IMPLICATIONS OF THE POTENTIAL NEW FARM BILL FOR UPLAND COTTON

Carl G. Anderson, Edward G. Smith, and Allan W. Gray
Professor and Extension Economist-Cotton Marketing,
Distinguished Roy B. Davis Professor of Agricultural Cooperation and Extension Economist-Marketing and Policy, and
Research Associate, respectively, Department of Agricultural Economics,
Texas A&M University

Policy issues confronting the U.S. cotton industry and fiber consumers are similar to those that have existed for years. The changing supply and demand forces in world markets, the protectionist policies of most countries where cotton is produced, and the vagaries of weather, insects and disease on world cotton production create considerable interactions between market forces and global policies. Safety nets on farm income resulting from policy provisions help stabilize earnings and reduce risk. As a result, capital and human resources used in growing and marketing cotton can make more orderly adjustments in or out of the cotton production infrastructure.

Significant political uncertainty regarding the new Farm Bill remained as of February 14, 1996 when this paper was prepared. The following alternatives appear most probable at this point:

- Congress passes and the President signs provisions similar to the farm sections of the Budget Reconciliation legislation the President vetoed. This agricultural reconciliation language appears to be the mark-up vehicle for the House of Representatives and the Senate and would include the transition payment concept popularly referred to as Freedom-To-Farm.

- Extend the provisions of the 1990 Farm Bill for one or two years. Upland cotton, as well as oilseeds, dairy, peanuts, sugar and honey already have this program in place. The extensions would only be necessary for wheat, feed grains, and rice.

Realistically neither of these alternatives will likely pass as written, and a compromise will define the specific provisions of the New Farm Bill (NFB). Since it appears that some version of the transition payment concept may emerge, this paper will focus primarily on analysis done by FAPRI/AFPC related to the provision of Agricultural Reconciliation Act (ARA). The analysis assumes the provisions are implemented in 1996 and extend through the 2002 crop.

Production Location and Market Share

The U.S. cotton industry has shown remarkable growth since the implementation of the marketing loan provisions from the 1985 Farm Bill in 1986. Where the use of cotton totaled roughly 12.0 million bales in the decade before 1985, usage has increased to the 18.0 million bale level by 1995. Most of the 6.0 million bale growth was in domestic mill use. However, the farm price averaged near 60.0 cents per pound during the decade before and after the 1985 cotton program. Because of improved yields, a 30 percent increase in acreage has produced enough cotton to meet the 50 percent increase in usage at essentially the same price.

Much of the expansion in cotton acreage has been in the Southeast states of Alabama, Georgia, North Carolina, South Carolina, Virginia, and Florida (Figure 1). In 1995, acreage in these states totaled 3,462,000 acres, compared with only 761,000 in 1986. The rapid growth in production has stimulated substantial investments and economic activity in the agribusiness community that provide production inputs, harvesting equipment, gins and warehouses. The Delta states of Arkansas, Louisiana, Mississippi, Missouri, and Tennessee expanded acreage by 2,268,000 acres to 4,876,000 during the last decade. Acreage in the Southwestern states of Texas and Oklahoma increased by 1,532,800 to 6,783,000. In the West, Arizona, California, and New Mexico acreage has been more stable, gaining less than 300,000 acres to 1,596,000.

The shift in cotton from West to East is clearly emphasized by changes in regional production shares since 1986. The Southeast now produces 22 percent of the crop, a sharp gain from 8 percent; the Delta's share is 34 percent, a small increase from 32 percent; the Southwest contributes 26 percent, down from 29 percent; and the West dropped from 31 percent to 18 percent share of production.

Therefore, the largest impact of the new farm program on cotton, whether positive or negative, will likely be felt in the Southeastern and Delta states. However, Texas farmers plant about 38 percent of the total U.S. cotton acreage while its production share is 26 percent. The smallest part of the industry is in the Western states. While cotton growers in the United States produced about 20 percent of the world's 89 million bale crop in 1995, American textile mills consumed only 13 percent of the 86 million bale disappearance.

New Farm Bill Provisions

Upland cotton provisions of the ARA are summarized in Table 1. The target price/deficiency income support program is replaced by fixed, annual transition payments. Upland cotton's share of the fixed payments equals 11.63 percent based on expected share of deficiency payments that would have been paid during 1996-2002 under an extension of the current program as projected by the Congressional Budget Office (CBO). Aggregate payments reach $675 million in FY 1998 then decline to $466 million by FY 2002.

