No. | 12 | 25 | 15 | 4 | 7 | 6 |
| Peanut acreage, av. | A. | 35 | 15 | 64 | 25 | 76 | 32 |
| Yield per acre, av.[1] | Lb. | 1,312 | 1,259 | 1,285 | 1,250 | 1,414 | 1,333 |

[1] Average yield for 1955-57.

## SUMMARY and CONCLUSIONS

The study was based on input and cost data applicable to producing runner peanuts on 79 farms in four southeastern Alabama counties in 1958.

Peanut fields ranged from ½ to 55 acres in size. The average was 10 acres. On mechanized or partially-mechanized farms, fields in which combines or pull-type pickers were used averaged 12.9 acres compared with 7.6 acres for fields in which stationary pickers were used. Farmers in the mobile picker group had, as an average, more than twice the total peanut acreage as farmers in the stationary picker group.

Acreage of peanuts harvested in 1958 ranged from 2.7 to 233 per farm. The average was 33.4 acres. Average yields for 1955 through 1957 ranged from 700 to 2,200 pounds of peanuts per acre with an overall average of 1,280 pounds. Although 61 out of 79 farmers reported saving hay, this was done on only 54 per cent of the peanut acreage.

Forty-six per cent of the farmers reported some peanuts planted for hogging purposes. The average was 8.2 acres per farm reporting. Hogs were used to glean fields after harvest on about half of the harvested acreage.

Peanut enterprises on 69 mechanized or partially-mechanized farms were classified as small (less than 10 acres), medium (10 through 29.9 acres), and large (30 acres or more). Total man-hours per acre averaged 57 for small, 44 for medium, and 35 for large enterprises. The major difference in man-hours was for harvest operations. Farmers with small enterprises averaged 29 man-hours and those with large enterprises 13 man-hours per acre in harvesting. Seventy-two per cent of the large enterprise farmers used combines or pull-type pickers.

Thirty-two of the 69 farmers used combines or pull-type pickers and 37 used stationary pickers in 1958. When combines or pull-type pickers were used, total man-hours per acre averaged 30 compared with 56 when stationary pickers were used. Man-hours per acre used in harvest operations were reduced from 29 to 10, or 66 per cent, by use of combines or pull-type pickers.

Ten farmers who used workstock primarily in producing peanuts averaged 93 man-hours per acre total time.

The total average cost per acre of producing peanuts was $90, $80, and $68, respectively, on small, medium, and large enterprise farms. Farmers with large enterprises used more fertilizer and seed per acre than did the other two groups. They also spent more for insect and disease control. This offset part of the lower labor costs of the large enterprise group. Farmers who used combines or pull-type pickers produced peanuts for $67 per acre compared with $87 per acre for those using stationary pickers.

Gross returns included value of peanuts based on average yield for 1955-57 and on quality as well as value of peanut hay. If baled, hay was valued at $18 per ton; if not baled or if returned to the soil, it was valued at $12 per ton.

Average yields of peanuts per acre were not greatly different

according to size of enterprise groups or methods of harvest. Since total costs of production decreased as size of enterprise increased and yields were not greatly different, net returns per acre increased as size of enterprise increased. Farmers in the small size group averaged $49 net return per acre, whereas those in the large enterprise group averaged $77 per acre. All costs, cash and non-cash, were included in arriving at net returns. Farmers who used stationary pickers had an average net return per acre of $52 compared with $75 for those using combines or pull-type pickers. There was a negative average net return for the 10 workstock farms when family labor was counted as an expense.

Acreage controls limit farmers in making enterprise adjustments to achieve efficiency in production of peanuts. The use of pull-type pickers and combines greatly reduces labor requirements and costs per acre and per ton of peanuts. However, it is not economically feasible for farmers with small acreages to own combines or pull-type pickers. Some have found custom hiring a partial solution to this problem. Custom hiring is much less prevalent with pull-type pickers and combines than with stationary pickers. A disadvantage of custom hiring is that waiting for the operator increases risks of weather damage to peanuts.

Not only in harvest operations but also in land preparation, planting, fertilizing, and cultivating, somewhat lower man-hours per acre prevailed as size of enterprise increased.

## APPENDIX

## COST PROCEDURE and METHOD

### Power and Equipment Costs

To reflect actual power and equipment costs applicable to the peanut enterprise, costs were varied in relation to the estimated total hours of annual use. This was accomplished by using standard operational times for land preparation, fertilization and planting, cultivating, and harvesting for cotton, corn, peanuts, and miscellaneous crops, Appendix Table 1. The standard time per acre for each practice was multiplied by the number of acres of each crop to get total hours of use for power and equipment items.

