NEW DISASTER ASSISTANCE PROGRAMS IN THE 2008 FARM BILL:

Focus on SURE

The SURE program created by the 2008 Farm Bill is the largest of the Supplemental Agricultural Disaster Assistance programs. Learn how the SURE program works and its relationship with crop insurance so you can make more informed risk-management decisions for your farm.

Disaster assistance for agriculture has been a major issue in the U.S. Congress for years. From 1997 through 2007, temporary *ad hoc* disaster assistance payments were the typical mechanisms used to aid farmers who were adversely affected by natural disasters. Given the *ad hoc* nature of this approach, however, these temporary payments have been difficult to manage fiscally.

The 2008 Farm Bill, officially known as the Food, Conservation, and Energy Act of 2008, created the Supplemental Agricultural Disaster Assistance (SADA) program as a comprehensive, permanent disaster assistance program for agriculture to replace the temporary *ad hoc* programs used in the past. This new program expanded some temporary programs and combined them with new ones. The SADA is composed of five different programs:

- Supplemental Revenue Assistance Payments Program (SURE),
- Tree Assistance Program (TAP),
- Emergency Assistance for Livestock, Honey Bees, and Farm-Raised Fish (ELAP),
- Livestock Indemnity Program (LIP), and
- Livestock Forage Disaster Program (LFP).

This basic overview of the SURE program describes its implications for farmers' decisions about crop insurance and risk management. The SURE program covers all the major commodity crops, and it is the largest among the five SADA programs.

At this writing in January 2009, the U.S. Department of Agriculture (USDA) Farm Service Agency (FSA), the agency in charge of implementing these new disaster programs, is still interpreting some of the legislation's details. Some of the discussion here may become outdated. Interested Extension agents and farmers should contact their local FSA office for the latest information about these new disaster programs.

WHAT'S DIFFERENT ABOUT SURE?

In the past, most disaster programs made payments based on individual crop losses that were often tied to base acres for either direct payments or countercyclical payments. SURE is a whole-farm disaster assistance program that is tied to crop insurance coverage and farm planted acreage. It is similar to a revenue insurance program, such as Crop Revenue Coverage (CRC), but without the "increasing guarantee" feature. In a nutshell, if actual crop revenue from all crops is less than the SURE guarantee, a SURE payment makes up 60 percent of the difference.

SURE ELIGIBILITY AND REQUIREMENTS

To be eligible for SURE payments, the farm must be located in a county that has been declared a federal disaster county or in a county contiguous to a declared disaster county. A farm that does not satisfy this eligibility requirement may also qualify if it suffers at least a 50 percent loss in crop production due to weather-related causes. This suggests that eligibility for SURE payments can be triggered by a county-level or a farm-level "disaster." However, interpretations of the eligibility requirements vary. Some readers interpret it as meaning that a farm not in a declared disaster county must be contiguous *and* suffer a 50 percent loss to be eligible.

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Others interpret it as meaning that a farm not in a declared disaster county or a contiguous county can still qualify *if* it has a 50 percent production loss (regardless of county designation, if a farm suffers a 50 percent loss, it is eligible for SURE). Ambiguity also exists in interpreting the 50 percent loss in production: Does this mean on *each* crop or for *all* crops?

Aside from these eligibility requirements, a qualifying farm must have the following in effect:

- Federal crop insurance coverage for all insurable crops, at least at the catastrophic (CAT) level (50 percent yield coverage and 55 percent price coverage) *and*
- Noninsured Crop Assistance Program (NAP) coverage for crops not insurable through the federal crop insurance program.

The USDA's Risk Management Agency (RMA) administers the federal crop insurance program, and the various policies under its auspices are sold by private companies. Only the FSA provides NAP policies.

Because the Farm Bill was not passed before the deadline for crop insurance enrollment in 2008, farmers had the opportunity to pay a fee equivalent to the CAT and NAP fees to qualify for SURE payment (the buy-in waiver). The deadline for this buy-in wavier was September 16, 2008. For 2009 onwards, farmers who want to be eligible for SURE payments must purchase crop insurance or NAP policies, or both if applicable, before the crop insurance sales closing dates. For spring-planted crops, the sales closing date is typically February 28 in North Carolina (March 15 in other states). For forage and fall-planted crops (such as winter wheat), the sales closing date is September 30. For most perennial crops, the sales closing date is November 20. The FSA deadline for NAP policies is December 1 for 2009 coverage. **Farmers who do not buy coverage by these dates will not be eligible for disaster assistance under the SURE program in 2009.**

SURE GUARANTEE AND CAP CALCULATIONS

In simple terms, the SURE guarantee is roughly the sum of *all* crop insurance guarantees purchased for the current crop year, increased by 15 percent (for insurable crops) and 20 percent (for uninsurable crops). The extra 15 or 20 percent is designed to fill the revenue gap not covered by insurance. There is also an overall "cap" on the SURE guarantee equivalent to 90 percent of the SURE expected revenue on all crops.

The steps and formulas below provide some details on the guarantee calculation.

Guarantee Calculation Steps

Step 1. Calculate *each* crop's contribution to the whole-farm guarantee:

For insurable crops:
SURE Guarantee for each insurable crop = (Planted acres) x (Crop Insurance Coverage Level) x (Crop Insurance Price Election) x (Maximum of Actual Production History (APH) yield or countercyclical payment (CCP) yield) x 115%

For NAP crops:
SURE Guarantee for each NAP crop = (NAP revenue guarantee for the crop) x (Planted acres) x 120%

Once the crop-specific guarantees are calculated, total them across all crops to compute the whole-farm SURE guarantee. Note that this is a *whole-farm* guarantee, not a *per-acre* guarantee.