Figure 1. United States: Cotton.

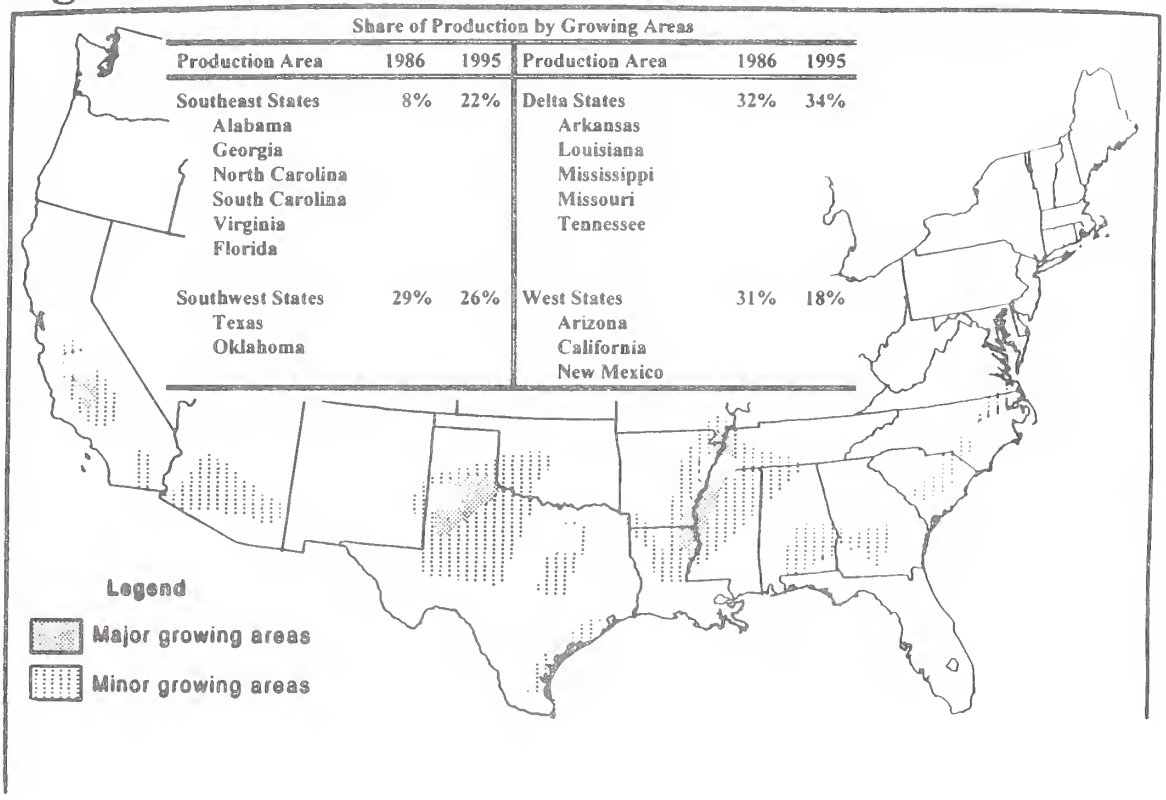

Table 1. Summary of the Upland Cotton Provisions for the 1990 Farm Bill and of the Agricultural Reconciliation Act (ARA).

Policy Tools	1990 Farm Bill	ARA
Target Price	Effectively Frozen at $0.729/lb.	Eliminated
Decoupled Transition Payments	None	Seven year fixed annual payment contracts with declining aggregate expenditures as follows: 1996 - $648 million 1997 - $626 million 1998 - $675 million 1999 - $652 million 2000 - $597 million 2001 - $480 million 2002 - $466 million
Individual Payment Quantity	85 percent of Base acres less acreage reduction requirement multiplied by farm program yield	85 percent of eligible base acreage (contract acres) multiplied by the 1995 farm program yield
Nonrecourse CCC Loan	Formula determined at not less than either the lower of 85% of 5 year olympic average or 90% of an adjusted Northern Europe Price Quotation or $0.50/lb.	Same as 1990 Farm Bill with a maximum of $0.5192/lb The eight month nonrecourse loan extension is eliminated.
Marketing Loan	Based on World Market Price for Upland Cotton	Based on World Market Price for Upland Cotton
Flexibility	Limited flexibility related to 15% NFA - 10% OFA	Full flexibility on 15% of contract acreage; limited flexibility in planting vegetables and haying and grazing on 85% of contract acreage.
ARP Authority	Formula directed between 0 and 25 percent of base to achieve 29% stocks - to - use	Eliminated
CRP	36.4 million acres currently including 1.4 million acres of cotton base.	Enrollment limited to 36.4 million acres early exit is allowed.
0/50/85	50/85	Effectively 0/100
Payment Limits	$50,000/ person deficiency $75,000/ person marketing loan $250,000/ person with 3 entity rule	$40,000/ person transition $75,000/ person marketing loan $230,000/ person with 3 entity rule

