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CONSERVATION RESERVE PROGRAM -- BID ESTIMATOR

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CONSERVATION RESERVE PROGRAM -- BID ESTIMATOR

OVERVIEW

Farmers considering placing part or all of a farm in the Conservation Reserve Program (CRP) must submit a bid to their local ASCS office during designated periods. The purpose of the CRP program is to remove certain land from production and place it in conserving uses. This bid must represent what they are willing to accept as an annual payment per acre over a future period (10 or more years) in exchange for the lost income from cropping the land. In a sense, what cash rent per acre am I willing to accept on this land each year for the next 10 to 15 years?

Land owners typically wish to lock in a payment rate equal to or greater than what they estimate will be the amount of income lost. These estimates are generally based on current yields and prices, modified for estimates of what may happen over the next 10 years. The CRP objective is to remove highly erodible cropland from production, thus reducing erosion and loss of productivity, while at the same time reducing surplus production of crops such as corn and wheat. Since highly erodible cropland is the target land, it is generally land with lower productivity and hence, a lower bid should be needed to cover lost income. To reduce surplus production, government bases or quotas must be reduced in the same proportion that the acreage of CRP land is to total acres of cropland. In Ohio, we are generally talking about reducing corn or wheat base. Thus the farmer's CRP bid is complicated by the need to estimate not only the direct income lost on the CRP land, but also to estimate losses that may result from raising less profitable crops on the remaining farmland.

CONSIDERATIONS IN FORMULATING A CRP BID

The three attached work sheets will help estimate a minimum bid needed to offset the cost of taking land out of production and placing it in the Conservation Reserve Program (CRP). The bid is based on the sum of: 1) the average annual cost of establishing and maintaining the CRP acres in a grass, wildlife or timber conservation reserve, less 2) any potential savings in machine ownership or hired labor costs, or income from hunting fees, etc., plus 3) the average annual net income foregone as a result of the change in mix of crops grown on the total farm. This opportunity cost gives an estimate of the bid needed to give as much income as would be expected if the land was continued in crops. The estimated bid is based on current year's information. The sensitivity analysis then provides information on how the bid might vary if conditions over the 10 to 15 year contract period were better or worse than the current year assumptions.

A detailed data input form allows you to enter information for individual operations and crops previously grown. Be sure your information is consistent with CRP and cost-share guidelines, ASCS bases, etc., for your farm.

OTHER CONSIDERATIONS WHICH MAY AFFECT THE ACTUAL BID SUBMITTED.

1. Submitting a bid higher than the minimum needed to break even will result in greater income over the contract period, if it is accepted. If the bid is not accepted, another bid for the same acres may be submitted in succeeding years.

2. The CRP contract provides a guaranteed payment. Part of the payment may be made "in-kind," but the total value of the payment should be approximately the same each year. This is probably less risky than receiving income from crop production, which is affected by yield, price and cost variability.

3. The operator's historic feed grain or wheat base will not be reduced by the enrollment of those acres into CRP. However, acres which can be planted to those crops will be reduced by a portion of the base acreage put into CRP. The other part will be "considered planted."

4. If the CRP acres represent a significant portion of the total farm operation, further cost savings may be possible, such as from reducing machinery capacity or labor supply.

5. Other conserving practices may be required beyond what is present, such as grassed waterways, etc., to comply with the conservation plan for the farm. However, these need to be planned by 1990 and in place by 1995, even without CRP participation, in order to stay eligible for government programs.

6. When the contract period ends, the economic value of the CRP acres may have increased. This is especially true if long-term crops such as trees are planted. However, some additional costs may be incurred to convert the land to another use after the contract period ends.

7. The benefits from the CRP program include reduced soil and water erosion and improved water quality. These benefits will be greatest for the most fragile lands.

8. Since land eligible for CRP is highly erodible cropland, its productivity will generally be lower than other cropland on the farm. Gross margin data used in the analysis should probably reflect relatively low levels of productivity.

9. The higher the proportion that wheat and corn bases are to total cropland, the higher will be the appropriate bid, generally.

INSTRUCTIONS FOR COMPLETING THE MINIMUM BID CALCULATION FOR THE CONSERVATION RESERVE PROGRAM (CRP)

Following are three worksheets which can be used to assist in estimating a bid for the Conservation Reserve Program (CRP). Work sheets # 1 and # 2 can be used to make detailed calculations of data needed to estimate a bid. Worksheet # 3 uses these figures to estimate a bid and shows how it might change as expectations change.

