Economic Research Service
U.S. Department of Agriculture
August 1997
FBEI 97-3

# FBEI UPDATES: Costs and Returns

## Updates on Farm Business Economic Indicators

## Peanut Farm Characteristics, Income, and Production Costs

***In this report...***ERS continues its economic analysis of production characteristics and costs and returns for major U.S. crop and livestock commodities. These analyses provide a unique perspective across production regions and are based on national surveys of farmers' and ranchers' actual experiences. Policymakers, researchers, and producer organizations will find the analyses particularly useful in understanding producers' costs and returns relationships. This ***Update*** report provides a first look at peanut farm characteristics, input use, production costs, and their distribution. A later report will more fully explain these and other factors at various levels of disaggregation.

During the winter of 1996, USDA surveyed peanut growers in six major peanut-growing States for the 1995 production year. These farms planted peanuts with the intention of harvesting peanuts for nuts not seed. The sample of farms was expanded to represent 13,497 operations of like type and size, and 88 percent of total 1995 U.S. peanut production.

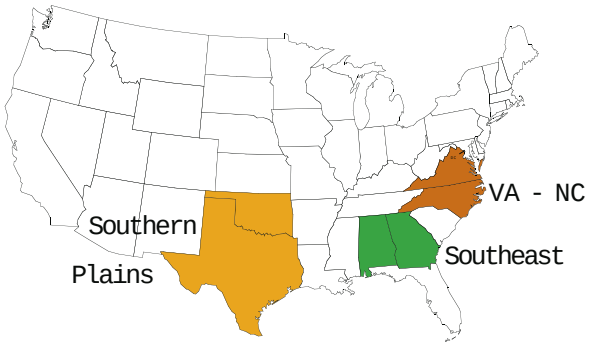
**Farm Characteristics**

Peanuts are grown in only a few States, but farms, acreage, and production are primarily concentrated in Alabama and Georgia. For this study, three regions were defined based on common cultural practices and enough sample observations to provide statistically reliable estimates (see map). Roughly 66 percent of peanut farms were in the Southeast, 19 percent in the Southern Plains, and 15 percent in Virginia-North Carolina.

Peanuts typically account for only a small percentage of the average farm's acreage. The survey reported an average of 105 peanut acres planted out of an average total acres operated of 713--there was little variation among regions. Peanuts made up about 30 percent of the farms' average total market value of crops and livestock.

U.S. farmers planted peanuts on 1.5 million acres in 1995 and produced 3.5 billion pounds, down 18 percent from 1994. Peanut growers in all three regions had production shortfalls in 1995. Farmers reported average yields of 2,140 pounds per acre, somewhat less than the 3,000 pounds they expected at the beginning of the season. Costs and returns are estimated on a planted-acre basis to capture the costs of inputs applied to all the acres they plant. Growers in the Southeast produced about 73 percent of their expected yield, and growers in Virginia-North Carolina produced 76 percent of their expected yield. Growers in the Southern Plains harvested only 64 percent of their expected yield in 1995.

PeanutProductionRegions




At the U.S. level, just over a third of U.S. peanut acres were owned, while slightly more than half were cash-rented and about 10 percent were share-rented. Land tenure arrangements varied widely among the regions. In both the Southeast and Virginia-North Carolina, more than 60 percent of peanut acres were cash-rented. In the Southern Plains, there was a more even split among the tenure arrangements. Just under one-fourth of peanut acres were share-rented and just over one-third each were owned and cash-rented.

Current agricultural legislation governs both the price and marketing of peanuts. The national poundage quota is estimated annually and announced by the Secretary of Agriculture. Both the national average quota price support rate and the national quota poundage were unchanged from 1994 to 1995 at $678 per ton and 1.35 million tons. Production in excess of the poundage quota (additionals) are supported at a much lower rate. To qualify for the higher quota support rate, a grower must own or rent quota poundage. Only three-fourths of peanuts produced in 1995 were eligible to receive the higher quota support price.