Individual contract payments would be based on 85 percent of the eligible contract acreage multiplied by the 1995 farm program yield. To be eligible the farm must have established at least one crop base on the farm and to have participated in at least one applicable program over the 1991 through 1995 crop years. Conservation compliance regulations must be met to qualify for the fixed transition contracts.

The nonrecourse loan program is calculated as under current legislation with the exception that it is capped at $0.5192/lb. The minimum loan floor of $0.50/lb is retained. Extension of the nonrecourse loan beyond the original 10 month period, however, is eliminated. The marketing loan provisions are maintained as currently implemented.

The ARA significantly increases production flexibility. Eligible producers can plant any crop they choose on the 15 percent of contract acreage that is not subject to a transition payment. There are limitations on the 85 percent of contract acreage that is subject to a transition payment. Fruits and vegetables are not allowed on these acres. In addition, haying and grazing is not allowed during the five principal growing months on the payment acreage. Alfalfa plantings can exceed the 15 percent non-paid acreage, but transition payments will be reduced for plantings over 15 percent of the contract acreage.

Annual authority to require acreage reduction in order to be in compliance with the farm program is eliminated. In the current program the Secretary is instructed to utilize acreage reduction programs in order to maintain projected stocks-to-use targets of 29 percent.

Enrollment in the CRP program is capped at 36.4 million acres. Producers would be allowed to exit the program without penalty after giving a 60 day written notice. Through the first 12 sign-ups, approximately 1,434,000 acres of cotton base were idled in the CRP program. Approximately 84 percent of that base is in Texas.

The 50/85 program that allowed producers to plant as little as 50 percent of their payment acreage and receive deficiency payments on 85 of their payment acreage is eliminated. The flexibility provision of ARA effectively grant producers a 0/100 program since they would not be required to plant anything in order to receive their eligible transition payment.

Transition payments under all flexibility contracts are limited to $40,000 per person. Marketing loan gains continue to be capped at $75,000 per person. The three entity rule is maintained, thus total payments are capped at $230,000 per person, down from the current $250,000 limit.

National and Farm Level Impacts

National - FAPRI estimates, assuming normal yields, that cotton prices under ARA would fall from the mid-seventy cent per pound level currently being received for the 1995 crop to the lower-to-mid sixty cent level through the year 2000 before falling slightly under sixty cents by

2002. Couple declining market prices with a 15 percent increase in variable cost of production and per acre returns above variable cost falls by 30 percent. The decoupled transition payments will more than offset this decline in market returns on a dollar basis. However, from a cash flow standpoint if one compared market returns above variable cost plus transition payments in 1996 with comparable expected returns for the year 2002 the cash flow surplus would have declined by 19 percent.

The relative decline in returns above variable cost, whether measured with or without the decoupled transition payment results in a 15 percent reduction in planted cotton acreage from the 16.64 million acres planted in 1995. However, changes in yields, acreages and prices may reflect shifts in acreage that are different than those projected.

Farm Level - AFPC maintains data to simulate the impacts of farm policy on 72 representative crop and livestock farms nationally. Of these, 10 are dependent on cotton production for a majority of their income. Six of the ten cotton farms are located in Texas, two in the Mississippi Delta and two in the Southern San Joaquin Valley of California.

Six of the panel farms are the size considered to be representative of the majority of full-time commercial farming operations in the study area. In four of the regions, Texas Southern and Rolling Plains, Mississippi Delta and California Southern San Joaquin Valley, a second farm roughly two to three times larger than the moderate scale operation is monitored as an indication of economies of size.

All six Texas cotton farms are able to maintain real net worth over the study period. While these farm level results on average appear moderately optimistic for the Southwest region, there are some concerns. Increased production flexibility and relatively tight U.S. stocks will likely result in increased price volatility. If net cash farm income (NCFI) declines slightly, then most Texas farms experience a loss in real net worth. The large Texas Southern Plains operation could sustain a moderate NCFI decline before losing equity during the seven year period.

