

Planting Flexibility Allowed Movement Away From Base Acres

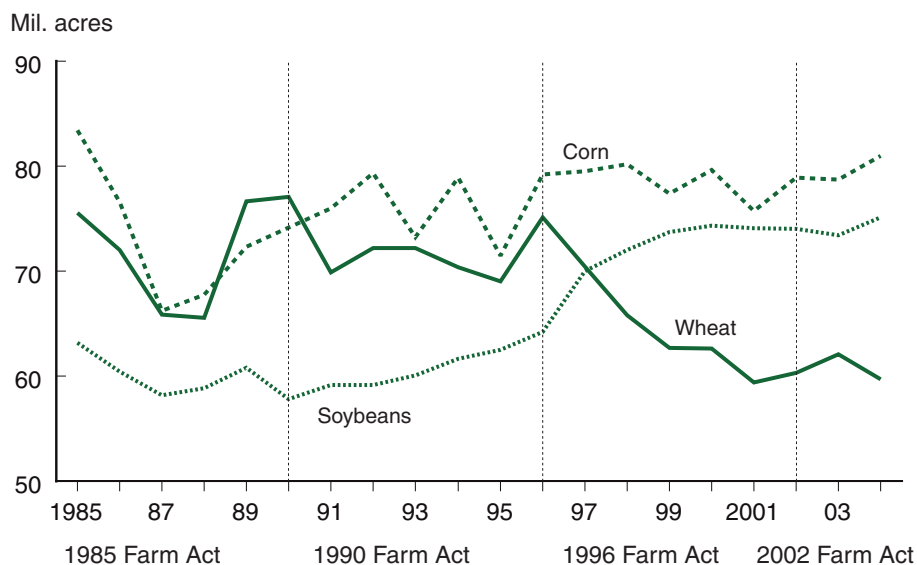
Increased planting flexibility provided by farm legislation in 1990 and 1996 reduced incentives for producers to keep plantings within base acreage to be eligible for price and income support payments (Lin et al.). This effort facilitated producers' changes in planting mix in response to changes in relative prices among crops and expected marketing loan benefits. Limited planting flexibility introduced in the 1990 Act spurred increases in oilseed production, particularly soybeans (fig. 1). With acreage constraints removed in 1996, U.S. soybean acres continued to increase until leveling off at around 74 million acres in 1999. While soybean acreage expanded, U.S. wheat acreage contracted from an annual average of 72 million acres in the early 1990s to around 60 million acres by 2001.

Regional adjustments in plantings were even more pronounced. Agronomic advances, such as higher yielding and shorter growing-season corn and soybean varieties, expanded the range of cropping alternatives available to producers in the Plains States. For example, during the 1990s, soybean acreage in South Dakota increased almost 70 percent, while corn area increased about 12 percent and wheat area declined about 6 percent (fig. 2). Eradication of the boll weevil enabled Southeastern States to expand cotton production. Planting flexibility allowed producers in this region to respond to higher returns to cotton production and plant more acres to cotton (fig. 3). Still, while many producers were able to take advantage of these agronomic advances in the early 1990s on normal flex acreage, their responses were limited by base acreage constraints.

Increased planting flexibility under the 1996 Farm Act further facilitated producers' changes in land use. National, State, and county data reveal that

Figure 1

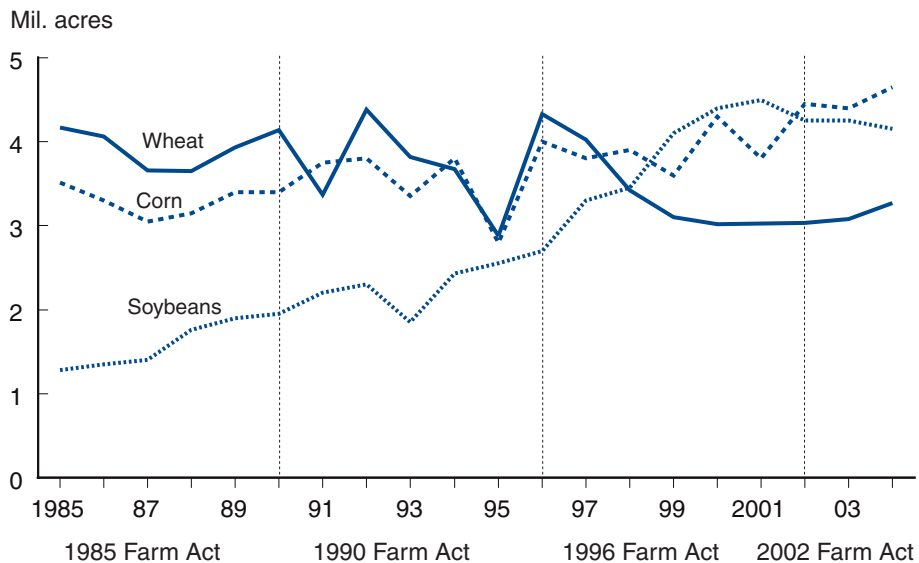
Planting flexibility enabled farmers to alter plantings, 1985-2004



