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Base and Yield Update Option Analyzer with CCP Risk

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Base and Yield Update Option Analyzer with CCP Risk

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The Base and Yield Update Option Analyzer (BYA) is a decision support tool for analyzing the economic consequences of the Base Acre and Payment Yield update options in the 2002 farm bill. The BYA is provided by Texas A&M University for educational purposes and is not intended to replace or duplicate the final FSA calculations done for individual farm units.

The 2002 farm bill offers farmers a one time opportunity to update base and payment yields. The BYA provides a comprehensive system for evaluating the economic consequences of selecting different update alternatives for each farm unit before going to the FSA office.

The 2002 farm bill's base acre and program yield update opportunity is complicated by two factors: (a) the large number of options producers have been given, and (b) the fact that the counter cyclical payment (CCP) is uncertain (risky) because it is based on a fixed target price and the fluctuating market price. This means that the CCP for a crop in any year can be anywhere between zero and the maximum. The option's producers have been given are summarized as:

- **Base acre update options**

1. Freeze 2002 production flexibility contract (PFC) base acres for all years,
2. Add the minimum oilseed acres to existing 2002 PFC base acres ,
3. Add the maximum oilseed acres to existing 2002 PFC base acres by reducing base acres for non-oilseed crops, or
4. Update all base acres using the 1998-01 average of planted acres.

The Farm Service Agency (FSA) recognizes a fifth option for updating base acres. The fifth option involves freezing 2002 PFC acres and setting oilseed base acres anywhere between the minimum (2) and the maximum (3). This option is not included in the BYA because it can result in an infinite number of separate base acre updating options. Additionally, the method that BYA uses to calculate the maximum oilseed base option (3), insures that if it is best to have any oilseed acres, then it is best to have the maximum. Some producers may not want the maximum oilseed base acres, but if the BYA indicates Option 4 is best, then the FSA permitted "intermediate oilseed" option is likely best for you.

- **Payment yield options**

5. Freeze 2002 payment yields for non-oilseed crops and do not establish oilseed payment yields,
6. Establish oilseed payment yields and freeze 2002 payment yields of non-oilseed crops for both direct and counter cyclical payments,

7. Establish all counter cyclical payment yields using 70 percent of the increase in weighted average yields for 1998-01 over the 2002 payment yields, or
8. Establish all counter cyclical payment yields using 93.5% of the weighted average yields for 1998-01.

The acceptable combinations of the four base acre options and four payment yield options, gives producers six alternatives to choose from:

– **Permitted Base Acre and Payment Yield Update Alternatives**

A. Freeze 2002 base acres and freeze 2002 payment yields: Options 1 and 5,
B. Add minimum oilseed base acres to existing 2002 PFC base acres, freeze 2002 payment yields for non-oilseed crops, and establish oilseed payment yields: Options 2 and 6,
C. Add maximum oilseed base acres to existing 2002 PFC base acres by reducing base acres for non-oilseed crops, freeze 2002 payment yields for non-oilseed crops, and establish oilseed payment yields: Options 3 and 6,
D. Update base acres for all crops using the 1998-01 average of planted acres, freeze 2002 payment yields for non-oilseed crops, and establish oilseed payment yields: Options 4 and 6,
E. Update base acres for all crops using the 1998-01 average of planted acres and establish payment yields for all crops using the 70 percent formula: Options 4 and 7, or
F. Update base acres for all crops using the 1998-01 average of planted acres and establish payment yields using the 93.5 percent formula: Options 4 and 8.

Producers are allowed to update base acres and payment yields using a different option for each farm unit. The formula selected for updating payment yield must be the same for all crops on a farm unit.

Input for the BYA

The BYA as a decision support system is available on the AFPC web site. The decision support program guides the user through the process of entering a farm unit's data and produces a report summarizing the results of simulating the six different base and yield update alternatives.

The BYA first asks the producer to indicate the State and County where the farm unit is located. The State and County values allow the BYA to pull in county average yield and similar farm's program yield information that may be used as a "plug" in the updating calculations. Next, the program asks the producer to indicate which program crops were produced on the farm unit in 1998-01 or have historical base acres on the farm unit. Program crops referred to as "covered commodities" in the 2002 farm bill are: wheat, corn, grain sorghum, barley, oats, upland cotton, rice, soybeans, sunflowers, canola, rapeseed, flaxseed, mustard, and safflower.

The producer must specify the crops on the farm unit using a standard format. If the crop was produced as either irrigated or non-irrigated, then check the appropriate box and proceed. If,

however, the crop is grown under irrigation and non-irrigation practices you MUST select the combined practice. Specify all crops that were produced on the farm in 1998-2001 or have a PFC acreage base for 2002. When crops are planted as a replant or subsequent crop, you must specify which crop you want to claim. For example a 100 acre cotton farm that was hailed out in June of 2001 planted sorghum as a subsequent crop can claim either 100 acres of cotton or 100 acres of sorghum in that year, but not both.

Total agricultural cropland acres on the farm unit, as specified by the FSA are entered for the farm unit being analyzed. Total acres of CRP, WRP, and acres idled in a conservation practice must be provided so the BYA can calculate effective cropland acres for the farm unit. Acres of cropland normally planted twice per year (double cropped) to program crops is also required as input.

The producer must enter the following values for each program crop on the farm unit:

- Current or 2002 production flexibility contract (PFC) or base acres,
- Current 2002 PFC payment yield,
- Actual annual planted acres 1998-2001, and
- Proven yields per planted acre or total production for 1998-2001. If a crop is produced under irrigated and non-irrigated practices, then you must enter annual production rather than yield for each of the practices.
- The user's expected share of the crop for 2002-2007 as a percentage.

The BYA software provides the following county level values for each crop from an internal data base.

- Farm program yield for similar farms (county average payment yield is used), and
- Average annual county yields for 1998-2001. Data for the county yield data were provided by FSA and reflect the NASS county average yields, corrected for missing data.

If yield values are not available in the data base, the cells for these variables are blank. The user must enter appropriate values for these variables. Also, if the user wants to use different values than supplied by the data base, enter your own values.

The BYA allows the user to also analyze the base and yield update alternatives assuming constant crop prices. This allows the user to compare the expected government payments for each alternative under both risky prices and the user's own expected prices. A table of default projected annual crop prices for 2002-2007 is provided via a data entry screen in the BYA. If the user wants, they can enter their own projected prices rather than use the default prices. The default prices in the table for cotton, grains, soybeans, and sunflowers come from the FAPRI July 2002 Baseline.

Results from the BYA

The BYA uses the input data to update PFC base acres and payment yields for each crop, given the formulas specified in the farm bill. Calculations used to estimate updated base acres and

program yields are described in the next two sections. The output for BYA is presented in several different types of tables.

- **Actual Input Data Tables 1-4** summarize the farm unit's input data entered by the user. These data include annual planted acres, proven yields, PFC acres, payment yields, county average yields, and similar payment yields. The user's projected annual crop prices for 2002-2007 are summarized in Table 4.

- **Input Data Tables 1-3** summarize the acres and yields for the farm unit's crops. Acres for irrigated and non-irrigated crops are summed to comply with FSA's rule for dealing with these two practices as one crop. Yields for irrigated and non-irrigated crops are averaged to create a weighted average yield. Adjustments are also made to deal with irrigated and non-irrigated production practices to calculate weighted average county yields using the average mix of planted acres on the farm.

- **Data Processing Tables 1-N** summarize the calculations necessary to calculate updated base acres and payment yields. The first table presents the adjusted proven yields with county plugs used to calculate farm program yields for the crops grown on the farm unit. Estimated government payments per base acre (Table 2) are used to determine which non-oilseed base acres are reduced to gain oilseed acres under Option 3. For a farm with an oilseed crop, Tables 3-5 summarize the adjustments made to oilseed planted acres and non-oilseed base acres to calculate updated base acres. A Table is included to summarize which non-oilseed crops traded base acres to gain oilseed base acres under Option 3. If expected government payments for oilseeds are less than for other program crops, then the BYA does not trade off non-oilseed base to gain oilseed base acres.

- **Base Acre Options Table** summarizes the calculated base acres for Options 1-4. The base acres used to calculate counter-cyclical payments are calculated three ways under the farm bill (Options 2-4). Also in this table are the base acres for the direct payments (Option 1). The BYA compresses the table and skips Options 2 and 3 if the farm has no oilseeds.

- **Payment Yield Options Table** summarizes the calculated payment yields used for counter-cyclical payments (Options 6-8), as well as the payment yields for direct payments (Option 5). The BYA compresses the table and skips Option 6 if the farm has no oilseeds.

- **Annual Payment Rate Tables 1-3** summarize the annual direct and counter cyclical payment rates for each of the crops. Average annual payment rates for the risky price analysis are provided in the second table. Annual counter cyclical payment rates for the constant price scenario are summarized in the third table.

- **Risk Results Tables 1-N** summarize the results from simulating the farm unit for six base acre and payment yield alternatives (A-F) using the risky crop prices and CCP rates. A separate Risk Results Table is provided for each crop, to summarize the average annual

government payments (in nominal dollars) for each crop. The last Risk Results Table present a summary of the average annual payments by update alternative across all crops.

- **Constant Price Scenario Results Tables 1-N** summarize the results from simulating the farm unit for six base acre and payment yield alternatives (A-F) using the constant crop prices provided by the user. A separate Constant Price Results Table is provided for each crop, to summarize the average annual government payments (in nominal dollars) for each crop. The last table in this section presents a summary of the average annual payments by update option across all crops.

- **Three Summary Tables** At the end of the output three tables are provided to summarize the farm unit's average annual government payments over the 2002-2007 life of the farm bill under each base and yield update alternative.

    - **First Summary Table** Average total government payments to the farm calculated from the risky price scenario are summarized in the first column of this table. The amount of risk associated with the annual government payments is indicated by the 90% prediction interval included in the table. The Lower 5% and Upper 95% bounds for annual government payments define the range in which one can expect government payments to fall in with 90% confidence. The probability that each update alternative is ranked first, is included in the fourth column of the table.