Step 2. Calculate the SURE cap by first calculating the SURE expected revenue for each crop using the following formula:

SURE Expected Revenue for each crop = (Planted acres) x (Maximum of APH or CCP Yield) x (Crop Insurance Price Election)

Step 3. Sum the crop-specific expected revenues for *all* crops (to get the whole-farm SURE expected revenue). Multiply the whole-farm SURE expected revenue by 90 percent. The SURE cap is the maximum payment that the farmer can receive through the program.

The Actual Production History (APH) yield in the formulas above is based on the reported yield histories used to determine the average "proven" yield in crop insurance. If a producer has less than four years of actual yield history and one of these is a "plugged" yield, then the plugged yield can be dropped. If a producer has more than four years of actual yield history, then all plugged yields are dropped and only the actual yields are used to determine the SURE APH yield. Plugged yields are used to replace yields in low production years or if the farmer does not have enough history (less than four years) to establish an APH.

SURE ACTUAL REVENUE AND PAYMENTS CALCULATION

Calculate the whole-farm SURE actual revenue (or revenue to count) by summing these figures:

- All the revenues from each crop produced.
- 15 percent of direct payments.
- All CCP or Actual Crop Revenue Election (ACRE) payments. ACRE is a new commodity program in the new 2008 Farm Bill. ACRE is designed to provide revenue support to farmers as an alternative to the price support that farmers are used to receiving from commodity programs (CCP). See Hart (2008) for more details on this program.
- All marketing loan benefits.
- All crop insurance or NAP indemnity payments (including prevented planting payments).
- Other disaster assistance payments.

Because crop insurance and NAP payments are included in the actual revenue calculation, farmers are not paid twice for the same loss. The actual revenue for each crop in the SURE actual revenue calculation is computed as follows:

Actual Revenue for each crop = (Harvested Area) x (Actual Crop Yield) x (National Season-Average Price for the Crop)

The National Season-Average Price is based on the average cash marketing year price determined by USDA. This is not known until September or October of the *next* crop year. For example, for the 2009 crop year, the average cash marketing year price will not be known until September or October 2010. Moreover, the average cash marketing year price can be lower or higher than the harvest futures price used to calculate crop insurance indemnity payments.

Once the whole-farm SURE actual revenue (or revenue to count) is determined, a SURE payment is triggered if the whole-farm SURE *actual revenue* is **below** the whole-farm SURE *guarantee*. The SURE payment is then determined using this formula:

SURE Payment = 60% x (SURE Guarantee – SURE Actual Revenue)

There is also a SURE payment limit cap of $100,000 per year per eligible farmer, based on the same rules outlined for other commodity programs in the 2008 Farm Bill.

All of these formulas and calculations are a little hard to digest. A simple example will help illustrate how the SURE payment is computed.

SURE Case Farm Example: Calculation 1

Consider a 200-acre farm with 100 acres planted to corn and 100 acres planted to soybeans. Corn and soybeans are the only crops on the farm. Further assume that the farm has 100 corn base acres and 100 soybean base acres with CCP yield equal to the APH yield. Suppose this farmer has purchased 75 percent APH insurance (yield insurance) for both crops and has an APH yield of 97 bushels per acre for corn and 30 bushels per acre for soybeans. (These yield figures are based on the 10-year county average yield in Bertie County.) In this case, either APH or CCP yield is used in the SURE calculation because we assume that they are equivalent. Further assume that the APH crop insurance base prices are $4.78/bushel for corn and $11.85/bushel for soybeans.

With these figures, the farm's **SURE guarantee** is then equal to $70,652.55. The separate corn and soybean contributions to the SURE Guarantee are calculated as follows:

Corn: 100 acres x 0.75 coverage x $4.78/bushel x 97 bushels/acre x 115% = $39,990.68
Soybeans: 100 acres x 0.75 coverage x $11.85/bushel x 30 bushels/acre x 115% = $30,661.88

The farm's **SURE expected revenue** is $81,916, which is calculated using the sum of the following crop-specific expected revenue computations:

Corn: 100 acres x 97 bushels/acre x $4.78/bushel = $46,366
Soybeans: 100 acres x 30 bushels/acre x $11.85/bushel = $35,550

The **SURE cap** for the whole farm is $73,724.40 ($81,916 x 90%). Because the cap is larger than the SURE guarantee, then the SURE guarantee of $70,652.55 is used in the SURE payment calculation. Thus, the farm's SURE actual revenue will need to be *below* $70,652.55 to qualify for SURE payments.

Now assume that the farm was able to harvest all 200 acres of the corn and soybeans. But suppose there was a drought during the season that caused low yields. The actual yields of the farm at harvest were 50 bushels per acre for corn and 10 bushels per acre for soybeans. Because of the drought, the county where the farm was located was declared a federal disaster area and the farm is eligible for SURE disaster assistance.