Peanut quota can be owned or rented, and is often rented with land. More than half of U.S. peanut quota was cash-rented. Regionally, this percentage varied from 24 percent in the Southern Plains to 60 and 62 percent in the Southeast and Virginia-North Carolina. About 40 percent of the quota is owned--varying from 23 percent in Virginia-North Carolina to 38 percent in the Southeast to 61 percent in the Southern Plains. Share-rent accounted for 7 percent of quota nationally, and 15 percent in Virginia-North Carolina and the Southern Plains.

About half of all U.S. peanut farms had total farm sales under $100,000. On a regional basis, however, there was wide variation. In the Southeast, 52 percent of farms had sales under $100,000, compared with 36 percent in Virginia-North Carolina and 49 percent in the Southern Plains.

Nationally, peanut growers planted an average of 105 acres to peanuts. About 65 percent of the farms averaged less than 100 acres of peanuts and accounted for 23 percent of production. Around 18 percent of farms planted 100-199 acres of peanuts and accounted for about 21 percent of production.

**Input Use**

Farmers reported an average seeding rate of 92 pounds per acre, including the slight reseeding of some acreage. Seeding rates varied greatly among regions. Southeast growers used 96 pounds of seed per acre, compared with 106 pounds in Virginia-North Carolina, and 75 pounds in the Southern Plains.

Nearly all peanut farmers reported applying fertilizer but application rates of nitrogen, phosphorous, and potassium differed. Farmers in Virginia-North Carolina applied 7 pounds of nitrogen per acre compared with 22 pounds in the Southern Plains. Farmers in the Southeast applied phosphorous at 41 pounds per acre compared with 17 pounds in Virginia-North Carolina. Farmers applied 60 pounds of potassium per acre in the Southeast and Virginia-North Carolina regions compared with 27 pounds in the Southern Plains.

Farmers reported using chemicals, primarily herbicides, about equally across regions. A much smaller percentage of farmers reported using insecticides and fungicides in the Southern Plains than in the other regions.

Three-fourths of peanut farms reported using custom services, primarily in applying fertilizers and chemicals and in harvesting and hauling. Custom fertilizer application varied from 38 percent in the Southern Plains to 58 percent in Virginia-North Carolina to 71 percent in the Southeast.

**Farm Income**

The income statement for the average farm with peanuts shows net *cash* income of $45,582. Commodity receipts are primarily from crop sales ($170,062) with livestock sales of $16,718. Virginia-North Carolina farms have the highest cash incomes. Net *farm* income averaged $31,168.

**Production Costs and Their Distributions**

Cash costs of producing 1995 U.S. peanuts averaged $414 per planted acre and total economic costs averaged $633 per acre. Fertilizer, chemical, and seed costs accounted for two-thirds of the variable costs. At the average harvest-month price of 29 cents per pound, 70 percent of peanut growers were able to cover cash costs. When capital replacement costs were included, 62 percent of growers were able to cover costs.

Estimated 1995 variable cash expenses were converted to a per-pound basis and ranked from lowest to highest to form a weighted cumulative distribution of farms and production.

One-fourth of farms had per-pound variable expenses of 13 cents or less (low-cost) and accounted for 40 percent of production. At the other end of the distribution, one-fourth of farms had variable expenses of 27 cents per pound or more (high-cost) but accounted for only 6 percent of production.

High-cost producers can be distinguished from low-cost producers primarily due to peanut yields which were much lower than expected. The high-cost group expected an average yield of 2,582 pounds, but actual yields were only 890 pounds. Since cost groups are ranked based on costs per pound harvested, these low yields raise per-unit costs. High-cost producers also have a debt-to-asset ratio twice that of low-cost producers.

Roughly 42 percent of FCRS peanut farms had variable cash expenses at or below the average variable cash expense of 15.5 cents per pound in 1995. These farms accounted for 64 percent of peanut production. In the previous FCRS survey of peanut farms in 1991, roughly 46 percent of FCRS peanut farms had variable cash expenses at or below the average variable cash expense of 15.2 cents per pound. Those farms accounted for only 56 percent of peanut production.