    - **Second Summary Table** Annual government payments for each update alternative are summarized for three methods for calculating the payments. The first column reflects annual payments received if the constant prices provided by the producer are observed for each year. The second column reflects the payments if prices are so high that there are no counter cyclical payments any year. The last column in the table indicates the total payments for the life of the bill if prices are less than the laon rate each year so CCPs are maximized.

    - **Third Summary Table** compares the risk results for average annual government payments in the above table to the average annual government payments if the user's projected (constant) prices prevailed in all years. Also, in this final table the farm unit's minimum (direct payments only) and maximum (direct payments plus maximum CCPs) government payments are presented for each updating alternative.

- **Risk Chart** showing the cumulative probability distributions for the present value of annual government payments is provided. The bottom axis indicates the annualized present value of government payments. The left axis represents the probability associated with government payments. The 'S' shaped curves depict the amount of risk associated with each update alternative. The probability of government payments being less than a value on the bottom axis is read from the left axis. Risk averse decision makers prefer higher incomes with less risk. As a result the alternative associated with the 'S' shaped curve furthest to the right is the most preferred. The alternative that lies further to the right has higher government payments at each level of risk (probability).

Calculations for Updating Base Acres

The 2002 farm bill provides four options for "updating" base acres for all crops.

- **Option 1** freezes the base acres for covered crops at their 2002 PFC base acres and does not allow adding soybean and minor oilseed base acres.

- **Option 2** freezes the 2002 PFC acres for all non-oilseed crops and calculates base acres for oilseeds using the 1998-2001 average of eligible oilseed acres on the farm unit. Eligible oilseed acres are calculated for each year as acres planted and considered planted for harvest, grazing, haying, silage or other similar purposes for 1998-2001. Total eligible oilseed acres each year may not exceed the difference between planted and considered planted acres for all crops and the sum of current base acres.

- **Option 3** freezes the current PFC acres for non-oilseed crops and maximizes oilseed base acres using the maximum eligible oilseed acres and reducing PFC base acres for non-oilseed crops. Given the complexity and choices involved with using Option 3 for calculating base acres, the BYA takes several steps to calculate eligible oilseed acres and the trade-off of non-oilseed base:

    1. Calculate the expected (or average) annual government payments per base acre for all crops on the farm, for each possible farm program yield formula.
    2. Calculate the sum of planted acres for oilseeds each year, 1998-01.
    3. For each year where the total oilseed acres exceeds the sum of current base acres, either:
        - Oilseed eligible acres are set to zero if the oilseed crop has the lowest expected per acre government payments, or
        - Base acres for the crop(s) with the lowest expected government payments are reduced and eligible oilseed acres are retained in a one for one trade.

- **Option 4** updates base acres for all covered crops by using a four-year average of planted and considered planted acres for each covered commodity. The farm bill specifically includes acreage that was planted or considered planted for "harvest, grazing, haying, silage or other similar purposes for the 1998-2001 crop years."

The farm bill has a provision to prevent excess base acres. The rule is that the sum of base acres must be less than or equal to actual cropland plus double crop acres for the farm. The excess base acres rule applies to Options 2, 3 , and 4. If calculated base acres exceeds actual cropland plus double crop acres, base acres must be reduced. The BYA program reduces the base acres for the crop(s) with the lowest expected government payment until total base acres is in compliance with this rule. The final updated base acres for all covered commodities are summarized in Base Acre Options Table after adjustments are made for the excess base acres rule.

Calculations for Updating Payment Yield

The 2002 farm bill establishes two different payment yields: one for CCPs and another for Direct payments. The CCP payment yields are updated using the producer's actual planted acre yields for 1998-2001, adjusted for low values. In years when the actual planted acre yield is less than 75 percent of the 1998-2001 county average yield, producers can replace their yield with 75 percent of the county average yield.

The farm bill provides four options for updating farm program yields for CCP payments. The option numbers correspond to the BYA output tables.

- **Option 5:** Keep 2002 PFC payment yields for covered commodities. (This option does not allow establishment of CCP payment yields for oilseeds.)

- **Option 6:** Calculate farm program yields for oilseeds if the producer elects to only update oilseed base acres. In this case oilseed payment yields equal 78 percent of average actual and adjusted yields for 1998-2001 on the farm unit.

- **Option 7:** Update payment yields for all covered crops using producer's actual 1998-01 average yield and the current farm program yield as:
  New FPY = PFC payment yield + 0.70 * (average 1998-01 yield - PFC payment yield)
  - Average 1998-01 yield is calculated using a weighted average yield for only the years when the crop was produced.
  - If a covered crop does not have a current payment yield, the Secretary will assign a value based on similar farms. The county average payment yield is used as the assumed value for "similar farms" payment yield in the BYA.
  - For soybeans and minor oilseeds, the value used for "PFC payment yield" in the formula is 78 percent of the farm's 1998-01 average yield.

- **Option 8:** Update payment yields fro all covered crops using 93.5 percent of the average proven and adjusted yields for 1998-01, ignoring years when the crop was not planted.

The payment yield used to calculate Direct payments for covered commodities is the 2002 PFC payment yield or equivalent. For historical program crops that do not have an assigned program yield on the farm, the farm bill assigns a value using the payment yield for similar farms. For soybeans and minor oilseeds, the payment yield used to calculate direct payments is 78 percent of average yields 1998-01 on the farm unit.

Analysis Procedure

Given the permitted combinations of updating base acres and payment yield the producer has six alternative to analyze. The permitted alternatives for <u>each</u> farm unit are:

A. Freeze 2002 base acres and freeze 2002 payment yields: Options 1 and 5,
B. Add minimum oilseed base acres to existing 2002 PFC base acres, freeze 2002

payment yields for non-oilseed crops, and establish oilseed payment yields: Options 2 and 6,

C. Add maximum oilseed base acres to existing 2002 PFC base acres by reducing base acres for non-oilseed crops, freeze 2002 payment yields for non-oilseed crops, and establish oilseed payment yields: Options 3 and 6,
D. Update base acres for all crops using the 1998-01 average of planted acres, freeze 2002 payment yields for non-oilseed crops, and establish oilseed payment yields: Options 4 and 6,
E. Update base acres for all crops using the 1998-01 average of planted acres and establish payment yields for all crops using the 70 percent formula: Options 4 and 7, or
F. Update base acres for all crops using the 1998-01 average of planted acres and establish payment yields using the 93.5 percent formula: Options 4 and 8.

To compare the economic consequences of the six alternatives, one must calculate annual government payments for each crop in 2002-2007 for each alternative, under all possible combinations of market prices (CCP rates). This type of analysis is only possible if a Monte Carlo simulation model of the U.S. agricultural sector is used to simulate CCP payment rates given historical yield and export risks for U.S. crops. The BYA decision support tool utilizes FAPRI's June 2002 Baseline stochastic analysis of the 2002 farm bill to incorporate the CCP rate risk into the decision analysis.

The primary benefit of using Monte Carlo simulation to analyze the base and yield update options is that most all feasible combinations of prices and CCP rates are tested for each option. A secondary benefit is that the historical interrelationships (or correlation) between crop prices and thus CCP rates are maintained because they are generated from a sector level model that uses the historical risk for yields and exports to simulate stochastic prices. Additionally, by explicitly incorporating CCP rate risk into the analysis one is not forced to subjectively pick a six year price forecast for each crop.

The results of simulating the six base and yield updating alternatives on a farm unit amounts to 18,000 estimates of government payments per crop. To summarize the results into a decision friendly format, the decision support tool: (a) calculates the average annual government payments by crop and in total for each base and yield updating alternative, (b) counts the number of times out of 500 iterations that each alternative is ranked first based on 6 years of government payments, (c) calculates a 90% prediction interval for annual government payments under each alternative, and (e) calculates a cumulative distribution (CDF) chart of the government payments by option. The number of times each option is ranked first is divided by 500 so the counts can be expressed as a probability, i.e., the probability that a particular option would be ranked first is 65 percent. The CDF chart shows the relative risk of each option; the option farthest to the right is preferred.

Although the base and yield update alternatives are simulated for 500 iterations (combinations of CCP rates) the simulation results are no guarantee of the future CCP rates. Weather in the U.S. and abroad as well as policy changes here and in the rest of the world could result in price paths and CCP rates that have not been experienced in the past. Economic analyses based on historical price risk is an indicator <u>not</u> a predictor of future performance.

In addition to performing a risk analysis of the base and yield updating alternatives, the BYA does a constant price or "no risk" analysis and a "worst possible" and a "best possible" analysis of each alternative. The constant price scenario assumes the user's projected prices for 2002-2007 are observed and calculates the implied CCP rates accordingly. The "worst possible" scenario assumes that crop prices exceed the counter cyclical prices each year for all crops and producers receive only the Direct payments in all years. The "best possible" scenario assumes crop prices are less than the loan rates in all yeas and producers receive the maximum CCP rates plus the Direct payment. The best and worst case scenarios have virtually a zero probability of occurring so they should be discounted heavily.

Assumptions

The opportunity to update base acres includes two decision points where producers can opt to reduce non-oilseed base acres and increase oilseed eligible acres and base acres. The BYA assumes producers would elect to reduce base acres for non-oilseed crops if the expected per base acre government payments for these crops are less than government payments for oilseeds.

Another decision comes if total base acres exceeds total cropland acres. The BYA assumes producers will reduce the necessary base acres from the crops with the lowest per base acre expected government payments.

The BYA evaluates both of these decisions, or options, based on the one that would maximize government payments. That criterion is chosen because the CCP and the Direct payments are decoupled from the production decision.

Summary

The results of the BYA should be reviewed carefully before making the decision to update base and program yields on each farm unit. The trade-off of non-oilseed base to gain oilseed eligible acres and the choice of sacrificing base to meet the excess base requirements should be reviewed closely. The crops selected for base acre reduction by BYA should be reviewed closely by the producer before making the final decision.

The BYA program is provided as a decision support tool to assist producers in analyzing their options for updating base acres and farm program yields. The computer program calculates base acres and payment yields using formulas described in the 2002 farm bill, but producers are advised to consult with FSA county directors when making this one time decision. The BYA simulation analysis allows for incorporation of historical price and production risk at the national level. This feature allows the CCP payment rate to vary from year to year based on historical price risk, given the other provisions in the 2002 farm bill. This process allows farmers to analyze the impacts of alternative base and yield options under a very large number of price conditions. However, it is not possible to perfectly forecast prices for 2002-2007 or to forecast policy changes over this period, thus the BYA results are offered as a decision support, not a forecast or recommendation.