In obtaining annual hours of use per tractor, tractor use hours were totaled, 10 per cent was added for miscellaneous uses, and this total divided by the number of tractors the farmer owned and used. Where more than two like items of equipment were involved, the total estimated hours of use were divided by the number of items. For example, if the annual cultivation hours were estimated at 300 and the grower owned three cultivators, estimated annual hours of use per year per cultivator were 100.

Machinery cost curves that showed the relationship of cost per hour per $100 of purchase price to hours of annual use were prepared from data in Appendix Table 2 for each power and equipment item used in peanut production. Cost per hour was derived by applying the estimated annual hours used to the respective cost curve and multiplying the observed cost per hour per $100 purchase price by the average purchase price of the machinery item. Purchase prices for tractors and equipment were obtained from farmers and dealers in the area. Appendix Table 3 illustrates the procedure involved in calculating the estimated cost per hour per $100 of purchase price for a 2-bottom breaking plow. Taxes, housing, insurance, and interest on investment were computed on a fixed basis at 4.5 per cent of the purchase cost. Depreciation was figured by the straight-line method allowing 10 per cent for salvage value. When growers did not recall the price they paid for certain items of machinery, price adjustments were made from dealer list prices to the year of original purchase as reported by each grower. These adjustments were in accordance with index numbers of cost rates and prices paid by farmers from 1944 through 1957.[1] Costs as calculated applied to medium-sized

[1] *The Farm Cost Situation,* USDA Agricultural Research Service, Washington, D.C., May 1958.

power and equipment items most frequently used on farms in southeastern Alabama.

Gasoline and oil for tractors and other power sources were charged at 18.2 cents per gallon and 23 cents per quart, respectively. These were wholesale prices quoted by a major petroleum company distributor in the study area and include delivery to the farm. The price of gasoline also allows for a grower's opportunity to receive a rebate on Federal and State taxes. Appendix Table 5 shows the estimated gasoline consumption per hour for tractors in relation to the type of equipment drawn. Oil consumption was estimated at 0.1 quart per hour for all operations involving mechanical power.

Where motor trucks were used in production of peanuts, costs were estimated at 8, 12, and 16 cents per mile for small, medium, and large trucks, respectively.

For custom work performed, man-hours were reported and included in labor figures. The dollar cost of custom work was also included in total cost. For picking with a stationary picker, the prevailing custom rate was $30 with a range of $28 to $35 per ton. This included baling hay and hauling peanuts. The most common custom rate for combining was $20 per ton and for harvesting with a pull-type picker, $25 per ton. These rates also included hauling peanuts to market.

The use of workstock and workstock-drawn equipment was charged at flat rates regardless of hours of use per year.

## Other Costs

Prices of fertilizer, seed, and disease and insect control materials were those actually cited by the interviewed growers. Average prices quoted by four dealers in the sample area were applied to the records of growers that were unable to recall these costs, Appendix Table 6.

Labor was charged according to jobs performed and prevailing wage rates in the area. Hoeing and weed pulling were charged at 40 cents per hour and harvest labor at 60 cents per hour. Labor for tractor driving was charged at 45 cents per hour for pre-harvest work and 60 cents per hour for harvest work. These rates also applied to family labor. In cases where labor was hired and the rate was known, this rate was charged. All farm operator's labor was charged at $1.00 per hour.

Land, regardless of market value, was charged at an annual rental rate of $7.50 per acre.

Interest on the cost of fertilizer, seed, and poison was charged at 6 per cent per year for a period of 6 months on all farms.

APPENDIX TABLE 1. ESTIMATED HOURS PER TIME OVER FOR VARIOUS OPERATIONS IN PRODUCTION OF COTTON, PEANUTS, CORN, AND CERTAIN OTHER CROPS, SOUTHEASTERN ALABAMA, 1958[1]

| Operation | Hours per acre per time over |
|---|---|
| | *Hours* |
| Cutting stalks | 0.4 |
| Breaking land | 1.4 |
| Disk harrowing | .5 |
| Planting | .6 |
| Cultivating | .5 |
| Dusting | .25 |
| Plowing-up (digger-shaker) | .8 |
| Shaking (side-delivery rake) | .6 |
| Combining or picking | 1.5 |
| Hauling hay to barn | .6 |
| Spreading fertilizer material | .6 |
| Rotary hoeing | .3 |
| Weeding (tractor weeder) | .4 |
| Sidedressing | .6 |
| Baling hay (stationary baler) | 1.5 |
| Baling hay (pick-up baler) | 1.0 |
| Mowing hay | .8 |
| Raking hay | .5 |

[1] Data from Georgia Experiment Station, *Costs and Utilization of Tractor Power and Equipment on Farms in the Coastal Plain*, Bulletin 260, June, 1949, p. 17 and from North Carolina State College, *Costs of Producing Farm Products in North Carolina*, A. E. Information Series No. 52, December, 1956, pp. 25, 29.