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Table 1. Input use of peanut production operations, by region and cost group, 1995

| Item | Region | | | Cost group | | | All FCRS farms |
|---|---|---|---|---|---|---|---|
| | Southeast | Virginia-North Carolina | Southern Plains | Low-cost | Mid-cost | High-cost | |
| Number of peanut farms | 8,859 | 2,057 | 2,581 | 3,188 | 6,985 | 3,324 | 13,497 |
| Percent of FCRS farms | 66 | 15 | 19 | 24 | 51 | 25 | 100 |
| Percent of acreage | 57 | 17 | 26 | 29 | 56 | 15 | 100 |
| Percent of production | 60 | 19 | 21 | 40 | 54 | 6 | 100 |
| Farm size: | | | | | | | |
| Operated acres | 637 | 780 | 920 | 874 | 793 | 388 | 713 |
| Peanut acres planted | 91 | 114 | 145 | 131 | 113 | 63 | 105 |
| Peanut acres harvested | 91 | 113 | 134 | 129 | 112 | 56 | 103 |
| Peanut acreage-practices: | | | | | | | |
| Percent irrigated | 25 | 6 | 64 | 41 | 29 | 30 | 32 |
| Percent dryland | 75 | 94 | 36 | 59 | 71 | 70 | 68 |
| Peanut yield: | | | | | | | |
| Actual yield (lbs/acre) | 2,267 | 2,402 | 1,703 | 2,926 | 2,059 | 890 | 2,140 |
| Expected yield (lbs/acre) | 3,102 | 3,167 | 2,680 | 3,359 | 2,924 | 2,582 | 3,001 |
| Seed rate-all acres (lbs/acre) | 96 | 106 | 75 | 92 | 94 | 86 | 92 |
| Fertilizers (percent using): | | | | | | | |
| Nitrogen | 82 | 45 | 78 | 63 | 73 | 91 | 75 |
| Phosphorus | 91 | 49 | 76 | 73 | 80 | 94 | 82 |
| Potassium | 86 | 69 | 70 | 74 | 76 | 95 | 80 |
| Fertilizer application rate: | | | | | | | |
| Nitrogen (lbs/acre) | 13.67 | 6.91 | 22.43 | 16.42 | 14.23 | 14.24 | 14.87 |
| Phosphorus (lbs/acre) | 40.64 | 17.43 | 30.76 | 35.05 | 34.47 | 31.44 | 34.19 |
| Potassium (lbs/acre) | 57.98 | 59.65 | 27.15 | 49.44 | 51.00 | 48.02 | 50.10 |
| Chemicals (percent using): | | | | | | | |
| Herbicides | 98 | 99 | 95 | 97 | 99 | 97 | 98 |
| Insect-fungicides | 99 | 97 | 63 | 88 | 93 | 93 | 92 |
| Custom operations (percent using): | | | | | | | |
| Any custom operations | 85 | 61 | 64 | 66 | 77 | 89 | 77 |
| Fertilizer application | 71 | 58 | 38 | 53 | 58 | 82 | 63 |
| Chemical application | 26 | 7 | 47 | 19 | 29 | 31 | 27 |
| Harvesting/hauling | 20 | 8 | 30 | 23 | 14 | 31 | 20 |
| Fuel use (gallons/acre): | | | | | | | |
| Diesel | 26.89 | 22.11 | 31.44 | 27.16 | 27.64 | 26.36 | 27.31 |
| Gasoline | 2.09 | 2.21 | 2.42 | 1.72 | 2.49 | 2.04 | 2.20 |
| LP gas | 2.25 | 7.80 | 18.31 | 2.96 | 7.40 | d | 7.41 |
| Labor use: | | | | | | | |
| Unpaid labor (hrs/acre) | 4.64 | 4.86 | 6.54 | 5.54 | 4.67 | 6.37 | 5.18 |
| Peanut acreage-tenure: | | | | | | | |
| Percent owned | 37 | 23 | 37 | 29 | 40 | 28 | 35 |
| Percent cash rented | 60 | 63 | 38 | 57 | 52 | 60 | 55 |
| Percent share rented | 3 | 14 | 25 | 14 | 8 | 12 | 10 |
| Peanut quota-disposition: | | | | | | | |
| Percent owned | 38 | 23 | 61 | 32 | 45 | 34 | 40 |
| Percent cash rented | 60 | 62 | 24 | 59 | 49 | 54 | 53 |
| Percent share rented | 2 | 15 | 15 | 9 | 6 | 12 | 7 |
| Peanut marketing: | | | | | | | |
| Percent marketed as quota | 71 | 86 | 66 | 60 | 81 | 81 | 73 |
| Percent marketed as additionals | 29 | 14 | 34 | 40 | 19 | 19 | 27 |

