

# CORN REDUCED TILLAGE BMP CHALLENGE®

## Net Returns Assessment Worksheet

Thank you for participating in the BMP CHALLENGE! Use this form to record and report your yields and net returns. Please follow the procedures outlined in this worksheet to ensure the most accurate results.

### GROWER INFORMATION

Your (Grower) Name: \_\_\_\_\_

Company Name (if any): \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Office Phone: \_\_\_\_\_ Mobile Phone: \_\_\_\_\_

Fax: \_\_\_\_\_ SSN or Tax ID: \_\_\_\_\_

Email: \_\_\_\_\_

### YOUR ADVISOR WHO WILL OBSERVE THE HARVEST:

Crop Advisor Name: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

Office Phone: \_\_\_\_\_ Mobile Phone: \_\_\_\_\_

Certification (circle if certified): NAICC CCA Certification Number: \_\_\_\_\_

Email: \_\_\_\_\_

### Getting Started

1. Wait until the crop has reached physiological maturity (black layer), but no later than October 15.
2. Contact the crop advisor or other ag professional who helped you with your tillage plan, set up your check strip and submit your initial BMP CHALLENGE Service Agreement. Make arrangements to have this person present with you when you harvest the BMP CHALLENGE field(s) and perform the yield comparison.
3. Arrange to have:
  - a. a measuring wheel and
  - b. a yield monitor, weigh wagon or portable or stationary scales available to make the yield comparison.

4. Complete and submit this entire worksheet to the BMP CHALLENGE regardless of your results. Your results are confidential and will not be shared with others except in summary form and will not include any information identifying you or your fields.

**Please submit your results on or before October 31, 2009 to:**

BMP CHALLENGE  
4510 Regent St.  
Madison WI 53705  
Fax 608-232-1440

**As you assess your field(s), please remember:** The BMP CHALLENGE is not designed to cover reduction in net economic returns:

- Due to any failure to provide adequate care for the crop;
- Due to damage to the crop that is caused intentionally;
- Due to non-compliance with the BMP CHALLENGE service agreement;
- Due to any other causes, even if the damage may have occurred in conjunction with reduced tillage;
- Due to damage caused, directly or indirectly, by environmental pollutants including improper usage or application of agricultural chemicals, whether accidental or intended;  
or
- That is covered by any contract of insurance or recoverable under a manufacturer or seller warranty.

The BMP CHALLENGE is administered by Agflex, a commercial service company. Agflex is not an insurance company, nor an insurance agent. Agflex does not offer nor sell insurance or provide insurance advice. Agflex and BMP CHALLENGE services are not covered under any state insurance guaranty fund. The Agflex BMP CHALLENGE service is only part of a grower's comprehensive crop management program which may also include the purchase of state or federal crop insurance from a licensed and authorized insurance agent. Applicable Law: This is a commercial contract and shall be deemed written in, and governed under, the laws of the state in which the acreage is located. Dispute Settlement: Unless prohibited by law in the state in which this service agreement is issued, all related disputes will be settled by arbitration under rules of the American Arbitration Association.

**Corn Reduced Tillage BMP CHALLENGE® Net Returns Assessment Worksheet  
(continued)**

(Complete this form for each field enrolled.)

**Grower Name:** \_\_\_\_\_

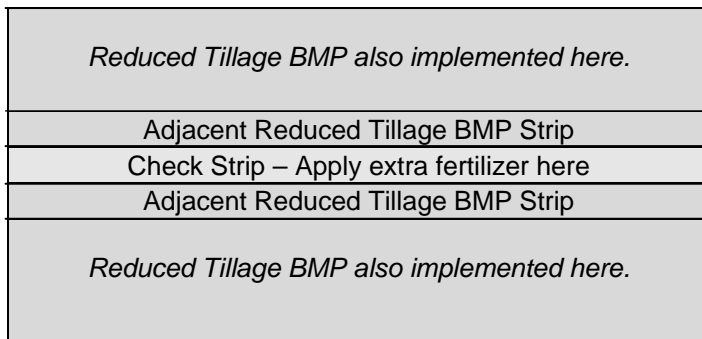
**Acres:** \_\_\_\_\_

**Field Name:** \_\_\_\_\_

**Part 1. Initial Field Assessment**

Your Check Strip should be between 40 and 80 feet in width and run the length of the planting row, excluding end rows. Your Reduced Tillage BMP Strips are those strips immediately adjacent to the check strip, each with the same number of rows as the check strip.

