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CC336 1987 Production Adjustment Program (Worksheets for Feed Grains and Wheat Producers)

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This publication provides a brief summary of program provisions of the 1987 production adjustment program worksheets for producers to use in making participation decisions. The worksheets make possible a comparison of the expected return over variable costs among the participation alternatives (five alternatives are listed below).

Because participation decisions are short run or annual planning decisions, return over variable costs is used to compare the alternatives. A producer will typically select the alternative which is expected to produce the highest return over variable costs. This return above variable costs would hopefully cover fixed costs, such as land taxes and interest, machinery depreciation and interest, and family living and/or fixed labor costs. Fixed costs are not included in the worksheets because they are constant, regardless of the participation decision.

The worksheets include an example for an irrigated corn farm in central Nebraska. Three blank forms are included for producers to use in making calculations on their own farm.

The worksheets make it possible to calculate returns over variable costs for five alternatives:

1. Non-participation
   - Worksheet 1

2. Participation in basic program.
   - Maximum permitted acreage is 80% of feed grain base or 72.5% of wheat base.
   - Worksheet 2

3. Participation in basic program plus optional paid land diversion for feed grains.
   - Maximum permitted acreage is 65% of feed grain base.
   - Worksheet 2

4. Participation under the 50-92 provision.
   - Planted acreage would be in a range of 50 to 92 percent of maximum permitted acreage, with deficiency payments collected on 92% of the maximum permitted acreage.
   - Worksheet 3

5. Participation under the 50-92 provision plus optional paid land diversion for feed grains.
   - Planted acreage would be in a range of 50 to 92 percent of maximum permitted acreage, which would be 65% of the feed grain base.
   - Worksheet 3
Producers may need more than one set of blank worksheets to assess all their alternatives. Also, if a producer has more than one program crop or more than one farm (as defined by ASCS number), multiple sets of worksheets will be needed. One word of caution: If you have more than one program crop or farm, you must add payments from multiple crops or farms together to determine if you will be subject to a payment limitation.
Provisions for 1987 Feed Grain and Wheat Acreage Reduction Programs

The basic provisions for 1987 feed grain and wheat programs are as follows:

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Corn</th>
<th>Sorghum</th>
<th>Barley</th>
<th>Oats</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic loan rate (natl ave., $/bu)</td>
<td>2.28</td>
<td>2.18</td>
<td>1.86</td>
<td>1.18</td>
<td>2.85</td>
</tr>
<tr>
<td>Adjusted loan rate (natl ave., $/bu)</td>
<td>1.82</td>
<td>1.74</td>
<td>1.49</td>
<td>.94</td>
<td>2.28</td>
</tr>
<tr>
<td>Target price ($/bu)</td>
<td>3.03</td>
<td>2.88</td>
<td>2.60</td>
<td>1.60</td>
<td>4.38</td>
</tr>
<tr>
<td>Maximum deficiency payment ($/bu)</td>
<td>1.21</td>
<td>1.14</td>
<td>1.11</td>
<td>.66</td>
<td>2.10</td>
</tr>
<tr>
<td>Projected deficiency payment ($/bu)</td>
<td>1.21</td>
<td>1.14</td>
<td>1.11</td>
<td>.55</td>
<td>2.10</td>
</tr>
<tr>
<td>Deficiency payment subject to $50,000 limit ($/bu)</td>
<td>.75</td>
<td>.71</td>
<td>.74</td>
<td>.43</td>
<td>1.53</td>
</tr>
<tr>
<td>Deficiency payment subject to $200,000 limit ($/bu)</td>
<td>.46</td>
<td>.43</td>
<td>.37</td>
<td>.23</td>
<td>.57</td>
</tr>
<tr>
<td>Maximum permitted acreage (MPA) as a % of crop acreage base (CAB)</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>72.5</td>
</tr>
<tr>
<td>Minimum acreage reduction requirement (ARP), (% of CAB)</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>27.5</td>
</tr>
<tr>
<td>Optional paid land diversion (PLD) (% of CAB)</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Acreage conservation reserve (ACR) factor</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>37.93</td>
</tr>
<tr>
<td>ACR with PLD (% of planted acres)</td>
<td>30.77</td>
<td>30.77</td>
<td>30.77</td>
<td>30.77</td>
<td></td>
</tr>
<tr>
<td>Paid diversion rate ($/bu)</td>
<td>2.00</td>
<td>1.90</td>
<td>1.60</td>
<td>.80</td>
<td></td>
</tr>
<tr>
<td>Crop acreage base</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Program (ASCS effective) yield</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Crop acreage base (after throwing out years with highest and lowest yields)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Haying/grazing on acreage conservation reserve (ACR) - Grazing only from 10/1 to 4/30</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>50/92 provision</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Haying/grazing on conserving use (CU) acres</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cross-compliance</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Offsetting compliance</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Grain reserve Entry allowed only if stocks are less than 7% of projected 1987-88 usage of feedgrains or 17% of projected 1987-88 usage of wheat.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Advance payments</td>
<td>40 percent of projected deficiency payments; 50% of estimated diversion payments.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Subsequent payments</td>
<td>Remaining diversion payment is likely to be made in the summer of 1987 after crop acreage has been certified. Remaining deficiency payments are likely to be made as follows:</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2nd payment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>final payment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Corn</td>
<td>March, 1988</td>
<td>October, 1988</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sorghum</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Barley</td>
<td>December, 1987</td>
<td>July, 1988</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oats</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wheat</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
24. Payment limitations - $50,000 per person for diversion and that portion of the deficiency payment that represents the difference between the target price and the basic loan rate. The remaining deficiency payment is subject to a $200,000 per person limitation.

25. Generic certificates - One-half of advance payments to be made in generic certificates; subsequent payments also may be partially or wholly in generic certificates.

26. Program sign-up - Through March 30, 1987

Worksheet Limitations

The worksheets that follow have two limitations worth mentioning.

First, that portion of deficiency and diversion payments made in generic certificates (certs) may have - in fact, is likely to have - a value that exceeds its face value. While this premium would not be subject to the payment limitation, it would increase the overall return from program participation. To estimate the value of the market premium on certs, first estimate the percentage of total deficiency and diversion payments that will be made in certificates. Then, multiply this percentage by the total estimated value of deficiency and diversion payments (cash payments plus face value of certificates). Finally, multiply the subsequent result by the expected certificate premium and add to the total return for program participation. Suppose, for example, the following situation existed with respect to estimated program payments:

<table>
<thead>
<tr>
<th></th>
<th>% in Cert</th>
<th>Amount</th>
<th>Certs</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficiency payment subject to $50,000 payment limit</td>
<td>40*</td>
<td>$20,000</td>
<td></td>
<td>8,000</td>
</tr>
<tr>
<td>Deficiency payment subject to $200,000 payment limit</td>
<td>50*</td>
<td>10,000</td>
<td></td>
<td>5,000</td>
</tr>
<tr>
<td>Diversion payment</td>
<td>50*</td>
<td>5,000</td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>5,000</td>
<td>15,500</td>
<td></td>
</tr>
</tbody>
</table>

* Example only -- actual percentages may vary.

If the cert premium turned out to be 10%, this would increase the overall benefit from program participation by $1,550 ($15,500 x 10%).