APPENDIX TABLE 2. COST PER HOUR OF USE PER $100 OF NEW COST, MACHINES USED IN PEANUT PRODUCTION, SOUTHEASTERN ALABAMA, 1958

| Machine | Cost per hour of use per $100 of new cost | | | | | |
|---|---|---|---|---|---|---|
| | 20 hr. per yr. | 40 hr. per yr. | 60 hr. per yr. | 100 hr. per yr. | 150 hr. per yr. | 250 hr. per yr. |
| | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Land preparation | | | | | | |
| Stalk cutter (reel type) | 0.46 | 0.23 | 0.16 | 0.10 | 0.06 | 0.04 |
| Rotary mower | .37 | .19 | .13 | .08 | .06 | .04 |
| Bottom plow | .58 | .31 | .22 | .15 | .11 | .09 |
| Disk plow | .65 | .35 | .25 | .17 | .13 | .09 |
| Disk harrow | .69 | .35 | .24 | .15 | .11 | .07 |
| Section harrow | .46 | .23 | .16 | .10 | .06 | .04 |
| Planting and fertilizing | | | | | | |
| Planter and distributor, 2-row | 0.70 | 0.36 | 0.25 | 0.16 | 0.11 | 0.08 |
| Fertilizer spreader | .82 | .42 | .29 | .19 | .13 | .09 |
| Sidedressing attachment | .85 | .46 | .33 | .22 | .17 | .13 |
| Cultivating | | | | | | |
| Cultivator, 2-row | 0.48 | 0.25 | 0.18 | 0.12 | 0.09 | 0.06 |
| Rotary hoe (gang) | .62 | .32 | .22 | .14 | .10 | .07 |
| Harvesting | | | | | | |
| Digger-shaker | 0.70 | 0.36 | 0.24 | 0.16 | 0.11 | 0.07 |
| Side-delivery rake | .62 | .32 | .22 | .14 | .10 | .07 |
| Peanut combine[1] | .70 | .36 | .24 | .16 | .11 | .07 |
| Pull-type picker[1] | .69 | .36 | .24 | .15 | .11 | .07 |
| Stationary picker[1] | .69 | .36 | .24 | .15 | .11 | .07 |
| Pick-up baler[1] | .69 | .36 | .24 | .15 | .11 | .07 |
| Stationary baler[1] | .54 | .28 | .20 | .12 | .09 | .06 |
| Miscellaneous | | | | | | |
| Duster, 6-row | 0.80 | 0.41 | 0.28 | 0.17 | 0.12 | 0.08 |
| Trailer (4-wheel) | .46 | .23 | .16 | .10 | .06 | .04 |
| | 60 hr. per yr. | 150 hr. per yr. | 300 hr. per yr. | 500 hr. per yr. | 750 hr. per yr. | 1,500 hr. per yr. |
| Tractor[1] | 0.23 | 0.09 | 0.05 | 0.03 | 0.02 | 0.01 |

[1] Does not include fuel, oil, twine, or wire.

APPENDIX TABLE 3. PROCEDURE INVOLVED IN CALCULATING THE COST PER HOUR PER $100 ORIGINAL COST IN RELATION TO HOURS USED PER YEAR FOR A 2-BOTTOM BREAKING PLOW, SOUTHEASTERN ALABAMA, 1958[1]

Original cost—$215
Estimated years of useful life—14
Estimated hours required to wear out—2,000

| Cost item | Per cent of original cost | Annual costs with various hours of use per year | | | | | |
|---|---|---|---|---|---|---|---|
| | | 20 | 40 | 60 | 100 | 150 | 250 |
| | Per cent | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Taxes, housing, insurance, interest on investment | 4.50 | 9.68 | 9.68 | 9.68 | 9.68 | 9.68 | 9.68 |
| Depreciation | 6.43 | 13.82 | 13.82 | 13.82 | 13.82 | 13.82 | 13.82 |
| Repairs and upkeep[2] | 5.00 | 1.50 | 3.00 | 4.50 | 7.50 | 11.25 | 18.75 |
| Lubrication[3] | 0.3 | .09 | .18 | .27 | .45 | .68 | 1.13 |
| Total costs per year | ---- | 25.09 | 26.68 | 28.27 | 31.45 | 35.43 | 43.38 |
| Annual costs per hour[4] | ---- | 1.254 | .667 | .471 | .315 | .236 | .174 |
| Costs per hour per $100 original cost[5] | ---- | .58 | .31 | .22 | .15 | .11 | .09 |