**IMPORTANT:** Even though you implemented the BMP across the entire field, except for the Check Strip, you will perform the yield comparison only on the adjacent BMP Strips to reduce the influence within-field variability on your results.



*At harvest, yield on the Check Strip will be compared to the yield on the one or both of the immediately adjacent Reduced Tillage BMP Strips.*

← Check Strip = 40' to 80' wide  
 ← Reduced Tillage BMP Strip, same approximate size as Check Strip with an equal number of rows as the Check Strip, one on either side of the Check Strip.

<- Strips run length of field (exclude end rows) ->

Please check the field for the following visual indicators of confounding factors and follow the suggestions provided for each.

**A. Lodging Assessment** - If lodging and broken stalks are evident, is the damage distributed equally across the Check Strip and BMP Strips?

Yes    No

If no, check the box(es) for the area(s) where the lodging or broken stalks are located\*.

Check Strip       BMP Strips       Remainder of the management unit

If possible, avoid rows that have disproportionate lodging and broken stalks when completing the yield assessment.

**B. Weed Pressure Assessment**

1. Is there heavy weed pressure in the field?  Yes    No

2. If yes, is the weed pressure distributed equally across the field?

Yes    No

If no, check the box(es) for the area(s) where the heavy weed pressure is concentrated.

Check strip       BMP strips       Remainder of the field

If affected plants are concentrated in the BMP Strips but not apparent in the remainder of the field, consider completing the yield comparison in rows immediately adjacent to the BMP Strips.

**C. Plant Population Assessment** - Visually assess plant population in the field, and in particular, in the Check and BMP Strips. If the Check Strip and BMP Strips appear to have different plant populations, perform the following assessment. If the Strips appear to have the same plant populations, move to D. Nitrogen Placement Assessment.

1. Measure 17.5 feet along a planted row selected at random within the Check Strip.
2. Count and record the number of plants present along the measured row.
3. Repeat the process for a total of five 17.5 feet row segments within the Check Strip, and five 17.5 feet row segments within the BMP Strips. Record your results below and complete the calculations.
4. This information will be used to indicate impact of tillage systems on plant populations. Perform the yield and net returns assessment as per the instructions on this Worksheet, regardless of results here.

	Number of corn plants per 17.5 foot row segment					Total	Plant Population (Total x 1000)	
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5			
Check Strip								
BMP Strip One								
BMP Strip Two								
Difference (check strip population minus BMP Strip population)							<u>Strip 1</u>	<u>Strip 2</u>
Percent Difference (difference divided by BMP Strip plant population)							<u>Strip 1</u>	<u>Strip 2</u>

**D. Nitrogen placement assessment**

1. Are there areas in the field where plants are noticeably stunted or shorter, and possibly affected by chlorosis (yellow leaves) or firing (dead or dying leaves) during the growing season?  Yes  No
2. If yes, are the affected plants distributed equally across the field?  
 Yes  No  
 If no, check the box(es) for the area(s) where the affected plants are located.  
 Check Strip  BMP Strips  Remainder of the field

If affected plants are concentrated in the BMP Strips but not apparent in the remainder of the field, consider completing the yield comparison in rows immediately adjacent to the BMP Strips.

**Corn Reduced Tillage BMP CHALLENGE® Net Returns Assessment Worksheet  
(continued)**

(Complete this form for each field enrolled.)

**Grower Name:** \_\_\_\_\_

**Field Name:** \_\_\_\_\_

**Acres:** \_\_\_\_\_

**Part 2. Yield Assessment (round all numbers except Moisture Factor to tenths)**

Step 1: Indicate your assessment method (circle one):

Yield Monitor    Weigh Wagon

Portable Scales

Stationary Scales

Step 2: Harvest at least three passes down the Check Strip and three passes down one or both of the Reduced Tillage BMP Strips. Measure each area harvested and make the entries below. If the Check Strip is not wide enough to accommodate three equipment widths, you may harvest only two equipment widths.

