

# Tn FARMs

Financial Analyses and Risk Management Strategies


TNTobacco

Bridging the Gap Between Ag Policy and Farm Finances

September 2002

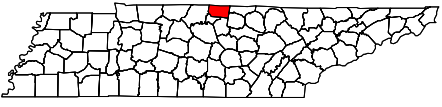
*TnFARMS is a group of representative farm models in Tennessee created by panels of farmers to reflect a farm typical of those in their region. The farms are processed and analyzed using the FLIPSIM model. The University of Tennessee's Agricultural Policy Analysis Center (APAC) uses the TnFARMS models to simulate the impacts of agricultural policies and economic conditions on Tennessee farms. In addition to four tobacco farms, four cotton and grain farms are also included in the TnFARMS set of representative farm models.*

**500 acre Macon County Farm  
"TNT 500"**




**100 acres Burley Tobacco**

Owned burley quota: 39,000 pounds      Leases burley quota at: \$0.63/pound

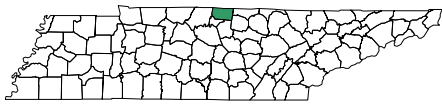


**218 acre Macon County Farm  
"TNT 218"**




**18 acres Burley Tobacco**

Owned burley quota: 3,000 pounds      Leases burley quota at: \$0.65/pound

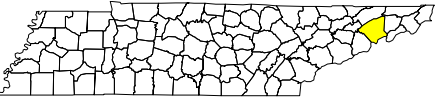


**123 acre Greene County Farm  
"TNT 123"**




**40 acres Burley Tobacco**

Owned burley quota: 7,500 pounds      Leases burley quota at: \$0.55/pound

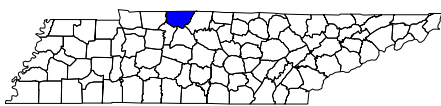


**560 acre Robertson County Farm  
"TNT 560"**



**11 acres Burley Tobacco  
22 acres Dark Fire Tobacco**

Owned burley quota: 7,425 pounds      Leases burley quota at: \$0.60/pound  
Owned dark-fired quota: 11 acres      Leases dark-fired quota at: \$1,600/acre



## Overview

The majority of the tobacco policy questions being asked today are some variant of these two: (1) Is there really going to be a tobacco quota buyout? and (2) When? Although there is still much that would have to be ironed out, and more support will be needed, it does appear that it is more of a possibility now than ever before.

There are five pieces of legislation on the table today that all have some potential to shape the bill that may eventually come to be known as "the" tobacco buyout. Based on the most consistent features of these five proposals, analysis was performed to simulate the impacts of potential tobacco quota buyout and transition legislation on four Tennessee tobacco farms.

Not surprisingly, these simulations indicate that a tobacco quota buyout has the potential to increase net cash farm incomes for each of the four representative farms during the 5 year buyout period. The two larger farms are left in good position to continue growing tobacco after the buyout period, while the two smaller tobacco farms will need to carefully weigh the financial risks the farm may face if they continue tobacco production.

# Farm Details

Farm Name	TNT123	TNT218	TNT500	TNT560
Size Classification	Moderate	Moderate	Large	Large
County	Greene	Macon	Macon	Robertson
Total Acres	123	218	500	560
Burley Tobacco Acres	40	18	100	11
Dark-Fired Tobacco Acres	0	0	0	22
Corn Acres	0	0	0	123
Soybean Acres	0	0	0	124
Wheat Acres (double cropped)	0	0	0	86
Hay Acres	23	100	200	70
Pasture Acres	60	100	200	210
Number Cows (Cow/Calf Operation)	30	30	90	40
Selected expenses per acre of burley				
Transplants	\$250	\$287	\$164	\$280
Fertilizer	\$150	\$163	\$275	\$220
Herbicides/ Fungicides	\$209	\$178	\$141	\$150
Insecticides	\$114	\$92	\$60	\$120