BYA -- Base And Yield Update Option Analyzer for the 2002 Farm Bill Ver. 2002.12.02.1pm

Farm Name: Example Farm
State: TX
County: Castro
Date 12/09/02

Effective DCP Cropland Acres 450.0
DCP Double Cropland Acres 50.0

Table 1. Actual Input Data: 2002 Production Flexibility Contract (PFC) Acres and Planting History, 1998-2001

Crop Name	2002 PFC Acres	Planted Acre History 1998	1999	2000	2001	% Share of the Crop
Cotton Irr	0.0	100.0	100.0	100.0	100.0	100.0
Cotton Dry	0.0	50.0	50.0	50.0	50.0	100.0
Wheat Dry	150.0	15.0	0.0	35.0	25.0	100.0
Corn Irr	100.0	100.0	120.0	80.0	100.0	100.0
Soybeans Dry	0.0	200.0	115.0	110.0	120.0	100.0
Sunflowers Dry	0.0	223.0	223.0	223.0	223.0	100.0
Totals	250.0	688.0	608.0	598.0	618.0	

Planted acres history must reflect proven acres for each crop. If irrigated and non-irrigated acres are provided for a crop, the irrigated acres are reported first followed by the non-irrigated acres.

Table 2. Actual Input Data: 2002 PFC Payment Yield, Similiar Farm Payment Yield, and Producer Proven Yield or Production History, 1998-2001

Crop Name	2002 PFC Pymt Yield	Similiar Pymt Yield	Producer Proven Yields or Production 1998	1999	2000	2001
Cotton Irr	0.0	463.9	0.0	0.0	0.0	0.0
Cotton Dry	400.0	463.9	75000.0	70000.0	80000.0	90000.0
Wheat Dry	15.0	32.0	400.0	0.0	500.0	500.0
Corn Irr	120.0	110.0	15000.0	13200.0	12800.0	14000.0
Soybeans Dry	0.0	0.0	2700.0	2945.0	3300.0	3300.0
Sunflowers Dry	0.0	0.0	11.8	11.8	11.8	11.8

Actual annual proven yield (or production) must be provided for each crop. If irrigated and non-irrigated yields are provided for a crop, the irrigated yields are reported first followed by the non-irrigated yields. Similiar yields are provided only as a guess at the yield the county committee might assign if you do not have a PFC yield for a crop (other than oilseeds). You may type in your own esimate for similiar yield.

Table 3. Actual Input Data: County Average Yields' and Calculated Annual Yield Plugs

Crop Name	County Avg Yield	Yield Plugs 1998	1999	2000	2001
Cotton Irr	600.0				
Cotton Dry	400.0	400.0	400.0	400.0	400.0
Wheat Dry	19.0	14.2	0.0	14.2	14.2
Corn Irr	125.0	93.8	93.8	93.8	93.8
Soybeans Dry	30.0	22.5	22.5	22.5	22.5
Sunflowers Dry	11.8	8.9	8.9	8.9	8.9

County average yield is a 4 year average of NASS yields per harvested acre for the county. When the farm grows irrigated and non-irrigated crops in the same year, the weighted county average yield plug is a based on the farms irrigated and non-irrigated acres in that year.
Seventy-five percent of the weighted county average yield can be used as the plug to replace low yields.

Table 4. Input Data: Producers Projected Annual Prices Used for the Constant Prices Analysis

Crop Name	2002	2003	2004	2005	2006	2007
Cotton ($/lb)	0.52	0.52	0.52	0.52	0.52	0.52
Wheat ($/bu)	2.80	2.80	2.75	2.75	2.75	2.75
Corn ($/bu)	1.98	1.98	1.95	1.95	1.95	1.95
Soybeans ($/bu)	5.00	5.00	5.00	5.00	5.00	5.00
Sunflowers ($/cwt)	9.60	9.60	9.30	9.30	9.30	9.30

Projected prices are based on: users assumptions or the FAPRI July 2002 Baseline for cotton, grains, soybeans, and sunflowers. Projected prices for minor oilseeds are the users.

Table 5. Base Acre Summary: Acreage History and Base Acres Options for Example Farm

Effective DCP Cropland: 450.0
DCP DBL Cropped Acres: 50.0

ACREAGE HISTORY

CROP	1998	1999	2000	2001	4-Year Average	2002 PFC Acres
Cotton	150.0	150.0	150.0	150.0	150.0	0.0
Wheat	15.0	0.0	35.0	25.0	18.8	150.0
Corn	100.0	120.0	80.0	100.0	100.0	100.0
Total Planted Non-oil	265.0	270.0	265.0	275.0	268.8	250.0
Soybeans	200.0	115.0	110.0	120.0	136.3	
Sunflowers	223.0	223.0	223.0	223.0	223.0	
Total Planted Oil	423.0	338.0	333.0	343.0	359.2	
Total Planted	688.0	608.0	598.0	618.0	628.0	
2002 PFC Acres	250.0	250.0	250.0	250.0		
Planted minus PFC(3)	438.0	358.0	348.0	368.0	378.0	
Eligible Oilseeds					378.0(4)	

BASE OPTIONS

CROP	Option 1	Option 2	Option 3	Option 4	Option 5
Cotton	0.0	0.0	0.0(6)	150.0	0.0
Wheat	150.0	150.0	150.0(6)	18.8	150.0
Corn	100.0	100.0	100.0(6)	100.0	100.0
Total Non-oil Base	250.0	250.0	250.0	268.8	250.0
Soybeans	0.0	136.3(5)	136.3(1)	136.3	136.3(7)
Sunflowers	0.0	113.7(5)	113.7(1)	94.9	113.7(7)
Total Oil Base	0.0	250.0(4)	250.0(2)	231.2	250.0(2)
Total Base	250.0	500.0	500.0	500.0	500.0

Excess Base Acre Rule reduced base acres for Option 2, total base was greater than DCP cropland + DCP DBL acres.
Excess Base Acre Rule reduced base acres for Option 3, total base was greater than DCP cropland + DCP DBL acres.
Excess Base Acre Rule reduced base acres for Option 4, total base was greater than DCP cropland + DCP DBL acres.
Excess Base Acre Rule reduced base acres for Option 5, total base was greater than DCP cropland + DCP DBL acres.

(1) Maximum base acres for each oilseed is equal to the 4-year average planted and prevented planted acres for each oilseed or: 136.3, 223.0,

(2) Maximum oilseed base acres for the farm is equal to the 4-year average of planted and prevented planted acres of all oilseeds or 359.2.

(3) Can not be less than zero. A negative value is replaced with zero for calculating the average of 378.0.

(4) For Option 2, total eligible oilseeds, 250.0, is equal to the 4-year average of planted minus total PFC acres, 378.0, not to exceed the total 4-year average of planted and considered planted acres 359.2.

(5) For Option 2, total of all oilseeds can not exceed eligible oilseed acres, 378.0, and each crop may not exceed its 4 year average of planted and considered planted acres or: 136.3, 223.0,

(6) For Option 3, total non-oilseed base must be offset by the difference between maximum 4 year average of total planted oilseeds, 359.2, and the minimum eligible oilseed acres, 378.0.

(7) For Option 5, base acre for each oilseed crop is constrained between its 4-year average planted acres (see footnote 1)) and its mimimum base observed for Option 2 (see footnote 5).

Table 6. Base Acre Options: Final Calculated Base Acres for Options 1-5, After Excess Base Acre Rule

Crop Name	2002 PFC Acres (Option 1)	Min Oilseed Retain PFCs (Option 2)	Max Oilseed Offset PFCs (Option 3)	Update All Base Acres (Option 4)	Max Payment Offset PFCs (Option 5)
Cotton	0.00	0.00	0.00	150.00	0.00
Wheat	150.00	150.00	150.00	18.80	150.00
Corn	100.00	100.00	100.00	100.00	100.00
Soybeans	0.00	136.30	136.30	136.30	136.30
Sunflowers	0.00	113.70	113.70	94.90	113.70
Total Base Acres	250.00	500.00	500.00	500.00	500.00

Base acres are calculated for the relevant options given the crops on the farm. If the farm raises oilseeds then Options 1-5 appear in the table. Farms without oilseed crops have Options 1 and 4.

Definitions of the Options for Updating Base Acres:
Option 1. Retain 2002 PFC acres for all years.
Option 2. Retain 2002 PFC, add oilseeds without PFC offset.
Option 3. Retain 2002 PFC, add oilseeds with maximum PFC offset.
Option 4. Update all base acres using 1998-01 average planted acres.
Option 5. Retain 2002 PFC, add oilseeds with PFC offset to max government payments.

Table 7. Payment Yield Options: Calculated Farm Payment Yields for Direct and Counter-Cyclical Payments

Crop Name	Direct Payment Yield	2002 PFC Yield (Option 6)	Only Establ. Oilseed Yield (Option 7)	70% Incr. in Yield (Option 8)	93.5% of Average Yield (Option 9
Cotton	400.00	400.00	400.00	488.00	491.00
Wheat	15.00	15.00	15.00	18.00	17.00
Corn	120.00	120.00	120.00	132.00	129.00
Soybeans	20.00	20.00	20.00	24.00	24.00
Sunflowers	9.45	9.45	9.45	11.10	11.04

The payment yield for direct payments equals current PFC payment yields or similiar farm payment yields for PFC crops and a fraction for oilseeds, such as 0.78, of average yields.
Payment yields are calculated for the relevant options given the crops on the farm.

Definitions of the Options for Establishing Farm Payment Yields:
Option 6. Freeze 2002 payment yields for non-oilseed crops.
Option 7. Establish oilseed payment yields and freeze payment yields for non-oilseed crops.
Option 8. Establish payment yields using 70% of increase in yield over 2002 payment yield.
Option 9. Establish payment yields using 93.5% of average 1998-01 proven yield.