[1] For factors involved in computing costs of other machines used in peanut production, see Appendix Table 4.
[2] Based on 5 per cent of original costs times number of years of life divided by hours to wear out times hours of use per year.
[3] Based on 0.3 per cent of original cost times number years of life divided by hours to wear out times hours of use per year.
[4] Total cost per year divided by annual hours of use.
[5] Annual cost per hour divided by original cost in hundreds of dollars.

| Machine | Average purchase price, 1958 | Estimated hours to wear out | Estimated years of useful life | Percentage of original cost | | | |
|---|---|---|---|---|---|---|---|
| | | | | Taxes, housing, insurance, and interest on investment annually | Annual | | |
| | | | | | Depreciation[2] | Repairs | Lubrication |
| | *Dol.* | *Hr.* | *Yr.* | *Pct.* | *Pct.* | *Pct.* | *Pct.* |
| Tractor | 2,318 | 12,000 | 10 | 4.5 | 9.00 | 3.5 | 0.7 |
| Stalk cutter (reel type) | 181 | 2,000 | 18 | 4.5 | 5.00 | .5 | .1 |
| Rotary mower | 466 | 2,000 | 12 | 4.5 | 7.50 | 1.1 | .1 |
| Bottom plow | 215 | 2,000 | 14 | 4.5 | 6.43 | 5.0 | .3 |
| Disk tiller | 303 | 2,000 | 12 | 4.5 | 7.50 | 7.0 | .4 |
| Disk harrow | 277 | 2,000 | 10 | 4.5 | 9.00 | 3.0 | .4 |
| Section harrow | 225 | 2,500 | 20 | 4.5 | 4.50 | .7 | .1 |
| Fertilizer spreader | 280 | 1,000 | 8 | 4.5 | 11.25 | 3.5 | .2 |
| Planter | 230 | 1,200 | 10 | 4.5 | 9.00 | 2.0 | .2 |
| Cultivator | 277 | 2,500 | 20 | 4.5 | 4.50 | 3.5 | .1 |
| Rotary hoe (gang) | 260 | 1,500 | 12 | 4.5 | 7.50 | 3.5 | .1 |
| Rotary hoe (drill) | 65 | 1,500 | 12 | 4.5 | 7.50 | .4 | .1 |
| Fertilizer attachment | 41 | 750 | 8 | 4.5 | 11.25 | 3.5 | .1 |
| Duster | 204 | 1,500 | 8 | 4.5 | 11.25 | 2.0 | .1 |
| Digger-shaker | 452 | 1,500 | 10 | 4.5 | 9.00 | 2.5 | .3 |
| Side-delivery rake | 472 | 1,500 | 12 | 4.5 | 7.50 | 2.0 | .3 |
| Stationary picker | 1,583 | 2,000 | 10 | 4.5 | 9.00 | 2.5 | 1.0 |
| Pull-type picker | 2,425 | 2,000 | 10 | 4.5 | 9.00 | 2.5 | 1.0 |
| Combine | 3,075 | 2,000 | 10 | 4.5 | 9.00 | 3.0 | 1.0 |
| Stationary baler | 903 | 2,500 | 15 | 4.5 | 6.00 | 3.0 | .4 |
| Pick-up baler | 1,800 | 2,500 | 10 | 4.5 | 9.00 | 4.0 | .5 |
| Trailer | 290 | 5,000 | 20 | 4.5 | 4.50 | 2.0 | .2 |

[1] Data from American Society of Agricultural Engineers, Saint Joseph, Michigan, *Crop Machines Use Data,* June, 1949. (Rev. January 1953). Kansas State Engineering Experiment Station, *The Cost of Using Farm Machinery,* Bulletin 74, September 1954, and estimates.

[2] Based on original cost less salvage value (10 per cent of original cost).

