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MAXALLO3.WKS: A Computerized Worksheet
for Allocating Crop Losses Between The A.S.C.S.
Disaster Assistance and Feed Assistance Programs

By

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*Assistant Professor, Department of Agricultural Economics, University of Wisconsin-Madison, UWEX-Cooperative Extension, Staff Paper No. 296, December 1988.

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Persons wanting more information about the worksheet that is
discussed here should contact:

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Under the Agricultural Stabilization and Conservation Services (A.S.C.S.) disaster assistance programs, a farmer is eligible to collect feed assistance benefits on crop losses that are not used to collect disaster payments. This is an important point because it means a farmer must forgo a disaster payment on a crop loss that is used to collect feed assistance benefits. Given this, it follows that a farmer should collect feed assistance benefits on those crop losses that have the lowest disaster payments. This strategy will allow a farmer to obtain maximum total benefits from the A.S.C.S. disaster programs.

In this paper we will consider a computerized worksheet that will show farmers how they can obtain feed assistance benefits and give up the least amount of disaster payments. This worksheet entitled 'MAXALLO3.WKS', should be very useful to those farmers who need to determine which crop losses they want to use to obtain feed assistance benefits from the A.S.C.S.

This paper is divided into three sections. The first section is an explanation of how the worksheet is accessed and used. The second section is a discussion of the worksheet's data requirements. The last section is a discussion of the results that are generated by the worksheet.

Operating the Worksheet

The MAXALLO3.WKS worksheet was developed using LOTUS 123. Therefore anyone wishing to use this worksheet will need to have LOTUS or some other software package that is capable of handling LOTUS spreadsheets (VP PLANNER, QUATRO, etc.).^{1/}

^{1/} A special version of MAXALLO3.WKS has been developed for use with VP Planner. This version of the worksheet is entitled 'VPALLO3.WKS'. Persons using VP Planner should use this special version of the worksheet.

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Operating Instructions When the MAXALLO3.WKS worksheet is accessed, the operating instructions for the worksheet will appear on the screen. These instructions, presented in Table 1, must be followed if the user is to obtain accurate results from the worksheet. These instructions can be accessed at anytime by striking the home key <HOME>.

Moving to Sections of the Worksheet Function keys 5 and 3 (<F5> and <F3>, respectively) should be used to access various sections of this worksheet. The <F5> key is the 'GO TO' function of LOTUS and the <F3> key is the 'NAME' function. By using these two function keys a user can quickly go to a specific section of the worksheet. This feature of the worksheet is intended to ensure that the user will not have problems accessing the sections of the worksheet that are named 'DATAIN' and 'RESULTS'. The first section is where data is entered into the worksheet and the latter section contains the results that are generated by the worksheet.

Sort Routine This worksheet utilizes a sort routine when it computes results. There is a specific procedure for activating this sort routine that is embedded in the worksheet. This procedure is described in the instructions that appear in the first section of the worksheet.

To activate the worksheet's sort routine, the following tasks must be performed. First the user should strike the slash key </> to obtain a menu of operations. When this menu appears at the top of the screen the user should move the cursor to 'DATA' and strike the enter key <ENTER>. A new menu should appear at the top of the screen. The user should the move the cursor to 'SORT' and again strike <ENTER>. A third menu of commands should then appear at the top of the screen. The user should move the cursor to

TABLE 1: INSTRUCTIONS FOR OPERATING THE MAXALLO3.WKS WORKSHEET

WORKSHEET FOR ALLOCATING FEED ASSISTANCE BENEFITS TO CROP ACRES
DEVELOPED BY BRUCE L. JONES , ASST. PROF. , DEPT. OF AG. ECON. ,
UNIV. OF WISC. -MADISON, UWEX-CE

INSTRUCTIONS FOR OPERATING THIS WORKSHEET

- 1) STRIKE THE FUNCTION 5 KEY <F5>
- 2) STRIKE THE FUNCTION 3 KEY <F3>
- 3) MOVE THE CURSOR TO THE "DATAIN" RANGE AND STRIKE <ENTER>
- 4) ENTER THE NECESSARY DATA
- 5) STRIKE THE HOME KEY <HOME> TO RETURN TO THESE INSTRUCTIONS

- 6) COMPUTE THE RESULTS BY ISSUING THE FOLLOWING COMMANDS
 - A) STRIKE THE SLASH KEY </>
 - B) MOVE THE CURSOR TO THE "DATA" FUNCTION AND STRIKE <ENTER>
 - C) MOVE THE CURSOR TO THE "SORT" FUNCTION AND STRIKE <ENTER>
 - D) MOVE THE CURSOR TO THE "GO" FUNCTION AND STRIKE <ENTER>

- 7) STRIKE <F5> AND THEN <F3> AND MOVE THE CURSOR TO "RESULTS"
- 8) STRIKE <ENTER> AND THE ALLOCATION RESULTS WILL APPEAR ON THE SCREEN

'GO' and strike <ENTER>. This last action will activate the sort routine and allow the worksheet to compute results. If this sort routine is not activated the worksheet will not generate results.