d=Insufficient data for disclosure.

Source: 1995 Farm Costs and Returns Survey, Economic Research Service/USDA.

Table 2. Characteristics of peanut farm operations, by region and cost group, 1995

| Item | Region | | | Cost group | | | All FCRS farms |
|---|---|---|---|---|---|---|---|
| | Southeast | Virginia-North Carolina | Southern Plains | Low-cost | Mid-cost | High-cost | |
| | | | | Percent of farms | | | |
| Farm organization: | | | | | | | |
| Individual | 81 | 83 | 85 | 81 | 76 | 96 | 82 |
| Partnership, corporation, and coop | 19 | 17 | 15 | 19 | 24 | 4 | 18 |
| Operator age: | | | | | | | |
| Under 50 | 42 | 45 | 45 | 44 | 45 | 37 | 43 |
| 50 and older | 58 | 55 | 55 | 56 | 55 | 63 | 57 |
| Operator education: | | | | | | | |
| High school or less | 65 | 54 | 53 | 56 | 51 | 89 | 61 |
| College | 35 | 46 | 47 | 44 | 49 | 11 | 39 |
| Peanut enterprise size: | | | | | | | |
| Fewer than 50 acres | 51 | 39 | 24 | 31 | 36 | 72 | 44 |
| 50-99 acres | 20 | 21 | 25 | 22 | 27 | 7 | 21 |
| 100-199 acres | 14 | 23 | 26 | 19 | 20 | 13 | 18 |
| 200 acres or more | 15 | 17 | 25 | 28 | 17 | 8 | 17 |
| Sales class: | | | | | | | |
| Less than $100,000 | 52 | 36 | 49 | 38 | 39 | 78 | 49 |
| $100,000 or more | 48 | 64 | 51 | 62 | 61 | 22 | 51 |
| | | | | Dollars per farm | | | |
| Value of production: | | | | | | | |
| Peanuts | 60,369 | 81,282 | 71,589 | 111,582 | 68,136 | 16,574 | 65,701 |
| Total farm | 208,670 | 315,058 | 172,071 | 320,378 | 233,848 | 86,018 | 217,884 |

Source: 1995 Farm Costs and Returns Survey, Economic Research Service/USDA.

Table 3. Peanut production costs and returns per planted acre, by region and cost group, 1995

