



## AGRICULTURAL RESOURCE MANAGEMENT SURVEY

# U.S. Peanut Industry

### About this Publication

In 2013, USDA's National Agricultural Statistics Service (NASS) and Economic Research Service (ERS) conducted the Agricultural Resource Management Survey (ARMS) of the U.S. peanut industry. During the first three months of 2013, trained enumerators conducted personal interviews with more than 900 peanut growers in the 6 largest peanut-producing states. The farmers provided information on expenses, resource use, and peanut production practices during 2013. This publication includes highlights of their production practices and resource use.

The last ARMS peanut industry survey occurred in 2004, so we compare 2004 and 2013 outcomes in the following table and figures. The 2004 survey followed closely behind a major change in peanut policy: the 2002 Farm Act had eliminated the peanut marketing quota system, which limited peanut supply for domestic use, but also made it difficult for producers to adapt to long-term market forces. Some of the changes seen over 2004-2013 reflect the industry's adjustment to the changes in policy and to new market conditions.

### Cost of Production

**Table 1: Peanut production costs per acre**

	2004	2013
<b>Purchased seed</b>		
Production costs, nominal dollars	69.65	109.37
Production costs, 2013 dollars <sup>1</sup>	91.19	109.37
<b>Commercial fertilizer</b>		
Production costs, nominal dollars	24.73	40.66
Production costs, 2013 dollars <sup>2</sup>	55.84	40.66
<b>Chemicals</b>		
Production costs, nominal dollars	109.69	149.79
Production costs, 2013 dollars <sup>3</sup>	142.33	149.79

<sup>1</sup> 2004 seed costs are deflated to 2013 dollars using national peanut seed prices (USDA, NASS, Agricultural Prices). Purchased seed cost does not include the costs of inoculants.

<sup>2</sup> 2004 commercial fertilizer costs are deflated to 2013 dollars using the national agricultural mixed fertilizer price index (USDA, NASS, Agricultural Prices). Commercial fertilizer cost does not include costs of lime, gypsum, other soils conditioners, or manure.

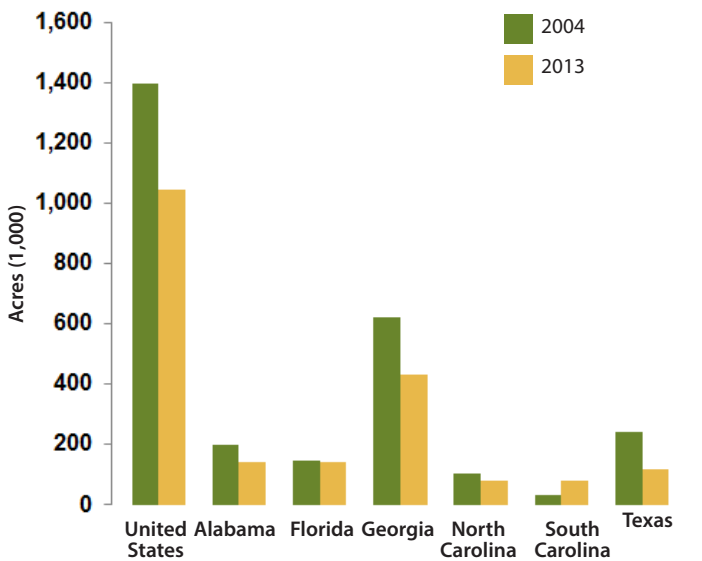
<sup>3</sup> 2004 chemical costs are deflated to 2013 dollars using the national agricultural total chemical price index (USDA, NASS, Agricultural Prices).

Source: USDA

The costs of major inputs used in peanut production--seed, fertilizer, and chemicals--all increased substantially from 2004 to 2013. Seed costs were up nearly \$40 per acre, fertilizer costs were about \$16 per acre higher, and chemical costs were nearly \$40 per acre higher. Most of the increases reflected higher prices for inputs; after adjusting for price changes, seed costs were up about \$18 per acre, but commercial fertilizer costs were lower in 2013. Market forces likely reduced peanut acreage and pushed production to more productive acreage after the quota system was eliminated. Chemical costs were only slightly higher in 2013 than in 2004 after price levels were adjusted.