Further assume that the crop insurance harvest prices for corn and soybeans are $5.50 and $12.80 respectively. Note, however, that the season-average prices (or the marketing

Table 1. N.C. SURE Payment Calculator (Example Calculation 1: APH)

Item	Corn	Soybeans	Total—All Crops
Planted Acres	100	100	200
Type of Insurance or NAP	APH	APH	
APH Yield (bushels/acre)	97	30	
CCP Yield (bushels/acre)	97	30	
Crop Insurance Base Price/bushel (APH Price = Base Price)	$4.78	$11.85	
Crop Insurance Coverage Level	75%	75%	
Crop Insurance Yield Guarantee (bushels/acre)	72.75	22.5	
Crop Insurance Revenue Guarantee (using CI Base Price)	$34,774.50	$26,662.50	$61,437.00
Crop Insurance Revenue Guarantee (using CI Harvest Price)	$40,012.50	$28,800.00	
SURE Guarantee = CI Rev Guarantee Base Price x 115%	$39,990.68	$30,661.88	$70,652.55
SURE Expected Revenue (using CI Base Price)	$46,366.00	$35,550.00	$81,916.00
SURE Cap	$41,729.40	$31,995.00	$73,724.40
SURE Guarantee to Use [Max(guarantee or cap)]	$39,990.68	$30,661.88	$70,652.55
Harvested Acres	100	100	
Actual Yield at Harvest (bushels/acre)	50	10	
National Season-Average Price/bushel (or Marketing Year Price)	$5.00	$12.00	
Actual Revenue at Harvest (using Marketing Year Price)	$25,000.00	$12,000.00	$37,000.00
Crop Insurance Harvest Price/bushel	$5.50	$12.80	
Crop Insurance Actual Revenue (Using CI Base Price)	$23,900.00	$11,850.00	
Crop Insurance Actual Revenue (Using CI Harvest Price)	$27,500.00	$12,800.00	
Crop Insurance Indemnity (Depends on Insurance Plan Chosen)	$10,874.50	$14,812.50	$25,687.00
Total Direct Payments	$3,000	$1,000	
15% of Direct Payments	$450	$150	$600
Prevented-Planting Payment Received	0	0	0
CCP or ACRE Payments	0	0	0
Marketing Loan Benefits	0	0	0
Other Disaster Assistance	0	0	0
SURE Actual Revenue	$36,324.50	$26,962.50	$63,287.00
SURE Guarantee to Use - SURE Actual Revenue	$3,666.17	$3,699.37	$7,365.55
SURE Payment (60% of difference between guaranteed and actual revenue)	**$2,199.70**	**$2,219.62**	**$4,419.33**

year prices) reported in September/October of the preceding crop year were found to be $5 for corn and $12 for soybeans.

The farm did not receive CCP, ACRE, marketing loan benefits, and other disaster assistance payments except disaster payments. The total direct payments received for the farm is $4,000 ($3,000 for corn and $1,000 for soybeans). The actual revenue for each crop in the SURE actual revenue calculation is computed as follows:

> Actual Revenue for each crop = (Harvested Area) x (Actual Crop Yield) x (National Season-Average Price for the Crop)

Based on the numbers given above, the SURE actual revenue can now be calculated. First, the actual revenues for each crop needed for the SURE calculations are computed as follows:

> **Corn:** 100 acres x 50 bushels/acre x $5/bushel marketing year price = $25,000
> **Soybeans:** 100 acres x 10 bushels/acre x $12/bushel marketing year price = $12,000

Hence, the total whole-farm revenue (based on the marketing year price) for both crops is $37,000 ($25,000 + $12,000). The crop insurance indemnity payment for the whole farm is $25,687 based on the following calculations for each crop that produced actual yields *below* the APH yield guarantee (i.e., the crop insurance payment is triggered):

> **Corn:** (72.75 yield guarantee – 50 actual yield) x 100 acres x $4.78/bushel crop insurance base price = $10,874.50
> **Soybeans:** (22.5 yield guarantee – 10 actual yield) x 100 acres x $11.85/bushel crop insurance base price = $14,812.50

With the $4,000 direct payment to the farm, 15 percent of this ($600) is going to be counted as part of the SURE actual revenue.

The SURE actual revenue for the farm is then $63,287, calculated as follows:

SURE Actual Revenue = [$37,000 whole-farm revenue (based on marketing year price)] + [$25,697 crop insurance indemnity payments] + [$600 which is 15% of direct payment] = $63,287

Because the SURE actual revenue for the farm is below the SURE guarantee and because the county where the farm resides has been declared a disaster county, the farm is qualified to receive SURE payments. The SURE payment that the farm will receive will be $4,419.33, which is 60 percent of the difference between the SURE guarantee and the SURE actual revenue:

SURE Payment = 0.60 x [$70,652.55 - $63,287] = $4,419.33

Table 1 shows the calculation above in a spreadsheet format.

THE DEVIL IS IN THE DETAILS! LANGUAGE STILL TO BE INTERPRETED

Although Congress has approved the legislation that authorizes the SURE program, the USDA–FSA must interpret some of the language of the law so that the program can be implemented effectively. Hence, in the SURE Case Farm Example: Calculation 1, some assumptions are made that may or may not be how the FSA will interpret the law. This may affect how the program is actually implemented and, consequently, how farmers make their crop insurance and risk management decisions. This section summarizes some of the details of the SURE program that are not yet well-defined.

Ambiguous Eligibility Issues

As mentioned in above, some ambiguity may exist as to how a farm *not* in a declared disaster county can become eligible for SURE. The legislation makes this statement:

> *(5) DISASTER COUNTY. –*
> *(A) IN GENERAL. – The term 'disaster county' means a county included in the geographic area covered by a qualifying natural disaster declaration.*
> *(B) INCLUSION. – The term 'disaster county' includes—*
> *(i) a county contiguous to a county described in subparagraph (A); and*
> *(ii) any farm in which, during the calendar year, the total loss of production of the farm relating to weather is greater than 50 percent of the normal production of the farm, as determined by the secretary.*

Most Extension literature interprets the section above as meaning that a farm not in a declared disaster county can qualify for SURE if the farm is in a contiguous county *or* if it suffers at least a 50 percent production loss. Some have argued that a farm not in a declared disaster county must be contiguous *and* suffer at least a 50 percent production loss.