Source: Compiled by USDA's Economic Research Service from the National Agricultural Statistics Service.

Figure 2

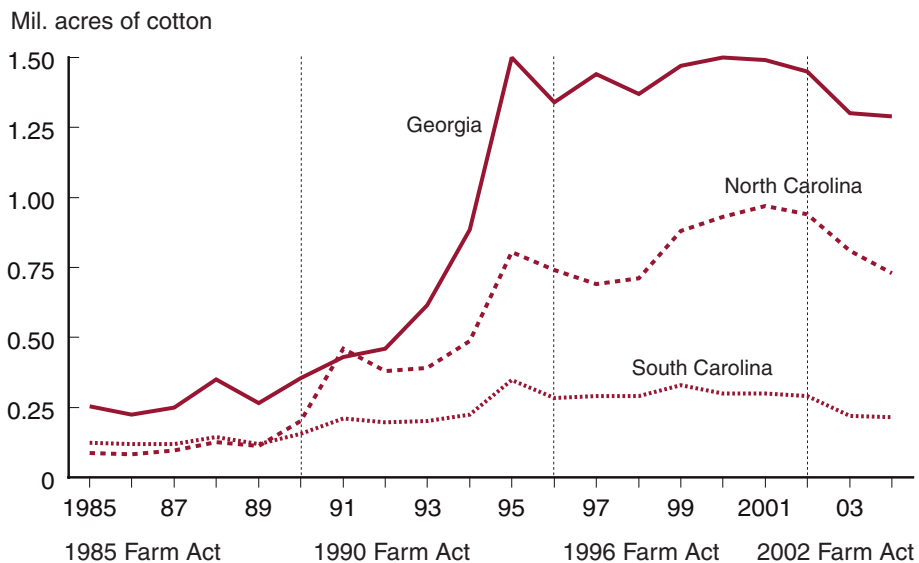
South Dakota farmers used planting flexibility to alter plantings, 1985-2004



Source: Compiled by USDA's Economic Research Service from the National Agricultural Statistics Service.

Figure 3

Cotton farmers in the Southeast used planting flexibility, 1985-2004

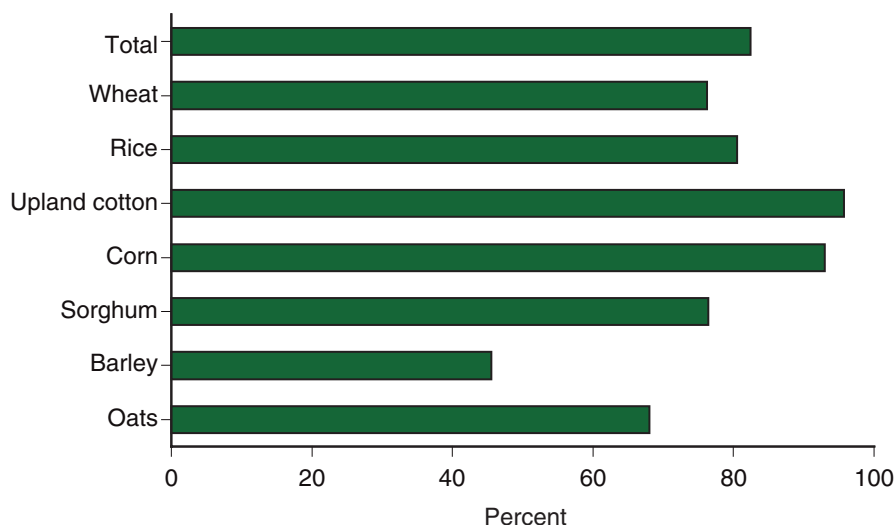


Source: Compiled by USDA's Economic Research Service from the National Agricultural Statistics Service.