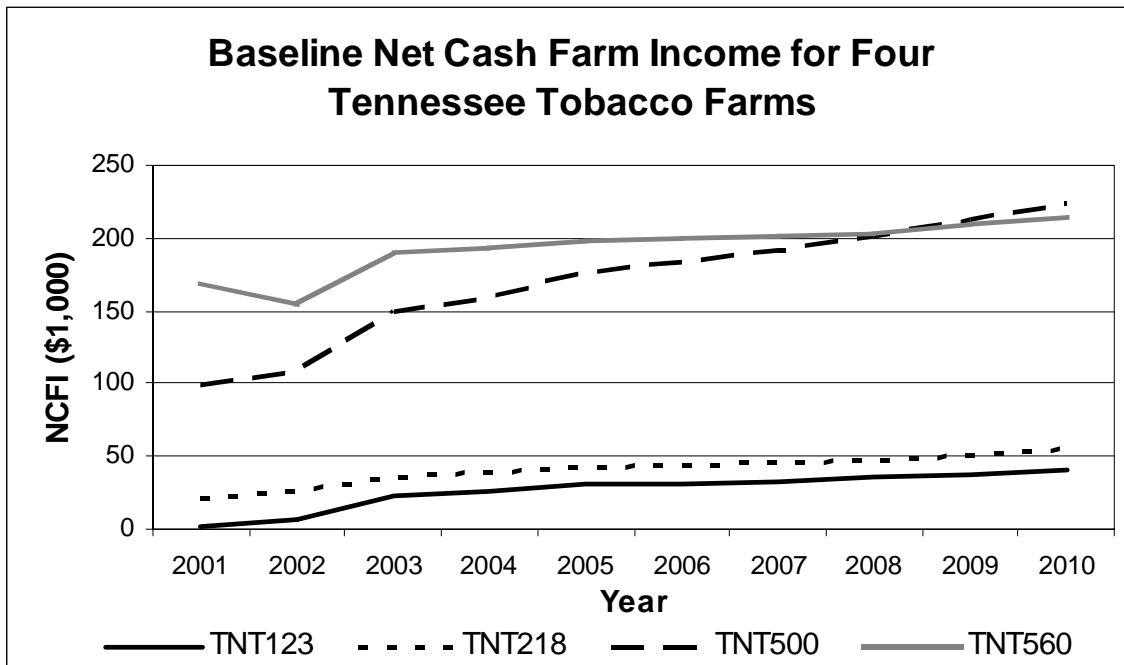
## Observations

- 1) All farms sell near 100% of their tobacco through direct contracts.
- 2) The size gap between farms is getting larger, as small farms cease tobacco production, moderate farms get smaller, and larger farms get larger.
- 3) Quota lease rates have increased dramatically.
- 4) The quota lease rate closely matches the Phase II payment to growers, in effect transferring the grower's payment to the quota owner.
- 5) Northeast Tennessee farmers have lost access to much of the previously available quota owned by their citizens due to cross-county leasing. Undoubtedly, cross-county leasing has also facilitated northern Middle Tennessee's ascension to a top tobacco producing region in Tennessee.

Quota Owned and Leased								
Farm Name	Total average marketings		Quota Owned		Quota Leased		Price of Leased Quota	
	Burley	Dark-Fired	Burley	Dark-Fired	Burley	Dark-Fired	Burley	Dark-Fired
TNT123	80,000 lb	N/A	7,500 lb	N/A	72,500 lb	N/A	\$0.55	N/A
TNT218	41,400 lb	N/A	3,000 lb	N/A	38,400 lb	N/A	\$0.65	N/A
TNT500	195,000 lb	N/A	39,000 lb	N/A	156,000 lb	N/A	\$0.63	N/A
TNT560	29,700 lb	22 acres	7,425 lb	11 acres	22,275 lb	11 acres	\$0.60	\$1,600/acre

Baseline net cash farm income for each farm is presented below. Net cash farm income (NCFI) is total cash receipts minus total cash expenses. Family living expenses, principal payments, income and self-employment taxes, and machinery replacement costs must be paid from NCFI. Baseline conditions include current tobacco prices and expenses, adjusted for inflation, with prices continuing to increase modestly, based on historical price trends. Phase II payments are scheduled to be paid through 2010, and are paid based on historical payments and projected payment levels. (See the table below.) The simulation also assumes a 20% debt load, and no cash reserves in 2001, the beginning of the simulation period.

Projected and Actual (2001) Prices Received by Representative Tennessee Tobacco Farms										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Phase II Payment* (\$/lb)	*Rates for 2002-2010 based on assumptions about distribution, base years, basic quota, marketings, and certification rates.									
Owned Quota	0.052	0.077	0.074	0.076	0.077	0.077	0.077	0.077	0.048	0.048
Grown	0.142	0.362	0.515	0.526	0.574	0.574	0.574	0.574	0.354	0.354
Burley Price (\$/lb)	1.95-2.02	2.01-2.08	2.04-2.11	2.07-2.13	2.10-2.16	2.13-2.19	2.16-2.22	2.18-2.24	2.20-2.25	2.23-2.27



TNT 123: Under the baseline, this moderate sized Greene County Farm has NCFI ranging from \$1,538 in 2001 to \$41,094 in 2010. Higher than average yields in 2001 kept this farm from experiencing a negative NCFI. Future yields are projected at their trend level of 2,000 lb/acre in 2002, trending slightly upward over time. In years 2002 through 2005, the Phase II payment amount is projected to increase. In those years, and subsequent years this payment keeps the farm from having negative NCFI. This farm has close to 100% probability of a cash flow deficit each year, and a high probability of losing real net worth by 2004.