Another phrase that may be subject to different interpretations asserts the requirement of having a 50 percent production loss. Does this mean that a farm with a 50 percent loss on *at least one* crop qualifies? Or does this mean that *each individual crop* produced needs to have at least a 50 percent loss? Or does this suggest that the *average yield loss* across *all* crops (including minor crops) has to be 50 percent or more? Also, do we interpret "production loss" as a yield loss or a revenue loss?

The final FSA interpretation of this section of the law will be important. If each crop has to have at least a 50 percent loss, then many diversified farms *not* in a declared disaster county may not qualify for SURE. In my opinion, a 50 percent average yield loss across all crops may be more feasible to implement for FSA.

Another eligibility issue with SURE is the possibility of being qualified for payments even if the farm does not have an insurable yield loss (see Barnaby, 2008b). This is possible because SURE is essentially a revenue guarantee—both yield and price affect the probability of payment. A farm in a declared disaster county with minimal yield loss (say a 5 percent loss), but where the harvest and marketing year price drops significantly, can still get a SURE payment without getting an insurance payment (see Barnaby, 2008b for an example). Given this issue, the FSA recently added a new eligibility rule (as a technical correction) that requires at least a 10 percent loss due to natural causes on at least one crop of economic significance.

Another technical correction recently released by FSA pertains to minor crops (see Barnaby, 2008b). The FSA does not require crop insurance or NAP coverage on minor crops—those that are not "economically significant." Two acres of brome grass in a waterway or several plots of garden tomatoes do not have to be covered by crop insurance or NAP policies. All *de minimis* or minor crops will not count in setting the SURE guarantee, and revenues from these minor crops will not count in the calculation of the SURE Actual Revenue. Recent FSA technical corrections also eliminate the crop insurance and/or NAP coverage requirements for pasture and

Table 2. N.C. SURE Payment Calculator (Example Calculation 2: APH Price lower than Revenue Insurance Base Price)

Item	Corn	Soybeans	Total—All Crops
Planted Acres	100	100	200
Type of Insurance or NAP	APH	APH	
APH Yield (bushels/acre)	97	30	
CCP Yield (bushels/acre)	97	30	
Crop Insurance Base Price/bushel (APH Price not equal to base)	$3.75	$8.70	
Crop Insurance Coverage Level	75%	75%	
Crop Insurance Yield Guarantee (bushels/acre)	72.75	22.50	
Crop Insurance Revenue Guarantee (using CI Base Price)	$27,281.25	$19,575.00	$ 46,856.25
Crop Insurance Revenue Guarantee (using CI Harvest Price)	$40,012.50	$28,800.00	
SURE GUARANTEE = CI Rev Guarantee Base Price x 115%	$31,373.44	$22,511.25	$53,884.69
SURE Expected Revenue (using CI Base Price)	$36,375.00	$26,100.00	$62,475.00
SURE CAP	$32,737.50	$23,490.00	$56,227.50
SURE Guarantee To Use [Max (guarantee or cap)]	$31,373.44	$22,511.25	$53,884.69
Harvested Acres	100	100	
Actual Yield at Harvest (bushels/acre)	50	10	
National Season-Average Price/bushel (or Marketing Year Price)	$5.00	$12.00	
Actual Revenue at Harvest (using Marketing Year Price)	$25,000.00	$12,000.00	$37,000.00
Crop Insurance Harvest Price/bushel	$5.50	$12.80	
Crop Insurance Actual Revenue (Using CI Base Price)	$18,750.00	$8,700.00	
Crop Insurance Actual Revenue (Using CI Harvest Price)	$27,500.00	$12,800.00	
Crop Insurance Indemnity (Depends on Insurance Plan Chosen)	$8,531.25	$10,875.00	$19,406.25
Total Direct Payments	$3,000	$1,000	
15% of Direct Payments	$450	$150	$600
Prevented Planting Payment Received	0	0	0
CCP or ACRE Payments	0	0	0
Marketing Loan Benefits	0	0	0
Other Disaster Assistance	0	0	0
SURE Actual Revenue	$33,981.25	$23,025.00	$57,006.25
SURE Guarantee To Use - Sure Actual Revenue	($2,607.81)	($513.75)	($3,121.56)
SURE Payment (60% of difference between guaranteed and actual revenue)	—	—	—

range land (but these policies are needed under the Livestock Forage Disaster Program).

SURE Guarantee Calculation in Revenue-Based Insurance: Base vs. Harvest Price

In Example Calculation 1, I assumed that the farmer purchased two yield-based APH insurance policies for corn and soybeans. What if the farmer purchased a revenue-based insurance product, such as Crop Revenue Coverage (CRC), Revenue Assurance with Harvest Price Option (RA-HPO), or RA with Base Price Option (RA-BP)?

With a yield-based APH insurance policy at buy-up coverage levels, the price used to set the SURE guarantee is naturally just 100 percent of the price election in the APH policy because this is the only price used to value the yield loss and calculate the APH indemnity payment. In a revenue insurance policy, however, two important prices are needed to calculate the eventual indemnity payment—the *base* (or planting time) *price* and the *harvest price*. What price will the program use to establish the SURE guarantee for these revenue products?

Consider Example Calculation 1 (Table 1). I assumed that the *base price* that applies to revenue insurance is equivalent to the *APH price* established for the APH policy (100 percent of price election). But in practice, RMA typically sets the APH price earlier than the revenue insurance base price, and thus they may not necessarily be the same. For example, in 2008 the APH price for corn is $3.75/bushel in North Carolina, while the revenue insurance base price is $4.78/bushel. At these APH prices, the farm in the example would not have received any SURE payments (see Table 2). Hence, this price differential may also affect the crop insurance decisions that a farmer makes (the SURE payment may not pay out if the marketing year price is significantly above the APH price).