** TO COMPLETE WORK SHEET # 1 **

A. Estimate the total number of acres considered for the CRP contract. This may include incidental cropland in the same fields that would be hard to farm as new fields.

B. Include all initial costs for ESTABLISHMENT of a permanent vegetative practice including variable costs for land preparation and seeding, seed, chemicals, custom hire, fencing, etc. Keep items eligible for conservation cost-share separate, and state the dollar amount. Check percent and dollar limits with the appropriate federal and state agencies. Typically 50% is cost- shared. That which cannot be cost-shared is an "up front" outlay to comply with contract terms. Tables 1 and 2 contain some estimates of establishment and maintenance costs.

C. Estimate annual costs for clipping, pest control, or other MAINTENANCE practices on the CRP acres. Applies to years 2 & later. Noxious weeds and livestock pasture access must be controlled. Indicate expected annual expense for typical control measures.

D. Estimate other annual cost savings or potential annual income. Do you anticipate added income from the CRP acres, such as sale of hunting rights? Can you reduce machinery investment or reduce some custom hire expense?

Worksheet #1 - DETAILED APPROACH TO ESTIMATING ANNUAL ESTABLISHMENT AND MAINTENANCE COSTS FOR THE CONSERVATION RESERVE PROGRAM

Type of Data Needed	Cost Estimates
A) 1) ACRES OF HIGHLY ERODIBLE LAND IN CONTRACT	_____ acres
ELIGIBLE FOR 50% COST-SHARE	Yes / No
B) CRP - Costs In Year of Establishment	
Land Preparation (Fuel&Repair, CustomHire)	_____ / _____ /ac
Seeding (Fuel & Repair, or Custom Hire)	_____ / _____ /ac
Seed, Seedlings	_____ / _____ /ac
Weed Control (at Seeding)	_____ / _____ /ac
Fertilizer, Lime	_____ / _____ /ac
Fencing, etc.	_____ / _____ /ac
Clipping in Establishment Year	_____ / _____ /ac
Other_____	_____ / _____ /ac
(Grass Waterways, Concrete Spillways, etc. Needed?)	------- / -------
2) EST. YR. COST ELIGIBLE FOR 50% COST-SHARE	_____ / xxxxxx/ac
3) ESTABLISHMENT YEAR COST NOT COST-SHARED	xxxxxx / _____ /ac
C) CRP - Cost of Annual Maintenance, Years 2-10	
Clipping	_____ xxxxxx/ac
Pest Control	_____ xxxxxx/ac
Fertility	_____ xxxxxx/ac
Other_____	_____ xxxxxx/ac
(Grass Waterways, Concrete Spillways, etc. Needed?)	------
4) CRP ANNUAL MAINTENANCE COST, YEARS 2-10	_____ xxxxxx /ac

AVERAGE ANNUAL COSTS FOR ESTABLISHMENT AND MAINTENANCE OF CRP ACREAGE	PER ACRE	FOR _____ ACRES
5) AVERAGE ANNUAL COST FOR CRP, CURRENT YEAR ((LINE 2X50%)+(LINE 3)+(LINE 4X9))/10	_____	_____

D) OTHER POTENTIAL ANNUAL COST SAVINGS OR INCOME PER ACRE IN CRP:

Reduced Investment in Machinery(x 20%)	_____
Savings in Hired Labor	_____
Income from Hunting Fees, etc.	_____
Other _____	_____
TOTAL ANNUAL SAVINGS	_____
Divide by Acres in CRP	_____
6) ANNUAL COST SAVINGS OR INCOME PER ACRE IN CRP	_____ /ac

** TO COMPLETE WORKSHEET # 2 **

A. REDUCTION OF BASE ACRES FOR CORN AND WHEAT

What will be the impact on the total cropping program of enrolling the CRP acres? List the total cropland acres, corn and wheat base acreage and CRP eligible acres from ASCS records on lines 1-4. Government program base which can be planted must be reduced by the percentage that CRP acres are of total cropland on lines 5 and 6. Calculate the base acres to be included in CRP. You may choose how much to reduce allowable corn and/or wheat base for the duration of CRP on lines 7 and 8.