TNT218: Under the baseline, this moderate sized Macon County Farm has NCFI ranging from \$21,579 to \$54,501. Much like the Greene County farm, higher than average yields, along with Phase II payments kept the farm from experiencing negative NCFI in 2001. Future yields are projected at their trend level of 2,300 lb/acre in 2002, trending slightly upward over time. TNT218 has close to 100% probability of experiencing a cash flow deficit for the first 3 years, and depends on tobacco prices increasing at trend levels, and Phase II payments remaining constant after 2003 to decrease the probability of a cash flow deficit to about 10% by 2008. This farm is in danger of losing real net worth by 2004.

TNT500: Under the baseline, this large Macon County Farm has NCFI ranging from \$99,073 to \$223,902. Expected increases in the amounts of Phase II payments along with tobacco prices increasing modestly at trend levels improve the outlook for this farm over the 10 year projection period. Future yields are projected to trend slightly upward after returning to 1,950 lb/acre in 2002. This farm has virtually 0% probability of experiencing cash flow deficits or declining real net worth over the projection period.

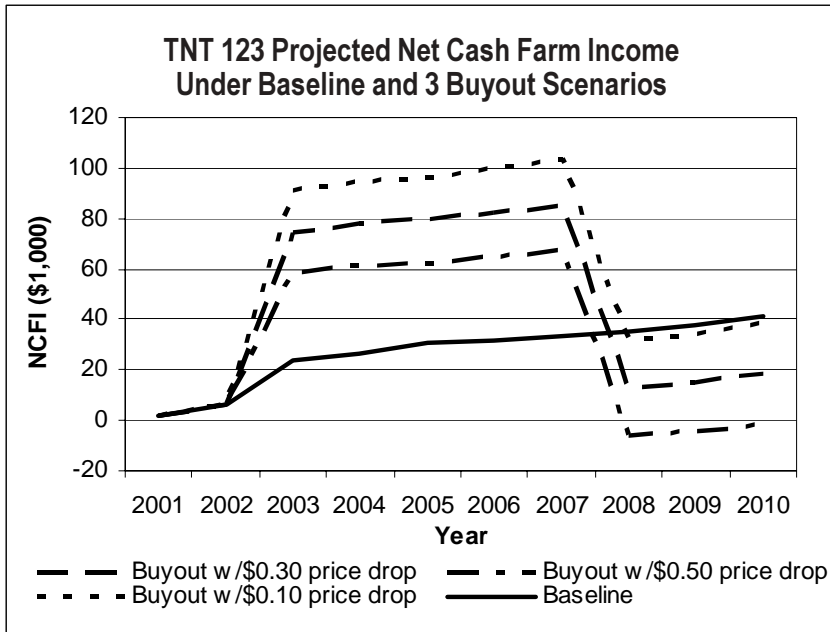
TNT560: Under the baseline, this large Robertson County Mixed Tobacco Farm has NCFI ranging from \$168,809 to \$214,101. This is the most diversified of the model tobacco farms. After experiencing exceptional yields in 2001 across all crops produced, 2002 shows a drop in NCFI which is attributed to the return to trend yields (2,700 lb/acre for burley tobacco in 2002, trending slightly upward for future projections). Because of the wide diversity of crops, this farm's income remains more stable, and changes due to tobacco issues do not affect it as drastically as the other three farms. This farm is the most profitable and economically stable of the four farms. This farm has virtually 0% probability of experiencing cash flow deficits or declining real net worth over the projection period.