NCFI declines significantly on four of the representative Texas farms for most of the period as market prices decline and transition payments are reduced. The two Southern Plains farms start experiencing NCFI losses after the year 2000 while pretty much holding their own until then. The Southern Plains farms have improved their economic viability significantly over the last 2-3 years by placing a portion of their acreage under irrigation growing both cotton and peanuts. Since this is a growing trend in the Southern Plains region, a question for the future is will the water table remain sufficient or decline beyond usable levels?

The California and Mississippi operations lose real equity over the 1996-2002 study period, ranging from a small amount on the moderate California operation to over a third on the moderate Mississippi farm. A five percent improvement in NCFI relative to gross receipts, however, would allow the moderate California and large Mississippi operation to maintain equity, while roughly 10 percent would be needed on the large California and the moderate scale

Mississippi farm. As a rule of thumb, AFPC believes that if equity can be maintained with NCFI increases of 10 percent of total receipts, then the farm has a good chance of sustaining equity. This could easily be the case on the large California cotton farm where decoupling of production from payments could result in cost restructuring that was not achievable under the current payment limit and production relationships of the current program. Although the Mississippi operations will benefit from the decoupling of payments from production, the payment limits cause the moderate scale operation to be financial vulnerable.

As with the Texas farms, NCFI drops precipitously after the year 2000, a function of increasing cost, falling market prices and reduced transition payments.

Implications for Upland Cotton

The analysis raises several issues which will have to be addressed by the cotton industry as well as other sectors of U.S. agriculture. These include:

- Flexibility and reduced government support on income stability
- Structural pressure on all sectors of the cotton industry
- Regional competitiveness issues
- Landlord/Tenant negotiations and land values

Income Stability - One of the major reforms that appears to be receiving support from both parties, the administration and special interest, is the move toward greater flexibility in production decisions. While this flexibility will allow the market more latitude in directing planting decisions, it will also result in greater price risk as producers choose among alternative crops in a more uncertain economic environment.

Producers and other agribusinesses in the cotton sector will seek alternative means of reducing the increased risk exposure. Market power issues will likely become more prevalent as those with the potential to pass on risk will likely do so. Producers who have traditionally specialized in production, while somewhat insulated from downside price risk with the help of government payments, will be increasingly exposed to price swings. Improved marketing decisions will bring considerable premiums to those adept at managing price risk. The positive impacts, however, will not be universally achievable.

Many producers and agribusinesses will not have either the managerial capability or the inclination to compete in this more risky environment. Others will continue to specialized in production and turn the marketing over to others. Operating entities of sufficient size to specialize effectively in both production and marketing will do so. Many, however, are likely to turn to group marketing or cooperative efforts as a means of managing price risk.

Structural Pressure

Farmers, as well as the agribusinesses that supply them inputs and market their products, have become increasingly concentrated throughout this century. This trend will likely be enhanced under the New Farm Bill environment. As mentioned previously, decreased price and income stability will result in firms seeking to reach economies of size sufficient to internalize maximum efficiency associated with price risk reduction or vertically integrating through group activities. The bottom line is a more concentrated agriculture.

Increased flexibility at the regional level will place pressure on firms dependent on volume from a specific crop such as cotton. Shifts to grains, oilseeds or other alterative crops that prove more profitable in a single year could play havoc on agribusiness with market areas defined at regional levels, especially if single crop dependent. Cotton gins, for example, are of little use in processing and storing grains or oilseeds. Conversely elevators do not lend themselves to cotton processing in years where cotton is the markets commodity of choice.

Will there be investments in gins and elevators in this uncertain environment? The answer is yes. Will the firms likely be larger and capable of serving a larger geographical region? Again the answer is yes as a means of volume insurance. The results of this pressure is increased concentration in agribusiness. A similar story could apply to lending, input supplies, and other value-added processors as they seek to reduce the regional volume uncertainty inherent in full flexibility.

Regional Competitiveness

The panel farm discussion pointed out some areas of concern relative to regional competitiveness. The panel farm process, however, was never intended to be extrapolated to all cotton farms in the region. Therefore, regional competitiveness and flexibility opportunities are likely better addressed using ERS costs of production by region, adjusted for FAPRI/AFPC out-year estimates on revenues and cost inflation.