B. ESTIMATED CHANGE IN CROPPING PATTERN

Complete the current acres column, making sure your corn and wheat bases and total cropland match your ASCS figures. Put the total CRP acres and the base acreage reductions for wheat and/or corn calculated in the preceding section (lines 4, 7, and 8) under the CROP ACRES TO CRP column. Determine what other acreage will be increased or decreased to net the TOTAL CROPLAND ACRES TO CRP. Acreage will generally decrease for two or three crops, but one crop may increase, due to a desire to maintain hay ground or to keep a greater acreage of more profitable crops. Complete the REVISED CROPPING PATTERN column as a check on future crops and for your own information.

C. ESTIMATE OF INCOME FOREGONE FOR CRP ACREAGE

Transfer the acreage changes as a result of the CRP acres from B. Enter gross margin per acre for the crops affected and calculate totals and INCOME FOREGONE PER ACRE OF CRP, line 14.

Gross margins have been calculated for several crops in Table 3. The value of government payments have been included, assuming ARP participation on corn and wheat, using the procedure illustrated in the 1987 OSU Enterprise Budgets for Corn. The values for corn and wheat are per base acre, not per planted acre. Generally, relatively low productivity land will be put into CRP, thus the 90 bu. level gross margins would be appropriate. (See #8, page 2). The sensitivity analysis on Worksheet # 3 can help to estimate the impact of varying levels of profitability.

Worksheet # 2 - DETERMINING CROP INCOME LOST FROM LAND PLACED IN CRP.

A) REDUCTION OF BASE ACRES FOR CORN AND WHEAT. (ASCS DATA.)

1)Total Acres of Cropland 1) _____
2)Corn Base Acreage 2) _____
3)Wheat Base Acreage 3) _____
4)Acres Eligible For CRP 4) _____

BASE ACRES REQUIRED TO BE IN CRP:

5) CRP Acres as a Percent of Cropland 5) _____
(Line 4 Divided by Line 1 Times 100)
6) Base Acres to Include in CRP 6) _____
(Line 4 Times Line 5 Divided by 100)

DISTRIBUTION OF BASE ACRES IN CRP:

7) Acres to Reduce Allowable Corn Base 7) _____
8) Acres to Reduce Allowable Wheat Base 8) _____

(Note: While you lose acres of base for cropping purposes, these acres are still a part of the historic feed grain base for the farm.)

B) ESTIMATED CHANGE IN CROPPING PATTERN FOR CRP ACREAGE.

9) CROP	CURRENT ACRES	CROP ACRES TO CRP	REVISED CROPPING PATTERN
Corn Base (Planted _____ + Idle ____ Acres)	_____	_____	_____
Wheat Base(Planted _____ + Idle ____ Acres)	_____	_____	_____
Soybeans	_____	_____	_____
Oats	_____	_____	_____
Hay	_____	_____	_____
Pasture	_____	_____	_____
Other _____	_____	_____	_____
CRP land	xxxxxx	_____	_____
10) TOTAL CROPLAND (Equal totals above?)	_____	_____	_____
11) TOTALS FROM ABOVE FOR CHECKING	= Linel	= 0	=Linel

C) ESTIMATE OF INCOME FOREGONE FOR CRP ACREAGE.

12) CROP	CROP ACRES TO CRP	GROSS MARGIN PER ACRE	INCOME LOST
Corn Base	_____	_____	_____
Wheat Base	_____	_____	_____
Soybeans	_____	_____	_____
Oats	_____	_____	_____
Hay	_____	_____	_____
Pasture	_____	_____	_____
Other _____	_____	_____	_____
CRP land	xxxxxx	xxxxxx	xxxxxx
13) TOTAL CRP ACRES and INCOME FOREGONE	_____	xxxxxx	_____
14) INCOME FOREGONE PER ACRE OF CRP			_____PerAcre

** TO COMPLETE WORKSHEET # 3

A. ASSUMPTIONS USED TO ESTIMATE CRP BID

Lines 1 through 6 summarize the key elements of this bid estimate. Several alternatives can be analyzed by revising establishment cost estimates, crop mixes or gross margin estimates, etc. The items at the top of work sheet # 3 define key assumptions associated with each bid estimate.

B. AVERAGE ANNUAL COSTS FOR BID ESTIMATES

Lines 8, 9 and 10 summarize the three sub totals behind the bid estimate on line 11.

This estimate is based on current conditions and projections. The Sensitivity Analysis helps to analyze the impact of general changes in profitability over the CRP period. A 10% decrease in profitability per year relates only to the "Average Annual Net Income Foregone, CURRENT YEAR" on line 10 hence it should decrease the Bid Estimate on line 11 by something less than 10%.