Comparisons using the worksheets do not consider the time value of money. Advance deficiency and diversion payments provide cash flow earlier than would be the case if a producer did not participate in the acreage reduction program. On the other hand, the last portion of a deficiency payment is not made until long after a crop is harvested. Thus, waiting for this last portion of the cash flow from a crop may offset the advantage of advance payments. Producers should also remember that maximum second and final deficiency payments are subject to the national average cash price for the commodity remaining below the basic loan rate and adjusted loan rate, respectively.

Information presented here is based on program provisions as of February 27, 1987.
Worksheet 1

OPTION 1: DO NOT PARTICIPATE IN PROGRAM

Program Crop: Coyn

Information Needed

- a. 600 ac Acres you intend to plant
- b. 130 bu/ac Expected yield
- c. $1.50/bu Expected market price
- d. $150/ac Expected cash costs

Expected Returns

\[ \frac{600 \text{ ac}}{(a)} \times \frac{130 \text{ bu/ac}}{(b)} = \frac{78,000 \text{ bu}}{(e)} \]

\[ \frac{78,000 \text{ bu}}{(e)} \times \frac{1.50 \text{ bu}}{(c)} = \frac{117,000}{(f)} \]

Expected Cash Costs

\[ \frac{600 \text{ ac} \times \$150/ac}{(d)} = \frac{90,000}{(g)} \]

Expected Return over Cash Costs for Option 1 \( (f-g) \)

\[ $27,000 \]

SUMMARY: EXPECTED RETURNS OVER CASH COSTS

<table>
<thead>
<tr>
<th>OPTION</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NON PARTICIPATION</td>
<td>$27,000</td>
</tr>
<tr>
<td>2</td>
<td>PARTICIPATION (BASIC)</td>
<td>$93,528</td>
</tr>
<tr>
<td>3</td>
<td>PARTICIPATION (BASIC)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PLUS PAID LAND DIVERSION</td>
<td>$92,241</td>
</tr>
<tr>
<td>4</td>
<td>PARTICIPATION (50/92 RULE)</td>
<td>$86,774</td>
</tr>
<tr>
<td>5</td>
<td>PARTICIPATION (50/92 RULE)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PLUS PAID LAND DIVERSION</td>
<td>$83,726</td>
</tr>
</tbody>
</table>
**PARTICIPATION OPTIONS (SELECT ONE)**

**Worksheet 2**

OPTION 2: ___ Participate in basic program

OPTION 3: ___ Participate in basic program plus paid land diversion

**CROP OR USE SELECTIONS (FILL IN BLANKS)**

Program crop

Alternative crop (applicable only if you reach $50,000 payment limit)

Acreage conservation reserve (ACR)

(Corn)

(Soybeans)

(No Crop)

**Information Needed**

<table>
<thead>
<tr>
<th>a.</th>
<th>600 ac. Crop acreage base (CAB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.</td>
<td>80% Maximum permitted acreage (MPA) of program crop, basic program, (% of CAB)</td>
</tr>
<tr>
<td>c.</td>
<td>25% Optional paid land diversion (PLD) (feed grains only) (% of CAB)</td>
</tr>
<tr>
<td>d.</td>
<td>480 ac. Acres of program crop</td>
</tr>
<tr>
<td>e.</td>
<td>25% ACR factor</td>
</tr>
<tr>
<td>f.</td>
<td>130 bu/ac Expected yield, program crop</td>
</tr>
<tr>
<td>g.</td>
<td>122.5 bu/ac ASCS effective yield, program crop</td>
</tr>
<tr>
<td>h.</td>
<td>$1.50/bu Expected market price, program crop</td>
</tr>
<tr>
<td>i.</td>
<td>$1.78/ac County loan rate, program crop</td>
</tr>
<tr>
<td>j.</td>
<td>$150/ac Expected cash costs, program crop</td>
</tr>
<tr>
<td>k.</td>
<td>$2.00/bu Anticipated deficiency payment subject to $50,000 payment limitation.</td>
</tr>
<tr>
<td>l.</td>
<td>$2.00/bu Anticipated deficiency payment subject to $200,000 payment limitation.</td>
</tr>
<tr>
<td>m.</td>
<td>$0/ac Expected value of production on ACR</td>
</tr>
<tr>
<td>n.</td>
<td>$10/ac Expected cash costs on ACR</td>
</tr>
<tr>
<td>o.</td>
<td>$2.50/unit Expected market price, alternative crop</td>
</tr>
<tr>
<td>p.</td>
<td>$1.78/ac Expected cash costs, alternative crop</td>
</tr>
<tr>
<td>q.</td>
<td>$2.00/bu Anticipated deficiency payment subject to $50,000 payment limitation.</td>
</tr>
<tr>
<td>r.</td>
<td>$2.00/bu Anticipated deficiency payment subject to $200,000 payment limitation.</td>
</tr>
<tr>
<td>s.</td>
<td>$2.50/unit Expected market price, alternative crop</td>
</tr>
<tr>
<td>t.</td>
<td>$11,072/bu/mo Storage cost, program crop</td>
</tr>
</tbody>
</table>

**Expected Returns**

\[
\frac{480 \text{ ac} \times 130 \text{ bu/ac}}{(e) (g)} = \frac{62,400 \text{ bu}}{(u)}
\]

Cash Sale or Loan

\[
\frac{62,400 \text{ bu} \times $1,78 \text{ /bu}}{(u) (j)} = \frac{$11,072}{(v)}
\]
From deficiency payment (This portion of deficiency payment (w) plus optional paid land diversion (z) is subject to a $50,000 payment limitation. See adjustment section that follows.)

\[
\begin{align*}
480 \text{ ac} \times 120 \text{ bu/ac} \times \$0.75 \text{ /bu} &= \$43,200 \\
\end{align*}
\]

From deficiency payment (subject to $200,000 payment limitation)

\[
\begin{align*}
480 \text{ ac} \times 120 \text{ bu/ac} \times \$0.46 \text{ /bu} &= \$26,496 \\
\end{align*}
\]

From optional paid land diversion

\[
\begin{align*}
0 \times \frac{\text{ac}}{(a)} \times \frac{\text{bu/ac}}{(h)} \times \frac{\text{bu}}{(y)} &= \$0 \\
\end{align*}
\]

From ACR

\[
\begin{align*}
480 \text{ ac} \times \frac{25 \%}{(f)} + \left( \frac{600 \text{ ac} \times \frac{0 \%}{(c)}}{(a)} \right) &= 120 \text{ ac} \\
\end{align*}
\]

\[
\begin{align*}
120 \text{ ac} \times \frac{0 \%}{(o)} \times \frac{\text{bu}}{(n)} &= \$0 \\
\end{align*}
\]

TOTAL RETURNS BEFORE ADJUSTMENT (v + w + x + z + bb) = $180,768

Adjustment for Payment Limitation

1. \( \$43,200 + \frac{0}{(dd)} = \$43,200 \)

2. Does (dd) exceed $50,000? _yes_ _no_

3. If no, proceed to next section (expected cash costs)

4. If yes, subtract $50,000 from \( \frac{dd}{(dd)} \times \frac{ee}{(ee)} \)

5. ACR adjustment factor: \( \frac{\dd}{(dd)} \times \frac{\ee}{(ee)} + \frac{x}{(x)} = \frac{ff}{(ff)} \)

6. Reduction in ACR (Acres recovered for alternative crop): \( \frac{aa}{(aa)} \times \frac{ff}{(ff)} \times \frac{gg}{(gg)} \)