by 2001, planting flexibility enabled planted acreage to diverge significantly from PFC acreage. Production choices appear to reflect the ability of farmers to respond to expected market returns among competing crops (augmented by expected marketing loan benefits when prices are low), as well as to agronomic and rotational considerations. In 2001, total national plantings to the seven PFC program crops represented about 82 percent of total contract acreage under PFCs (fig. 4). On a crop-specific basis, shares

Figure 4

Plantings as a share of production flexibility contract acres, 2001



Source: Compiled by USDA's Economic Research Service from the National Agricultural Statistics Service.

of PFC acreage planted ranged from a low of 45 percent for barley to a high of about 96 percent for upland cotton. Producers used planting flexibility to expand production of oilseeds or to leave some of their contract acreage idle. U.S. soybean plantings increased by 11.5 million acres between 1995 and 2002.

Examination of aggregate planting data relative to contract acreage masks responses to planting flexibility at the individual producer level. While producers in a region can expand production of a commodity, such as corn, relative to the contract acres, other producers can offset the change in area planted by reducing corn plantings by a similar amount. Although individual producer data are not available for this study, data on county-level planting and program acreage are available. These data indicate significant variation in county-level plantings relative to crop-specific PFC acreage.

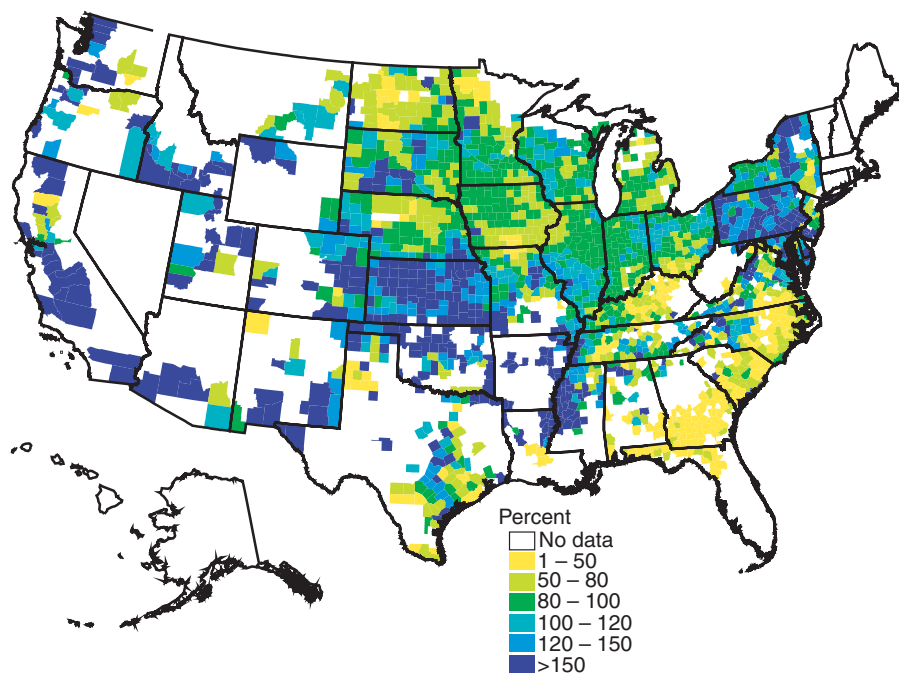
Nationally, corn plantings accounted for about 93 percent of corn PFC contract acreage in 2001. In counties where data on corn plantings are available, actual corn acreage planted (25.5 million acres) exceeded available PFC acreage (19.0 million acres) for 42 percent of the counties.¹ Producers in the remaining counties planted less corn acreage (50.3 million acres) than available contract acreage (61.4 million acres). Corn acreage expanded in the Plains States, the Lower Mississippi River Valley, the Northeast, and the Far West as farmers used planting flexibility to take advantage of higher net returns for newer corn varieties (fig. 5).