Worksheet # 3 - ASSUMPTIONS USED and ANALYSIS OF THE CONSERVATION RESERVE PROGRAM (CRP) BID.

A) ASSUMPTIONS USED TO ESTIMATE CRP BID — INPUT DATA

1) Acres of Highly Erodible Land In CRP Contract _____
2) Average Annual Cost To Establish & Maintain CRP Land _____
3) Potential Annual Savings or Income From CRP Land _____
4) Total Acres of Cropland _____
5) Acres of Base To CRP _____
6) Changes In Cropping Pattern & Gross Margins For Affected Crops

CROP	CROP ACRES TO CRP	GROSS MARGIN PER ACRE
Corn Base	_____	_____
Wheat Base	_____	_____
Soybeans	_____	_____
Oats	_____	_____
Hay	_____	_____
Pasture	_____	_____
Other _____	_____	_____

7) Income Foregone Per Acre Of CRP _____ PerAcre

******* ANALYSIS *******

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* Estimated Bid Price to be at Least as Well Off by Participating *
* in the CRP Contract as by Continued Cropping of the Land. *

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B. AVERAGE ANNUAL COSTS FOR BID ESTIMATES	PER ACRE	FOR ____ ACRES
8) Average Annual Cost for CRP, CURRENT YEAR	_____	_____
9) Annual Savings or Income From CRP Land	_____	_____
10) Average Net Income Foregone, CURRENT YEAR	_____	_____
11) BID ESTIMATE BASED ON CURRENT YEAR DATA (Line 8 - Line 9 + Line 10)	_____	_____

C. BID SENSITIVITY ANALYSIS FOR VARIOUS YIELD, COST AND PRICE CONDITIONS

**********	PER ACRE ******** B I D	FOR ____ ACRES ********
12) 20% Less Profitable Than Expected ..... (Line 8 - Line 9 + (Line 10 x .8))	_____	_____
13) 10% Less Profitable Than Expected..... (Line 8 - Line 9 + (Line 10 x .9))	_____	_____
14) When Gross Margins Remain Like CURRENT YEAR (Line 8 - Line 9 + Line 10)	_____	_____
15) 10% More Profitable Than Expected..... (Line 8 - Line 9 + (Line 10 x 1.1))	_____	_____
16) 20% More Profitable Than Expected..... (Line 8 - Line 9 + (Line 10 x 1.2))	_____	_____

ESTIMATED ESTABLISHMENT AND ANNUAL MAINTENANCE COSTS
FOR SELECTED RECOMMENDED CRP PRACTICES, OHIO

Table 1 - GRASS COVER/WILDLIFE 1/

AMOUNT/DESCRIPTION	COST/A
Seed 2/	
6 lb. Red Clover, 2 lb. Alsike, 4 lb. Timothy or 8 lb. Orchard Grass, 1 lb. Ladino	$8.00-$10.00
Fertilizer 3/	
100 lb. per acre, 6-24-24 @ $250 per ton.	$12.50
Application	$3.00
Seeding	
Disking & broadcast or No-till	$12.00
Annual Maintenance 5/	
Mowing for noxious weed control, if needed	$9.50

Footnotes:

1/ The CCC will pay up to 50% of the cost of establishing permanent vegetative cover. The cover must be established by the end of the next growing season following contract approval. Cost sharing is also available on conservation structures, if needed.

2/ Similar practices would be followed for establishment of either grass cover or for wildlife. These seeds are preferred for wildlife. Other grasses may be used if simply establishing grass cover. Seed cost will typically range from $6 to $12 per acre.

3/ Soil analysis is required. Minimum pH of 6. The following minimum amounts of N, P, and K should be applied prior to or at forage seeding.

NITROGEN Apply (Lb./A)	PHOSPHORUS Soil Analysis	PHOSPHORUS Apply (Lb./A)	POTASSIUM Soil Analysis	POTASSIUM Apply (Lb./A)
	0-9	100	0-99	100
20	10-19	80	100-149	80
	20-29	60	150-199	60
	30+	40	200+	40

4/ Seed during April using appropriate method. Some example methods are: Soybean or Corn Residue, No-till: Apply 1/4 lb.(1 pint) Paraquat an seed with a no-tillage drill. Soybean Residue, tillage: Double disc once before seeding. Corn Residue, Tillage: Double disc twice before seeding.