Table 8. Data Processing: Producer Proven Yields with Plugs and Calculated Weighted Average Yield

Crop Name	1998	1999	2000	2001	Wtd. Avg.
Cotton	500.0	466.7	533.3	600.0	525.0
Wheat	26.7	0.0	14.3	20.0	18.7
Corn	150.0	110.0	160.0	140.0	137.5
Soybeans	22.5	25.6	30.0	27.5	25.8
Sunflowers	11.8	11.8	11.8	11.8	11.8

Seventy-five percent of county average yield can be used as the plug to replace low yields.
Average yield is a "weighted average" calculated using the sum of production divided by the sum of planted acres. It is not a simple average of the yields.

Table 9. Data Processing: Summary of Planted Acres Used to Calculate Weighted Average Yields

Crop Name	1998	1999	2000	2001
Cotton	150.0	150.0	150.0	150.0
Wheat	15.0	0.0	35.0	25.0
Corn	100.0	120.0	80.0	100.0
Soybeans	200.0	115.0	110.0	120.0
Sunflowers	223.0	223.0	223.0	223.0

Table 10. Data Processing: Combined Irrigated and Dryland Planted Acres History by Crop, 1998-2001

	Total Planted Acres				1998-01
Crop Name	1998	1999	2000	2001	Average
Cotton	150.0	150.0	150.0	150.0	150.0
Wheat	15.0	0.0	35.0	25.0	18.8
Corn	100.0	120.0	80.0	100.0	100.0
Soybeans	200.0	115.0	110.0	120.0	136.3
Sunflowers	223.0	223.0	223.0	223.0	223.0
Totals	688.0	608.0	598.0	618.0	628.1

The 1998-01 average planted acres is calculated by dividing by four, not the number of years planted. Farms producing a crop under both irrigated and non-irrigated practices will be assigned a single base for the crop. The base acreage will be calculated using the annual sum of irrigated and non-irrigated acres for the crop, as summarized in this table.

Table 11. Data Processing: Average Annual Total, Direct and Counter-Cyclical Payments per Payment Acre Using 500 Combinations of Risky Prices to Calculate the Counter Cyclical Payment Rates

	Base and Yield Update Alternatives A-G ($/Pay Acre)			
Crop/Payment Type	Alt A	Alt B-D	Alt F	Alt G
Cotton Total	66.81	66.81	76.52	76.85
Cotton Direct	22.68	22.68	22.68	22.68
Cotton CCP	44.14	44.14	53.85	54.18
Wheat Total	9.48	9.48	10.05	9.86
Wheat Direct	6.63	6.63	6.63	6.63
Wheat CCP	2.85	2.85	3.42	3.23
Corn Total	47.57	47.57	49.47	49.00
Corn Direct	28.56	28.56	28.56	28.56
Corn CCP	19.01	19.01	20.91	20.44
Soybeans Total	7.48	10.95	11.65	11.65
Soybeans Direct	7.48	7.48	7.48	7.48
Soybeans CCP	0.00	3.47	4.17	4.17
Sunflowers Total	6.43	6.43	6.43	6.43
Sunflowers Direc	6.43	6.43	6.43	6.43
Sunflowers CCP	0.00	0.00	0.00	0.00

Total government payments per payment acre for Alternaive B-D are used to determine which crop to offset under base acre updating Options 3 and 5, and for enforcing the Excess Base Acre Rule.

Table 12. Data Processing: Non-Oilseed PFC Acres Offset to Maximize Oilseed Base Acres Under Option 3

Crop Name	Acres Offset	Change in Payments ($)
Cotton	0.0	0.
Wheat	0.0	0.
Corn	0.0	0.
Soybeans	0.0	0.
Sunflowers	0.0	0.

Under Option 3 the number of base acres established for oilseeds can be increased by offsetting the non-oilseed PFC (base) acres. The negative values in the table indicate the number of non-oilseed base acres that can be exchanged to maximize oilseed base acres. The positive values indicate the number of base acres added to oilseed crops. The BYA determines which crop to offset (exchange) base acres from given expected government payments per base acre.

Table 13. Data Processing: Non-Oilseed PFC Acres Offset to Maximize Payments Under Option 5

Crop Name	Acres Offset	Change in Payments ($)
Cotton	0.0	0.
Wheat	0.0	0.
Corn	0.0	0.
Soybeans	0.0	0.
Sunflowers	0.0	0.

Under Option 5 the number of base acres established for oilseeds can be increased by offsetting the non-oilseed PFC (base) acres. The negative values in the table indicate the number of non-oilseed base acres that can be exchanged to maximize the government payments across all crops. The positive values indicate the number of base acres added to oilseed crops. The BYA determines which crop to offset (exchange) base acres from given expected government payments per base acre.

Table 14. Data Processing: Calculated Base Acres Before Checking "Excess Base Acres" Rule
Eligible Acres for the Farm Unit is 500.0 Acres.

Crop Name	2002 PFC Acres (Option 1)	Min Oilseed Retain PFCs (Option 2)	Max Oilseed Offset PFCs (Option 3)	Update All Base Acres (Option 4)	Max Payment Offset PFCs (Option 5)
Cotton	0.0	0.0	0.0	150.0	0.0
Wheat	150.0	150.0	150.0	18.8	150.0
Corn	100.0	100.0	100.0	100.0	100.0
Soybeans	0.0	136.3	136.3	136.3	136.3
Sunflowers	0.0	223.0	223.0	223.0	223.0
Total	250.0	609.3	609.3	628.1	609.3

The farm bill specifies that the sum of total base acres can not exceed the total eligible acres on the farm unit. Eligible acres equals cropland acres minus CRP and WRP acres plus double crop acres. If total base acres exceeds eligible acres, BYA reduces base acres for the crop with the lowest expected government payments first. Eligible acres for this farm unit equals 500.0.

Table 15. Data Processing: Excess Base Acre Rule"s Effect on Final Base Acres

Crop Name	2002 PFC Acres (Option 1)	Min Oilseed Retain PFCs (Option 2)	Max Oilseed Offset PFCs (Option 3)	Update All Base Acres (Option 4)	Max Payment Offset PFCs (Option 5)
Cotton	0.0	0.0	0.0	0.0	0.0
Wheat	0.0	0.0	0.0	0.0	0.0
Corn	0.0	0.0	0.0	0.0	0.0
Soybeans	0.0	0.0	0.0	0.0	0.0
Sunflowers	0.0	-109.3	-109.3	-128.1	-109.3

Total base acres may not exceed actual crop acres plus double crop acres minus CRP and WRP acres. Crops that lose base acres due to the excess base acres rule are indicated by negative values above.

Table 16. Annual Payment Rates Used to Calculate Direct Payments for the Analysis

Crops	2002	2003	2004	2005	2006	2007
Cotton	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667
Wheat	0.5200	0.5200	0.5200	0.5200	0.5200	0.5200
Corn	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800
Soybeans	0.4400	0.4400	0.4400	0.4400	0.4400	0.4400
Sunflowers	0.8000	0.8000	0.8000	0.8000	0.8000	0.8000

Payment rates used to calculate direct payments are specified in the farm bill.

Table 17. Average Annual Counter Cyclical Payment Rates Used for the Variable Price (Risky) Analysis

Crops	2002	2003	2004	2005	2006	2007
Cotton	0.1373	0.1354	0.1327	0.1301	0.1261	0.1172
Wheat	0.0061	0.1524	0.3506	0.3401	0.2638	0.2300
Corn	0.0221	0.1550	0.2587	0.2445	0.2283	0.2098
Soybeans	0.0778	0.2327	0.2643	0.2426	0.2144	0.1941
Sunflowers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Annual payment rates used to calculate counter cyclical payments are determined based on the average annual prices for the crops. As a result these payment rates are risky. The annual payment rates in the table are the average annual rates based on 500 possible crop prices for each year.

Table 18. Annual Counter Cyclical Payment Rates Used for the Producers Projected Prices

Crops	2002	2003	2004	2005	2006	2007
Cotton	0.1373	0.1373	0.1373	0.1373	0.1373	0.1373
Wheat	0.5400	0.5400	0.6500	0.6500	0.6500	0.6500
Corn	0.3400	0.3400	0.4000	0.4000	0.4000	0.4000
Soybeans	0.3600	0.3600	0.3600	0.3600	0.3600	0.3600
Sunflowers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

The annual counter cyclical payment rates in the table are calculated based on the projected annual crop prices specified by the producer and do not reflect the potential price risk. These payment rates were used to calculate counter cyclical payments for the projected price scenario.

Definitions for the Base Acre Update and Payment Yield Establishment Alternatives Available to the Farm

A. Retain 2002 PFC acres (1) and payment yields (6).
B. Retain 2002 PFC, add oilseeds no offset (2), freeze non-oilseed yields and establish oilseed yields (7).
C. Retain 2002 PFC, add oilseeds maximum offset (3), freeze non-oilseed yields and establish oilseed yields (7).
D. Retain 2002 PFC, add oilseeds max payments (5), freeze non-oilseed yields and establish oilseed yields (7).
E. Update all base acres (4) freeze non-oilseed payment yields and establish oilseed payment yields (7).
F. Update all base acres (4) establish all payment yields using 70% formula (8).
G. Update all base acres (4) establish all payment yields using 93.5% formula (9).

Only the relevant combinations of base acre updates and payment yield establishment options are presented to reduce confusion. Farms growing oilseeds may elect from Options A-G while farms without oilseeds are eligible for only Options A, E, F, and G.

Table 19. Risk Results: Cotton, Government Payments by Type and Alternative
These results were calculated using 500 possible combinations of future prices not the user entered prices.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4)	3402.	3402.	3402.	3402.	3402.	3402.	20410.
F. Update Base (4)	3402.	3402.	3402.	3402.	3402.	3402.	20410.
G. Update Base (4)	3402.	3402.	3402.	3402.	3402.	3402.	20410.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4) Freeze Yields (7)	7001.	6903.	6769.	6637.	6433.	5979.	39722.
F. Update Base (4) & Yields 70% (8)	8541.	8422.	8258.	8097.	7848.	7294.	48461.
G. Update Base (4) & Yields 93.5% (9)	8594.	8474.	8309.	8147.	7897.	7339.	48759.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4) Freeze Yields (7)	10403.	10305.	10170.	10039.	9835.	9380.	60132.
F. Update Base (4) & Yields 70% (8)	11943.	11824.	11660.	11499.	11250.	10696.	68871.
G. Update Base (4) & Yields 93.5% (9)	11995.	11875.	11710.	11549.	11298.	10741.	69169.