For RA-BP, the base price is used to establish the crop insurance revenue guarantee

and the harvest price is used to calculate the revenue at harvest. For CRC and RA-HPO, the insured can set the crop insurance revenue guarantee based on the *higher* of the base price or the harvest price. What if the SURE guarantee is calculated using *only* the base price (for producers with CRC and RA-HPO that have a higher harvest price)? This will lower the SURE payments (relative to the SURE payments of RA-BP) simply because the farm will have higher indemnity payments to count against the SURE guarantee. In this case, SURE will provide disincentives to buy CRC and RA-HPO because CRC/RA-HPO is typically more expensive than RA-BP and it also lowers the "free" SURE payments (although buying CRC/RA-HPO may still have a higher probability of having an indemnity).

Examples of SURE payments for RA-BP and CRC/RA-HPO when base price is used to set the SURE guarantee are presented in Tables 3 and 4. With RA-BP (Table 3), the estimated payment for the farm in the example would have been $7,149.33 when we use the *base price* to set the SURE guarantee and use the *harvest price* to calculate the crop insurance indemnity payment to count against this guarantee.

On the other hand, with a CRC/RA-HPO policy, the SURE indemnity payment of the farm in the Example would have been only $2,724.03 if the SURE guarantee is calculated using the base price and *not* the harvest price. More crop insurance indemnity was received from CRC/RA-HPO to count against the SURE guarantee. But if the SURE guarantee for CRC/RA-HPO was based on the harvest price, the SURE payment would have been $7,813.13 (see Table 5, page 9), which would have been very similar to the SURE payment under the RA-BP case. Therefore, how the SURE guarantee is eventually calculated for revenue insurance products is one important detail that the USDA—FSA has to determine if farmers are to make better risk-management decisions. Nevertheless, in all of these cases, it is important to weigh

Table 3. N.C. SURE Payment Calculator (Example Calculation 3: RA-BP)

Item	Corn	Soybeans	Total—All Crops
Planted Acres	100	100	200
Type of Insurance or NAP	RA-BP	RA-BP	
APH Yield (bushels/acre)	97	30	
CCP Yield (bushels/acre)	97	30	
Crop Insurance Base Price/bushel	$4.78	$11.85	
Crop Insurance Coverage Level	75%	75%	
Crop Insurance Yield Guarantee (bushels/acre)	72.75	22.5	
Crop Insurance Revenue Guarantee (using CI Base Price)	$34,774.50	$26,662.50	$61,437.00
Crop Insurance Revenue Guarantee (using CI Harvest Price)	$ 40,012.50	$28,800.00	
SURE Guarantee = CI Revenue Guarantee Base Price x 115%	$39,990.68	$30,661.88	$70,652.55
SURE Expected Revenue (using CI Base Price)	$46,366.00	$35,550.00	$81,916.00
SURE Cap	$41,729.40	$31,995.00	$73,724.40
SURE Guarantee To Use [Max(guarantee or cap)]	$39,990.68	$30,661.88	$70,652.55
Harvested Acres	100	100	
Actual Yield at Harvest (bushels/acre)	50	10	
National Season-Average Price/bushel (or Marketing Year Price)	$5.00	$12.00	
Actual Revenue at Harvest (using Marketing Year Price)	$25,000.00	$12,000.00	$37,000.00
Crop Insurance Harvest Price/bushel	$5.50	$12.80	
Crop Insurance Actual Revenue (Using CI Base Price)	$23,900.00	$11,850.00	
Crop Insurance Actual Revenue (Using CI Harvest Price)	$27,500.00	$12,800.00	
Crop Insurance Indemnity (Depends on Insurance Plan Chosen)	$7,274.50	$13,862.50	$21,137.00
Total Direct Payments	$3,000	$1,000	
15% of Direct Payments	$450	$150	$600
Prevented Planting Payment Received	0	0	0
CCP or ACRE Payments	0	0	0
Marketing Loan Benefits	0	0	0
Other Disaster assistance	0	0	0
SURE Actual Revenue	$32,724.50	$26,012.50	$58,737.00
SURE Guarantee to Use - SURE Actual Revenue	$7,266.17	$4,649.37	$11,915.55
SURE Payment (60% of difference between guaranteed and actual revenue)	**$4,359.70**	**$2,789.62**	**$7,149.33**

Table 4. N.C. SURE Payment Calculator
(Example Calculation 4: CRC, RA-HP—*Case 1, BP to set SURE Guarantee)*

Item	Corn	Soybeans	Total—All Crops
Planted Acres	100	100	200
Type of Insurance or NAP	CRC, RA-HPO	CRC, RA-HPO	
APH Yield (bushels/acre)	97	30	
CCP Yield (bushels/acre)	97	30	
Crop Insurance Base Price/bushel	$4.78	$11.85	
Crop Insurance Coverage Level	75%	75%	
Crop Insurance Yield Guarantee (bushels/acre)	$72.75	$22.5	
Crop Insurance Revenue Guarantee (using CI Base Price)	$34,774.50	$26,662.50	$61,437.00
Crop Insurance Revenue Guarantee (using CI Harvest Price)	$40,012.50	$28,800.00	
SURE Guarantee = CI Rev Guarantee Base Price x 115%	$39,990.68	$30,661.88	$70,652.55
SURE Expected Revenue (using CI Base Price)	$46,366.00	$35,550.00	$81,916.00
SURE Cap	$41,729.40	$31,995.00	$73,724.40
SURE Guarantee to Use [Max(guarantee or cap)]	$39,990.68	$30,661.88	$70,652.55
Harvested Acres	100	100	
Actual Yield at Harvest (bushels/acre)	50	10	
National Season-Average Price/bushel (or Marketing Year Price)	$5.00	$12.00	
Actual Revenue at Harvest (using Marketing Year Price)	$25,000.00	$12,000.00	$37,000.00
Crop Insurance Harvest Price/bushel	$5.50	$12.80	
Crop Insurance Actual Revenue (Using CI Base Price)	$23,900.00	$11,850.00	
Crop Insurance Actual Revenue (Using CI Harvest Price)	$27,500.00	$12,800.00	
Crop Insurance Indemnity (Depends on Insurance Plan Chosen)	$12,512.50	$16,000.00	$28,512.50
Total Direct Payments	$3,000	$1,000	
15% of Direct Payments	$450	$150	$600
Prevented Planting Payment Received	0	0	0
CCP or ACRE Payments	0	0	0
Marketing Loan Benefits	0	0	0
Other Disaster Assistance	0	0	0
SURE Actual Revenue	$37,962.50	$28,150.00	$66,112.50
SURE Guarantee to Use - SURE Actual Revenue	$2,028.17	$2,511.87	$4,540.05
SURE Payment (60% of difference between guaranteed and actual revenue)	**41,216.90**	**$1,507.12**	**$2,724.03**