5/ Clip twice during seeding year to reduce weed competition and weed seed formation. Clip at least once per growing season following seeding year to reduce weed seed formation.

Table 2 - TREE COVER 1/

AMOUNT/DESCRIPTION	COST/A
Trees	
700-800 per acre, planted by machine or hand	$15.00
Site Preparation 2/	
Pre-emergence herbicide where recommended by forester.	$23.00

Footnotes:

1/ CCC will pay up to 50% of the cost of establishing tree cover. Check with your county ASCS for local guidelines.

2/ If recommended by forester, two alternative site preparation methods are:
1) Spraying after planting and by June 15, cost is $23.00.
2) 2 rotary mowings, by June 15 and by Sept.15, cost is $19.00.

ALSO SEE THE FOLLOWING FOR ASSISTANCE IN DEVELOPING YOUR BID:

MM-388, Ohio Crop Enterprise Budgets, Grains & Forages, 1987. Ohio Cooperative Extension Service, OSU, Columbus, Nov., 1986.

L-74, Farm Custom Rates Paid In Ohio, 1985, OCES and OSU Oct., 1985

Table 3: Estimated Gross Margins for Various Ohio Crops 1987[1/]

	90 Bu Level								
	Corn (Conv.) Not ARP	Corn (Conv.) 20% ARP	SB (Conv.)	Wheat Not ARP	Wheat 27.5%ARP	Oats	Alfalfa Hay	Grass Hay	Pasture (Rent Out)
Production	90 bu	72 bu	28 bu	45 bu	33 bu	50 bu	3T	2T	
Return Per Unit	1.50	2.63	4.65	2.20	3.89	1.10	70	40	
Receipts	$135	$189	$130	$99	$127	$55	$210	$80	
Cash Costs									
Seed	18	15	10	9	8	6	7	2	
Fertilizer	29	23	16	25	18	14	30	25	
Pesticides	11	9	22	0	0	0	21	0	
Fuel, Oil, Grease	11	10	9	7	6	7	10	12	
Drying, Trucking	13	11	1	1	1	0	0	0	
Repair	14	11	12	6	4	6	15	13	
Miscellaneous	11	9	11	11	8	8	16	14	
Interest	5	4	4	5	4	1	5	3	
Total	$111	$92	$85	$63	$49	$42	$104	$69	
Gross Margin	$24	$97	$45	$36	$78	$13	$106	$11	$10

[1/] Based on 1987 Ohio Enterprise Budgets, revised.

DETAILED CRP BID EXAMPLE

Table 4 shows a completed example of making a CRP Bid Estimate using Worksheets 1, 2, and 3. Most of the CRP establishment and maintenance costs used on Worksheet 1 are from Table 1, and all are assumed to be eligible for 50% ACP cost-sharing. Line 5 shows the farmer will need at least $12.13 per acre per year to cover establishment & maintenance costs of land put into the CRP program.

Section D on Worksheet 1 reflects the expected sale of $2,500 of machinery from the farm as a result of putting 100 acres of land into the CRP. This may not be a common situation, but this example reflects a relatively large proportion of acres to be enrolled in CRP, 100 out of 400 cropland acres. Since the reduction in investment is spread over a relatively large number of CRP acres, the bid is only reduced by $5.00/acre (line 6).

Lines 5 and 6 on Worksheet 2 make the reduction in government program base acres needed to comply with CRP rules. These are calculated internally in the microcomputer version. One line 7 this farmer had to reduce his corn base by the whole amount since he had no wheat base. That 50 acre reduction is carried to line 9 (done internally in the computer version). He decided to take the other 50 acres from soybeans and oats.

The example farmer elected not to change the default "gross margins" in the computer model on line 12. These are the same as in Table 3. His projected $67.80 income foregone per acre of CRP makes up the bulk of the bid he needs in order to break even.

Lines 1 through 10, Worksheet 3, summarize the data behind the bid estimate of $74.93 per CRP acre appearing on Line 11. A change of 10% in the estimate of net income foregone on Line 10 would change his per acre bid by $6.78 to $68.15 or $81.71.