7. Required ACR after adjustment: \( \frac{aa}{(aa)} \times \frac{gg}{(gg)} \times \frac{hh}{(hh)} \)

8. Return on adjusted ACR: \( \frac{hh}{(hh)} \times \frac{x}{(x)} \times \frac{ac}{(o)} \times \frac{z}{(z)} = \$11 \)

9. Alternative crop income

\[
\begin{align*}
\frac{gg}{(gg)} \times \frac{q}{(q)} \times \frac{\text{units/ac}}{(r)} \times \frac{\text{$/unit}}{(x)} &= \$11 \]
\end{align*}
\]

TOTAL ADJUSTED RETURNS (v + w + x + z + ee + ii + jj) = $___
Expected Cash Costs

For production
\[
\frac{480 \text{ ac}}{(e)} \times \frac{150 \$/ac}{(k)} = \frac{72,000}{(ll)}
\]

For acres in ACR
\[
\frac{120 \text{ ac}}{(aa \text{ or } hh)} \times \frac{10 \$/ac}{(p)} = \frac{1,200}{(mm)}
\]

For alternative crop if (dd) exceeds $50,000.
\[
\frac{\text{ac}}{(gg)} \times \frac{8 \$/ac}{(s)} = \frac{0}{(nn)}
\]

For storage
\[
\frac{6,240 \text{ bu}}{(u)} \times \frac{0.25 \$/bu}{(t)} \times \frac{9 \text{ mo}}{(w)} = \frac{14,040}{(oo)}
\]

For interest
\[
\frac{0}{(pp)}
\]

TOTAL CASH COSTS \((ll + mm + nn + oo + pp)\)
\[
\frac{87,240}{(qq)}
\]

Expected Return Over Cash Costs for Option 2 or 3 \((cc - qq)\) or \((kk - qq)\)
\[
\frac{93,528}{(qq)}
\]

* Use \((aa)\) if \((dd)\) is less than $50,000; use \((hh)\) if \((dd)\) exceeds $50,000

** Use \((cc)\) if \((dd)\) is less than $50,000; use \((kk)\) if \((dd)\) is more than $50,000.
PARTICIPATION OPTIONS (SELECT ONE)

Worksheet 2

OPTION 2: Participate in basic program

OPTION 3: **X** Participate in basic program plus paid land diversion

CROP OR USE SELECTIONS (FILL IN BLANKS)

Program crop
Alternative crop (applicable only if you reach $50,000 payment limit)
Acreage conservation reserve (ACR)

Information Needed

a. 600 ac. Crop acreage base (CAB)
b. 80 % Maximum permitted acreage (MPA) of program crop, basic program, (% of CAB)
c. 15 % Optional paid land diversion (PLD) (feed grains only) (% of CAB)
d. 390 ac. Acres of program crop
f. 30.77 % ACR factor
g. 130 bu/ac Expected yield, program crop
h. 120 bu ASCS effective yield, program crop
i. $1.50/bu Expected market price, program crop
j. $1.78/ac County loan rate, program crop
k. $157/ac Expected cash costs, program crop

l. $.75/bu Anticipated deficiency payment subject to $50,000 payment limitation.
m. $.46/bu Anticipated deficiency payment subject to $200,000 payment limitation.
n. $2.00/bu Optional diversion payment rate
o. $0/ac Expected value of production on ACR
p. $10/ac Expected cash costs on ACR
q. 45 units/ac Expected yield, alternative crop
r. $4.50/unit Expected market price, alternative crop
s. $.75/ac Expected cash costs, alternative crop
t. $.025/bu/mo Storage cost, program crop

Expected Returns

From Production

\[ \frac{390}{(e)} \text{ ac} \times \frac{130}{(g)} \text{ bu/ac} = \frac{50,700}{(u)} \text{ bu} \]

Cash Sale or Loan

\[ \frac{50,700}{(u)} \text{ bu} \times \frac{1.78}{(j)} \text{ /bu} = \frac{90,246}{(v)} \text{ } \]
From deficiency payment (This portion of deficiency payment \(w \) plus optional paid land diversion \(z \) is subject to a $50,000 payment limitation. See adjustment section that follows.)

\[
\begin{align*}
390 \text{ ac} & \times 120 \text{ bu/ac} \times \frac{.75}{\text{bu}} = \frac{35,100}{(w)} \\
390 \text{ ac} & \times 120 \text{ bu/ac} \times \frac{.46}{\text{bu}} = \frac{21,528}{(x)}
\end{align*}
\]

From deficiency payment (subject to $200,000 payment limitation)

\[
\begin{align*}
15 \% & \times \frac{600 \text{ ac}}{\text{ac}} \times \frac{120 \text{ bu/ac}}{\text{ac}} = \frac{10,800}{\text{bu}} \\
10,800 \text{ bu} & \times \frac{2.00}{\text{bu}} = \frac{21,600}{(z)}
\end{align*}
\]

From optional paid land diversion

\[
\begin{align*}
\frac{210 \text{ ac}}{\text{ac}} & \times \frac{0}{\text{ac}} = \frac{0}{(bb)}
\end{align*}
\]

**TOTAL RETURNS BEFORE ADJUSTMENT** \((v + w + x + z + bb)\)

\[
\frac{168,474}{(cc)}
\]

**Adjustment for Payment Limitation**

1. \[
\frac{35,100}{(w)} + \frac{21,600}{(z)} = \frac{56,700}{(dd)}
\]

2. Does \((dd)\) exceed $50,000? \(\boxed{\text{yes}}\) \(\boxed{\text{no}}\)

3. If no, proceed to next section (expected cash costs)

4. If yes, subtract $50,000 from \[
\frac{56,700}{(dd)} - \frac{6,700}{(ee)} = \frac{6,000}{(ee)}
\]

5. ACR adjustment factor: \[
\frac{6,700}{(ee)} \div \left( \frac{56,700 + 21,528}{(dd)} \right) = \frac{.0856}{(ff)}
\]

6. Reduction in ACR (Acres recovered for alternative crop):

\[
\frac{210 \text{ ac}}{\text{ac}} \times \frac{.0856}{\text{ac}} = \frac{18.0}{(gg)}
\]

7. Required ACR after adjustment:

\[
\frac{210 \text{ ac}}{\text{ac}} - \frac{18.0}{\text{ac}} = \frac{192.0}{\text{ac}}
\]

8. Return on adjusted ACR:

\[
\frac{192.0 \text{ ac}}{\text{ac}} \times \frac{0}{\text{ac}} = \frac{0}{(ii)}
\]

9. Alternative crop income

\[
\frac{18.0 \text{ ac}}{\text{ac}} \times \frac{45 \text{ units/ac}}{\text{ac}} \times \frac{4.50}{\text{unit}} = \frac{3,645}{(kk)}
\]

**TOTAL ADJUSTED RETURNS** \((v + w + x + z - ee + ii + jj)\)

\[
\frac{165,419}{(kk)}
\]
Expected Cash Costs

For production

\[
\frac{39.0 \text{ ac}}{\text{(e)}} \times \frac{150 \text{/ac}}{\text{(k)}} = \frac{58,500}{\text{(ll)}},
\]