the SURE and revenue insurance indemnity payments against the premium cost of the different revenue policies.

Treatment of APH Yields for Group Products and AGR-Lite

Group Products. The APH and revenue insurance products require that the farmer maintain records of the historical farm-level yields to establish the APH yield. But "group" products like the Group Risk Plan (GRP) and Group Risk Income Protection (GRIP) are based on county yields and county revenues, respectively, which do not require establishment of a farm-level APH yield. So will the APH yields used for SURE guarantee calculation be based on the 10-year average *county yields*?

The Farm Bill does have a section that contains this statement:

> *D) EQUITABLE TREATMENT FOR NONYIELD BASED POLICIES. – The Secretary shall establish equitable treatment for nonyield based policies and plans of insurance, such as the Adjusted Gross Revenue Lite Insurance Program.*

Given this "equitable treatment" clause, how would the SURE program equitably set the APH yield to calculate the SURE guarantee for crops covered under GRP and GRIP?

Another issue regarding the "group policies" is calculating the actual farm-level yields of crops insured under either GRP or GRIP. Because this policy does not require individual loss adjustment, a mechanism is needed to verify yield and revenue losses at the farm level. Currently, individual farm-level loss adjustment is provided by RMA for farm-level-based policies but not "group policies." Will FSA provide loss adjustment services for individual farm level losses on farms covered by GRP or GRIP?

AGR-Lite. The clause above specifically mentions Adjusted Gross Revenue Lite (AGR-Lite), which is a whole-farm-revenue

insurance based on data from income tax returns. Again, the question is whether individual loss adjustment for *each crop* would be required when the individual yield losses are not reported in AGR-Lite (the indemnity payment is based on the adjusted revenues from income tax forms). This issue may be important for diversified fruit and vegetable farmers who typically purchase AGR-Lite.

Treatment of Coverage Levels for GRP/GRIP Policies and Policies with Prevented Planting

GRP/GRIP Policies. The coverage levels in a county-level GRP/GRIP contract are typically higher than the farm-level APH products (70 – 90 percent for GRP/GRIP and 50 – 85 percent for APH). The coverage levels are different, given that GRP/GRIP is a county-based contract rather than a farm-based contract. Given this difference, the subsidy rate for a 90 percent GRP contract is the same as the subsidy rate for a 75 percent APH contract. For GRIP, the subsidy rate at the 90 percent level is the same as the subsidy rate for the 80 percent APH contract. With these facts, would a farm with a 90 percent GRP contract, for example, have a 90 percent coverage level for the SURE guarantee? Or will the farm with the 90 percent GRP contract have an "APH-equivalent" (based on the subsidy rates) coverage level of 75 percent?

Polices with Prevented Planting. Another issue exists related to coverage level determination for SURE guarantees when a farm has a prevented-planting claim for farm-level APH and revenue insurance products. Under prevented planting, the coverage level is automatically reduced to 60 percent of the guarantee. In this case, will the SURE coverage level to set the guarantee be reduced to 60 percent? What if the SURE guarantee is *not* reset? Then SURE payments would

Table 5. N.C. Sure Payment Calculator
(Example Calculation 5: CRC, RA-HP—*Case 2, HP to set SURE Guarantee*)

Item	Corn	Soybeans	Total—All Crops
Planted Acres	100	100	200
Type of Insurance or NAP	CRC, RA-HPO	CRC, RA-HPO	
APH Yield (bushels/acre)	97	30	
CCP Yield (bushels/acre)	97	30	
Crop Insurance Base Price/bushel	$4.78	$11.85	
Crop Insurance Coverage Level	75%	75%	
Crop Insurance Yield Guarantee (bushels/acre)	72.75	22.5	
Crop Insurance Revenue Guarantee (using CI Base Price)	$34,774.50	$26,662.50	$61,437.00
Crop Insurance Revenue Guarantee (using CI Harvest Price)	$40,012.50	$28,800.00	
Sure Guarantee = CI Rev Guarantee *Harvest Price* X 115%	$46,014.38	$33,120.00	$79,134.38
SURE Expected Revenue (using *CI Harvest Price*)	$53,350.00	$38,400.00	$91,750.00
SURE Cap	$48,015.00	$34,560.00	$82,575.00
SURE Guarantee to Use [Max(guarantee or cap)]	$46,014.38	$33,120.00	$79,134.38
Harvested Acres	100	100	
Actual Yield at Harvest (bushels/acre)	50	10	
National Season-Average Price/bushel (or Marketing Year Price)	$5.00	$12.00	
National Season-Average Price/bushel (or Marketing Year Price)	$25,000.00	$12,000.00	$37,000.00
Crop Insurance Harvest Price	$5.50	$12.80	
Crop Insurance Actual Revenue (Using CI Base Price)	$23,900.00	$11,850.00	
Crop Insurance Actual Revenue (Using CI Harvest Price)	$27,500.00	$12,800.00	
Crop Insurance Indemnity (Depends on Insurance Plan Chosen)	$12,512.50	$16,000.00	$28,512.50
Total Direct Payments	$3,000	$1,000	
15% of Direct Payments	$450	$150	$600
Prevented Planting Payment Received	0	0	0
CCP or ACRE Payments	0	0	0
Marketing Loan Benefits	0	0	0
Other Disaster Assistance	0	0	0
SURE Actual Revenue	$37,962.50	$28,150.00	$66,112.50
SURE Guarantee to Use - Sure Actual Revenue	$8,051.88	$4,970.00	$13,021.88
SURE Payment (60% of difference between guaranteed and actual revenue)	**$4,831.13**	**$2,982.00**	**$7,813.13**

