

## **Farm Level Impacts of the 2002 Farm Bill on a Georgia and North Carolina Farm**

Nathan Smith and Gary Bullen<sup>1</sup>

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<sup>1</sup>Assistant Professor, Department of Agricultural and Applied Economics, The University of Georgia; Farm Management Specialist, Department of Agricultural Economics, North Carolina State University.

Contact Author: Nathan Smith, Agricultural and Applied Economics Department. P.O. Box 1209, RDC. Tifton, GA 31793. 229-396-3512. [nathans@uga.edu](mailto:nathans@uga.edu)

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## **Situation**

The Food Security and Rural Investment Act (FSRIA) of 2002, commonly known as the 2002 Farm Bill, expands the previous farm bill with a larger safety net in terms of total price and income support. Commodity programs that were eliminated in the 1996 Farm Bill are reintroduced while oilseed support is expanded under FSRIA (USDA-FSA). Support is provided mainly through commodity marketing loans, direct payments (AMTA transition payments under the 1996 Farm Bill) and the establishment of counter-cyclical payments

The 2002 Farm Bill maintains the marketing loan program and adjusts loan rates for commodities in 2002 and 2004. The income support mechanism of direct payments made on historical base is continued under FSRIA. Additional income support is provided by FSIA in the form of counter-cyclical payments that are driven by price. The counter-cyclical payments are triggered when the average season prices fall below a target price. The target price is set by FSRIA for the duration of the farm bill, 2002 to 2007.

Included in the commodity provisions of the 2002 Farm Bill is an historic change in policy for peanuts. Subtitle C eliminates the traditional peanut quota program that has been in existence for better than 60 years and replaces it with a marketing loan type program similar to the one described above for the major program crops. This is a major change for Southern agriculture impacting peanut producers, landowners and peanut quotaholders.

The basic provisions of the new peanut program eliminate the quota poundage allotment and provides a buyout to quotaholders of \$0.55 per pound (Smith). The quota program which provided a \$610 per ton support price for quota production is replaced with a marketing loan program. Under the new program, all peanuts produced are

eligible for a peanut commodity marketing loan based on \$355 per ton. The producer has the option to take out a loan or take a loan deficiency payment in lieu of the loan.

A peanut base is established for the historical peanut production as part of the new peanut program (USDA-FSA). The historical peanut producer is defined as one who produced peanuts any year during the 1998 through 2001 time period. The historical peanut producer receives a base acreage and program yield for peanuts based upon the average acreage and yield produced from 1998 to 2001. Annual direct payments (DP) and counter cyclical payments (CP) are calculated from the newly established peanut base. The historical peanut producer receives the payments in 2002 and must assign the peanut base to a farm by March 31, 2003. Once, assigned the peanut base remains with the farm for the remaining five years of the farm bill.

An important question is how will the changes to the peanut program and the Commodities Title in FSRIA will impact the profitability of a typical Southern row crop farm, particularly a peanut farm. To help producers compare income potential under the new farm bill a model farm was constructed and a whole farm budget analysis was conducted looking at net farm income under the 1996 and 2002 Farm Bills.

## **Objectives**

The main objective of this paper is to:

- 1) Examine the impact of the program changes in the 2002 Farm Bill on the profitability of a cotton and peanut farm.
- 2). Compare results between two major cotton and peanut producing regions in the Southeast.
- 3). Identify major issues for Southeast peanut and cotton producers to consider in adjusting to the 2002 Farm Bill.

## **Procedures**

A typical cotton and peanut model farm was constructed for South Central Georgia and Northeast Coastal North Carolina to examine farm program changes instituted by FSRIA. These two areas were chosen because of the significant acreage and reliance on peanuts and cotton for farm income. Each model farm was constructed to reflect a typical operation in a large peanut production area of each state.

Data was obtained through interviews with County Extension Agents and producers in the counties of interest. The South Central Georgia farm is based upon interviews with county agents from Coffee, Irwin, Wilcox and Worth counties and producer input from Worth County. The Northeast Coastal North Carolina farm is based upon interviews from Halifax and Northampton counties. Participants were asked to give a consensus on the farm size, crop mixes, production expenses, machinery and equipment, off-farm income, yields and quota. Detailed crop enterprise budgets and balance sheets were developed from the data collected in interviews.