In each of the charts on pages 4-5, the solid line represents the baseline outlook for net cash farm income under continuing tobacco trend prices, quota lease agreements, and projected future Phase II payments. The effect of a proposed buyout on the price farmers receive for tobacco is unknown, but it is likely that price will not stay the same. We have simulated a 30 cent price drop based on analyses by agricultural economists, and also used a “worst case” scenario of a 50 cent drop and a “best case” of a 10 cent drop. Each buyout scenario assumes the basic payments of \$8/lb for tobacco quota owners, and \$4/lb for tobacco growers, based on the tobacco quota owned

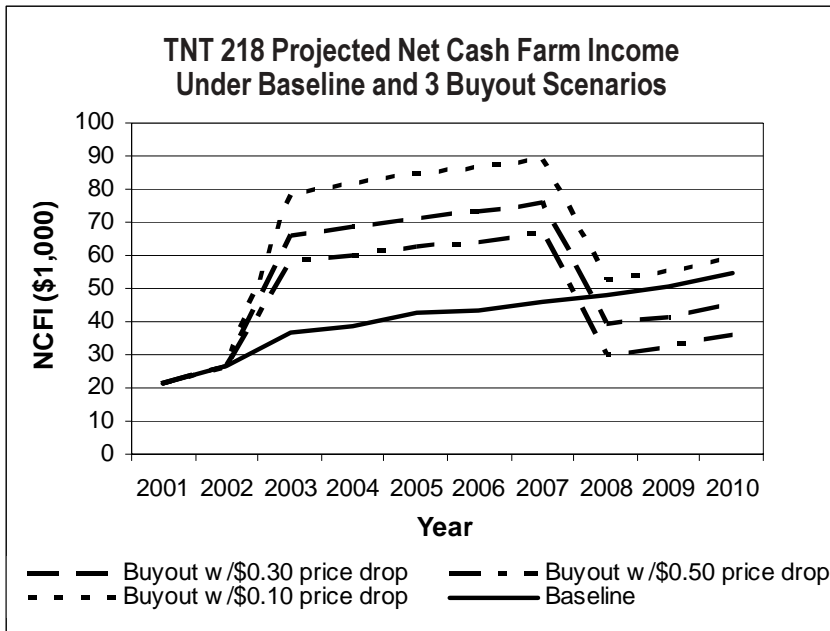
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## Moderate Tennessee Tobacco Farm Analysis

### Projected Net Cash Farm Income Under Baseline and 3 Buyout Scenarios



If a buyout is implemented in time to go into effect for the 2003 crop year, it will make a difference of about \$34,800 - 67,300 each year for five years. After the buyout period ends, the farm will be left without Phase II payments, and most likely will face lower prices for any tobacco they market. Our most optimistic scenario shows the farm returning to NCFI lower than the baseline, with the definite possibility of experiencing negative NCFI. TNT 123 may benefit from investigating other agricultural opportunities in which to invest buyout dollars, and carefully weighing the financial risks of continuing tobacco production. Keep in mind that even with buyout dollars, this farm does not have much money to spare. Family living expenses, principal payments, income and self-employment taxes, and machinery replacement costs must be paid from NCFI.



If a buyout is implemented to be effective for the 2003 crop year, the Moderate Macon County farm, TNT 218 will realize a difference of around \$21,500 - 42,400 each year for five years. After the buyout period ends, it is possible that the farm will return to NCFI equal to or greater than the projected baseline. It is more likely that the annual NCFI will drop to the \$30,000-50,000 range. This farm will incur high risk if they remain in tobacco production. Because family living expenses, principal payments, income and self-employment taxes must be paid from NCFI, the future viability of this farm will be questionable.

### Both moderate farms

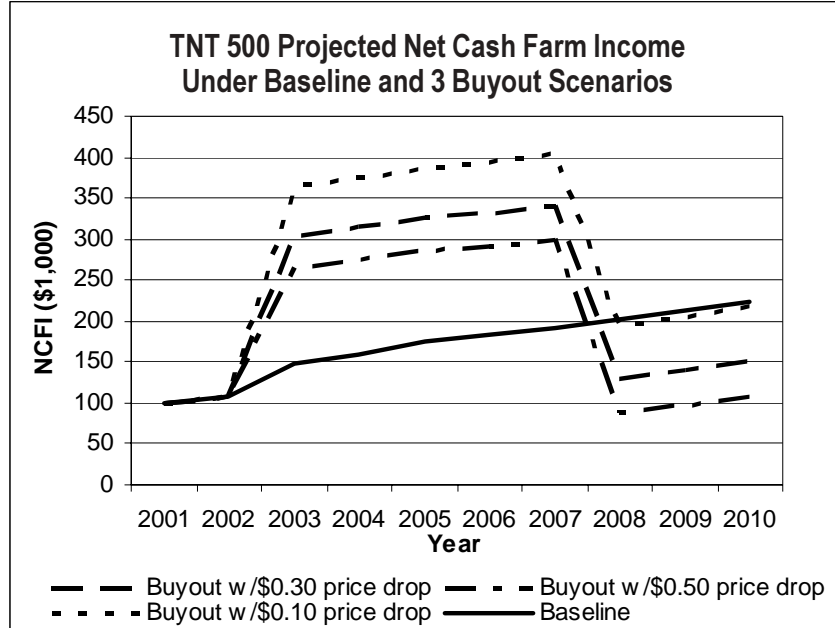
- 1) Run the risk of experiencing cash flow deficits.
- 2) Run the risk of losing real net worth.
- 3) Will see improved NCFI for the 5 years of tobacco quota buyout payments.
- 4) Viability of the farm after the buyout period bears careful evaluation.