Direct payments calculated using : Direct Payment Rate * Base Acres * Direct Payment Yield * 0.85 * Share
Counter Cyclical payments calculated using: CCP Payment Yield * Base Acres * 0.85 * CCP Rate * Share.
CCP Rate = (Counter Cyclical Price - Direct Payment Rate - Maximum (Loan Rate or Market Year Average Price)
Total payments equal the sum of Direct payments and Counter Cyclical Payments.

Table 20. Risk Results: Wheat, Government Payments by Type and Alternative
These results were calculated using 500 possible combinations of future prices not the user entered prices.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	994.	994.	994.	994.	994.	994.	5967.
B. Add Min Oilseeds (2)	994.	994.	994.	994.	994.	994.	5967.
C. Add Max Oilseeds (3)	994.	994.	994.	994.	994.	994.	5967.
D. Max Payment O/S (5)	994.	994.	994.	994.	994.	994.	5967.
E. Update Base (4)	125.	125.	125.	125.	125.	125.	748.
F. Update Base (4)	125.	125.	125.	125.	125.	125.	748.
G. Update Base (4)	125.	125.	125.	125.	125.	125.	748.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	12.	291.	670.	650.	504.	440.	2568.
B. Add Min Oilseeds (2) and Yields (7)	12.	291.	670.	650.	504.	440.	2568.
C. Add Max Oilseeds (3) and Yields (7)	12.	291.	670.	650.	504.	440.	2568.
D. Max Payment O/S (5) and Yields (7)	12.	291.	670.	650.	504.	440.	2568.
E. Update Base (4) Freeze Yields (7)	1.	37.	84.	82.	63.	55.	322.
F. Update Base (4) & Yields 70% (8)	2.	44.	101.	98.	76.	66.	386.
G. Update Base (4) & Yields 93.5% (9)	2.	41.	95.	92.	72.	62.	365.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	1006.	1286.	1665.	1645.	1499.	1434.	8535.
B. Add Min Oilseeds (2) and Yields (7)	1006.	1286.	1665.	1645.	1499.	1434.	8535.
C. Add Max Oilseeds (3) and Yields (7)	1006.	1286.	1665.	1645.	1499.	1434.	8535.
D. Max Payment O/S (5) and Yields (7)	1006.	1286.	1665.	1645.	1499.	1434.	8535.
E. Update Base (4) Freeze Yields (7)	126.	161.	209.	206.	188.	180.	1070.
F. Update Base (4) & Yields 70% (8)	126.	168.	225.	222.	201.	191.	1134.
G. Update Base (4) & Yields 93.5% (9)	126.	166.	220.	217.	196.	187.	1113.

Table 21. Risk Results: Corn, Government Payments by Type and Alternative
These results were calculated using 500 possible combinations of future prices not the user entered prices.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
B. Add Min Oilseeds (2)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
C. Add Max Oilseeds (3)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
D. Max Payment O/S (5)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
E. Update Base (4)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
F. Update Base (4)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
G. Update Base (4)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	225.	1581.	2639.	2494.	2329.	2140.	11408.
B. Add Min Oilseeds (2) and Yields (7)	225.	1581.	2639.	2494.	2329.	2140.	11408.
C. Add Max Oilseeds (3) and Yields (7)	225.	1581.	2639.	2494.	2329.	2140.	11408.
D. Max Payment O/S (5) and Yields (7)	225.	1581.	2639.	2494.	2329.	2140.	11408.
E. Update Base (4) Freeze Yields (7)	225.	1581.	2639.	2494.	2329.	2140.	11408.
F. Update Base (4) & Yields 70% (8)	248.	1739.	2902.	2744.	2562.	2354.	12549.
G. Update Base (4) & Yields 93.5% (9)	242.	1699.	2836.	2681.	2504.	2301.	12263.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	3081.	4437.	5495.	5350.	5185.	4996.	28544.
B. Add Min Oilseeds (2) and Yields (7)	3081.	4437.	5495.	5350.	5185.	4996.	28544.
C. Add Max Oilseeds (3) and Yields (7)	3081.	4437.	5495.	5350.	5185.	4996.	28544.
D. Max Payment O/S (5) and Yields (7)	3081.	4437.	5495.	5350.	5185.	4996.	28544.
E. Update Base (4) Freeze Yields (7)	3081.	4437.	5495.	5350.	5185.	4996.	28544.
F. Update Base (4) & Yields 70% (8)	3104.	4595.	5758.	5600.	5418.	5210.	29685.
G. Update Base (4) & Yields 93.5% (9)	3098.	4555.	5692.	5537.	5360.	5157.	29400.

Table 22. Risk Results: Soybeans , Government Payments by Type and Alternative
These results were calculated using 500 possible combinations of future prices not the user entered prices.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
C. Add Max Oilseeds (3)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
D. Max Payment O/S (5)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
E. Update Base (4)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
F. Update Base (4)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
G. Update Base (4)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	180.	539.	612.	562.	497.	450.	2840.
C. Add Max Oilseeds (3) and Yields (7)	180.	539.	612.	562.	497.	450.	2840.
D. Max Payment O/S (5) and Yields (7)	180.	539.	612.	562.	497.	450.	2840.
E. Update Base (4) Freeze Yields (7)	180.	539.	612.	562.	497.	450.	2840.
F. Update Base (4) & Yields 70% (8)	216.	647.	735.	675.	596.	540.	3408.
G. Update Base (4) & Yields 93.5% (9)	216.	647.	735.	675.	596.	540.	3408.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	1200.	1559.	1632.	1582.	1516.	1469.	8958.
C. Add Max Oilseeds (3) and Yields (7)	1200.	1559.	1632.	1582.	1516.	1469.	8958.
D. Max Payment O/S (5) and Yields (7)	1200.	1559.	1632.	1582.	1516.	1469.	8958.
E. Update Base (4) Freeze Yields (7)	1200.	1559.	1632.	1582.	1516.	1469.	8958.
F. Update Base (4) & Yields 70% (8)	1236.	1667.	1754.	1694.	1616.	1559.	9526.
G. Update Base (4) & Yields 93.5% (9)	1236.	1667.	1754.	1694.	1616.	1559.	9526.

Table 23. Risk Results: Sunflowers, Government Payments by Type and Alternative
These results were calculated using 500 possible combinations of future prices not the user entered prices.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2)	731.	731.	731.	731.	731.	731.	4384.
C. Add Max Oilseeds (3)	731.	731.	731.	731.	731.	731.	4384.
D. Max Payment O/S (5)	731.	731.	731.	731.	731.	731.	4384.
E. Update Base (4)	610.	610.	610.	610.	610.	610.	3659.
F. Update Base (4)	610.	610.	610.	610.	610.	610.	3659.
G. Update Base (4)	610.	610.	610.	610.	610.	610.	3659.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4) Freeze Yields (7)	0.	0.	0.	0.	0.	0.	0.
F. Update Base (4) & Yields 70% (8)	0.	0.	0.	0.	0.	0.	0.
G. Update Base (4) & Yields 93.5% (9)	0.	0.	0.	0.	0.	0.	0.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	731.	731.	731.	731.	731.	731.	4384.
C. Add Max Oilseeds (3) and Yields (7)	731.	731.	731.	731.	731.	731.	4384.
D. Max Payment O/S (5) and Yields (7)	731.	731.	731.	731.	731.	731.	4384.
E. Update Base (4) Freeze Yields (7)	610.	610.	610.	610.	610.	610.	3659.
F. Update Base (4) & Yields 70% (8)	610.	610.	610.	610.	610.	610.	3659.
G. Update Base (4) & Yields 93.5% (9)	610.	610.	610.	610.	610.	610.	3659.

Table 24. Risk Results: Average Annual Government Payments for All Crops, by Payment Type and Alternative
These results were calculated using 500 possible combinations of future prices not the user entered prices.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	3851.	3851.	3851.	3851.	3851.	3851.	23103.
B. Add Min Oilseeds (2)	5601.	5601.	5601.	5601.	5601.	5601.	33604.
C. Add Max Oilseeds (3)	5601.	5601.	5601.	5601.	5601.	5601.	33604.
D. Max Payment O/S (5)	5601.	5601.	5601.	5601.	5601.	5601.	33604.
E. Update Base (4)	8012.	8012.	8012.	8012.	8012.	8012.	48070.
F. Update Base (4)	8012.	8012.	8012.	8012.	8012.	8012.	48070.
G. Update Base (4)	8012.	8012.	8012.	8012.	8012.	8012.	48070.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	237.	1872.	3309.	3145.	2833.	2580.	13976.
B. Add Min Oilseeds (2) and Yields (7)	417.	2411.	3921.	3707.	3330.	3030.	16816.
C. Add Max Oilseeds (3) and Yields (7)	417.	2411.	3921.	3707.	3330.	3030.	16816.
D. Max Payment O/S (5) and Yields (7)	417.	2411.	3921.	3707.	3330.	3030.	16816.
E. Update Base (4) Freeze Yields (7)	7408.	9060.	10104.	9775.	9322.	8624.	54292.
F. Update Base (4) & Yields 70% (8)	9007.	10852.	11996.	11613.	11082.	10254.	64804.
G. Update Base (4) & Yields 93.5% (9)	9054.	10862.	11975.	11595.	11068.	10242.	64795.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	4087.	5723.	7160.	6995.	6684.	6430.	37079.
B. Add Min Oilseeds (2) and Yields (7)	6018.	8012.	9522.	9307.	8931.	8630.	50420.
C. Add Max Oilseeds (3) and Yields (7)	6018.	8012.	9522.	9307.	8931.	8630.	50420.
D. Max Payment O/S (5) and Yields (7)	6018.	8012.	9522.	9307.	8931.	8630.	50420.
E. Update Base (4) Freeze Yields (7)	15420.	17071.	18115.	17787.	17334.	16635.	102362.
F. Update Base (4) & Yields 70% (8)	17019.	18863.	20008.	19625.	19094.	18266.	112874.
G. Update Base (4) & Yields 93.5% (9)	17065.	18873.	19987.	19607.	19080.	18253.	112866.