U.S. peanut acreage declined significantly between 2004 and 2013. Total acreage was down about 25 percent with reduced acreage in all major producing States except South Carolina. Georgia remained the largest peanut producing State accounting for more than 40 percent of U.S. acres despite a 30 percent decline in State acres from 2004 to 2013. Elimination of the peanut quota program in 2002 allowed producers to adapt to market forces, resulting in fewer and larger peanut farms, and production shifted to farms and areas with higher peanut yields.

**Fig. 1. Acres of Peanuts Harvested**



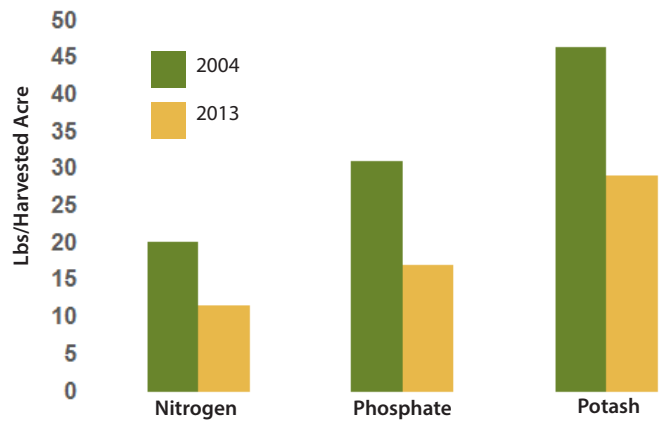
Source: USDA

## Structural Change

Peanut production is shifting to larger farms. According to the quinquennial Census of Agriculture, the average peanut farm harvested 247 acres of peanuts in 2012, up substantially from 142 in 2002. This occurred as acres shifted to larger operations: by 2012, 44 percent of peanut acreage was on farms harvesting at least 500 acres of peanuts, compared to 34 percent in 2002 and 19 percent in 1992. Most peanut farms grow other crops in addition to peanuts, and average total acreage of farms growing peanuts also increased, to 2,500 acres in 2013 compared to 1,505 in the 2004 ARMS.

## Pesticide and Fertilizer Use

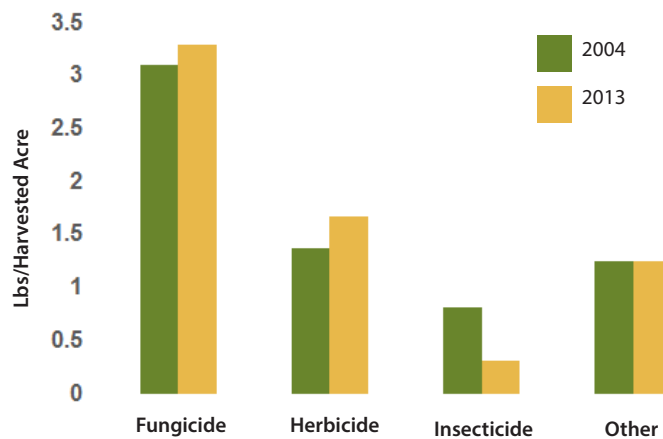
**Fig. 2. Peanut Producers Reduce Fertilizer Use**



Source: USDA

Peanut producers used substantially less fertilizer in 2013 than in 2004. Application rates, per acre, of nitrogen, phosphate, and potash were all substantially lower, consistent with the reductions in price-adjusted fertilizer expenditures per acre noted in table 1. The shift likely reflects shifts of peanut production to productive land that requires lower fertilizer applications, and to farms that can more efficiently manage applications.