and marketed in 2001. Further analysis will look at some subtle, but substantial differences between the proposals, including the date on which to base quota ownership/marketings and the addition or subtraction of \$2/lb in the payment made to tobacco growers depending on if they continue or cease tobacco production. For this simulation, we assume buyout payments begin in 2003 and continue for 5 years, through 2007. We also assume that Phase II payments end in the year the buyout payments begin. (i.e., farm does not get both buyout and Phase II payments)

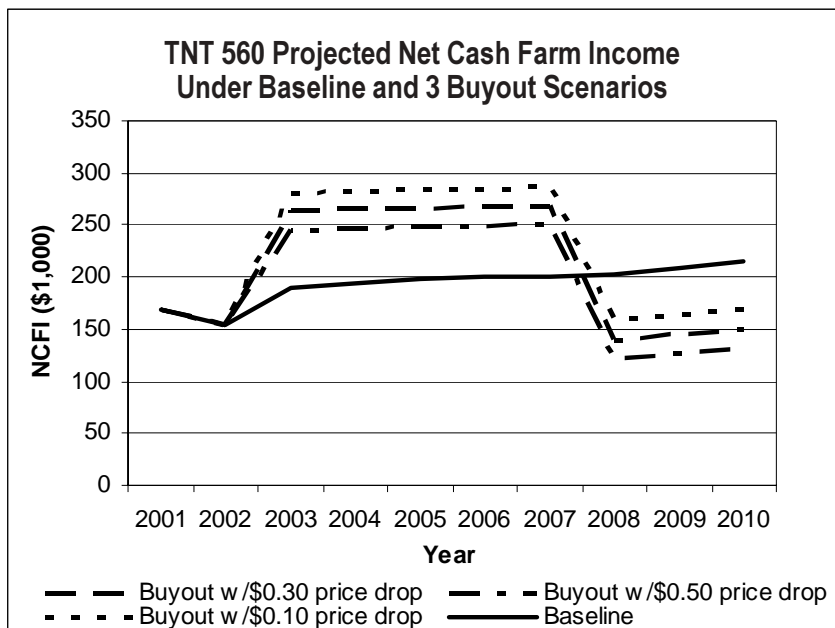
## Large Tennessee Tobacco Farm Analysis

### Projected Net Cash Farm Income Under Baseline and 3 Buyout Scenarios

If a buyout is implemented in time to go into effect for the 2003 crop year, TNT 500 will realize a difference of about \$115,700 - 215,386 each year for five years. After the buyout period ends, NCFI will drop back to levels somewhat lower than projected for the baseline scenario. However, TNT 500 will not be in danger of experiencing cash flow deficits or declining real net worth. Even though NCFI after 2007 may drop by as much as half of the projected baseline NCFI, the lowest NCFI projected is just under \$100,000, which should still be enough to cover cash needs. TNT 500 has negligible probability of experiencing cash flow deficits or declining real net worth even after the buyout period. TNT 500 benefits proportionately more from the buyout because they own a much greater amount of quota and produce more pounds of tobacco than the other farms.