Similarly, wheat plantings relative to wheat PFC acreage vary at the county level. County-level wheat plantings in 2001 show no strong link to wheat PFC acreage, again reflecting the absence of supply management constraints and the use of planting flexibility (fig. 6). Wheat production declined in parts of the Corn Belt and on the eastern edge of the Plains States as corn and soybean

¹USDA's National Agricultural Statistics Service estimates area planted for major commodities. Statistically reliable estimates are not available for all counties in the United States. County-level estimates are prepared for corn area (approximately 2,000 counties), wheat area (approximately 2,200 counties), and upland cotton area (approximately 450 counties).

Figure 5

Corn plantings relative to corn production flexibility contract acres, by county, 2001



Percent of corn PFC acres planted, 2001

Share of PFC acres planted	Planted acres	PFC acres	Share of PFC acres planted (avg.)	Number of counties
<i>Percent</i>	<i>— 1,000 acres —</i>		<i>Percent</i>	
1 to 50	1,123	3,526	31.9	244
50 to 80	13,819	19,221	71.9	427
80 to 100	34,670	38,676	89.6	484
100 to 120	11,957	11,161	107.1	260
120 to 150	5,384	4,132	130.3	186
Over 150	8,179	3,732	219.2	392

Note: The graduated color classes used in the maps are represented in the map legend by break values for each range and, thus, seem to have overlapping numbers. For example, the range “50 to 80” is from 50.1 up to 80.0 and the range “80 to 100” is from 80.1 up to 100.0.

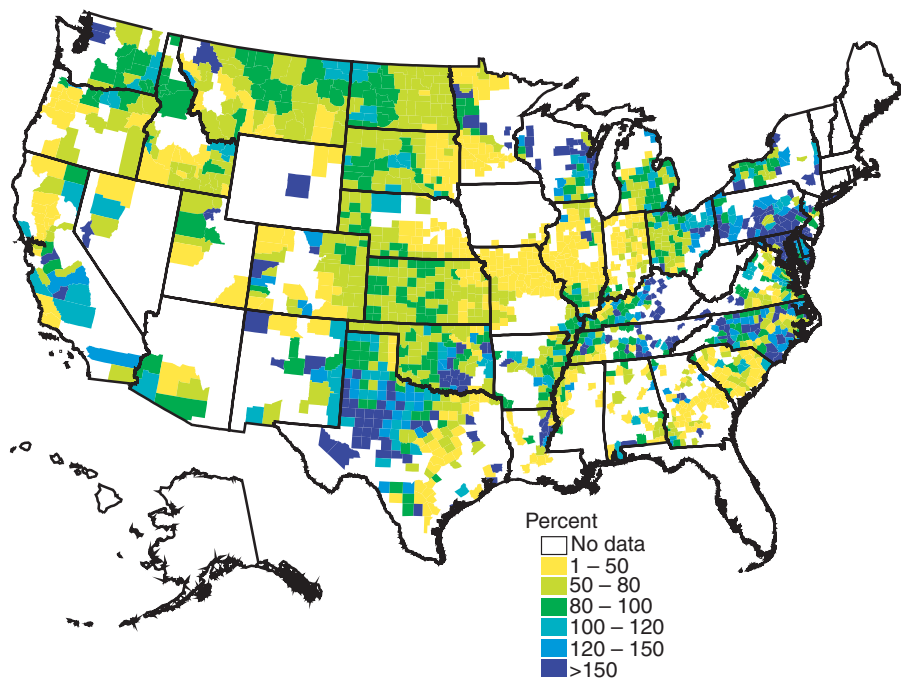
Sources: Compiled by USDA’s Economic Research Service from the Farm Service Agency and the National Agricultural Statistics Service.

production increased in these regions. Wheat production increased relative to contract acreage in western Texas as cotton acreage declined.

The national level of upland cotton planted acreage represented 96 percent of PFC acres in 2001; however, at the State level, upland cotton plantings were more than 20 percent below cotton PFC acreage in Arizona, New Mexico, California, and Oklahoma, and were more than 20 percent higher than cotton PFC acreage in Florida, Georgia, North Carolina, South Carolina, Virginia, and Kansas. The divergence between plantings and contract acreage is even more apparent at the county level (fig. 7). For example, cotton acres exceeded historically based cotton PFC acreage in the Southeastern States of North Carolina, South Carolina, and Georgia as farmers used planting flexibility provided under the 1996 Farm Act.