For acres in ACR

\[
\frac{192.0 \text{ ac}}{\text{(aa or gg)*}} \times \frac{10 \text{/ac}}{\text{(p)}} = \frac{1,920}{\text{(mm)}},
\]

For alternative crop if (dd) exceeds $50,000.

\[
\frac{18.0 \text{ ac}}{\text{(ii)}} \times \frac{75 \text{/ac}}{\text{(s)}} = \frac{1,350}{\text{(nn)}},
\]

For storage

\[
\frac{50,700 \text{ bu}}{\text{(u)}} \times \frac{0.25 \text{ /bu/mo}}{\text{(t)}} \times \frac{9 \text{ mo}}{\text{(a)}} = \frac{11,408}{\text{(oo)}},
\]

For interest

\[
\frac{0}{\text{(pp)}},
\]

TOTAL CASH COSTS \((\text{ll} + \text{mm} + \text{nn} + \text{oo} + \text{pp})\)

\[
\frac{73,178}{\text{(qq)}},
\]

Expected Return Over Cash Costs for Option 2 or 3 \((\text{cc} - \text{qq})\) or \((\text{kk} - \text{qq})**

\[
\frac{92,241}{\text{(pp)}},
\]

* Use (aa) if (dd) is less than $50,000; use (gg) if (dd) exceeds $50,000

** Use (cc) if (dd) is less than $50,000; use (kk) if (dd) is more than $50,000.
PARTICIPATION OPTIONS (SELECT ONE)

OPTION 4: X Participate in 50-92 program
OPTION 5: Participate in 50-92 program plus paid land diversion

CROP OR USE SELECTIONS (FILL IN BLANKS)

Program crop
Alternative crop
(applicable only if you reach $50,000 payment limit)
Acreage conservation reserve (ACR)
Conserving use (CU)

Information Needed

a. 600 ac. Crop acreage base (CAB)
b. 80 % Maximum permitted acreage (MPA) of program crop, basic program (% of CAB)
c. ___ % Optional paid land diversion (PLD) (feed grains only) (% of CAB)
d. ___ % MPA with PLD (% of CAB)
e. 240 ac. Acres of program crop
f. 25 % ACR factor
g. 130 bu/ac Expected yield, program crop
h. 120 bu/ac ASCS effective yield, program crop
i. $150/bu Expected market price, program crop
j. $178/bu County loan rate, program crop
k. $150/ac Expected cash costs, program crop
l. $.75/bu Anticipated deficiency payment subject to $50,000 payment limitation
m. $.46/bu Anticipated deficiency payment subject to $200,000 payment limitation
n. $2.00/bu Optional diversion payment rate
o. $0/ac Expected value of production on ACR
p. $10/ac Expected cash costs on ACR
q. 45 units/ac Expected yield, alternative crop
r. $4.50/unit Expected market price, alternative crop
s. $7.5/ac Expected cash costs alternative crop
t. $38/ac Expected value of production, conserving use (CU) acres.
u. $17/ac Expected cash costs CU acres
w. $.025/bu/mo Storage cost, program crop
Eligibility Calculation for Deficiency Payment

1. \[
\frac{600 \text{ ac}}{(a)} \times \frac{80\%}{(b) \text{ or } (d)} = \frac{480 \text{ ac}}{(x)}
\]

*Use (b) for Option 4; use (d) for Option 5.

2. Does \[
\frac{240 \text{ ac}}{(e)} \text{ fall within a range of } 50-92\% \text{ of } \frac{480 \text{ ac}}{(x)}?
\]

   \[X \text{ yes } \text{ no}\]

   Continue only if the answer is yes.

3. \[
\left( \frac{240 \text{ ac}}{(e)} \times \frac{25\%}{(f)} \right) + \left( \frac{600 \text{ ac}}{(a)} \times \frac{0\%}{(c)} \right) = \frac{60 \text{ ac}}{(y)}
\]

4. \[
\frac{360 \text{ ac}}{(v)} - \frac{60 \text{ ac}}{(y)} = \frac{300 \text{ ac}}{(z)}
\]

5. \[
\frac{480 \text{ ac} \times 8\%}{(x)} = \frac{38.4 \text{ ac}}{(aa)}
\]

6. Does \[
\frac{300 \text{ ac}}{(z)} \text{ exceed } \frac{38.4 \text{ ac}}{(aa)}?\]

   \[X \text{ yes } \text{ no}\]

   Continue only if the answer is yes.

7. \[
\frac{360 \text{ ac}}{(v)} - \frac{38.4 \text{ ac}}{(aa)} - \left( \frac{600 \times 0\%}{(a) \times (c)} \right) = \frac{321.6 \text{ ac}}{(bb)}
\]

8. \[
\frac{240 \text{ ac}}{(e)} + \frac{321.6 \text{ ac}}{(bb)} = \frac{561.6 \text{ ac}}{(cc)}
\]

9. \[
\left( \frac{561.6 \text{ ac}}{(cc)} \div 100 \right) + \frac{25\%}{(f)} = \frac{449.3 \text{ ac}}{(dd)}
\]

10. \[
\frac{480 \text{ ac} \times 92\%}{(x)} = \frac{441.6 \text{ ac}}{(ee)}
\]

11. The lower of \[
\frac{449.3 \text{ ac}}{(dd)} \text{ or } \frac{441.6 \text{ ac}}{(ee)} = \frac{441.6 \text{ ac}}{(ff)} \text{ (acres on which deficiency payment will be paid)}
\]

12. \[
\left( \frac{441.6 \text{ ac} \times 25\%}{(ff)} \right) + \left( \frac{600 \text{ ac} \times 0\%}{(a) \times (c)} \right) = \frac{110.4 \text{ ac}}{(gg) \text{ (ACR requirement)}}
\]

13. \[
\frac{600 \text{ ac}}{(a)} - \frac{240 \text{ ac}}{(e)} - \frac{110.4 \text{ ac}}{(gg)} = \frac{249.6 \text{ ac}}{(hh) \text{ (minimum CU to earn maximum deficiency (92%) and maintain crop history)}}
\]
**Expected Returns**

From production of program crop

\[
\frac{240 \text{ ac}}{(e)} \times \frac{130 \text{ bu/ac}}{(g)} = \frac{31,200 \text{ bu}}{(i)}
\]

Cash sale or loan

\[
\frac{31,200 \text{ bu}}{(ii)} \times \frac{$1.78}{(j)} / \text{bu} = \frac{$55,536}{(jj)}
\]

From deficiency payment (This portion of deficiency payment \( kk \) plus optional paid land diversion \( nn \) is subject to a $50,000 payment limitation. See adjustment section that follows.)

\[
\frac{441.6 \text{ ac}}{(ff)} \times \frac{120 \text{ bu/ac}}{(h)} \times \frac{$.75}{(l)} / \text{bu} = \frac{$39,744}{(kk)}
\]

From deficiency payment (subject to $200,000 payment limitation)

\[
\frac{441.6 \text{ ac}}{(ff)} \times \frac{120 \text{ bu/ac}}{(h)} \times \frac{$.46}{(m)} / \text{bu} = \frac{$24,376}{(ll)}
\]

From optional paid land diversion

\[
\frac{0 \text{ ac}}{(c)} \times \frac{\text{bu/ac}}{(a)} \times \frac{\text{bu}}{(h)} = \frac{0}{(mm)}
\]