A base plan was developed using FINLRB, a whole-farm budgeting program component of FINPACK (Center for Farm Financial Management). FINPACK is a farm financial budgeting and analysis software from the Center for Farm Financial Management at the University of Minnesota. To compare the base plan under the 1996 and 2002 Farm Bills, crop prices and costs were assumed constant. The net price for corn was assumed \$2.35 per bushel, cotton \$0.60 per pound, soybeans at \$5.20, wheat at \$2.52 per bushel. The peanut price for 2001(1996 Farm Bill) was assumed to be \$0.29 per pound for North Carolina and \$0.26 per pound for Georgia. For 2002, the peanut price was assumed to be loan rate of \$0.1775 per pound for both states.

Net farm income includes crop production revenue plus all government payments minus direct crop production expenses and depreciation (fixed costs). Direct and counter cyclical payments are calculated on 85% of the base.

The direct payment is calculated as follows:

$$(1) \quad DP = DPR * BA * PY * 85\%.$$

Where:

DP = direct payment

DPR = direct payment rate

BA = base acreage

PY = payment yield

The counter cyclical payment is calculated as:

$$(2) \quad CP = CPR * BA * PY * 85\%$$

Where:

CP = counter cyclical payment

CPR = counter cyclical payment rate

BA = base acreage

PY = payment yield

## **Results**

The profitability analysis shows that with the addition of counter cyclical payments and base updating, net farm income for each farm increases under the 2002 Farm Bill. This assumes costs and prices remain constant. Annual net farm income for the South Central Georgia farm base plan increases from \$42,090 to \$128,878. The Northeast Coastal North Carolina farm base plan increases in annual net farm income from \$49,539 to \$92,502. Of importance is the percentage of net farm income that is government payments. For 2002 the Georgia farm government payments make up 110.3% of net farm income. For the North Carolina farm, government payments make up 114.6% of net farm income. Government payments under 2001 totaled \$40,994 for the Georgia farm and \$41,187 for the North Carolina farm. The payments increase to

\$145,040 for the Georgia farm and \$108,330 for the North Carolina farm. In other words, these two model farms are not profitable without government payments except for the case of better than average peanut yields.

It is important to note that at the assumed prices, maximum counter-cyclical payments trigger. It is likely that the maximum counter-cyclical payment will not be paid each year. For the 2002 the crop year, the actual counter cyclical payment for corn, soybeans and wheat may be zero.

Payment limitations for direct and counter-cyclical payments do not trigger for the two farm base plans. The direct payments for the SCG farm total \$13,196 for peanuts and \$22,271 for all other crops. The direct payments for the NCNC farm total \$7,543 for peanuts and \$19,799 for all other crops. The counter-cyclical payments for the SCG farm total \$30,791 for peanuts and \$50,319 for all other crops. The counter-cyclical payments for the NCNC farm total \$17,600 for peanuts and \$47,775 for all other crops. An important issues come to bear on payment limits for these farms. The counter-cyclical payment is the most likely to trigger on all other crops. Basically, farms larger than 1,200 acres will need to use multiple entities in order to avoid maxing out the counter-cyclical payment limit. This means the effective payment limits of \$40,000 for direct payments and \$65,000 for counter-cyclical payments can be increased to \$80,000 and \$130,000 respectively.

### **Summary**

To summarize, this analysis of a South Central Georgia farm and Northeast Coastal North Carolina farm shows potential to more than double net farm income. But the increase in net farm income is due to increases in base payments through the addition of peanut base and increasing of cotton base. Cotton and peanut base payments are important for both farms as government payments make up over 100% of net farm income. Without the government payments, the farms would not be profitable.

This analysis should be considered a snap shot of impact of the new farm bill. Risk is not incorporated into the analysis but should be considered when considering potential base payments. Further study should incorporate price and yield risk. Another important component for study would be rental arrangement and the impact of base on land rent.

## References

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**Table 1.** Owned and Rented Acreage by Crop for South Central Georgia Farm and Northeast Coastal North Carolina Farm.

Crop	Georgia			North Carolina		
	Rented	Owned	Total	Rented	Owned	Total
Peanuts	100	200	300	100	70	170
Cotton	240	460	700	150	650	800
Corn	30	70	100			
Soybeans				0	30	30
Wheat	30	70	100			
Total Acres	300 (25%)	800 (75%)	1200	250 (25%)	750 (75%)	1000

**Table 2.** Quota Assumptions for Georgia and North Carolina Farm.

	Owned Pounds	Rented Pounds	Total Quota Pounds
SCG Farm	258,750	474,375	733,125
NCNC Farm	116,000	377,000	493,000

**Table 3.** Owned and Rented Irrigated Acreage by Crop for South Central Georgia Farm and Northeast Coastal North Carolina Farm.