	<b>Check Strip</b>	<b>BMP Strip</b>
<b>1. Width of harvested strips</b>	feet	feet
<b>2. Length of harvested strips</b>	feet	feet
<b>3. Total area (item 1, width, multiplied by item 2, length)</b>	sq. feet	sq. feet
<b>4. Total acres (item 3, total area, divided by 43,560)</b>	acres	acres
<b>5. Gross weight of grain harvested</b>	lbs.	lbs.
<b>6. Percent moisture %, if in excess of 15% (15% to 40%)</b>	%	%
<b>7. Moisture Factor (if moisture is above 15%, from attached Corn Moisture Adjustment Table)</b>		
<b>8. Adjusted grain production (divide item 5, grain gross weight, by 56 and multiply the result by item 7, moisture factor)</b>	bu.	bu.
<b>9. Per acre yield (bushels, divide item 8, adjusted grain production, by item 4, total acres)</b>	bu./acre	bu./acre

## Corn Moisture Adjustment Factor Table

**JULY 1998 - FCIC-25080**

Whole Moisture Percent	Tenths of Percent - Moisture									
	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
15	1.0000	0.9988	0.9976	0.9964	0.9952	0.9940	0.9928	0.9916	0.9904	0.9892
16	0.9880	0.9868	0.9856	0.9844	0.9832	0.9820	0.9808	0.9796	0.9784	0.9772
17	0.9760	0.9748	0.9736	0.9724	0.9712	0.9700	0.9688	0.9676	0.9664	0.9652
18	0.9640	0.9628	0.9616	0.9604	0.9592	0.9580	0.9568	0.9556	0.9544	0.9532
19	0.9520	0.9508	0.9496	0.9484	0.9472	0.9460	0.9448	0.9436	0.9424	0.9412
20	0.9400	0.9388	0.9376	0.9364	0.9352	0.9340	0.9328	0.9316	0.9304	0.9292
21	0.9280	0.9268	0.9256	0.9244	0.9232	0.9220	0.9208	0.9196	0.9184	0.9172
22	0.9160	0.9148	0.9136	0.9124	0.9112	0.9100	0.9088	0.9076	0.9064	0.9052
23	0.9040	0.9028	0.9016	0.9004	0.8992	0.8980	0.8968	0.8956	0.8944	0.8932
24	0.8920	0.8908	0.8896	0.8884	0.8872	0.8860	0.8848	0.8836	0.8824	0.8812
25	0.8800	0.8788	0.8776	0.8764	0.8752	0.8740	0.8728	0.8716	0.8704	0.8692
26	0.8680	0.8668	0.8656	0.8644	0.8632	0.8620	0.8608	0.8596	0.8584	0.8572
27	0.8560	0.8548	0.8536	0.8524	0.8512	0.8500	0.8488	0.8476	0.8464	0.8452
28	0.8440	0.8428	0.8416	0.8404	0.8392	0.8380	0.8368	0.8356	0.8344	0.8332
29	0.8320	0.8308	0.8296	0.8284	0.8272	0.8260	0.8248	0.8236	0.8224	0.8212
30	0.8200	0.8180	0.8160	0.8140	0.8120	0.8100	0.8080	0.8060	0.8040	0.8020
31	0.8000	0.7980	0.7960	0.7940	0.7920	0.7900	0.7880	0.7860	0.7840	0.7820
32	0.7800	0.7780	0.7760	0.7740	0.7720	0.7700	0.7680	0.7660	0.7640	0.7620
33	0.7600	0.7580	0.7560	0.7540	0.7520	0.7500	0.7480	0.7460	0.7440	0.7420
34	0.7400	0.7380	0.7360	0.7340	0.7320	0.7300	0.7280	0.7260	0.7240	0.7220
35	0.7200	0.7180	0.7160	0.7140	0.7120	0.7100	0.7080	0.7060	0.7040	0.7020
36	0.7000	0.6980	0.6960	0.6940	0.6920	0.6900	0.6880	0.6860	0.6840	0.6820
37	0.6800	0.6780	0.6760	0.6740	0.6720	0.6700	0.6680	0.6660	0.6640	0.6620
38	0.6600	0.6580	0.6560	0.6540	0.6520	0.6500	0.6480	0.6460	0.6440	0.6420
39	0.6400	0.6380	0.6360	0.6340	0.6320	0.6300	0.6280	0.6260	0.6240	0.6220
40	0.6200	0.6180	0.6160	0.6140	0.6120	0.6100	0.6080	0.6060	0.6040	0.6020

**Corn Reduced Tillage BMP CHALLENGE® Net Returns Assessment Worksheet  
(continued)**

(Complete this form for each field enrolled.)

**Grower Name:** \_\_\_\_\_

**Field Name:** \_\_\_\_\_

**Part 3. Tillage Cost Calculation.** Estimate tillage costs from for each type of fertilizer applied to the participating field by using the Purdue WinMax Software program or justify your cost estimate if from another source. List all operations related to tillage practices, and especially those that differ between the Check Strip and Reduced Tillage BMP Acres.