From production from ACR

\[
\frac{110.4 \text{ ac}}{(gg)} \times \frac{0}{(o)} / \text{ac} = \frac{$0}{(oo)}
\]

From production from CU

\[
\frac{249.6 \text{ ac}}{(hh)} \times \frac{38 / \text{ac}}{(t)} = \frac{$9,485}{(pp)}
\]

TOTAL RETURNS BEFORE ADJUSTMENT \( jj + kk + ll + nn + oo + pp \) = $129,141
Adjustment for Payment Limitation

1. \( \frac{39,744}{kk} \cdot \frac{0}{nn} = \frac{39,744}{rf} \)

2. Does \( \frac{39,744}{rr} \) exceed $50,000? _____ yes \( \times \) no

3. If no, proceed to next section (expected cash costs).

4. If yes, subtract $50,000 from \( \frac{\$}{rr} = \frac{\$}{ss} \)

5. ACR adjustment factor: \( \frac{\$}{ss} \div (\frac{\$}{rr} + \frac{11}{ll}) = \frac{\$}{tt} \)

6. Reduction in ACR
(Acres recovered for alternative crop):
\( \frac{ac}{gg} \cdot \frac{ac}{tt} = \frac{ac}{uu} \)

7. Required ACR after adjustment
\( \frac{ac}{gg} - \frac{ac}{uu} = \frac{ac}{vv} \)

8. Return on adjusted ACR:
\( \frac{ac \times \$}{(vv)} \cdot \frac{1}{ac} = \frac{\$}{ww} \)

9. Alternative crop income recovered
\( \frac{ac \times \text{units}/ac \times \$}{(uu)} \cdot \frac{1}{(q)} \cdot \frac{1}{(r)} = \frac{\$}{xx} \)

TOTAL ADJUSTED RETURNS \( (jj + kk + 11 + nn + pp - ss + ww + xx) = \frac{\$}{yy} \)
Expected Cash Costs

For production

\[ \frac{240 \text{ ac}}{(e)} \times \frac{150}{\text{ac}} = \frac{36,000}{(k)} \]

For acres in ACR

\[ \frac{100.4 \text{ ac}}{(gg \text{ or } vv)} \times \frac{10}{\text{ac}} = \frac{1,104}{(p)} \]

For acres in CU

\[ \frac{249.6 \text{ ac}}{(hh)} \times \frac{17}{\text{ac}} = \frac{4,243}{(u)} \]

For alternative crop if (rr) exceeds $50,000

\[ \frac{- \text{ ac}}{(uu)} \times \frac{?}{\text{ac}} = \frac{0}{(s)} \]

For storage (program crop)

\[ \frac{31,200 \text{ bu}}{(ii)} \times \frac{.025}{\text{bu/mo}} \times \frac{9 \text{ mo.}}{(w)} = \frac{7,020}{(dd)} \]

For interest

\[ \frac{0}{(ee)} \]

TOTAL CASH COSTS \( (zz + aaa + bbb + ccc + ddd + eee) = \frac{48,367}{(fff)} \)

Expected Return Over Cash Costs for Option 4 or 5

\( (qq - fff) \text{ or } (yy - fff) ** = \frac{80,774}{(eee)} \)

* Use (gg) if (rr) is less than $50,000;
use (vv) if (rr) exceeds $50,000

** Use (qq) if (rr) is less than $50,000;
use (yy) if (rr) is more than $50,000
PARTICIPATION OPTIONS (SELECT ONE)

OPTION 4: Participate in 50-92 program
OPTION 5: (X) Participate in 50-92 program plus paid land diversion

CROP OR USE SELECTIONS (FILL IN BLANKS)

Program crop
Alternative crop (applicable only if you reach $50,000 payment limit)
Acreage conservation reserve (ACR)
Conserving use (CU)

Information Needed

a. 600 ac. Crop acreage base (CAB)
b. 80% Maximum permitted acreage (MPA) of program crop, basic program (% of CAB)
c. 15% Optional paid land diversion (PLD) (feed grains only) (% of CAB)
d. 65% MPA with PLD (% of CAB)
e. 195 ac. Acres of program crop
f. 30.77% ACR factor
g. 180 bu/ac Expected yield, program crop
h. $1.50/bu ASCS effective yield, program crop
i. $1.50/bu Expected market price, program crop
j. $1.78/bu County loan rate, program crop
k. $1.50/ac Expected cash costs, program crop
l. $1.75/bu Anticipated deficiency payment subject to $50,000 payment limitation
m. $.46/bu Anticipated deficiency payment subject to $200,000 payment limitation
n. $2.00/bu Optional diversion payment rate
o. $0/ac Expected value of production on ACR
p. $10/ac Expected cash costs on ACR
q. 45 units/ac Expected yield, alternative crop
r. $4.50/unit Expected market price, alternative crop
s. $75/ac Expected cash costs alternative crop
t. $38/ac Expected value of production, conserving use (CU) acres.
u. $17/ac Expected cash costs CU acres
w. $.025/bu/mo Storage cost, program crop

Worksheet 3
Eligibility Calculation for Deficiency Payment

1. \( \frac{600 \text{ ac}}{(a)} \times \frac{65 \text{ %}}{(b)} = \frac{390 \text{ ac}}{(x)} \)

*Use (b) for Option 4; use (d) for Option 5.

2. Does \( \frac{195 \text{ ac}}{(e)} \) fall within a range of 50-92% of \( \frac{390 \text{ ac}}{(x)} \)?
   - [ ] yes ___ no
   
   Continue only if the answer is yes.

3. \( \frac{195 \text{ ac} \times 30.77 \text{%}}{(e)} + \frac{600 \text{ ac} \times 15 \text{%}}{(f)} = \frac{150 \text{ ac}}{(y)} \)

4. \( \frac{405 \text{ ac} - 150 \text{ ac}}{(v)} = \frac{255 \text{ ac}}{(z)} \)

5. \( \frac{390 \text{ ac} \times 8\%}{(x)} = \frac{31.2 \text{ ac}}{(aa)} \)

6. Does \( \frac{255 \text{ ac}}{(z)} \) exceed \( \frac{31.2 \text{ ac}}{(aa)} \)?
   - [ ] yes ___ no
   
   Continue only if the answer is yes.

7. \( \frac{405 \text{ ac} - 31.2 \text{ ac} - (600 \times 15 \text{ %})}{(v)} = \frac{283.8 \text{ ac}}{(bb)} \)

8. \( \frac{195 \text{ ac} + 283.8 \text{ ac}}{(e)} = \frac{478.8 \text{ ac}}{(cc)} \)

9. \( \left( \frac{478.8 \text{ ac}}{(cc)} \div 100 \right) + \frac{30.77 \text{%}}{(f)} = \frac{366.1 \text{ ac}}{(dd)} \)

10. \( \frac{390 \text{ ac} \times 92\%}{(x)} = \frac{358.8 \text{ ac}}{(ee)} \)

11. The lower of \( \frac{366.1 \text{ ac}}{(dd)} \) or \( \frac{358.8 \text{ ac}}{(ee)} \) (acres on which deficiency payment will be paid)

12. \( \frac{358.8 \text{ ac} \times 30.77 \text{%}}{(ff)} + \frac{600 \text{ ac} \times 15 \text{%}}{(a)} = \frac{200.4 \text{ ac}}{(gg)} \) (ACR requirement)