Table 4

Worksheet #1 - DETAILED APPROACH TO ESTIMATING ANNUAL ESTABLISHMENT AND MAINTENANCE COSTS FOR THE CONSERVATION RESERVE PROGRAM

Type of Data Needed	Cost Estimates
A) 1) ACRES OF HIGHLY ERODIBLE LAND IN CONTRACT	100 acres
ELIGIBLE FOR 50% COST-SHARE	Yes / No
B) CRP - Costs In Year of Establishment	
Land Preparation (Fuel&Repair, CustomHire)	$11.00 / $0.00 /ac
Seeding (Fuel & Repair, or Custom Hire)	$12.00 / $0.00 /ac
Seed, Seedlings	$ 8.00 / $0.00 /ac
Weed Control (at Seeding)	$ 6.00 / $0.00 /ac
Fertilizer, Lime	$15.50 / $0.00 /ac
Fencing, etc.	$ 0.00 / $0.00 /ac
Clipping in Establishment Year	$19.00 / $0.00 /ac
Other _____	$ 0.00 / $0.00 /ac
(Grass Waterways, Concrete Spillways, etc. Needed?)	
2) EST. YR. COST ELIGIBLE FOR 50% COST-SHARE	$71.50 / xxxxxx/ac
3) ESTABLISHMENT YEAR COST NOT COST-SHARED	xxxxxx / $0.00 /ac
C) CRP - Cost of Annual Maintenance, Years 2-10	
Clipping	$ 9.50 / xxxxxx/ac
Pest Control	$ 0.00 / xxxxxx/ac
Fertility	$ 0.00 / xxxxxx/ac
Other _____	$ 0.00 / xxxxxx/ac
(Grass Waterways, Concrete Spillways, etc. Needed?)	
4) CRP ANNUAL MAINTENANCE COST, YEARS 2-10	$ 9.50 / xxxxxx /ac

AVERAGE ANNUAL COSTS FOR ESTABLISHMENT AND MAINTENANCE OF CRP ACREAGE	PER ACRE	FOR 100 ACRES
5) AVERAGE ANNUAL COST FOR CRP, CURRENT YEAR ((LINE 2X50%)+(LINE 3)+(LINE 4X9))/10	$12.13	$1,213.00

D) OTHER POTENTIAL ANNUAL COST SAVINGS OR INCOME PER ACRE IN CRP:

Reduced Investment in Machinery(x 20%)	$500	Amount	$2,500.00
Savings in Hired Labor	$ 0		
Income from Hunting Fees, etc.	$ 0		
Other _____	$ 0		
TOTAL ANNUAL SAVINGS	$500		
Divide by Acres in CRP	100		
6) ANNUAL COST SAVINGS OR INCOME PER ACRE IN CRP			$5.00 /ac

Table 4 (cont'd)

Worksheet # 2 - DETERMINING CROP INCOME LOST FROM LAND PLACED IN CRP.

A) REDUCTION OF BASE ACRES FOR CORN AND WHEAT. (ASCS DATA.)

1)Total Acres of Cropland	1)	400
2)Corn Base Acreage	2)	200
3)Wheat Base Acreage	3)	0
4)Acres Eligible For CRP	4)	100

BASE ACRES REQUIRED TO BE IN CRP:

5) CRP Acres as a Percent of Cropland (Line 4 Divided by Line 1 Times 100)	5)	25
6) Base Acres to Include in CRP (Line 4 Times Line 5 Divided by 100)	6)	50

DISTRIBUTION OF BASE ACRES IN CRP:

7) Acres to Reduce Allowable Corn Base	7)	50
8) Acres to Reduce Allowable Wheat Base	8)	0

(Note: While you lose acres of base for cropping purposes, these acres are still a part of the historic feed grain base for the farm.)

B) ESTIMATED CHANGE IN CROPPING PATTERN FOR CRP ACREAGE.

9) CROP	CURRENT ACRES	CROP ACRES TO CRP	REVISED CROPPING PATTERN
Corn Base (Planted _____ + Idle ____ Acres)	200	-50	150
Wheat Base(Planted _____ + Idle ____ Acres)	0	0	0
Soybeans	70	-40	30
Oats	30	-10	20
Hay	100	0	100
Pasture	0	0	0
Other _____	0	0	0
CRP land	xxxxxx	100	100
10) TOTAL CROPLAND (Equal totals above?)	400	0	400
11) TOTALS FROM ABOVE FOR CHECKING	= Line1	=Line 4	=Line1

C) ESTIMATE OF INCOME FOREGONE FOR CRP ACREAGE.