APPENDIX TABLE 5. GASOLINE CONSUMPTION PER HOUR FOR MEDIUM-SIZED
TRACTORS ACCORDING TO TYPE OF EQUIPMENT DRAWN,
SOUTHEASTERN ALABAMA, 1958[1]

| Type of equipment drawn | Gasoline consumption per hour |
|---|---|
| | *Gallons* |
| Stalk cutter (rotary) | 1.55 |
| Stalk cutter (reel or bump) | 1.15 |
| Plow, 2-bottom | 1.55 |
| Tiller, 4-disk | 1.70 |
| Tandem disk harrow | 1.69 |
| Lime or fertilizer spreader | .60 |
| Planter and distributor, 2-row | 1.19 |
| Planter, 2-row | .90 |
| Cultivator, 2-row | 1.20 |
| Rotary hoe (gang) | 1.12 |
| Rotary hoe, drill (with cultivator, 2-row) | 1.20 |
| Cultivator and fertilizer distributor, 2-row | 1.20 |
| Weeder | 1.09 |
| Duster | .60 |
| Digger-shaker | 1.40 |
| Peanut plow, 2-row | 1.08 |
| Side-delivery rake | 1.08 |
| Peanut picker, stationary | .96 |
| Peanut picker, pull-type | 1.56 |
| Peanut combine, aux. engine | 1.56 |
| Hay baler, pick-up | 1.35 |
| Hay baler, stationary | .50 |
| Trailer (wagon) | .50 |

[1] Data from J. C. Elrod, Georgia Experiment Station, *Cost and Utilization of Tractor Power and Equipment on Farms in the Coastal Plain,* Bulletin 260, June, 1949, p. 17, and consultations with staff members of Agricultural Engineering Department, Auburn University Agricultural Experiment Station.

APPENDIX TABLE 6. AVERAGE PRICES PAID BY FARMERS FOR FERTILIZERS, LIME,
PEANUT SEED, AND DISEASE AND INSECT CONTROL MATERIALS,
SOUTHEASTERN ALABAMA, 1958

| Item | Cost | |
|------|------|------|
| | Per pound | Per ton |
| | *Dollars* | *Dollars* |
| **Fertilizers and liming materials[1]** | | |
| 0-10-20 | 0.0173 | 34.60 |
| 0-14-14 | .0162 | 32.40 |
| 4-12-12 | .0185 | 37.00 |
| 4-10-7 | .0162 | 32.40 |
| Potash | .0250 | 50.00 |
| Superphosphate (20%) | .0132 | 26.40 |
| Lime | .0040 | 8.00 |
| Basic slag | .0089 | 17.80 |
| Land plaster (gypsum) | .0105 | 21.00 |
| **Peanut seed** | | |
| Registered | 0.28 | |
| Certified | .26 | |
| Non-certified | .24 | |
| Non-certified, pegs | .19 | |
| **Insect and disease control materials** | | |
| Sulfur dust | 0.04 | |
| Copper-sulfur dust, 2.5% D.D.T. | .08 | |
| Copper-sulfur dust, 5.0% D.D.T. | .0875 | |

[1] Delivered to the farm.

# SUGGESTED PROCEDURE for CALCULATING
## COSTS and RETURNS

*Cost items*                                                    *Per acre*

1. Fertilizer

   _____ pounds of _____ @ $_____      $_____

   _____ pounds of _____ @ $_____      $_____

2. Seed _____ pounds @ $_____        $_____

3. Insect and disease control materials

   _____ pounds of _____ @ $_____      $_____

   _____ pounds of _____ @ $_____      $_____

4. Chemical weed control materials

   _____ of _____ @ $_____             $_____

   _____ of _____ @ $_____             $_____

5. Machinery and equipment

   _____ tractor hours    @ $_____         $_____

   _____ tractor hours    @ $_____         $_____

   _____ truck use         @ $_____         $_____

   _____ equipment hours @ $_____          $_____

   _____ equipment hours @ $_____          $_____

   _____ equipment hours @ $_____          $_____

   _____ equipment hours @ $_____          $_____

   _____ equipment hours @ $_____          $_____

   _____ equipment hours @ $_____          $_____

6. Labor

   _____ man-hours of tractor driving @ $_____   $_____

   _____ man-hours of hoe labor      @ $_____    $_____

   _____ man-hours of harvest labor  @ $_____    $_____

7. Custom picking[1]                                     $_____

8. Bags                                                  $_____

9. Stack poles, materials, and supplies                  $_____

10. Interest on cash costs—total lines 1-4 $_____ @ $3\%$[2]  $_____

11. Land—market value $_____ @ $5\%$                  $_____

   A. TOTAL COSTS                                        $_____

*Returns*                                                       *Per acre*

1. Peanuts _____ pounds @ $_____              $_____

2. Value of hay _____ pounds @ $_____               $_____

   B. TOTAL RETURNS                                      $_____

   C. NET RETURNS—B minus A                              $_____

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[1] If picking is custom hired, omit machinery, equipment, and labor costs not borne by farmer. Use the custom charge in lieu of these costs.

[2] A 3 per cent rate assumes that funds are borrowed for only 6 months.