13. \( \frac{600 \text{ ac} - 195 \text{ ac} - 200.4 \text{ ac}}{(a)} = \frac{204.6 \text{ ac}}{(hh)} \) (minimum CU to earn maximum deficiency (92%) and maintain crop history)
Expected Returns

From production of program crop

\[ \frac{195 \text{ ac} \times 130 \text{ bu/ ac}}{(e)} = 25,350 \text{ bu} \]

Cash sale or loan

\[ \frac{25,350 \text{ bu} \times \$1.25 \text{ / bu}}{(j)} = \$31,688 \]

From deficiency payment (This portion of deficiency payment (kk) plus optional paid land diversion (nn) is subject to a $50,000 payment limitation. See adjustment section that follows.)

\[ \frac{358.8 \text{ ac} \times 120 \text{ bu/ ac} \times \$0.75 \text{ / bu}}{(h)} = \$26,922 \]

From deficiency payment (subject to $200,000 payment limitation)

\[ \frac{358.8 \text{ ac} \times 120 \text{ bu/ ac} \times \$0.46 \text{ / bu}}{(l)} = \$16,806 \]

From optional paid land diversion

\[ \frac{15 \times 600 \text{ ac} \times 120 \text{ bu/ ac}}{(a)} = 10,800 \text{ bu} \]

\[ \frac{10,800 \text{ bu} \times \$2.00 \text{ / bu}}{(n)} = \$21,600 \]

From production from ACR

\[ \frac{200.4 \text{ ac} \times \$0.10 \text{ / ac}}{(o)} = \$0 \]

From production from CU

\[ \frac{204.6 \text{ ac} \times \$38 \text{ / ac}}{(t)} = \$7,775 \]

TOTAL RETURNS BEFORE ADJUSTMENT \((jj + kk + ll + nn + oo + pp)\) = \$126,596
Adjustment for Payment Limitation

1. \[
\frac{32.292}{kk} + \frac{21.600}{nn} = \frac{53.892}{rr}
\]

2. Does \(\frac{53.892}{rr}\) exceed \(\$50,000\)?
   - Yes __ no ___

3. If no, proceed to next section (expected cash costs).

4. If yes, subtract \(\$50,000\) from \(\frac{53.892}{rr}\) to get \(\frac{3.892}{ss}\).

5. ACR adjustment factor: \[
\frac{3.892}{ss} \div \left(\frac{53.892}{rr} + 19.806\right) = \frac{0.0528}{tt}
\]

6. Reduction in ACR:
   (Acres recovered for alternative crop):
   \[
   \frac{200.4}{gg} \times \frac{0.0528}{tt} = \frac{10.6}{uu}
   \]

7. Required ACR after adjustment:
   \[
   \frac{200.4}{gg} - \frac{10.6}{uu} = \frac{189.8}{vv}
   \]

8. Return on adjusted ACR:
   \[
   \frac{189.8}{vv} \times \frac{0}{oo} / \text{ac} = \frac{0}{ww}
   \]

9. Alternative crop income recovered:
   \[
   \frac{10.6}{uu} \times \frac{45}{qq} \times \frac{4.50}{rr} \times \frac{2147}{xx} = \frac{12,485}{yy}
   \]

TOTAL ADJUSTED RETURNS:
\[
(jj + kk + ll + nn + pp - ss + ww + xx) = \frac{12,485}{yy}
\]
Expected Cash Costs

For production
\[ \frac{195 \text{ ac}}{(e)} \times \frac{150 \text{ /ac}}{(k)} = \frac{29,250 \text{ (zz)}}{(zz)} \]

For acres in ACR
\[ \frac{189.8 \text{ ac}}{(gg \text{ or vv})} \times \frac{10 \text{ /ac}}{(p)} = \frac{1898 \text{ (aaa)}}{(aaa)} \]

For acres in CU
\[ \frac{204.6 \text{ ac}}{(hh)} \times \frac{17 \text{ /ac}}{(u)} = \frac{3478 \text{ (bbb)}}{(bbb)} \]

For alternative crop if (rr) exceeds $50,000
\[ \frac{10.6 \text{ ac}}{(uu)} \times \frac{75 \text{ /ac}}{(s)} = \frac{795 \text{ (ccc)}}{(ccc)} \]

For storage (program crop)
\[ \frac{25,350 \text{ bu}}{(ii)} \times \frac{0.025 \text{ /bu/mo}}{(w)} \times \frac{9 \text{ mo.}}{(w)} = \frac{5704 \text{ (ddd)}}{(ddd)} \]

For interest
\[ \frac{0 \text{ (eee)}}{(eee)} \]

TOTAL CASH COSTS \( (zz + aaa + bbb + ccc + ddd + eee) = \frac{41,125 \text{ (fff)}}{(fff)} \)

Expected Return Over Cash Costs for Option 4 or 5

\[ (qq - fff) \text{ or } (yy - fff) = \frac{83,726 \text{ (fff)}}{(fff)} \]

* Use (gg) if (rr) is less than $50,000;
use (vv) if (rr) exceeds $50,000

** Use (qq) if (rr) is less than $50,000;
use (yy) if (rr) is more than $50,000
Worksheet 1

**OPTION 1:** DO NOT PARTICIPATE IN PROGRAM

Program Crop  ____________________________

**Information Needed**

a. ___ ac Acres you intend to plant  
b. ___ bu/ac Expected yield  
c. $ ____/bu Expected market price  
d. $ ____/ac Expected cash costs

**Expected Returns**

\[
\frac{ac \times bu}{ac} = \frac{bu}{bu}
\]

\[
\frac{bu \times \$}{bu} = \frac{\$}{bu}
\]

**Expected Cash Costs**

\[
\frac{ac \times \$}{ac} = \frac{\$}{ac}
\]

**Expected Return over Cash Costs for Option 1 (f-g) $ _____**

**SUMMARY: EXPECTED RETURNS OVER CASH COSTS**

<table>
<thead>
<tr>
<th>OPTION 1: NON PARTICIPATION</th>
<th>$ _____</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTION 2: PARTICIPATION (BASIC)</td>
<td>$ _____</td>
</tr>
<tr>
<td>OPTION 3: PARTICIPATION (BASIC)</td>
<td>$ _____</td>
</tr>
<tr>
<td>PLUS PAID LAND DIVERSION</td>
<td>$ _____</td>
</tr>
<tr>
<td>OPTION 4: PARTICIPATION (50/92 RULE)</td>
<td>$ _____</td>
</tr>
<tr>
<td>OPTION 5: PARTICIPATION (50/92 RULE)</td>
<td>$ _____</td>
</tr>
<tr>
<td>PLUS PAID LAND DIVERSION</td>
<td>$ _____</td>
</tr>
</tbody>
</table>
PARTICIPATION OPTIONS (SELECT ONE)  

OPTION 2: Participate in basic program  
OPTION 3: Participate in basic program plus paid land diversion  

CROP OR USE SELECTIONS (FILL IN BLANKS)  