The flexibility issue is an interesting one for producers, lenders, other agribusinesses and economists. What will be produced in these regions if producers are given increased ability to respond to markets? At first blush analysts look at returns per acre in whole farm systems and may conclude that the farm will plant the crop that returns the most to the fixed inputs, management and risk given production constraints. Utilizing net returns per acre, cotton appears competitive with major alternative crops in the Southern Plains, Delta and Southeast. However, when returns are denominated by their cost of production, cotton falls to the bottom in each region. Low variable input crops such as wheat and soybeans prevail when per acre returns are compared to the cost of production that must be put at risk to achieve these returns. Although crude, this simplistic analysis may suggest greater movement out of cotton in the major production regions than FAPRI/AFPC anticipate. Certainly the mix within each region will

likely become more volatile each year given price expectations. This further supports the stability issues addressed earlier in the paper.

Landlord/Tenant Relationship and Land Values

If the seven year contract remains a requirement for receiving transition payments, landlords, and tenants may find themselves in unfamiliar territory relative to past negotiations. The issue centers around who is entitled to the transition payments and how is it to be distributed. Current language instructs USDA to be fair and equitable in protecting both landlords and tenants.

Since the majority of leased land in the U.S. is contracted based on single year verbal agreements, they rely on the good faith of the parties involved. The multi-year nature of the transition payment will likely change this tradition depending again on who has the right to the transition payments. To put it simply, are the transition payments attributable to land ownership or are they attributable to past operations of the land?

If the transition payment is attributable to historical operations, then land ownership in and of itself will have no role in the distribution of the payments. For example, if party A leased land from party B on a 25 percent share basis for the last five years, then under this assumption party A would have the right to 75 percent of the transition payment whether or not party A farmed party B's land in the future. The land, in this case, would only be used to construct the payment history and thus would not control the payments.

If the land controlled the transition payments, then the issue becomes more complicated given a multi-year contract requirement. A number of production and financial disagreements may evolve over the course of seven years related to how and who farms the land. It is unlikely that many landlords or tenants will want to sign seven year contracts tying them to the production of specific commodities. If this is the way the transition payments are implemented, look for considerable movements to cash leases and written contracts covering numerous contingencies.

In any event, the decoupling of transition payments, expected decline in market prices, and increased income risk will likely place downward pressure on the price of land. As a result, traditional rental agreements may need to be revised under conditions of the new farm bill.

Conclusions

Cotton policy issues focus on encouraging orderly adjustments for the agribusiness and rural community infrastructure, stability of farm income, appropriate interaction of supply and demand, and competitive prices that cover production costs for efficient operations. It is clear that the proposed provisions of the new Farm Bill will increase the flexibility of producers to respond to market signals. However, the financial risk will increase because of production and price uncertainties. The alternative grain and soybean crops will gain increased attention because

they offer reduced financial risk under favorable prices relative to cotton. The infrastructure of agribusiness and rural communities will need to adjust to cope with greater economic instability. The pressure to manage market risk internally will encourage more integration of production and marketing activities. The result will lead to a greater concentration in agricultural businesses and a possible change in the market structure for cotton. A multi-year contract on transition payments from the government will likely cause a considerable realignment in the traditional landlord/tenant relationships. Further, land values will likely weaken as farm earnings are squeezed between increasing production costs and highly variable and uncertain cotton prices.

The U.S. has the capability to expand cotton production to some 25 million bales by year 2000. But, the economic incentive must be favorable to offset the high capital outlays and resulting financial risk. The key to maintaining growth includes continued technological advances that keep production costs reasonable and below prices received. Past farm programs have assisted in providing income stability and rigorous price competition against man-made fibers and to maintain exports. Without program benefits, production may be forced to decrease to boost price. The resulting danger looms that at higher cotton prices, synthetic fibers could gain substantially in price competition. Furthermore, foreign growers with various levels of state support and low labor costs would likely claim a larger share of the international market. Hence, the U.S. cotton market would be smaller, and the industry looses to its fiber and foreign competitors.

References

AFPC, "Representative Farms Economic Outlook: FAPRI/AFPC November 1995 Baseline," AFPC working Paper 95-21, Texas A&M University System, December 1995.

FAPRI, "Summary of the FAPRI Baseline - The Rainbow Book," FAPRI, University of Missouri and Iowa State University, December 1995.

Stults, Harold, Edward H. Glade, Jr., and Leslie A. Meyer. "Cotton: Background for 1990 Farm Legislation." Commodity Economics Division, Economic Research Service, U.S. Department of Agriculture, Staff Report No. AGES 89-49, September 1989.