Figure 6

Wheat plantings relative to wheat production flexibility contract acres, by county, 2001



Percent of wheat PFC acres planted, 2001

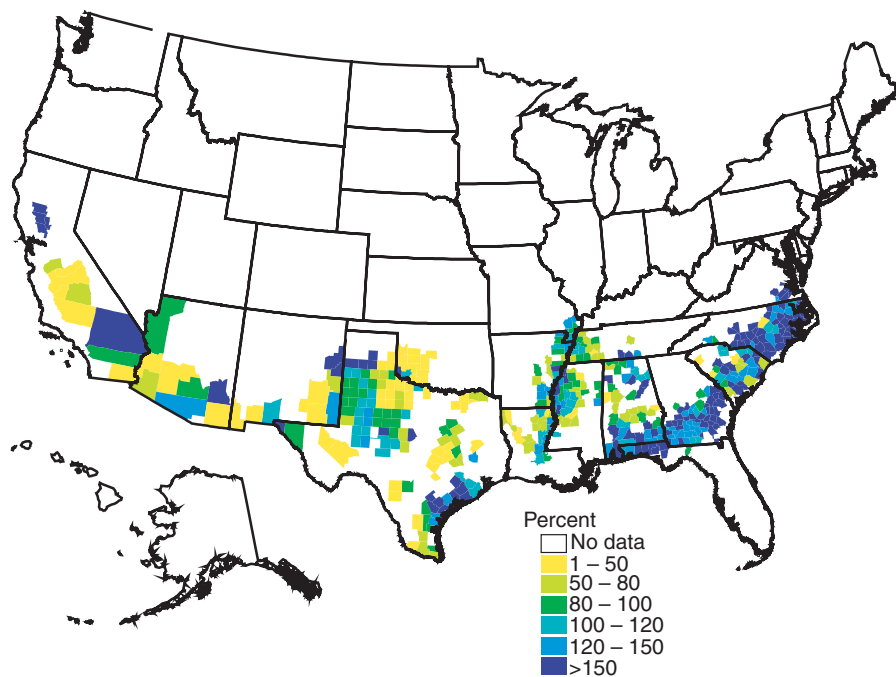
Share of PFC acres planted	Planted acres	PFC acres	Share of PFC acres planted (avg.)	Number of counties
<i>Percent</i>	<i>— 1,000 acres —</i>		<i>Percent</i>	
1 to 50	3,283	10,202	32.2	474
50 to 80	22,270	32,602	68.3	477
80 to 100	20,837	23,804	87.5	319
100 to 120	7,793	7,204	108.2	142
120 to 150	2,088	1,571	132.9	125
Over 150	2,546	1,066	238.8	202

Note: The graduated color classes used in the maps are represented in the map legend by break values for each range and, thus, seem to have overlapping numbers. For example, the range “50 to 80” is from 50.1 up to 80.0 and the range “80 to 100” is from 80.1 up to 100.0.

Sources: Compiled by USDA’s Economic Research Service from the Farm Service Agency and the National Agricultural Statistics Service.

Figure 7

Cotton plantings relative to cotton production flexibility contract acres, by county, 2001



Percent of upland cotton PFC acres planted, 2001

Share of PFC acres planted	Planted acres	PFC acres	Share of PFC acres planted (avg.)	Number of counties
<i>Percent</i>	<i>— 1,000 acres —</i>		<i>Percent</i>	
1 to 50	948	2,567	36.9	66
50 to 80	1,540	2,372	64.9	67
80 to 100	3,707	4,105	90.3	65
100 to 120	3,601	3,327	108.2	54
120 to 150	2,839	2,163	131.2	68
Over 150	2,556	1,279	199.8	146

Note: The graduated color classes used in the maps are represented in the map legend by break values for each range and, thus, seem to have overlapping numbers. For example, the range “50 to 80” is from 50.1 up to 80.0 and the range “80 to 100” is from 80.1 up to 100.0.

Sources: Compiled by USDA’s Economic Research Service from Farm Service Agency and National Agricultural Statistics Service.