<table>
<thead>
<tr>
<th>Program crop</th>
<th>Alternative crop (applicable only if you reach $50,000 payment limit)</th>
<th>Acreage conservation reserve (ACR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information Needed

| a. ac. Crop acreage base (CAB) | 1. $____/bu Anticipated deficiency payment subject to $50,000 payment limitation. |
| b. % Maximum permitted acreage (MPA) of program crop, basic program, (% of CAB) | m. $____/bu Anticipated deficiency payment subject to $200,000 payment limitation. |
| c. % Optional paid land diversion (PLD) (feed grains only) (% of CAB) | n. $____/bu Optional diversion payment rate |
| d. % MPA with PLD (% of CAB) | o. $____/ac Expected value of production on ACR |
| e. ac. Acres of program crop | p. $____/ac Expected cash costs on ACR |
| f. % ACR factor | q. units/ac Expected yield, alternative crop |
| g. bu/ac Expected yield, program crop | r. $____/unit Expected market price, alternative crop |
| h. /bu ASCS effective yield, program crop | s. $____/ac Expected cash costs, alternative crop |
| i. $____/bu Expected market price, program crop | t. $____/bu Storage cost, alternative crop |
| j. $____/ac County loan rate, program crop |                                   |
| k. $____/ac Expected cash costs, program crop |                                   |

From Production  

| Expected Returns |
|-------------------|---|
| ac X bu/ac = bu |   |

Cash Sale or Loan

| bu X $____/bu = $____ |
|-----------------------|---------------------|
From deficiency payment (This portion of deficiency payment \(w\) plus optional paid land diversion \(z\) is subject to a $50,000 payment limitation. See adjustment section that follows.)

\[
\frac{ac \times \text{bu/ac} \times \$}{(e) \ \ (h) \ \ (l)} / \text{bu} = \frac{\$}{(w)}
\]

From deficiency payment (subject to $200,000 payment limitation)

\[
\frac{ac \times \text{bu/ac} \times \$}{(e) \ \ (h) \ \ (m)} / \text{bu} = \frac{\$}{(x)}
\]

From optional paid land diversion

\[
\frac{ac \times \text{bu/ac}}{\text{bu}} = \frac{\$}{(y)}
\]

From ACR

\[
\frac{ac \times \text{bu/ac} \times \$}{(e) \ \ (f) \ \ (a) \ \ (c) \ \ (aa)} / \text{ac} = \frac{\$}{(bb)}
\]

TOTAL RETURNS BEFORE ADJUSTMENT \((v + w + x + z + bb)\)

\[
\frac{\$}{(cc)}
\]

Adjustment for Payment Limitation

1. \(\frac{\$}{(w)} + \frac{\$}{(z)} = \frac{\$}{(dd)}\)

2. Does \((dd)\) exceed $50,000?  
   \(\) yes  \(\) no

3. If no, proceed to next section (expected cash costs)

4. If yes, add $50,000 to lesser of \(\frac{\$}{(x)}\) or $200,000 = \(\frac{\$}{(ee)}\)

5. ACR adjustment factor: \(\frac{\$}{(ee)} - \frac{(dd)}{(x)} = \frac{\$}{(ff)}\)

6. Adjusted ACR: \(\frac{ac}{(aa)} \times \frac{\$}{(ff)} = \frac{\$}{(gg)}\)

7. Return on adjusted ACR \(\frac{ac \times \$}{(gg)} / \text{ac} = \frac{\$}{(hh)}\)

8. Acres recovered for alternative crop: \(\frac{ac}{(aa)} - \frac{\$}{(gg)} = \frac{\$}{(ii)}\)


\[
\frac{ac \times \text{units/ac} \times \$}{(ii) \ \ (q) \ \ (r)} / \text{unit} = \frac{\$}{(jj)}
\]

TOTAL ADJUSTED RETURNS \((v + ee + hh + jj) = \frac{\$}{(kk)}\)
Expected Cash Costs

For production

\[ \text{ac} \times \frac{\$}{\text{ac}} = \frac{(e)}{(k)} \]

For acres in ACR

\[ \text{ac} \times \frac{\$}{\text{ac}} = \frac{(aa \text{ or } gg)}{(p)} \]

For alternative crop if (dd) exceeds $50,000.

\[ \text{ac} \times \frac{\$}{\text{ac}} = \frac{(ii)}{(s)} \]

For storage

\[ \text{bu} \times \frac{\$}{\text{bu} / \text{mo}} \times \frac{\text{mo}}{(u)} = \frac{(t)}{(u)} \]

For interest

\[ \frac{(1)}{(t)} \]

TOTAL CASH COSTS \( (11 + mm + nn + oo + pp) \)

Expected Return Over Cash Costs for Option 2 or 3 (cc - qq) or (kk - qq)**

* Use (aa) if (dd) is less than $50,000; use (gg) if (dd) exceeds $50,000

** Use (cc) if (dd) is less than $50,000; use (kk) if (dd) is more than $50,000.
PARTICIPATION OPTIONS (SELECT ONE)

OPTION 4: Participate in 50-92 program
OPTION 5: Participate in 50-92 program plus paid land diversion

CROP OR USE SELECTIONS (FILL IN BLANKS)

Program crop
Alternative crop
(applicable only if you reach $50,000 payment limit)
Acreage conservation reserve (ACR)
Conserving use (CU)

Information Needed

<table>
<thead>
<tr>
<th>Column</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>ac. Crop acreage base (CAB)</td>
</tr>
<tr>
<td>b.</td>
<td>% Maximum permitted acreage (MPA) of program crop, basic program (% of CAB)</td>
</tr>
<tr>
<td>c.</td>
<td>% Optional paid land diversion (PLD) (feed grains only) (% of CAB)</td>
</tr>
<tr>
<td>d.</td>
<td>% MPA with PLD (% of CAB)</td>
</tr>
<tr>
<td>e.</td>
<td>ac. Acres of program crop</td>
</tr>
<tr>
<td>f.</td>
<td>% ACR factor</td>
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<td>g.</td>
<td>bu/ac Expected yield, program crop</td>
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<td>bu/ac ASCS effective yield, program crop</td>
</tr>
<tr>
<td>i.</td>
<td>$/bu Expected market price, program crop</td>
</tr>
<tr>
<td>j.</td>
<td>$/bu County loan rate, program crop</td>
</tr>
<tr>
<td>k.</td>
<td>$/ac Expected cash costs, program crop</td>
</tr>
<tr>
<td>l.</td>
<td>$/bu Anticipated deficiency payment subject to $50,000 payment limitation</td>
</tr>
<tr>
<td>m.</td>
<td>$/bu Anticipated deficiency payment subject to $200,000 payment limitation</td>
</tr>
<tr>
<td>n.</td>
<td>$/bu Optional diversion payment rate</td>
</tr>
<tr>
<td>o.</td>
<td>$/ac Expected value of production on ACR</td>
</tr>
<tr>
<td>p.</td>
<td>$/ac Expected cash costs on ACR</td>
</tr>
<tr>
<td>q.</td>
<td>units/ac Expected yield, alternative crop</td>
</tr>
<tr>
<td>r.</td>
<td>$/unit Expected market price, alternative crop</td>
</tr>
<tr>
<td>s.</td>
<td>$/ac Expected cash costs alternative crop</td>
</tr>
<tr>
<td>t.</td>
<td>$/ac Expected value of production, conserving use (CU) acres.</td>
</tr>
<tr>
<td>u.</td>
<td>$/ac Expected cash costs CU acres</td>
</tr>
<tr>
<td>v.</td>
<td>ac acres planned for ACR and CU</td>
</tr>
<tr>
<td>w.</td>
<td>$/bu/mo Storage cost, program crop</td>
</tr>
</tbody>
</table>
Eligibility Calculation for Deficiency Payment

1. \(\frac{ac}{(a)} \times \frac{z}{(x)} = \frac{ac}{(x)}\)
   
   *Use (b) for Option 4; use (d) for Option 5.