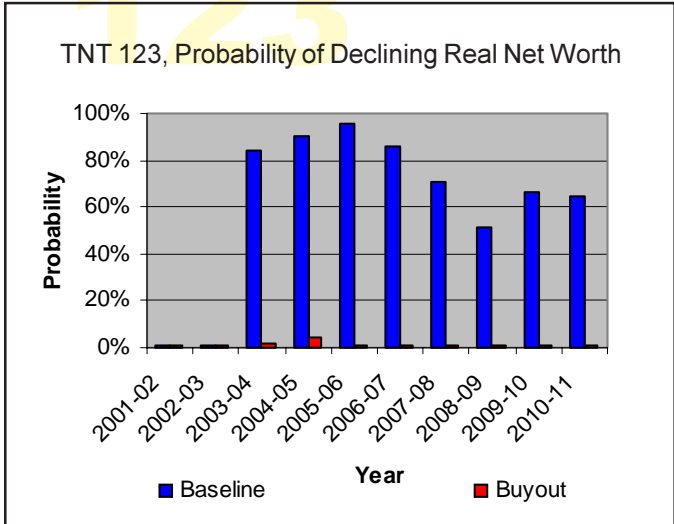
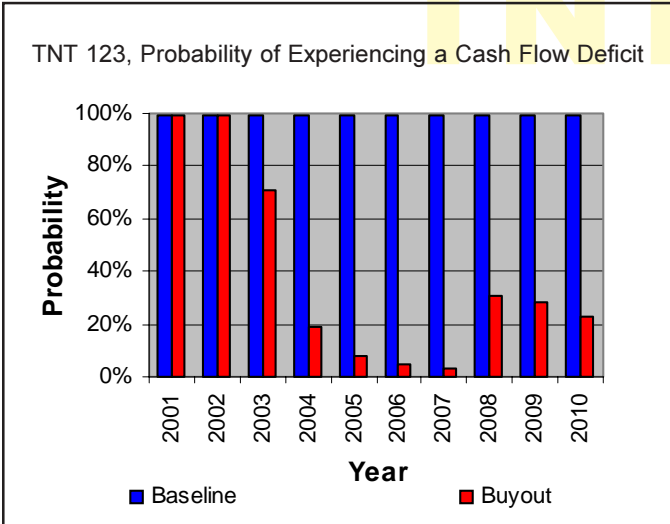
If a buyout is implemented in time to go into effect for the 2003 crop year, TNT 560 will realize an NCFI increase of about \$55,400 - 92,000 each year for five years. After the buyout period ends, NCFI will drop back to levels approximately 25% lower than projected for the baseline scenario. However, TNT 560 will not be in danger of experiencing cash flow deficits or declining real net worth. The lowest NCFI projected is well over \$100,000, which should still be enough to cover cash needs. TNT 560 has very little worry of experiencing cash flow deficits or declining real net worth. This simulation was performed assuming continuation of the 1996 Farm Bill provisions without supplemental payments. We are currently in the process of updating our model to reflect 2002 Farm Bill provisions. Because this farm has a substantial amount of program crop acreage, we expect that under the new provisions, based on the effects of the 2002 Farm Bill on other TN representative crop farms, TNT 560 will fare even better under new farm policy.



### Both large farms

- 1) Will benefit from a tobacco quota buyout for 5 years.
- 2) After the buyout period, NCFI will drop to below baseline levels.

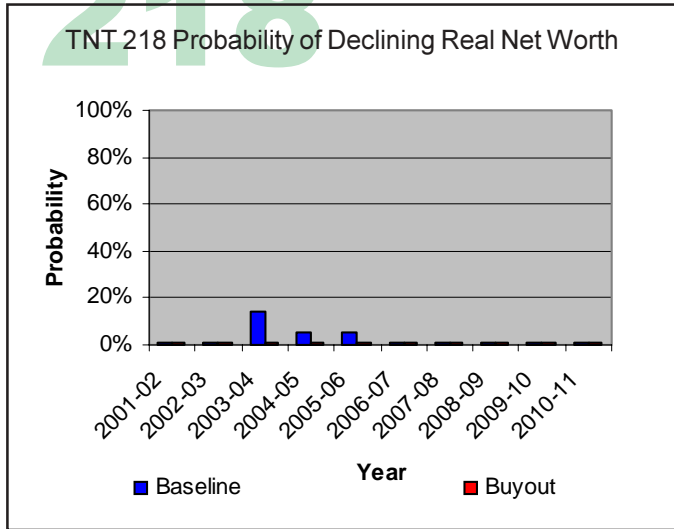
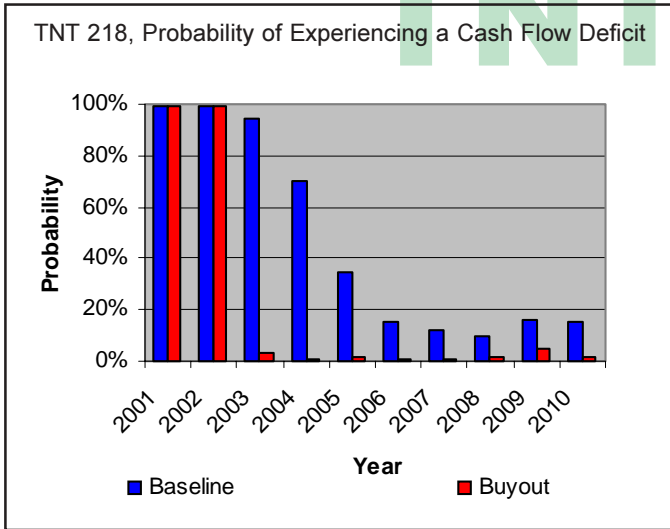
# TNT 123



Under baseline conditions, TNT 123 has almost 100% probability that it will experience a cash flow deficit in each year of the projection period. A tobacco quota buyout will not erase the likelihood of experiencing cash flow deficits. However, during the years that buyout payments are being made, the risk is lowered substantially, allowing the farm some time and resources to investigate other agricultural opportunities and evaluate the farm's future viability.