12) CROP	CROP ACRES TO CRP	GROSS MARGIN PER ACRE	INCOME LOST
Corn Base	-50	$97	($4,850)
Wheat Base	0	$36	$0
Soybeans	-40	$45	($1,800)
Oats	-10	$13	($130)
Hay	0	$11	$0
Pasture	0	$10	$0
Other _____	0	$ 0	$0
CRP land	xxxxxx	xxxxxx	xxxxxx
13) TOTAL CRP ACRES and INCOME FOREGONE	-100	xxxxxx	($6,780)
14) INCOME FOREGONE PER ACRE OF CRP		$67.80	PerAcre

Table 4 (cont'd)

Worksheet # 3 - ASSUMPTIONS USED and ANALYSIS OF THE CONSERVATION RESERVE PROGRAM (CRP) BID.

A) ASSUMPTIONS USED TO ESTIMATE CRP BID	INPUT DATA
1) Acres of Highly Erodible Land In CRP Contract	100
2) Average Annual Cost To Establish & Maintain CRP Land	$12.13
3) Potential Annual Savings or Income From CRP Land	$ 5.00
4) Total Acres of Cropland	400
5) Acres of Base To CRP	50

6) Changes In Cropping Pattern & Gross Margins For Affected Crops

CROP	CROP ACRES TO CRP	GROSS MARGIN PER ACRE
Corn Base	-50	$97
Wheat Base	0	$36
Soybeans	-40	$45
Oats	-10	$13
Hay	0	$11
Pasture	0	$10
Other _____	0	$ 0

7) Income Foregone Per Acre Of CRP $67.80 PerAcre

******* ANALYSIS *******

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* Estimated Bid Price to be at Least as Well Off by Participating *
* in the CRP Contract as by Continued Cropping of the Land. *

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B. AVERAGE ANNUAL COSTS FOR BID ESTIMATES	PER ACRE	FOR 100 ACRES
8) Average Annual Cost for CRP, CURRENT YEAR	$12.13	$1,213
9) Annual Savings or Income From CRP Land	$ 5.00	$ 500
10) Average Net Income Foregone, CURRENT YEAR	$67.80	$6,780
11) BID ESTIMATE BASED ON CURRENT YEAR DATA (Line 8 - Line 9 + Line 10)	$74.93	$7,493

C. SENSITIVITY ANALYSIS OF BID FOR VARIOUS YIELD, COST AND PRICE CONDITIONS	PER ACRE	FOR ACRES
**********	******** B I D	********
12) 20% Less Profitable Than Expected ..... (Line 8 - Line 9 + (Line 10 x .8))	$61.37	$6,137
13) 10% Less Profitable Than Expected..... (Line 8 - Line 9 + (Line 10 x .9))	$68.15	$6,815
14) When Gross Margins Remain Like CURRENT YEAR (Line 8 - Line 9 + Line 10)	$74.93	$7,493
15) 10% More Profitable Than Expected..... (Line 8 - Line 9 + (Line 10 x 1.1))	$81.71	$8,171
16) 20% More Profitable Than Expected..... (Line 8 - Line 9 + (Line 10 x 1.2))	$88.49	$8,849

IMPACT OF CHANGES IN INPUT VALUES ON CRP BID ESTIMATE

In Table 5, the example from Table 4 is modified in four separate ways to show the impact of some key changes in assumptions or data. These changes are; 1) Fewer CRP acres; 2) Increased establishment costs; 3) No corn base, and 4) Lower gross margins per crop acre. The starred labels indicate where the values would be found on the various input and output screens on the microcomputer software version of this CRP program.

FEWER CRP ACRES

Reducing the size of the parcel considered for CRP affects this bid in two ways. First, since we are still assuming the same $2,500 reduction in machinery investment, the Annual Returns/CRP acre increases from $5.00 to $12.50 per acre, as the $500 annual savings are now spread over 40 rather than 100 acres. The net effect is to reduce the bid needed by $7.50.

Secondly, smaller reductions are needed in the two high profit crops, corn and soybeans, resulting in Income Foregone per CRP Acre of $63.00,compared to $67.80, which reduces the bid by $4.80 per acre. In total, placing fewer acres into the CRP results in a $12.30 lower bid estimate of $62.63 to breakeven.

INCREASED ESTABLISHMENT COST

In the next column, the farmer's out-of-pocket cost for establishment of the CRP cover crop is assumed to almost double, from $35.75 (1/2 of $71.50) to $70 (1/2 of $100 plus all of $20). This could result from higher costs and/or a relatively small amount that were eligible for ACP cost-sharing. This increases the cash flow the farmer must come up with in the year of establishment, but when it is allocated over the 10 years of the program, it only increases the bid by $3.52/acre.