2. Does \(ac\) fall within a range of 50-92\% of \(ac\)?
   
   Continue only if the answer is yes.

3. \(\frac{(e) ac}{(f)} \times \frac{X}{(c)} + \frac{(a) ac}{(y)} \times \frac{X}{(c)} = \frac{ac}{(y)}\)

4. \(\frac{ac}{(v)} - \frac{ac}{(y)} = \frac{ac}{(z)}\)

5. \(\frac{ac}{(x)} \times 8\% = \frac{ac}{(aa)}\)

6. Does \(ac\) exceed \(ac\)?
   
   Continue only if the answer is yes.

7. \(\frac{ac}{(v)} - \frac{ac}{(aa)} - \frac{(a) X}{(c)} = \frac{ac}{(bb)}\)

8. \(\frac{ac}{(e)} + \frac{ac}{(bb)} = \frac{ac}{(cc)}\)

9. \(\frac{ac}{(cc)} - 100 + \frac{(f)}{(dd)} \times \frac{X}{(f)} = \frac{ac}{(dd)}\)

10. \(\frac{X}{(x)} \times 92\% = \frac{ac}{(ee)}\)

11. The lower of \(\frac{ac}{(dd)}\) or \(\frac{ac}{(ee)}\) = \(\frac{ac}{(ff)}\) (acres on which deficiency payment will be paid)

12. \(\frac{(ff) ac}{(f)} \times \frac{X}{(f)} + \frac{(a) ac}{(c)} \times \frac{X}{(c)} = \frac{ac}{(gg)}\) (ACR requirement)

13. \(\frac{ac}{(a)} - \frac{ac}{(e)} - \frac{ac}{(gg)} = \frac{ac}{(hh)}\) (minimum CU to earn maximum deficiency (92\%) and maintain crop history)
**Expected Returns**

From production of program crop

\[
\text{ac} \times \frac{\text{bu/ac}}{(g)} = \frac{\text{bu}}{(i)}
\]

Cash sale or loan

\[
\frac{\text{bu}}{(ii)} \times \frac{\text{bu}}{(i)} = \frac{\text{bu}}{(ii)} \times \frac{\text{bu}}{(i)}
\]

From deficiency payment (This portion of deficiency payment (kk) plus optional paid land diversion (nn) is subject to a $50,000 payment limitation. See adjustment section that follows.)

\[
\text{ac} \times \frac{\text{bu/ac}}{(ff)} \times \frac{\text{bu}}{(h)} = \frac{\text{bu}}{(ff)} \times \frac{\text{bu}}{(h)}
\]

From deficiency payment (subject to $200,000 payment limitation)

\[
\text{ac} \times \frac{\text{bu/ac}}{(ff)} \times \frac{\text{bu}}{(h)} = \frac{\text{bu}}{(ff)} \times \frac{\text{bu}}{(h)}
\]

From optional paid land diversion

\[
\% \times \frac{\text{ac}}{(c)} \times \frac{\text{bu/ac}}{(a)} = \frac{\text{bu}}{(h)} \times \frac{\text{bu}}{(mm)}
\]

\[
\frac{\text{bu}}{(mm)} \times \frac{\text{bu}}{(n)} = \frac{\text{bu}}{(mm)} \times \frac{\text{bu}}{(n)}
\]

From production from ACR

\[
\frac{\text{ac}}{(gg)} \times \frac{\text{bu}}{(o)}
\]

From production from CU

\[
\frac{\text{ac}}{(hh)} \times \frac{\text{bu}}{(t)}
\]

TOTAL RETURNS BEFORE ADJUSTMENT \((\text{jj} + \text{kk} + \text{ll} + \text{nn} + \text{oo} + \text{pp})= \frac{\text{bu}}{(qq)}\)
Adjustment for Payment Limitation

1. \( \frac{\text{(kk)}}{\text{(nn)}} + \frac{\text{(rr)}}{\text{(rr)}} = \frac{\text{(rr)}}{\text{(rr)}} \)

2. Does \( \frac{\text{(rr)}}{\text{(rr)}} \) exceed \$50,000?  
   
   Yes  No

3. If no, proceed to next section (expected cash costs).

4. If yes, add \$50,000 to lesser of \( \frac{\text{(ll)}}{\text{(ll)}} \) or \$200,000 = \( \frac{\text{(ss)}}{\text{(ss)}} \)

5. ACR adjustment factor:
   
   \( \frac{\text{(ss)}}{\text{(ss)}} - (\frac{\text{(rr)}}{\text{(rr)}} + \frac{\text{(ll)}}{\text{(ll)}}) = \frac{\text{(tt)}}{\text{(tt)}} \)

6. Adjusted ACR: \( \frac{\text{(gg)}}{\text{(gg)}} \times \frac{\text{(tt)}}{\text{(tt)}} = \frac{\text{(uu)}}{\text{(uu)}} \)

7. Return on adjusted ACR: \( \frac{\text{(uu)}}{\text{(uu)}} \times \frac{\text{(oo)}}{\text{(oo)}} / \text{ac} = \frac{\text{(vv)}}{\text{(vv)}} \)

8. Acres recovered for alternative crop:
   
   \( \frac{\text{(gg)}}{\text{(gg)}} - \frac{\text{(uu)}}{\text{(uu)}} \times \text{ac} = \frac{\text{(ww)}}{\text{(ww)}} \)

9. Alternative crop income recovered
   
   \( \frac{\text{(ww)}}{\text{(ww)}} \times \frac{\text{(qq)}}{\text{(qq)}} \times \frac{\text{(rr)}}{\text{(rr)}} / \text{unit} = \frac{\text{(xx)}}{\text{(xx)}} \)

TOTAL ADJUSTED RETURNS \( (\text{jj} + \text{ss} + \text{vv} + \text{xx}) = \frac{\text{(yy)}}{\text{(yy)}} \)
### Expected Cash Costs

For production

\[
\text{ac} \times \frac{\$}{\text{ac}} = \frac{\$}{(\text{zz})}
\]

For acres in ACR

\[
\text{ac} \times \frac{\$}{\text{ac}} = \frac{\$}{(\text{aaa})}
\]

For acres in CU

\[
\text{ac} \times \frac{\$}{\text{ac}} = \frac{\$}{(\text{bbb})}
\]

For alternative crop if (rr) exceeds $50,000

\[
\text{ac} \times \frac{\$}{\text{ac}} = \frac{\$}{(\text{ccc})}
\]

For storage (program crop)

\[
\text{bu} \times \frac{\$}{\text{bu/mo}} \times \text{mo.} = \frac{\$}{(\text{ddd})}
\]

For interest

\[
\frac{\$}{(\text{eee})}
\]

TOTAL CASH COSTS (\(zz + aaa + bbb + ccc + ddd + eee\)) = \(\frac{\$}{(\text{fff})}\)

### Expected Return Over Cash Costs for Option 4 or 5

\((qq - fff)\) or \((yy - fff)\) *** = \(

* Use (gg) if (rr) is less than $50,000; use (uu) if (rr) exceeds $50,000

** Use (qq) if (rr) is less than $50,000; use (yy) if (rr) is more than $50,000