| Item | Region | | | Cost group | | | All FCRS farms |
|---|---|---|---|---|---|---|---|
| | Southeast | Virginia-North Carolina | Southern Plains | Low-cost | Mid-cost | High-cost | |
| | | | | Dollars per planted acre | | | |
| Cash expenses: | | | | | | | |
| Seed | 75.05 | 84.25 | 61.10 | 72.35 | 73.94 | 69.93 | 72.88 |
| Fertilizer | 49.61 | 53.55 | 23.94 | 38.63 | 42.81 | 55.50 | 43.47 |
| Chemicals | 112.44 | 139.24 | 40.50 | 91.26 | 102.80 | 92.17 | 97.83 |
| Custom operations | 8.69 | 4.70 | 10.24 | 8.39 | 9.46 | 4.71 | 8.44 |
| Fuel, lube, and electricity | 26.49 | 32.17 | 54.50 | 31.93 | 35.11 | 39.57 | 34.84 |
| Repairs | 26.27 | 26.89 | 31.88 | 27.40 | 27.83 | 28.85 | 27.86 |
| Hired labor | 30.15 | 43.13 | 28.91 | 19.45 | 42.02 | 18.99 | 31.97 |
| Commercial drying | 16.44 | 4.21 | 18.44 | 17.86 | 15.02 | 8.95 | 14.95 |
| Total, variable cash expenses | 345.14 | 388.14 | 269.51 | 307.27 | 348.99 | 318.67 | 332.24 |
| General farm overhead | 15.78 | 24.69 | 16.27 | 13.88 | 20.90 | 11.08 | 17.38 |
| Taxes and insurance | 20.66 | 23.11 | 17.27 | 22.31 | 20.49 | 14.72 | 20.17 |
| Interest | 44.96 | 29.42 | 53.54 | 41.50 | 43.81 | 54.11 | 44.67 |
| Total, fixed cash expenses | 81.40 | 77.22 | 87.08 | 77.69 | 85.20 | 79.91 | 82.22 |
| Total, cash expenses | 426.54 | 465.36 | 356.59 | 384.96 | 434.19 | 398.58 | 414.46 |
| Total economic costs | 635.29 | 712.73 | 576.86 | 632.82 | 652.97 | 555.87 | 632.64 |
| Returns: | | | | | | | |
| Gross value of production | 641.30 | 735.79 | 492.58 | 855.97 | 608.77 | 278.64 | 630.97 |
| Returns above cash costs | 214.76 | 270.43 | 135.99 | 471.01 | 174.58 | -119.94 | 216.51 |
| Returns above economic costs | 6.01 | 23.06 | -84.28 | 223.15 | -44.20 | -277.30 | -1.67 |

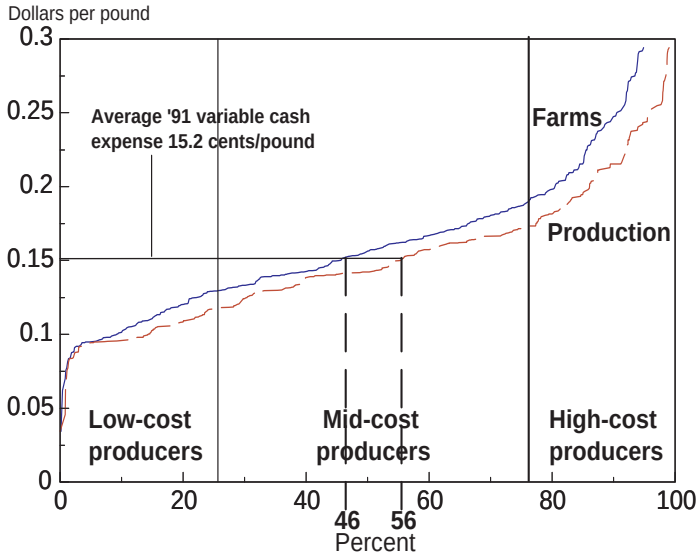
Source: 1995 Farm Costs and Returns Survey, Economic Research Service/USDA.

Table 4. Income and balance sheet statement for average peanut farm, by region and cost group, 1995