Printing Worksheet Sections Printouts of the 'DATAIN' and 'RESULTS' section of the worksheet can be obtained when the following procedure is followed. First strike the slash key </>, move the cursor to 'PRINT' and strike the enter key <ENTER>. Move the cursor to 'PRINTER', strike <ENTER>, move the cursor to 'RANGE', strike <ENTER> and finally strike function key 3 <F3>. After these tasks are performed the names of the sections of the worksheet should appear in the menu section of the worksheet. When this menu appears the cursor should be placed on 'DATAIN' if a printout of the input data is desired. Alternatively, the cursor should be placed on 'RESULTS' if a printout of the results is desired. After the cursor is placed on the name of the section that is to be printed, strike <ENTER>, move the cursor to 'GO', and again strike <ENTER>. This last key stroke will activate the printer and the desired input will be printed.

Data Input Requirements

In this section we will identify each of the worksheet's data requirements and we will consider the two A.S.C.S. reports that contain the information that is required by the worksheet.

Pounds of Grain Equivalents Used for Feed Assistance This variable is the same as the 'Total Allowance' that is computed by the A.S.C.S. Therefore the value of this variable should be set equal to the value that is computed by A.S.C.S.

Harvested Crop The user will need to identify all of the crops that are eligible for feed assistance benefits. Crops should be identified on a per

farm basis. For example, corn grown on farm 110 should be reported as 'CORN 110' and corn raised on farm 320 should be called 'CORN 320'. This reporting of crops by farm is necessary because losses on crops may vary across farms.

Acres. For each of the identified crops the user will need to specify how many acres of these crops were raised.

Total Pounds Lost (Grain Equiv.) The worksheet user must specify how many pounds of grain equivalents were lost on each of the identified crops. These crop loss values should be the same as the ones that are computed by A.S.C.S.

Total Disaster Benefit In addition to specifying the production losses per crop, the user must also specify what net cash flow would result if a crop loss is used to collect benefits under the Disaster Assistance Program. This net cash flow, referred to here as the Total Disaster Benefit, should be computed using the following formula:

+ Forgiven Advance Deficiency Payment	A) _____
+ Disaster Payment	B) _____
+ Earned Deficiency Payment Under Disaster Assistance (Actual Production X Deficiency Rate)	C) _____
- Earned Deficiency Payment Under Feed Assistance (Normal Production X Deficiency Rate)	D) _____
Total Disaster Benefit (A+B+C-D)	E) _____

The following example illustrates how the above formula is used to compute the total disaster benefit for a crop. Assume that:

- a) 4000 versus 8000 bushels of corn are harvested from 80 acres;
- b) the forgiven advance deficiency payment is worth \$1,232;
- c) the disaster payment is \$2,285.40;
- d) the deficiency rate will be 10¢/bu.;
- e) the earned deficiency payment under disaster assistance will be \$400 (4000 bu. x 10¢/bu.); and
- f) the earned deficiency payment under feed assistance will be \$800 (8000 bu. x 10¢/bu.)

Given this information, the Total Disaster Benefit would be computed as follows:

+ Forgiven Advance Deficiency Payment	A) <u>1,232</u>
+ Disaster Payment	B) <u>2,285.40</u>
+ Earned Deficiency Payment Under Disaster Assistance (4000 x .10)	C) <u>400</u>
- Earned Deficiency Payment Under Feed Assistance (8000 x .10)	D) <u>800</u>
Total Disaster Benefit (A+B+C-D)	E) <u>3,117.40</u>

A.S.C.S. Reports Containing Required Information There are two A.S.C.S. reports that contain the information that is needed by the MAXALLO3.WKS worksheet. One report is the Application for Emergency Feed (A.S.C.S.-645) and the other is the Farm Entitlement Report. Examples of these reports are presented in the Appendix of this paper.