By assumption, the farm begins with no cash reserves and a 20% debt load. Under these assumptions, the farm has a high probability of beginning to lose real net worth by 2004. A tobacco quota buyout would help the farm retain net worth. Although there is a small probability of declining net worth between 2004 and 2005, the overall net worth is maintained under buyout conditions. Without changes to the operation, or significant policy changes, this farm has little chance of remaining economically viable after the buyout period.

# TNT 218



Under baseline conditions, TNT 218 has high probabilities of experiencing cash flow deficits for the next 4 years. If prices continue to rise at trend levels, and Phase II payments continue as projected, the farm will see the probability of experiencing cash flow deficits decline to less than 20%. With buyout dollars coming in, the farm reduces the probability of a cash flow deficit to near 0 during the buyout period, and to 7% and less after the buyout.

By assumption, the farm begins with no cash reserves and a 20% debt load. Under these conditions, TNT 218 has a low probability of declining real net worth in any year of the baseline, and minimal risk of losing net worth if a buyout is implemented.

\* The two larger farms have negligible probabilities for experiencing cash flow deficits as well as declining real net worth, under both the baseline and buyout scenarios.

## Summary of Buyout Legislation

Fletcher (R-Kentucky) and Cleland (D-Georgia) drafted legislation that joined the McIntyre (D-North Carolina) and Goode (I-Virginia) bills that were introduced earlier this year. The Fletcher and Cleland bills (note that Fletcher is on the House side and Cleland is on the Senate side) are similar in many respects and a number of individuals and groups have suggested that these bills are likely companions for an FDA regulation bill that was introduced by Senators Kennedy (D-Massachusetts) and DeWine (R-Ohio) in mid-June. The latest addition is a companion bill to the McIntyre bill introduced in the Senate by Senator Miller (D-Georgia) in late July. A table summarizing key elements of each of the bills is provided on the back page of this publication.

Several elements are common among all four bills. They all propose paying quota owners \$8 per pound. They all propose paying active growers \$4 per pound. They all propose that the payments be spread over five years. None of them have payment limits. They are all projected to have a total cost between \$15 and \$19 billion. All propose to pay for the buyout and related programs by imposing a user fee on tobacco manufacturers and importers, except the Goode bill which does not fully specify a funding source. It is likely that future projected Phase II payments would be terminated upon passage of any buyout.

But there are key differences as well. While they all propose payments of \$8/lb for quota owners, they use different bases for making the payments. The same is true for the \$4/lb payments to active growers. The Fletcher bill includes an additional payment of \$2/lb for active tobacco growers who agree to give up future production rights. The Cleland bill reduces the grower payment from \$4/lb to \$2/lb if the grower decides to remain in tobacco production. The Fletcher and Cleland bills include options for small quota owners to receive expected total payments in one lump sum instead of spread over 5 years.

The House Agriculture Subcommittee on Specialty Crops has scheduled a hearing for September 26 to consider buyout proposals.

We will perform simulations of how these finer, yet potentially important details would affect Tennessee farms when it becomes clear which options are being seriously considered in committee.

APAC would like to extend special thanks to the farmers and Extension personnel who devoted their time to the development of the rep farms.

### Facilitators

Steve Hale  
Paul Hart  
Steve Walker  
Jeremy Stull

### Panel Participants

Wayne Brown	Jamie Head
Marty Coley	Mike Hendley
Howard Butch Ellis	Darrel Law
Tony Ferguson	Jarry McNabb
Kyle Gass	Bobby Riley
Terry Goad	Nicky Wilson
Jake Haun	

*The representative farms and associated financial information used in the TnFARMS project do not represent the farm of any one panelist. However, panelists regard the representative farm as a reasonable reflection of economic activity on actual farms with similar parameters in their region.*

APAC

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*Visit our website for more information on TnFARMS, our model/methods/data, tobacco master settlement and quota buyout issues, or other ag policy issues. As we receive more detailed information on tobacco quota buyout and transition legislation, expect to see more analysis about the effects of such legislation on Tennessee farms. Questions, comments and input are welcomed.*