| Item | Region | | | Cost group | | | All FCRS farms |
|---|---|---|---|---|---|---|---|
| | Southeast | Virginia-North Carolina | Southern Plains | Low-cost | Mid-cost | High-cost | |
| Number of peanut farms | 8,859 | 2,057 | 2,581 | 3,188 | 6,985 | 3,324 | 13,497 |
| Acres operated | 637 | 780 | 920 | 874 | 793 | 388 | 713 |
| | | | | Dollars per operation | | | |
| Gross cash income | 210,734 | 295,947 | 183,703 | 308,281 | 236,289 | 95,199 | 218,550 |
| Livestock sales | 12,622 | 10,462 | 35,763 | 21,366 | 18,178 | 9,190 | 16,718 |
| Crop sales | 167,906 | 253,679 | 110,825 | 249,753 | 184,332 | 63,629 | 170,062 |
| Government payments | 2,834 | 2,788 | 5,855 | 4,113 | 3,408 | 2,719 | 3,405 |
| Other farm-related income | 27,371 | 29,018 | 31,260 | 33,048 | 30,371 | 19,661 | 28,366 |
| Less: Cash expenses | 165,993 | 231,039 | 150,630 | 220,758 | 189,213 | 92,987 | 172,968 |
| Variable | 124,108 | 177,724 | 116,772 | 170,159 | 143,705 | 66,232 | 130,876 |
| Livestock purchases | 892 | 228 | 8,153 | 1,866 | 2,018 | 2,819 | 2,179 |
| Feed | 3,568 | 3,432 | 7,766 | 5,236 | 5,408 | 1,277 | 4,350 |
| Other livestock expenses | 410 | 268 | 3,306 | 1,360 | 860 | 713 | 942 |
| Seed and plants | 12,623 | 18,215 | 13,260 | 17,632 | 14,991 | 6,798 | 13,597 |
| Fertilizer and chemicals | 54,996 | 78,272 | 28,132 | 68,442 | 58,172 | 28,967 | 53,406 |
| Hired labor | 16,785 | 30,314 | 14,575 | 25,200 | 20,657 | 7,232 | 18,424 |
| Fuels and oils | 8,328 | 13,084 | 10,515 | 10,700 | 11,378 | 4,283 | 9,471 |
| Repairs and maintenance | 13,767 | 17,821 | 14,226 | 19,198 | 15,892 | 6,957 | 14,473 |
| Machine hire and custom | 6,441 | 5,183 | 4,231 | 7,814 | 6,250 | 3,031 | 5,826 |
| Utilities | 2,439 | 4,653 | 7,520 | 6,343 | 3,369 | 2,056 | 3,748 |
| Other variable expenses | 3,860 | 6,256 | 5,088 | 6,368 | 4,712 | 2,100 | 4,460 |
| Fixed | 41,885 | 53,315 | 33,858 | 50,599 | 45,507 | 26,755 | 42,092 |
| Real estate & property taxes | 2,769 | 3,025 | 1,983 | 3,007 | 3,094 | 1,406 | 2,658 |
| Interest | 12,893 | 12,088 | 16,082 | 14,448 | 14,452 | 10,104 | 13,380 |
| Insurance | 7,730 | 7,955 | 6,778 | 9,552 | 8,003 | 4,808 | 7,582 |
| Rent and lease payments | 18,494 | 30,248 | 9,014 | 23,593 | 19,958 | 10,437 | 18,472 |
| Equals: Net cash farm income | 44,740 | 64,907 | 33,072 | 87,523 | 47,076 | 2,212 | 45,582 |
| Less: | | | | | | | |
| Depreciation | 15,812 | 21,293 | 19,058 | 22,773 | 19,466 | 7,366 | 17,268 |
| Non-cash labor benefits | 499 | 768 | 519 | 887 | 556 | 188 | 544 |
| Plus: | | | | | | | |
| Inventory adjustment | 676 | 1,769 | -5,717 | 10,296 | -5,534 | 209 | -380 |
| Nonmoney income | 3,771 | 4,083 | 3,555 | 4,285 | 3,745 | 3,358 | 3,777 |
| Equals: Net farm income | 32,877 | 48,698 | 11,333 | 78,443 | 25,265 | -1,774 | 31,168 |
| Total assets | 617,595 | 629,792 | 656,266 | 816,013 | 694,081 | 304,104 | 626,849 |
| Less: Total debt | 89,716 | 83,112 | 141,710 | 103,840 | 106,688 | 76,789 | 98,652 |
| Equals: Net worth | 527,879 | 546,680 | 514,556 | 712,173 | 587,393 | 227,315 | 528,196 |
| Debt-to-asset ratio | 0.13 | 0.12 | 0.21 | 0.12 | 0.14 | 0.24 | 0.15 |

Source: 1995 Farm Costs and Returns Survey, Economic Research Service/USDA.

**Cumulative distribution of peanut variable cash expenses, 1991**




**Cumulative distribution of peanut variable cash expenses, 1995**