<b>CHECK STRIP TILLAGE-RELATED OPERATIONS</b>		
<b>List all tillage operations (e.g., chisel plow pass, tandem disk pass, field cultivator pass, planting pass) applied to Check Strip</b>	<b>Cost estimate source if not from Purdue WinMax Software</b>	<b>Cost per acre</b>
		\$
		\$
		\$
		\$
		\$
		\$
		\$
		\$
<b>Total tillage cost per acre, Check Strip: \$</b>		
<b>REDUCED TILLAGE BMP ACRES TILLAGE-RELATED OPERATIONS</b>		
<b>List all tillage operations (e.g., strip till setup pass, planting pass) applied to Reduced Tillage BMP acres</b>	<b>Cost estimate source if not from Purdue WinMax Software</b>	<b>Cost per acre</b>
		\$
		\$
		\$
		\$
		\$
		\$
		\$
<b>Total tillage cost per acre, Reduced Tillage acres: \$</b>		

## Corn Reduced Tillage BMP CHALLENGE® Net Returns Assessment Worksheet (cont.)

(Complete this form for each field enrolled.)

**Grower Name:** \_\_\_\_\_

**Field Name:** \_\_\_\_\_

**Acres:** \_\_\_\_\_

### Part 4. Net Returns Calculation

<b>Tillage Cost Savings Calculation</b>	
1. Tillage cost per acre, Check Strip (from Part 3. Tillage Costs)	\$ _____ per acre
2. Tillage cost per acre, Reduced Tillage acres (from Part 3. Tillage Costs)	\$ _____ per acre
<b>3. Net tillage cost savings (item 1 minus item 2)</b>	<b>\$ _____ per acre</b>
<b>Net Economic Return Calculation</b>	
4. Reduced Tillage BMP Strip yield per acre (from Part 2. Yield Assessment)	_____ bu. per acre
5. Check Strip yield per acre (from Part 2. Yield Assessment)	_____ bu. per acre
6. Value of BMP Strip yield (Line 4 times \$4.00/bu)	\$ _____ per acre
7. Value of Check Strip yield (Line 5 times \$4.00/bu)	\$ _____ per acre
<b>8. Value differential (Line 6 minus item 7)</b>	<b>\$ _____ per acre</b>
<b>9. Net economic return (Line 3 plus item 8)</b>	<b>\$ _____ per acre</b>
If Line 9 is greater than zero, no performance guaranty payment is needed. Go to farmer contribution, Line 11.	
<b>Performance Guaranty Payment Calculation (Use only if Line 9 is less than zero)</b>	
10. Performance guaranty payment (Enter the absolute value of Line 9)	\$ _____ per acre
<b>Total performance guarantee payment (Line 10 times number of acres)</b>	<b>\$ _____</b>
<b>Farmer Contribution Calculation (Use only if Line 9 is greater than zero)</b>	
11. Farmer contribution (Enter Line 9 x 0.33)	\$ _____ per acre
12. Maximum farmer contribution	\$ 6.00 per acre
<b>Total farmer contribution (Enter lesser of Lines 11 and 12, times the number of acres)</b>	<b>\$ _____</b>

**If you owe a farmer contribution, please forward payment with your entire completed Worksheet (see next page). Your contribution allows other farmers to participate in the BMP CHALLENGE.**

**Corn Reduced Tillage CHALLENGE® Net Returns Assessment Worksheet (continued)**

(Complete this form for each field enrolled.)

**Part 5. Grower and Advisor Certification**

Step 1: Grower and advisor signatures.

Advisor: Before obtaining grower's signature, review all entries on this worksheet with the grower, explain procedures and calculations.

**We, the undersigned, certify that this completed Worksheet, Parts 1-5, is complete and correct to the best of our knowledge.**

**Grower Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Advisor Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Step 2: Submit the completed form by mail or fax to:

BMP CHALLENGE  
4510 Regent St.  
Madison WI 53705  
Phone 608-232-1425, Fax 608-232-1440

Step 3: If you owe a contribution (from Part 4. Net Returns Calculation), please forward a check made out to Agflex with your completed worksheet.

Step 4: If a performance guaranty payment is due to you, please select from the following options:

Please mail my payment to the address on the first page of the worksheet.

Please mail my payment to the following address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

No payment is necessary. Please contribute my payment to the BMP CHALLENGE program.

**Please retain a copy of the entire worksheet for your records.**

**THANK YOU FOR PARTICIPATING IN THE BMP CHALLENGE!**