Table 6. N.C. SURE Payment Calculator (Example Calculation 2: APH—85% Coverage)

Item	Corn	Soybeans	Total—All Crops
Planted Acres	100	100	200
Type of Insurance or NAP	APH	APH	
APH Yield (bushels/acre)	97	30	
CCP Yield (bushels/acre)	97	30	
Crop Insurance Base Price/bushel	$4.78	$11.85	
Crop Insurance Coverage Level	85%	85%	
Crop Insurance Yield Guarantee (bushels/acre)	82.45	25.5	
Crop Insurance Revenue Guarantee (using CI Base Price)	$39,411.10	$30,217.50	$69,628.60
Crop Insurance Revenue Guarantee (using CI Harvest Price)	$45,347.50	$32,640.00	
SURE Guarantee = CI Rev Guarantee Base Price x 115%	$45,322.76	$34,750.13	$80,072.89
SURE Expected Revenue (using CI Base Price)	$46,366.00	$35,550.00	$81,916.00
SURE CAP	$41,729.40	$31,995.00	$73,724.40
SURE Guarantee to Use [Max(guarantee or cap)]	$41,729.40	$31,995.00	$73,724.40
Harvested Acres	100	100	
Actual Yield at Harvest (bushels/acre)	50	10	
National Season-Average Price/bushel (or Marketing Year Price)	$5.00	$12.00	
Actual Revenue at Harvest (using Marketing Year Price)	$25,000.00	$12,000.00	$37,000.00
Crop Insurance Harvest Price/bushel	$5.50	$12.80	
Crop Insurance Actual Revenue (Using CI Base Price)	$23,900.00	$11,850.00	
Crop Insurance Actual Revenue (Using CI Harvest Price)	$27,500.00	$12,800.00	
Crop Insurance Indemnity (Depends on Insurance Plan Chosen)	$15,511.10	$18,367.50	$33,878.60
Total Direct Payments	$3,000	$1,000	
15% of Direct Payments	$450	$150	600
Prevented Planting Payment Received	0	0	0
CCP or ACRE Payments	0	0	0
Marketing Loan Benefits	0	0	0
Other disaster assistance	0	0	0
SURE Actual Revenue	$40,961.10	$30,517.50	$71,478.60
SURE Guarantee to Use - SURE Actual Revenue	$768.30	$1,477.50	$2,245.80
SURE Payment (60% of difference between guaranteed and actual revenue)	**$460.98**	**$886.50**	**$1,347.48**

be higher than if the guarantee were reset because fewer indemnity payments would count against the SURE guarantee with the prevented-planting coverage level reduction to calculate the crop-insurance payment.

Treatment of Indemnity in SURE Actual Revenue: Gross or Net?

The Farm Bill legislation states that, *"(vi) the amount of crop insurance indemnities received by an eligible producer on a farm for each crop on the farm;"* will count against the SURE guarantee. Does this mean indemnity net of premium costs (*net* indemnity), or does it mean the total *gross* indemnity will be counted in the SURE Actual Revenue and counted against the SURE guarantee? Barnaby (2008a) suggests that the intent of Congress was to use gross indemnity to count against the SURE guarantee. But past *ad hoc* (temporary) disaster programs used net crop insurance payments. If net indemnity is *not* used, then this provides incentives to buy insurance products with lower premium costs.

CONCLUSIONS AND IMPLICATIONS FOR DECISION-MAKING

The SURE program could be an interesting risk-management tool that might provide an additional "safety-net" to N.C. farmers. Because the program is closely related to a farmer's crop insurance choices, I will discuss some of its farm-level decision-making implications.

First, farmers must buy crop insurance, NAP coverage, or both for *all* their economically significant crops if they want disaster assistance coverage. The SURE legislation seems to be designed to encourage producers to buy crop insurance. Remember the sales closing dates for crop insurance and NAP. A farm will be eligible for a SURE disaster payment if *all* of the economically significant crops are covered. If a farmer does not want any disaster assistance, then the SURE program has no implications. Lenders, however, want farmers to have crop insurance and be

eligible for disaster assistance. So this may still be important if a farmer needs operating loans.

Second, even if SURE does give support when a whole-farm revenue loss occurs, the SURE payment may not reach the farmer until a year or more *after* the "disaster" occurs. This is because the SURE Actual Revenue is based on the National Season-Average Price (or Marketing Year Price), which is not determined until September or October of the *next* crop year. Hence, farmers must plan for this lag in receiving SURE payments.