Table 25. Producer Price Results: Cotton, Government Payments Calculated Using Producers Annual Prices
These results were calculated using projected prices entered by the user and do not reflect any price risk.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4)	3402.	3402.	3402.	3402.	3402.	3402.	20410.
F. Update Base (4)	3402.	3402.	3402.	3402.	3402.	3402.	20410.
G. Update Base (4)	3402.	3402.	3402.	3402.	3402.	3402.	20410.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4) Freeze Yields (7)	7002.	7002.	7002.	7002.	7002.	7002.	42014.
F. Update Base (4) & Yields 70% (8)	8543.	8543.	8543.	8543.	8543.	8543.	51257.
G. Update Base (4) & Yields 93.5% (9)	8595.	8595.	8595.	8595.	8595.	8595.	51572.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4) Freeze Yields (7)	10404.	10404.	10404.	10404.	10404.	10404.	62424.
F. Update Base (4) & Yields 70% (8)	11945.	11945.	11945.	11945.	11945.	11945.	71667.
G. Update Base (4) & Yields 93.5% (9)	11997.	11997.	11997.	11997.	11997.	11997.	71982.

Direct payments calculated using : Direct Payment Rate * Base Acres * Direct Payment Yield * 0.85 * Share
E. DIR PAY YR 1 = 3402. = 150.0 BASE * 400.0 PAYMENT YIELD * 0.0667 DP RATE * 0.85 FRACTION * 1.00 SHARE
F. DIR PAY YR 1 = 3402. = 150.0 BASE * 400.0 PAYMENT YIELD * 0.0667 DP RATE * 0.85 FRACTION * 1.00 SHARE
G. DIR PAY YR 1 = 3402. = 150.0 BASE * 400.0 PAYMENT YIELD * 0.0667 DP RATE * 0.85 FRACTION * 1.00 SHARE

Counter Cyclical payments calculated using: CCP Payment Yield * Base Acres * 0.85 * CCP Rate * Share.
CCP Rate = (Counter Cyclical Price - Direct Payment Rate - Maximum (Loan Rate or Market Year Average Price)
E. CC PAY YR 1 = 7002. = 150.0 BASE * 400.0 PAYMENT YIELD * 0.1373 CC RATE * 0.85 FRACTION * 1.00 SHARE
F. CC PAY YR 1 = 8543. = 150.0 BASE * 488.0 PAYMENT YIELD * 0.1373 CC RATE * 0.85 FRACTION * 1.00 SHARE
G. CC PAY YR 1 = 8595. = 150.0 BASE * 491.0 PAYMENT YIELD * 0.1373 CC RATE * 0.85 FRACTION * 1.00 SHARE

Table 26. Producer Price Results: Wheat, Government Payments Calculated Using Producers Annual Prices
These results were calculated using projected prices entered by the user and do not reflect any price risk.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	995.	995.	995.	995.	995.	995.	5967.
B. Add Min Oilseeds (2)	995.	995.	995.	995.	995.	995.	5967.
C. Add Max Oilseeds (3)	995.	995.	995.	995.	995.	995.	5967.
D. Max Payment O/S (5)	995.	995.	995.	995.	995.	995.	5967.
E. Update Base (4)	125.	125.	125.	125.	125.	125.	748.
F. Update Base (4)	125.	125.	125.	125.	125.	125.	748.
G. Update Base (4)	125.	125.	125.	125.	125.	125.	748.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	1033.	1033.	1243.	1243.	1243.	1243.	7038.
B. Add Min Oilseeds (2) and Yields (7)	1033.	1033.	1243.	1243.	1243.	1243.	7038.
C. Add Max Oilseeds (3) and Yields (7)	1033.	1033.	1243.	1243.	1243.	1243.	7038.
D. Max Payment O/S (5) and Yields (7)	1033.	1033.	1243.	1243.	1243.	1243.	7038.
E. Update Base (4) Freeze Yields (7)	129.	129.	156.	156.	156.	156.	882.
F. Update Base (4) & Yields 70% (8)	155.	155.	187.	187.	187.	187.	1059.
G. Update Base (4) & Yields 93.5% (9)	147.	147.	177.	177.	177.	177.	1000.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	2027.	2027.	2238.	2238.	2238.	2238.	13005.
B. Add Min Oilseeds (2) and Yields (7)	2027.	2027.	2238.	2238.	2238.	2238.	13005.
C. Add Max Oilseeds (3) and Yields (7)	2027.	2027.	2238.	2238.	2238.	2238.	13005.
D. Max Payment O/S (5) and Yields (7)	2027.	2027.	2238.	2238.	2238.	2238.	13005.
E. Update Base (4) Freeze Yields (7)	254.	254.	280.	280.	280.	280.	1630.
F. Update Base (4) & Yields 70% (8)	280.	280.	312.	312.	312.	312.	1806.
G. Update Base (4) & Yields 93.5% (9)	271.	271.	301.	301.	301.	301.	1748.

Direct payments calculated using : Direct Payment Rate * Base Acres * Direct Payment Yield * 0.85 * Share

A. DIR PAY YR 1 = 995. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5200 DP RATE * 0.85 FRACTION * 1.00 SHARE
B. DIR PAY YR 1 = 995. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5200 DP RATE * 0.85 FRACTION * 1.00 SHARE
C. DIR PAY YR 1 = 995. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5200 DP RATE * 0.85 FRACTION * 1.00 SHARE
D. DIR PAY YR 1 = 995. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5200 DP RATE * 0.85 FRACTION * 1.00 SHARE
E. DIR PAY YR 1 = 125. = 18.8 BASE * 15.0 PAYMENT YIELD * 0.5200 DP RATE * 0.85 FRACTION * 1.00 SHARE
F. DIR PAY YR 1 = 125. = 18.8 BASE * 15.0 PAYMENT YIELD * 0.5200 DP RATE * 0.85 FRACTION * 1.00 SHARE
G. DIR PAY YR 1 = 125. = 18.8 BASE * 15.0 PAYMENT YIELD * 0.5200 DP RATE * 0.85 FRACTION * 1.00 SHARE

Counter Cyclical payments calculated using: CCP Payment Yield * Base Acres * 0.85 * CCP Rate * Share.
CCP Rate = (Counter Cyclical Price - Direct Payment Rate - Maximum (Loan Rate or Market Year Average Price)

A. CC PAY YR 1 = 1033. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5400 CC RATE * 0.85 FRACTION * 1.00 SHARE
B. CC PAY YR 1 = 1033. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5400 CC RATE * 0.85 FRACTION * 1.00 SHARE
C. CC PAY YR 1 = 1033. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5400 CC RATE * 0.85 FRACTION * 1.00 SHARE
D. CC PAY YR 1 = 1033. = 150.0 BASE * 15.0 PAYMENT YIELD * 0.5400 CC RATE * 0.85 FRACTION * 1.00 SHARE
E. CC PAY YR 1 = 129. = 18.8 BASE * 15.0 PAYMENT YIELD * 0.5400 CC RATE * 0.85 FRACTION * 1.00 SHARE
F. CC PAY YR 1 = 155. = 18.8 BASE * 18.0 PAYMENT YIELD * 0.5400 CC RATE * 0.85 FRACTION * 1.00 SHARE
G. CC PAY YR 1 = 147. = 18.8 BASE * 17.0 PAYMENT YIELD * 0.5400 CC RATE * 0.85 FRACTION * 1.00 SHARE

Table 27. Producer Price Results: Corn, Government Payments Calculated Using Producers Annual Prices
These results were calculated using projected prices entered by the user and do not reflect any price risk.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
B. Add Min Oilseeds (2)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
C. Add Max Oilseeds (3)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
D. Max Payment O/S (5)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
E. Update Base (4)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
F. Update Base (4)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
G. Update Base (4)	2856.	2856.	2856.	2856.	2856.	2856.	17136.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	3468.	3468.	4080.	4080.	4080.	4080.	23256.
B. Add Min Oilseeds (2) and Yields (7)	3468.	3468.	4080.	4080.	4080.	4080.	23256.
C. Add Max Oilseeds (3) and Yields (7)	3468.	3468.	4080.	4080.	4080.	4080.	23256.
D. Max Payment O/S (5) and Yields (7)	3468.	3468.	4080.	4080.	4080.	4080.	23256.
E. Update Base (4) Freeze Yields (7)	3468.	3468.	4080.	4080.	4080.	4080.	23256.
F. Update Base (4) & Yields 70% (8)	3815.	3815.	4488.	4488.	4488.	4488.	25582.
G. Update Base (4) & Yields 93.5% (9)	3728.	3728.	4386.	4386.	4386.	4386.	25000.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	6324.	6324.	6936.	6936.	6936.	6936.	40392.
B. Add Min Oilseeds (2) and Yields (7)	6324.	6324.	6936.	6936.	6936.	6936.	40392.
C. Add Max Oilseeds (3) and Yields (7)	6324.	6324.	6936.	6936.	6936.	6936.	40392.
D. Max Payment O/S (5) and Yields (7)	6324.	6324.	6936.	6936.	6936.	6936.	40392.
E. Update Base (4) Freeze Yields (7)	6324.	6324.	6936.	6936.	6936.	6936.	40392.
F. Update Base (4) & Yields 70% (8)	6671.	6671.	7344.	7344.	7344.	7344.	42718.
G. Update Base (4) & Yields 93.5% (9)	6584.	6584.	7242.	7242.	7242.	7242.	42136.