Crop	Georgia			North Carolina		
	Irrigated	Non-Irr.	Total	Irrigated	Non-Irr.	Total
Peanuts	150	150	300		170	170
Cotton	350	350	700		800	800
Corn	75	25	100			
Soybeans					30	30
Wheat		100	100			
Total Acres	575	625	1200	0	1000	1000

**Table 4.** Crop Enterprise Budgets for South Central Georgia Farm and Northeast Coastal North Carolina Farm, \$/Acre.

	Yield	Direct Cost	Fixed Cost	Total Cost
GA Bt. Conv. Irr. Cotton	950 lb	\$406.97	\$165.43	\$572.40
GA Conv. Non-Irr. Cotton	600 lb	\$304.68	\$95.43	\$345.27
NC Bt./RR Irr. Cotton	750 lb	\$345.27	\$75.22	\$420.59
GA Irr. Peanuts	3500 lb	\$458.62	\$176.48	\$635.10
GA Non-Irr. Peanuts	2200 lb	\$387.76	\$106.48	\$494.24
NC Non-Irr. Peanuts	2900 lb	\$517.62	\$117.71	\$635.33
GA Irr. Corn	150 bu	\$243.64	\$114.82	\$358.46
GA Non-Irr. Corn	75 bu	\$146.52	\$44.82	\$191.34
GA Non-Irr. Wheat	45 bu	\$102.70	\$39.03	\$141.73
NC Non-Irr. RR Soybeans	45 bu	\$139.91	\$37.59	\$177.50

**Table 5.** Total Net Farm Income Under Base Plan and Alternative Scenarios for South Central Georgia Farm and Northeast Coastal North Carolina Farm.

	South Central Georgia		Northeast Coastal North Carolina	
	2001	2002	2001	2002
Base Plan	\$42,090	\$128,878	\$49,539	\$92,502
Increased Yield <sup>1</sup>	\$64,073	\$155,341	\$55,425	\$107,663
Decreased Yield <sup>1</sup>	\$32,219	\$109,068	\$2,218	\$61,950
Higher Quota <sup>2</sup>	\$36,117	\$146,936	\$44,542	\$99,061
Lower Quota <sup>2</sup>	\$59,695	\$118,359	\$54,586	\$86,006

<sup>1</sup> 10% Increase or Decrease in Average Peanut Yield for the Farm.

<sup>2</sup> 45% and 15% Owned Quota for Georgia and 36% and 12% Owned Quota for North Carolina.

**Table 6.** Total Net Farm Income Under Base Plan and Alternative Scenarios for South Central Georgia Farm and Northeast Coastal North Carolina Farm.

	South Central Georgia			Northeast Coastal North Carolina		
	Net Farm Income	DCP Base Payments	Quota Buyout <sup>1</sup>	Net Farm Income	DCP Base Payments	Quota Buyout <sup>1</sup>
Base Plan	-\$16,162	\$116,577	\$28,462	-\$15,828	\$108,330	\$13,015
Increased Yield <sup>2</sup>	\$862	\$126,014	\$28,462	-\$8,462	\$116,125	\$13,015
Decreased Yield <sup>2</sup>	-\$25,644	\$107,149	\$28,462	-\$30,775	\$100,919	\$13,015
Higher Quota <sup>3</sup>	-\$12,335	\$116,577	\$42,694	-\$15,777	\$114,838	\$19,523
Lower Quota <sup>3</sup>	-\$12,449	\$116,577	\$14,231	-\$15,817	\$101,823	\$6,508

<sup>1</sup> Assuming annual payments of 11 cents per pound for five years.

<sup>2</sup> Assuming 10% Increase or Decrease in Average Peanut Yield for the Farm.

<sup>3</sup> 45% and 15% owned quota for Georgia farm and 36% and 12% owned quota for North Carolina farm.

**Table 7.** Annual Payment Limitation and Total Annual Payments Recieved under 2002 Base Plan for South Central Georgia Farm and Northeast Coastal North Carolina Farm.

	Peanuts		All Other Crops	
	Direct	Counter Cyclical	Direct	Counter Cyclical
Payment Limit <sup>1</sup>	\$40,000	\$65,000	\$40,000	\$65,000
GA Farm	\$13,196	\$30,791	\$22,271	\$50,319
NC Farm	\$7,543	\$17,600	\$19,799	\$47,775

<sup>1</sup> Assuming the operation is set up as one entity