Third, the SURE program gives incentives to buy crop insurance at higher coverage levels because the SURE Guarantee is based on the farm's crop insurance coverage levels. Farmers who purchase only CAT coverage (50 percent yield coverage level at 55 percent of the price election) should consider getting coverage at higher levels (60 to 75 percent). However, with the 90 percent SURE expected revenue cap, the program cap limits incentives for purchasing coverage levels at about 80 percent. Coverage levels at or above 80 percent will hit the 90 percent cap, and the additional coverage levels in this case will not result in higher SURE guarantees and payments. Table 6 shows an increase in the coverage level to 85 percent (instead of the 75 percent in Table 1) for the SURE Case Farm Example. Table 6 shows that the calculated SURE guarantee hits the cap. Therefore, the eventual SURE payment would be lower than if the farm insured at 75 percent. No benefit results from paying the increased premium for the higher coverage level in terms of SURE payments, although higher crop insurance indemnity payments would be expected with higher coverage levels.

Fourth, when choosing an insurance contract to purchase in the presence of SURE, each farmer must weigh the expected returns from *both* SURE and crop insurance versus the premium cost of the crop insurance contract. With the legislation's implementation details unclear, it is hard to recommend the appropriate crop insurance product for a particular farm. We know that revenue insurance products are typically more expensive than the APH policy. Also, the RA-BP is typically less expensive than CRC/RA-HPO. Hence, if the base price will be the basis of the guarantee *regardless* of revenue insurance choice, with no chance to adjust the SURE guarantee based on harvest price, then RA-BP may be better because it has a lower cost. The SURE program reduces the value of CRC/RA-HPO if the SURE guarantee will *not* be adjusted based on the higher of the base or harvest price. When considering the overall whole-farm revenue, however, CRC/RA-HPO may still be beneficial because of its potentially higher indemnities and the increased likelihood of having an insurance payment.

Fifth, the $100,000 payment limit for the SURE program makes it less important for large-scale farms that have 1,000 acres or more in planted area and profits above $100,000. In contrast to the $100,000 limit for SURE, the crop insurance program does not have any indemnity payment limit. There is less reason for these large-scale farms to change coverage levels based on SURE because they will probably hit the limits of the program and their losses will not be adequately covered.

Lastly, the SURE program seems to favor single-enterprise farms rather than diversified farms because of its whole-farm coverage. If a farm is diversified, revenues from one crop could compensate for the losses in another. In this case, the farm probably would not receive SURE payments. Over time, the SURE program may encourage farmers to produce fewer crops because it provides additional risk protection without any cost (as compared to crop diversification as a risk-reducing strategy that would cost the farmer). A farmer planting several crops may opt to take out one or two lower-value crops because of the additional risk protection from SURE. In the long run, the SURE program provides disincentives for crop diversification, especially for small, single-enterprise farms.

RESOURCES

References

Barnaby, G. A. 2008a, August 4. Rules Undefined for ACRE (Revenue Insurance) and SURE (Disaster Aid). *Ag Manager*. http://www.agmanager.info

Barnaby, G. A. 2008b, October 3. Technical Corrections to SURE. *Ag Manager*. http://www.agmanager.info

Hart, C. 2008. New Permanent Disaster Assistance: How it Works and When to Expect Payments. *Iowa Ag Review*. Vol. 14, No. 3 (Summer): 6-7, 10. http://www.card.iastate.edu/iowa_ag_review/summer_08/

Other Resources

Barnaby, G.A. Jr. 2008. Crops: Insurance and Risk. AgManager.info Web site. Department of Agricultural Economics, Kansas State University, Manhattan, Kans.: http://www.agmanager.info/crops/insurance/risk_mgt/default.asp

Mitchell, P.D. 2008. New Disaster Programs in the 2008 Farm Bill. Department of Agricultural and Applied Economics, University of Wisconsin—Madison: http://www.aae.wisc.edu/mitchell/CropInsurance/New_Disaster_Programs.pdf

Rejesus, R. M. 2009. N.C. State University Crop Insurance Webpage. Department of Agricultural & Resource Economics, Raleigh, N.C.: http://www4.ncsu.edu/~rmrejesu/ncsu_crop_insurance_extension_page.htm

State of Montana. 2008. Disaster Trust Information. Department of Natural Resources and Conservation, Helena, Mont.: http://drought.mt.gov/committee/correspondence/ndds/2008/Disasterinformation.pdf

USDA. 2008, October 21. SURE—Supplemental Revenue Assistance Payments. Farm Service Agency, Davis, Calif.: http://www.fsa.usda.gov/Internet/FSA_File/surefactsca.pdf

USDA. 2009. 2008 Farm Bill main page. USDA, Washington, D.C.: http://www.usda.gov/wps/portal/!ut/p/_s.7_0_A/7_0_2KD?navid=FARMBILL2008

Zulauf, C. 2008. Selected Publications. Department of Agricultural, Environmental and Development Economics, The Ohio State University, Columbus, Ohio: http://aede.osu.edu/people/publications.php?user=zulauf.1

SURE Calculators

Texas AgriLife Extension. 2008, October 1. Supplemental Revenue Assistance (SURE) Program Payment Estimator (version 1.1). Texas A&M System and Plains Cotton Growers, Lubbock, Texas: http://www.plainscotton.org

USDA—Farm Service Agency. 2008, August 12. Supplemental Revenue Assistance Estimated Payment Calculator (version 1.0). USDA, Washington, D.C.: http://www.fsa.usda.gov/Internet/FSA_File/sure_calculator_v1.xls

Instructions for the USDA-FSA SURE Calculator (version 1.0) are provided at this address: http://www.fsa.usda.gov/Internet/FSA_File/sure_calc_instructions_v1.pdf

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