Direct payments calculated using : Direct Payment Rate * Base Acres * Direct Payment Yield * 0.85 * Share
A. DIR PAY YR 1 = 2856. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.2800 DP RATE * 0.85 FRACTION * 1.00 SHARE
B. DIR PAY YR 1 = 2856. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.2800 DP RATE * 0.85 FRACTION * 1.00 SHARE
C. DIR PAY YR 1 = 2856. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.2800 DP RATE * 0.85 FRACTION * 1.00 SHARE
D. DIR PAY YR 1 = 2856. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.2800 DP RATE * 0.85 FRACTION * 1.00 SHARE
E. DIR PAY YR 1 = 2856. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.2800 DP RATE * 0.85 FRACTION * 1.00 SHARE
F. DIR PAY YR 1 = 2856. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.2800 DP RATE * 0.85 FRACTION * 1.00 SHARE
G. DIR PAY YR 1 = 2856. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.2800 DP RATE * 0.85 FRACTION * 1.00 SHARE

Counter Cyclical payments calculated using: CCP Payment Yield * Base Acres * 0.85 * CCP Rate * Share.
CCP Rate = (Counter Cyclical Price - Direct Payment Rate - Maximum (Loan Rate or Market Year Average Price)
A. CC PAY YR 1 = 3468. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.3400 CC RATE * 0.85 FRACTION * 1.00 SHARE
B. CC PAY YR 1 = 3468. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.3400 CC RATE * 0.85 FRACTION * 1.00 SHARE
C. CC PAY YR 1 = 3468. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.3400 CC RATE * 0.85 FRACTION * 1.00 SHARE
D. CC PAY YR 1 = 3468. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.3400 CC RATE * 0.85 FRACTION * 1.00 SHARE
E. CC PAY YR 1 = 3468. = 100.0 BASE * 120.0 PAYMENT YIELD * 0.3400 CC RATE * 0.85 FRACTION * 1.00 SHARE
F. CC PAY YR 1 = 3815. = 100.0 BASE * 132.0 PAYMENT YIELD * 0.3400 CC RATE * 0.85 FRACTION * 1.00 SHARE
G. CC PAY YR 1 = 3728. = 100.0 BASE * 129.0 PAYMENT YIELD * 0.3400 CC RATE * 0.85 FRACTION * 1.00 SHARE

Table 28. Producer Price Results: Soybeans , Government Payments Calculated Using Producers Annual Prices
These results were calculated using projected prices entered by the user and do not reflect any price risk.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
C. Add Max Oilseeds (3)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
D. Max Payment O/S (5)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
E. Update Base (4)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
F. Update Base (4)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
G. Update Base (4)	1020.	1020.	1020.	1020.	1020.	1020.	6117.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	834.	834.	834.	834.	834.	834.	5005.
C. Add Max Oilseeds (3) and Yields (7)	834.	834.	834.	834.	834.	834.	5005.
D. Max Payment O/S (5) and Yields (7)	834.	834.	834.	834.	834.	834.	5005.
E. Update Base (4) Freeze Yields (7)	834.	834.	834.	834.	834.	834.	5005.
F. Update Base (4) & Yields 70% (8)	1001.	1001.	1001.	1001.	1001.	1001.	6006.
G. Update Base (4) & Yields 93.5% (9)	1001.	1001.	1001.	1001.	1001.	1001.	6006.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	1854.	1854.	1854.	1854.	1854.	1854.	11122.
C. Add Max Oilseeds (3) and Yields (7)	1854.	1854.	1854.	1854.	1854.	1854.	11122.
D. Max Payment O/S (5) and Yields (7)	1854.	1854.	1854.	1854.	1854.	1854.	11122.
E. Update Base (4) Freeze Yields (7)	1854.	1854.	1854.	1854.	1854.	1854.	11122.
F. Update Base (4) & Yields 70% (8)	2021.	2021.	2021.	2021.	2021.	2021.	12123.
G. Update Base (4) & Yields 93.5% (9)	2021.	2021.	2021.	2021.	2021.	2021.	12123.

Direct payments calculated using : Direct Payment Rate * Base Acres * Direct Payment Yield * 0.85 * Share
B. DIR PAY YR 1 = 1020. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.4400 DP RATE * 0.85 FRACTION * 1.00 SHARE
C. DIR PAY YR 1 = 1020. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.4400 DP RATE * 0.85 FRACTION * 1.00 SHARE
D. DIR PAY YR 1 = 1020. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.4400 DP RATE * 0.85 FRACTION * 1.00 SHARE
E. DIR PAY YR 1 = 1020. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.4400 DP RATE * 0.85 FRACTION * 1.00 SHARE
F. DIR PAY YR 1 = 1020. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.4400 DP RATE * 0.85 FRACTION * 1.00 SHARE
G. DIR PAY YR 1 = 1020. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.4400 DP RATE * 0.85 FRACTION * 1.00 SHARE

Counter Cyclical payments calculated using: CCP Payment Yield * Base Acres * 0.85 * CCP Rate * Share.
CCP Rate = (Counter Cyclical Price - Direct Payment Rate - Maximum (Loan Rate or Market Year Average Price)
B. CC PAY YR 1 = 834. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.3600 CC RATE * 0.85 FRACTION * 1.00 SHARE
C. CC PAY YR 1 = 834. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.3600 CC RATE * 0.85 FRACTION * 1.00 SHARE
D. CC PAY YR 1 = 834. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.3600 CC RATE * 0.85 FRACTION * 1.00 SHARE
E. CC PAY YR 1 = 834. = 136.3 BASE * 20.0 PAYMENT YIELD * 0.3600 CC RATE * 0.85 FRACTION * 1.00 SHARE
F. CC PAY YR 1 = 1001. = 136.3 BASE * 24.0 PAYMENT YIELD * 0.3600 CC RATE * 0.85 FRACTION * 1.00 SHARE
G. CC PAY YR 1 = 1001. = 136.3 BASE * 24.0 PAYMENT YIELD * 0.3600 CC RATE * 0.85 FRACTION * 1.00 SHARE

Table 29. Producer Price Results: Sunflowers, Government Payments Calculated Using Producers Annual Prices
These results were calculated using projected prices entered by the user and do not reflect any price risk.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2)	731.	731.	731.	731.	731.	731.	4384.
C. Add Max Oilseeds (3)	731.	731.	731.	731.	731.	731.	4384.
D. Max Payment O/S (5)	731.	731.	731.	731.	731.	731.	4384.
E. Update Base (4)	610.	610.	610.	610.	610.	610.	3659.
F. Update Base (4)	610.	610.	610.	610.	610.	610.	3659.
G. Update Base (4)	610.	610.	610.	610.	610.	610.	3659.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
C. Add Max Oilseeds (3) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
D. Max Payment O/S (5) and Yields (7)	0.	0.	0.	0.	0.	0.	0.
E. Update Base (4) Freeze Yields (7)	0.	0.	0.	0.	0.	0.	0.
F. Update Base (4) & Yields 70% (8)	0.	0.	0.	0.	0.	0.	0.
G. Update Base (4) & Yields 93.5% (9)	0.	0.	0.	0.	0.	0.	0.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	0.	0.	0.	0.	0.	0.	0.
B. Add Min Oilseeds (2) and Yields (7)	731.	731.	731.	731.	731.	731.	4384.
C. Add Max Oilseeds (3) and Yields (7)	731.	731.	731.	731.	731.	731.	4384.
D. Max Payment O/S (5) and Yields (7)	731.	731.	731.	731.	731.	731.	4384.
E. Update Base (4) Freeze Yields (7)	610.	610.	610.	610.	610.	610.	3659.
F. Update Base (4) & Yields 70% (8)	610.	610.	610.	610.	610.	610.	3659.
G. Update Base (4) & Yields 93.5% (9)	610.	610.	610.	610.	610.	610.	3659.

Direct payments calculated using : Direct Payment Rate * Base Acres * Direct Payment Yield * 0.85 * Share
B. DIR PAY YR 1 = 731. = 113.7 BASE * 9.4 PAYMENT YIELD * 0.8000 DP RATE * 0.85 FRACTION * 1.00 SHARE
C. DIR PAY YR 1 = 731. = 113.7 BASE * 9.4 PAYMENT YIELD * 0.8000 DP RATE * 0.85 FRACTION * 1.00 SHARE
D. DIR PAY YR 1 = 731. = 113.7 BASE * 9.4 PAYMENT YIELD * 0.8000 DP RATE * 0.85 FRACTION * 1.00 SHARE
E. DIR PAY YR 1 = 610. = 94.9 BASE * 9.4 PAYMENT YIELD * 0.8000 DP RATE * 0.85 FRACTION * 1.00 SHARE
F. DIR PAY YR 1 = 610. = 94.9 BASE * 9.4 PAYMENT YIELD * 0.8000 DP RATE * 0.85 FRACTION * 1.00 SHARE
G. DIR PAY YR 1 = 610. = 94.9 BASE * 9.4 PAYMENT YIELD * 0.8000 DP RATE * 0.85 FRACTION * 1.00 SHARE

Counter Cyclical payments calculated using: CCP Payment Yield * Base Acres * 0.85 * CCP Rate * Share.
CCP Rate = (Counter Cyclical Price - Direct Payment Rate - Maximum (Loan Rate or Market Year Average Price)
B. CC PAY YR 1 = 0. = 113.7 BASE * 9.4 PAYMENT YIELD * 0.0000 CC RATE * 0.85 FRACTION * 1.00 SHARE
C. CC PAY YR 1 = 0. = 113.7 BASE * 9.4 PAYMENT YIELD * 0.0000 CC RATE * 0.85 FRACTION * 1.00 SHARE
D. CC PAY YR 1 = 0. = 113.7 BASE * 9.4 PAYMENT YIELD * 0.0000 CC RATE * 0.85 FRACTION * 1.00 SHARE
E. CC PAY YR 1 = 0. = 94.9 BASE * 9.4 PAYMENT YIELD * 0.0000 CC RATE * 0.85 FRACTION * 1.00 SHARE
F. CC PAY YR 1 = 0. = 94.9 BASE * 11.1 PAYMENT YIELD * 0.0000 CC RATE * 0.85 FRACTION * 1.00 SHARE
G. CC PAY YR 1 = 0. = 94.9 BASE * 11.0 PAYMENT YIELD * 0.0000 CC RATE * 0.85 FRACTION * 1.00 SHARE

Table 30. Producer Price Results: Annual Government Payments, by Type of Payment and Update Alternative
These results were calculated using projected prices entered by the user and do not reflect any price risk.