Kelly Tiller, Assistant Professor  
Jennifer Brown, Research Associate

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The University of Tennessee E11-1216-00-004-03

<b>Bill Number Sponsor</b>	<b>HR-5035 Fletcher</b>	<b>S-2706 Cleland</b>	<b>HR-4753 Goode</b>	<b>HR-3940 McIntyre</b>	<b>S-2764 Miller</b>
<b>Bill Title</b>	Tobacco Equity Elimination Act of 2002	Aid to Tobacco-Dependent Communities Act of 2002	Tobacco Market Transition Act of 2002	Tobacco Livelihood and Economic Assistance for our Farmers (LEAF) Act of 2002	
<b>Introduced</b>	June 28, 2002	June 28, 2002	May 16, 2002	March 12, 2002	July 19, 2002
<b>Co-Sponsors (9/16/02)</b>	Bishop, Bryant, Etheridge, Hayes, Lewis, Price, Warm, Boucher, Clement, Gordon, Hilleary, Lucas, Rogers, Whitfield, McCarthy	(none)	Boucher, Jones, Gordon, Lewis	<b>McIntyre:</b> Abercrombie, Boyd, Clement, Condit, Gordon, Graham, Lewis, Wilson, Bishop, Brown, Clyburn, Davis, Hilleary, Spratt <b>Miller:</b> none	
<b>Quota Buyout</b>					
<b>Eligibility</b>	Quota owners on July 1, 2002	Quota owners on January 1, 2002	Quota owners on July 1, 2002	Quota owners on January 1, 2002	
<b>Payment Rate</b>	\$8/lb	\$8/lb	\$8/lb	\$8/lb	
<b>Payment Base</b>	Total available will be based on 1998 basic quota times \$8/lb. Payments based on share of 2002 national basic quota owned.	Average basic quota owned 1997-1999	Either 2002 basic quota owned or average of basic quota owned 1997-1999	1998 basic quota owned	
<b>Grower Compensation Eligibility</b>	Active grower during 2002 crop year	Active grower during 2001 crop year plus any one of the 1998-2000 crop years	Active grower during 2001 or 2002 crop years	Active grower during 2001 crop year	
<b>Payment Rate</b>	\$4/lb + \$2/lb if grower gives up future production rights	\$4/lb if grower gives up future production rights or \$2/lb if grower obtains future production permit	\$4/lb	\$4/lb	
<b>Payment Base</b>	Total available will be based on 1998 marketing quota times \$4/lb. Payments based on grower's share of national average of effective quota and marketings for 2001 and 2002.	Average of 1997-1999 marketing quota	Choose either 2001 or 2002 marketings	2001 marketings	
<b>Payment Limits</b>	None	None	None	None	
<b>Payment Timing</b>	5 equal annual payments, 2003-2007 (quota owners with less than 1,000 lbs who give up future production rights may receive total compensation in 2003)	5 equal annual payments, 2004-2008 (quota owners with less than 1,000 lbs who give up future production rights may receive total compensation in 2003)	5 equal annual payments, 2002-2006	5 equal annual payments, 2003-2007	
<b>Tobacco Program</b>	Modified to system of annual production licenses. Maintains minimum support price based on cost of production. Grower cooperatives provide guaranteed market. No-net assessments continued.	Modified to system of annual production permits. Maintains minimum support price based on cost of production. Grower cooperatives provide guaranteed market. No-net assessments continued. Permit program referendum required every 3 years.	Replaces program with a production license and minimum price guarantee program administered by a federally chartered corporation. No-net assessments continued.	Terminates existing federal tobacco program. Includes provisions that attempt to maintain production in traditional regions.	
<b>Other Provisions</b>	Establishes a Center for Tobacco-Dependent Communities for rural development assistance and funding.	Establishes a Center for Tobacco-Dependent Communities for rural development assistance and funding.	Allows consideration of payments to others adversely affected by elimination of the tobacco program (e.g., graders, warehousemen, equipment dealers, etc.)	Grants FDA the authority to regulate the manufacture, marketing, packaging, and labeling of tobacco products	
<b>Expected Cost</b>	\$18-\$19 billion	\$15-\$16 billion	\$17-\$18 billion	\$15-\$16 billion	
<b>Funding Source</b>	User fee on tobacco manufacturers and importers. Fees terminated after obligations of the bill are met.	User fee on tobacco manufacturers and importers	Trust Fund created with existing No-Net-Cost funds and other funds yet-to-be-determined	User fee on tobacco manufacturers and importers. 85% for buyout, 15% for FDA regulation.	