**Fig. 3. Pesticide Use on Peanut Crop**



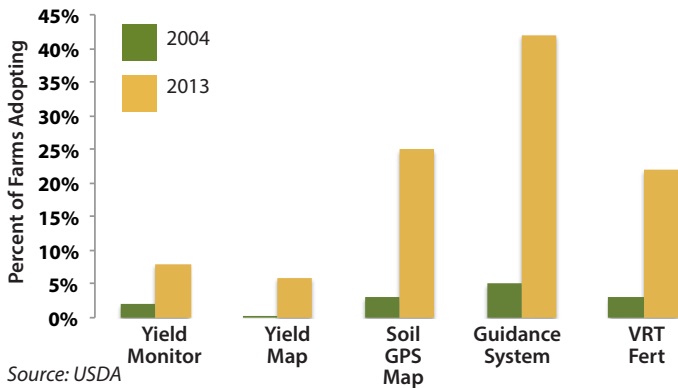
Source: USDA

Peanut producers reduced their per-acre applications of insecticides between 2004 and 2013. The modest aggregate changes in the quantities of herbicides

applied—in total, an increase of .01 pounds per acre—are consistent with the modest changes in price-adjusted chemical expenditures per acre noted in table 1.

## Precision Agriculture

Fig. 4. Precision Agriculture Adoption



Precision agriculture refers to a set of practices that aim to take account of variations in nutrient needs, soil qualities, and pest pressures within fields, and that attempt to manage fields with those variations in mind.

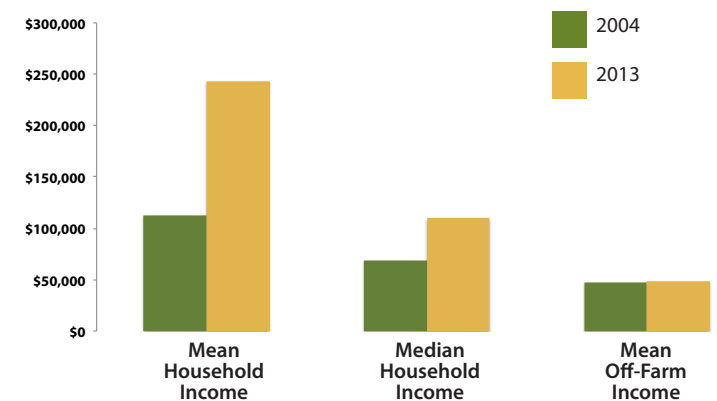
Some precision agriculture technologies are being rapidly adopted by peanut farmers. When a farm's yield potential is limited by varying soil conditions within field, farmers might be able to improve input management by creating a soil properties map (Soil GPS Map). One quarter of peanut farms adopted this technology by 2013, up from 3 percent in 2004. Over 40 percent of peanut farms used auto-steering, or guidance, systems in 2013, up from 5 percent in 2013. Guidance systems help harvesters, in particular stay on rows that are may at times be difficult to navigate precisely. The technology, which can also be used for planting and spraying applications, can reduce the physical stresses on farm operators and can help economize on fuel and chemical expenses. Finally, variable rate application of inputs (VRT Fert) has a higher rate of adoption in peanut production—at over 20 percent of farms—than for many other crops in the U.S. VRT allows farmers to vary application rates of fertilizers, and of pesticides as well, to target them to where they are most needed and limit applications in parts of fields where they are less effective.

## Household Income

For most farm families, household income combines income earned off the farm with the net income earned from the farm. Off farm income may arise from off-farm jobs that household members work at, or from pensions, interest income or other sources unrelated to employment. In turn, the net income from the farm is the difference between the farm business' revenues and its expenses.

The average (mean) household income among peanut producers was \$243,998 in 2013, more than double the value of \$112,510 in 2004. While off-farm income is important to peanut producers, with an average value of \$49,019 in 2013, it grew very little over time, so most of the increase in household income reflected increased net income from farming.

Fig. 5. Income Increase for Peanut Producers



As in most occupations, farm household incomes are quite skewed, so that a small number of households with very high incomes raise the mean. The median household income among peanut farmers was \$110,182 in 2013, substantially above the 2004 median of \$68,946.

Of course, prices rose between 2004 and 2013, but the increase in consumer prices (the Consumer Price Index rose by 23 percent) was well below the increase in mean and median household incomes, so that the inflation-adjusted incomes of peanut producers rose considerably. In turn, higher real incomes reflect the fact that 2013 was a good year for peanut producers, with revenues well in excess of expenses, as well as the shift of production to larger peanut farms, which tend to have higher farm and household incomes.

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### **Additional Information**

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