SMALLER CORN BASE

Having a smaller corn base can significantly reduce the amount of income foregone. In this example, corn base is assumed to be zero, and no corn currently planted. Land formerly planted to corn was assumed to be in beans. Income foregone on the CRP acres is much lower (and hence a lower bid necessary) because no other crop has as high a gross margin as corn in the ARP program shown in Table 3. The overall impact is to reduce the bid needed by over 50%. In this case, the farmer was assumed to reduce the acreage of soybeans, oats and hay (under ROTATION). Had the entire acreage reduction come from soybeans the bid would not have been reduced nearly so much.

LOWER GROSS MARGINS

In the last column, a lower gross margin is assumed for all crops, from lower yields and/or prices. Total income for each crop was reduced by 10%, while expenses are assumed to remain the same. This 10% change in revenue results in a much larger change than a 10% change in gross margins(or net profits) as shown in the sensitivity section. This change led to reduced income foregone per acre of CRP by $15.30, or 22% compared to the Table 4 example.

SUMMARY

These examples illustrate just a few of the possible alternatives that may apply to your individual situation. While the results indicate the direction certain changes may have on the minimum bid, you must be aware that they may be quite different from your situation.

In summary, for the example situation analyzed, reducing the size of parcel considered for CRP relative to the whole farm can reduce the necessary bid significantly. Likewise, giving up relatively unprofitable crops or assuming lower gross margins on your land will also reduce the needed CRP bid. And while increased establishment or maintainance costs may only slightly raise the needed bid, it may create cash flow problems in the year of establishment.

The key points to remember are: 1) Each situation is unique and knowledge of your costs and yields are important, and 2) the computer model allows you to quickly calculate the minimum bid for a variety of situations.

Table 5 IMPACT OF VARIOUS FACTORS ON CRP BID ESTIMATE

Type of Data Needed/Provided	Input Changes Analyzed				
	TABLE 4 EXAMPLE	CRP ACRES	ESTAB. COST	CORN BASE	GROSS MARGIN
INPUT					
*CRP LAND					
**ESTABLISH					
CRP Acres In Contract	100	40	100	100	100
Cost Yr. Est. Cost-Shared	$71.50	$71.50	100	$71.50	$71.50
Not Shared	0	0	20	0	0
**MAINTENANCE					
Annual Maintenance Cost	$ 9.50	$ 9.50	$ 9.50	$ 9.50	$ 9.50
$Ave. Ann. Cost-Est. & Maint.	$12.13	$12.13	$15.55	$12.13	$12.13
**POT.ANN.RET.					
$Ann. Returns/A. CRP	$ 5.00	$12.50	$ 5.00	$ 5.00	$ 5.00
*FARMLAND					
**BASE TO CRP					
Total Acres	400	400	400	400	400
Corn Base	200	200	200	0	200
Wheat Base	0	0	0	0	0
A. Eligible for CRP	100	40	100	100	100
CRP as % Cropland	25	10	25	25	25
Base A. to include in CRP	50	20	50	0	50
Reduce Corn Base	50	20	50	0	50
Reduce Wheat Base	0	0	0	0	0
**ROTATION					
Crop Pattern Corn	-50	-20	-50	0	-50
Wheat	0	0	0	0	0
Soybeans	-40	-10	-40	-40	-40
Oats	-10	-10	-10	-30	-10
Grass Hay	0	0	0	-30	0
**INCOME					
Gross Margin/A. Corn	97	97	97	97	78
Wheat	36	36	36	36	23
Soybeans	45	45	45	45	32
Oats	13	13	13	13	7
Grass Hay	11	11	11	11	3
Income Foregone/A. CRP	$67.80	$63.00	$67.80	$25.20	$52.50
OUTPUT					
*BID	$74.93	$62.63	$78.35	$32.33	$59.63
*SENSITIVITY					
-10%	$68.15	$56.33	$71.57	$29.81	$54.38
+10%	$81.71	$68.93	$85.13	$34.85	$64.88
	(±$6.78) (9%)	(±$6.30) (10%)	(±$6.78) (9%)	(±$2.52) (8%)	(±$5.25) (9%)

*:MAINSCREEN **:SUB-SCREEN □ CHANGE IN INPUT ○ CHANGE IN OUTPUT