The Application for Emergency Feed contains information about: a) crops; b) crop acres; c) total pounds lost (feed grain equivalents); and d) the Total Allowance. The first three variables are reported on the first page of this report and Total Allowance is reported on the second page.

The Farm Entitlement Report contains information about: a) crops; b) acres of crops; c) forgiven advance deficiency payments; d) disaster payments; e) normal production; and f) actual production.

Example Input File for the Worksheet Table 2 is an example of an input file that was created for the MAXALLO3.WKS worksheet. This file represents the 'DATAIN' section of the worksheet. A printout similar to this one is obtained whenever the 'DATAIN' section of the worksheet is printed.

Input Form The blank input form presented in page 4 of the Appendix can be used to organize the data that must to be entered into the 'DATAIN' section of the worksheet. This blank copy of the form is a master copy that can be used to create additional copies of this input form.

Results

Table 3 is an example of the information that appears in the 'RESULTS' section of the worksheet. These results were obtained when the information in Table 2 was supplied to the worksheet. For this example, name and address information was not entered into the bottom portion of the 'RESULTS' section but a user can enter this information if the user wants it to be included in the results.

In this particular case the worksheet determines that the following crop acres should be allocated to the feed assistance program: 1) 7.7 acres of alfalfa hay on farm 2115; 2) 23.8 acres of barley from farm 2115; 3) 11.3 acres of oatlage from farm 503; 4) 43.4 acres of ear corn on farm 503; 5) 30.1 acres of mixed hay from farm 1739; and 6) 13.74 acres of corn silage from farm 2115. The remaining crop acres are allocated to the disaster assistance programs.

When the allocation plan presented in Table 7 is utilized, feed assistance benefits and disaster payments worth roughly \$29,500 will be obtained, and feed assistance benefits will be obtained on 340,946 pounds of feed grain equivalents. This option for collecting benefits from A.S.C.S. is clearly preferable to only accepting \$10,228.38 of feed assistance benefits or \$24,878 disaster assistance benefits.

The results presented in Table 3 are based on the assumption that three cents (3¢) of assistance will be obtained on each pound of feed equivalent that is used to collect feed assistance benefits. Unless another value is specified for the variable, the worksheet will develop an allocation plan under the assumption that feed assistance benefits will be 3¢ per pound.

In cases where the expected per pound value of the feed assistance benefits will be something other than 3¢, the worksheet user will have to specify a different value for this variable. If for example the per pound value of feed assistance will only be 2¢, the user should change the expected per pound value of feed assistance from .03 to .02.

Table 4 is an example of the results that are obtained when the Table 2 inputs are supplied to the worksheet and the per pound value of feed assistance is 2¢ versus 3¢. From this table we see that the crop allocations are different from the ones that were obtained when the per pound value of feed assistance is 3¢. For this case the crop acres allocated to the feed assistance program are: 1) 7.7 acres of alfalfa hay; 2) 23.8 acres of barley; 3) 11.3 acres of oatlage; 4) 43.4 acres of ear corn; and 5) 30.1 acres of mixed hay. No other crops are allocated to the feed assistance programs.

TABLE 4: OUTPUT OBTAINED WHEN EXPECTED PER POUND VALUE OF FEED ASST. IS 2¢

EXPECTED PER LB VALUE OF FEED ASST.		0.02			
ACRES USED FOR FEED ASS. BENEFITS	ACRES USED FOR DISASTER BENEFITS	PERCENT ACRES TO D.A.P.	DISASTER BENEFIT PER LB OF FEED EQUIV	HARVESTED CROP	
7.7	0	0	0.001240	ALF HAY 2115	
23.8	0	0	0.003973	BARLEY 2115	
11.3	0	0	0.005263	OATLAGE 503	
43.4	0	0	0.018499	EAR CORN 503	
30.1	0	0	0.019381	MIXED HAY 1739	
0	58.2	100	0.024228	CORN SILAGE 2115	
0	27.5	100	0.026345	MIXED HAY 503	
0	25.6	100	0.029981	MARSH HAY 3815	
0	80	100	0.030285	CORN SILAGE 3815	
0	20	100	0.051854	CORN 3815	
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		
0	0	0	0		

ACRES USED FOR FEED ASS. BENEFITS	ACRES USED FOR DISASTER BENEFITS
--	---

116.3 211.3

BENEFITS FROM FEED ASSIST ONLY	6818.92
BENEFITS FROM DISASTER ASSIST ONLY	24878
BENEFITS WITH FEED ASSIST & DISASTER ASSIST	26328.66
POUNDS OF FEED EQUIV. USED FOR FEED ASSIST.	290283

THESE RESULTS ARE BASED ON THE ASSUMPTION THAT THE PER POUND VALUE OF FEED ASSISTANCE WILL BE 0.02
 DIFFERENT RESULTS WILL BE OBTAINED WHEN THE ACTUAL PER POUND VALUE OF FEED ASSISTANCE IS NOT EQUAL TO THIS VALUE.