	2002	2003	2004	2005	2006	2007	Total
Direct Payments							
A. Freeze 2002 Base (1)	3851.	3851.	3851.	3851.	3851.	3851.	23103.
B. Add Min Oilseeds (2)	5601.	5601.	5601.	5601.	5601.	5601.	33604.
C. Add Max Oilseeds (3)	5601.	5601.	5601.	5601.	5601.	5601.	33604.
D. Max Payment O/S (5)	5601.	5601.	5601.	5601.	5601.	5601.	33604.
E. Update Base (4)	8012.	8012.	8012.	8012.	8012.	8012.	48070.
F. Update Base (4)	8012.	8012.	8012.	8012.	8012.	8012.	48070.
G. Update Base (4)	8012.	8012.	8012.	8012.	8012.	8012.	48070.
Counter Cyclical Payments							
A. Freeze 2002 Base (1) and Yields (6)	4501.	4501.	5323.	5323.	5323.	5323.	30294.
B. Add Min Oilseeds (2) and Yields (7)	5335.	5335.	6157.	6157.	6157.	6157.	35299.
C. Add Max Oilseeds (3) and Yields (7)	5335.	5335.	6157.	6157.	6157.	6157.	35299.
D. Max Payment O/S (5) and Yields (7)	5335.	5335.	6157.	6157.	6157.	6157.	35299.
E. Update Base (4) Freeze Yields (7)	11434.	11434.	12072.	12072.	12072.	12072.	71157.
F. Update Base (4) & Yields 70% (8)	13514.	13514.	14219.	14219.	14219.	14219.	83903.
G. Update Base (4) & Yields 93.5% (9)	13471.	13471.	14159.	14159.	14159.	14159.	83578.
Total Payments							
A. Freeze 2002 Base (1) and Yields (6)	8351.	8351.	9174.	9174.	9174.	9174.	53397.
B. Add Min Oilseeds (2) and Yields (7)	10936.	10936.	11758.	11758.	11758.	11758.	68903.
C. Add Max Oilseeds (3) and Yields (7)	10936.	10936.	11758.	11758.	11758.	11758.	68903.
D. Max Payment O/S (5) and Yields (7)	10936.	10936.	11758.	11758.	11758.	11758.	68903.
E. Update Base (4) Freeze Yields (7)	19446.	19446.	20084.	20084.	20084.	20084.	119227.
F. Update Base (4) & Yields 70% (8)	21526.	21526.	22230.	22230.	22230.	22230.	131973.
G. Update Base (4) & Yields 93.5% (9)	21483.	21483.	22171.	22171.	22171.	22171.	131648.

Table 31. Base Acre Options: Final Calculated Base Acres for Options 1-5, After Excess Base Acre Rule

Crop Name	2002 PFC Acres (Option 1)	Min Oilseed Retain PFCs (Option 2)	Max Oilseed Offset PFCs (Option 3)	Update All Base Acres (Option 4)	Max Payment Offset PFCs (Option 5)
Cotton	0.00	0.00	0.00	150.00	0.00
Wheat	150.00	150.00	150.00	18.80	150.00
Corn	100.00	100.00	100.00	100.00	100.00
Soybeans	0.00	136.30	136.30	136.30	136.30
Sunflowers	0.00	113.70	113.70	94.90	113.70
Total Base Acres	250.00	500.00	500.00	500.00	500.00

Base acres are calculated for the relevant options given the crops on the farm. If the farm raises oilseeds then Options 1-5 appear in the table. Farms without oilseed crops have Options 1 and 4.
Option 1. Retain 2002 PFC acres for all years.
Option 2. Retain 2002 PFC, add oilseeds without PFC offset.
Option 3. Retain 2002 PFC, add oilseeds with maximum PFC offset.
Option 4. Update all base acres using 1998-01 average planted acres.
Option 5. Retain 2002 PFC, add oilseeds with PFC offset to max government payments.

Table 32. Payment Yield Options: Calculated Farm Payment Yields for Direct and Counter-Cyclical Payments

Crop Name	Direct Payment Yield	2002 PFC Yield (Option 6)	Only Establ. Oilseed Yield (Option 7)	70% Incr. in Yield (Option 8)	93.5% of Average Yield (Option 9
Cotton	400.00	400.00	400.00	488.00	491.00
Wheat	15.00	15.00	15.00	18.00	17.00
Corn	120.00	120.00	120.00	132.00	129.00
Soybeans	20.00	20.00	20.00	24.00	24.00
Sunflowers	9.45	9.45	9.45	11.10	11.04

The payment yield for direct payments equals current PFC payment yields or similiar farm payment yields for PFC crops and a fraction for oilseeds, such as 0.78, of average yields.
Payment yields are calculated for the relevant options given the crops on the farm.
Option 6. Freeze 2002 payment yields for non-oilseed crops.
Option 7. Establish oilseed payment yields and freeze payment yields for non-oilseed crops.
Option 8. Establish payment yields using 70% of increase in yield over 2002 payment yield.
Option 9. Establish payment yields using 93.5% of average 1998-01 proven yield.

Table 33. No-Risk Analysis: Average Annual Payments Using Producers Prices and Low and High Price Scenarios

Alternatives for Updating	Producers Crop Prices	High Prices So Receive Only Fixed	Low Prices So Receive Max CCPs
A. Freeze 2002 Base (1) and Yields (6)	8900.	3851.	8900.
B. Add Min Oilseeds (2) and Yields (7)	11484.	5601.	11484.
C. Add Max Oilseeds (3) and Yields (7)	11484.	5601.	11484.
D. Max Payment O/S (5) and Yields (7)	11484.	5601.	11484.
E. Update Base (4) Freeze Yields (7)	19871.	8012.	19871.
F. Update Base (4) & Yields 70% (8)	21996.	8012.	21996.
G. Update Base (4) & Yields 93.5% (9)	21941.	8012.	21941.

Calculations for the "Producers Crop Prices" scenario were made using projected annual prices in an Input Data Table. Prices used for the analysis are either the default projected prices provided in the input screens or the producers projected prices. Payments include both Fixed and Counter Cyclical payments.
Calculations for the "High Price" scenario were made assuming that prices are so high that no CC payments were made in any year. This direct payment scenario represents the lowest possible government payments.
Calculations for the "Low Price" scenario were made assuming that prices were so low that the maximum CC payments were made each year, thus maximizing government payments.

Table 34. Summary: Average Annual Government Payments Calculated Four Ways for Example Farm

Alternatives for Updating	----Variable Price Analysis---- Annual Average	Lower 5% Bound	Upper 95% Bound	--Scenarios With No Price Risk-- Producers Crop Prices	High Price Received Only Fixed	Low Price Received Max CCPs
A. Freeze 2002 Base (1) and Yields (6)	6180.	4859.	7478.	8900.	3851.	8900.
B. Add Min Oilseeds (2) and Yields (7)	8403.	6950.	9836.	11484.	5601.	11484.
C. Add Max Oilseeds (3) and Yields (7)	8403.	6950.	9836.	11484.	5601.	11484.
D. Max Payment O/S (5) and Yields (7)	8403.	6950.	9836.	11484.	5601.	11484.
E. Update Base (4) Freeze Yields (7)	17060.	15235.	18520.	19871.	8012.	19871.
F. Update Base (4) & Yields 70% (8)	18812.	16694.	20470.	21996.	8012.	21996.
G. Update Base (4) & Yields 93.5% (9)	18811.	16711.	20445.	21941.	8012.	21941.

Calculations for the "Producers Crop Prices" scenario were made using projected annual prices in an Input Data Table. Prices used for the analysis are either the default projected prices provided in the input screens or the producers projected prices. Payments include both Fixed and Counter Cyclical payments.
Calculations for the "High Price" scenario were made assuming that prices are so high that no CC payments were made in any year. This direct payment scenario represents the lowest possible government payments.
Calculations for the "Low Price" scenario were made assuming that prices were so low that the maximum CC payments were made each year, thus maximizing government payments.

Definitions for the Base Acre Update and Payment Yield Establishment Alternatives Available to the Farm

A. Retain 2002 PFC acres (1) and payment yields (6).
B. Retain 2002 PFC, add oilseeds no offset (2), freeze non-oilseed yields and establish oilseed yields (7).
C. Retain 2002 PFC, add oilseeds maximum offset (3), freeze non-oilseed yields and establish oilseed yields (7).
D. Retain 2002 PFC, add oilseeds max payments (5), freeze non-oilseed yields and establish oilseed yields (7).
E. Update all base acres (4) freeze non-oilseed payment yields and establish oilseed payment yields (7).
F. Update all base acres (4) establish all payment yields using 70% formula (8).
G. Update all base acres (4) establish all payment yields using 93.5% formula (9).

Only the relevant combinations of base acre updates and payment yield establishment options are presented to reduce confusion. Farms growing oilseeds may elect from Options A-G while farms without oilseeds are eligible for only Options A, E, F, and G.

Table 35. Risk Analysis: Average Annual Payments Calculated Using (Risky) Variable Annual Prices

Alternatives for Updating	----Variable Price Analysis---- Annual Average	Lower 5% Bound	Upper 95% Bound	Number of Times Out of 500 an Alternative Had the Most Average Annual Payments or Tied for First
A. Freeze 2002 Base (1) and Yields (6)	6180.	4859.	7478.	0
B. Add Min Oilseeds (2) and Yields (7)	8403.	6950.	9836.	0
C. Add Max Oilseeds (3) and Yields (7)	8403.	6950.	9836.	0
D. Max Payment O/S (5) and Yields (7)	8403.	6950.	9836.	0
E. Update Base (4) Freeze Yields (7)	17060.	15235.	18520.	0
F. Update Base (4) & Yields 70% (8)	18812.	16694.	20470.	262
G. Update Base (4) & Yields 93.5% (9)	18811.	16711.	20445.	238

Alternative B is equal to Alternative C
Alternative D is equal to Alternative B
Alternative D is equal to Alternative C

Annual estimated government payment rates were calculated using 500 alternative price combinations for each year. These variable payment rates were used to calculate annual government payments for 6 years. The full range of government payments was used to calculate prediction intervals for payments. There is a 90% chance that annual payments will fall between the 5% and 95% bounds.

Average annual government payments for each of the 500 price combination trials were compared to determine which alternative generated the most payments. The number of times an alternative had the most average annual payments or tied for the most payments is reported in the right hand column of the table.

The Cumulative probability distribution chart below is a risk graph of the simulated outcomes for each of the alternatives. The range of average annual government payments under each alternative is represented by the "S" shaped curves. The probability of an alternative returning government payments less than a value on the bottom axis is read off the left axis. For example there is a 60% chance annual government payments under Alternative G will be less than $ 19163. The Alternative associated with the line further to the right is the most preferred in a risk context.