FARMER:

For this second example, only 290,283 of the 394,460 pounds of feed equivalents eligible for feed assistance are used. This is because losses are incurred if additional crops are moved into the feed assistance program. Notice, for example, that nearly 2.4¢ of disaster benefits are lost for every 2¢ of feed assistance benefits that are gained if the corn silage on farm 2115 is shifted into the feed assistance program. Since this net loss of .4¢ per pound is undesirable, it follows that this silage crop should not be shifted into the feed assistance program.

Summary

While this worksheet does not eliminate the problem of having to decide when crop losses should be used to collect feed assistance benefits, it does make it easier to obtain the information that is needed to make this decision. Therefore this worksheet should be of value to farmers and those persons who are attempting to provide farmers information about the A.S.C.S. programs.

APPENDIX

<u>Page</u>	<u>Document</u>
1	Example Application for Emergency Feed -- Page 1
2	Example Application for Emergency Feed -- Page 2
3	Example Farm Entitlement Report
4	Input Form for MAXALLO3.WKS

APPLICATION FOR EMERGENCY FEED -- Page 1

Report ID: LJA170-R001

APPLICATION FOR EMERGENCY FEED - ASCS-645

Prepared: 10-24-88

PRODUCER ID: ID TYPE: S

M.D.
ROUTE 1
OURTOWN, WI 55555

A: FEEDING PERIOD

BEGINNING DATE: 10-21-88
ENDING DATE: 05-14-89
TOTAL DAYS: 266

(A) (B)
B. NORMAL FEED PRODUCTION AND LOSS

CROP	CROP YR ACREAGE	NORM YIELD	NORMAL PROD	CONVERT		FEED GRAIN EQUIV LBS	AMT HARVEST	AMOUNT LOSS	CONVERT		FEED GRAIN EQUIV LBS
				PROD LBS	C.F.				LOSS LBS	C.F.	
OATLAGE 503	11.3	2.7	30.5	61,000	0.35	21,350	15.3	15.2	30,400	0.35	10,640
EAR CORN 503	43.4	3.7	160.6	321,200	1.00	321,200	96.3	64.3	128,600	1.00	128,600
MIXED HAY 503	27.5	5.2	143.0	286,000	0.60	171,600	78.6	64.4	131,600	0.60	77,280
BRLY 2115	23.8	58.0	1,380.4			66,259	552.0	828.4			39,747
CORN SIL 2115	58.2	13.4	779.9	1,559,800	0.23	358,754	389.9	390.0	780,000	0.23	179,400
ALF HAY 2115	7.7	5.5	42.4	84,800	0.64	54,272	25.4	17.0	34,000	0.64	21,760
CORN 3815	20.0	118.0	2,360.0			132,160	1,534.0	826.0			46,256
CORN SIL 3815	80.0	14.4	1,152.0	2,304,000	0.23	529,920	576.0	576.0	1,152,000	0.23	264,960
HARSH HAY 3815	25.6	4.2	107.5	215,000	0.42	90,300	56.0	51.5	103,000	0.42	43,260
MIXED HAY 1739	30.1	4.5	135.5	271,000	0.60	162,600	60.9	74.6	149,200	0.60	89,520
TOTALS	327.6					1,908,415					901,439

Quality Adj: Corn Sil. (2115) 195 x 2000 x .09 = +3510
Corn Sil. (3815) 288 x 2000 x .09 = +51840
988,379

C. PASTURE/ELIGIBILITY

PASTURE VALUE	PASTURE LOSS	PASTURE ON HAND	TOTAL FEED LOSS	NORM PROD	40% NORM PROD
0	0	0	988,379 901,439	1,908,415	763,366

D. ROUGHAGE AND FEED GRAIN ON HAND

CROP	PURCHASE AMOUNT	CONVERT LBS	C.F.	EQUIV LBS
EAR CORN	80.5	161,000	1.00	161,000
MIXED HAY	50.0	100,000	0.60	60,000
BRLY	552.0			26,496
CORN SIL 2115	194.9	389,800	0.23	89,654

- (A) CROPS BY FARM NUMBER
- (B) ACRES OF CROPS
- (C) TOTAL POUNDS LOST IN FEED GRAIN EQUIVALENTS

APPLICATION FOR EMERGENCY FEED -- Page 2

Report ID: LJA170-R001

APPLICATION FOR EMERGENCY FEED - ASCS-645

Prepared: 10-24-88

PRODUCER ID: ID TYPE: S

ROUTE 1
OURTOWN, WI 55555

CROP	PURCHASE	AMOUNT	CONVERT LBS	C.F.	EQUIV LBS
CORN SIL 2115		135.0	270,000	0.14	37,800
CORN		1,234.0			69,104
CORN SIL 3815		288.0	576,000	0.23	132,480
CORN SIL 3815		288.0	576,000	0.14	80,640
MARSH HAY		40.0	80,000	0.42	33,600
ALFALFA HAY	P	50.0	100,000	0.64	64,000
MIXED FEED	P	10.0	20,000	1.00	20,000
TOTALS					774,774

E. ELIGIBLE LIVESTOCK

LIVESTOCK	HEAD	PER UNIT	UNITS	HEAD NOT FOUND
DAIRY COW	100	2.00	200.0	0
ALL BULLS 2 YEARS OLD OR MORE	2	2.00	4.0	0
CATTLE, HORSES, MULES - 1 YR OR MORE	75	1.00	75.0	0
CATTLE, HORSES, MULES - 6 MO TO 1 YR	32	0.50	16.0	0
COLTS, CALVES - LESS THAN 6 MONTHS	24	0.33	7.9	0
SWINE OVER 6 MONTHS OLD	20	0.33	6.6	0
SWINE LESS THAN 6 MONTHS OLD	160	0.20	32.0	0
CHICKENS, TURKEYS, GEESE, DUCKS (8)	8,000	0.02	160.0	0
TOTALS	8,413		502.0	

F. ALLOWANCE

ANIMAL UNITS	DAILY ALLOW	DAYS	GROSS ALLOW	FEED ON HAND	PURCHASES	FEED AVAILABLE
502	10	206	1,034,120	774,774	84,000	690,774

NET ALLOW	FEED LOSS	TOT ALLOW	EFAP ALLOW	USED FEED LOSS
343,346	988,379 901,439	343,346 <u>- 2400</u> 340,946	343,346	

TOT ALLOW
343,346
<u>- 2400</u>
340,946

(A)

ACR on hand at time of application:

100 bales
x 40 lbs
4000 lbs.
x 1.60 CF
2400 lbs.

(A) TOTAL ALLOWANCE

FARM ENTITLEMENT REPORT

WISCONSIN
JEFFERSON
Report ID:

U.S. Department of Agriculture
Agricultural Stabilization and Conservation Service

Prepared: 10-24-8
Time: 15:29
Page: 5

FARM ENTITLEMENT REPORT

Before EFP Adj.

Farm Number: 3815 Total Farm Payment: 11,473

Crop	Prac Part	Yield	Acres	Disaster Level	Actual	High Level	Low Level	Payment
CORN	NI Y	118.0	100.0					
Expected Production:		11,800.00	Loss: 79%					
Basic Rate:		2.9300	Total:		7,670.00	2,500.00	450.00	4,720.00 10,176
HAYMX	NI	5.2	25.6					
Expected Production:		133.12	Loss: 58%					
Basic Rate:		65.3400	Total:		86.53	56.00	30.53	1,297

Producer: 33333333 M.D.

Total Payment: 11,473

Crop	Share	89	Actual	Disaster	Amt.	Crop	Projected	Indicated Refun
	Insur.		Production	Loss	Insur.	Payment	Def. Forgiven	
CORN	ALL Y		2,500.00	5,170.00		10,176	1,817	2,275
HAYMX	ALL H		56.00	30.53		1,297		

NOTE: Projected deficiency payment forgiven and indicated refund amounts are based on an actual final deficiency rate of zero and the acres and yields used for disaster payments.

(A) CROP AND NORMAL (EXPECTED) PRODUCTION

(B) CROP, ACTUAL PRODUCTION, DISASTER PAYMENT (CROP PAYMENT), AND FORGIVEN ADVANCE DEFICIENCY PAYMENT (PROJECTED DEF. FORGIVEN)

