

REDUCED TILLAGE BMP CHALLENGE PROTOCOL 2007 – FOR CROP ADVISOR USE

Follow this protocol in addition to any other services the farmer may have contracted with you to provide.

STEP 1. Follow your state's Extension-recommended procedures for selecting and recommending a reduced tillage system for the participating farmer. Recommended procedures may vary by state, soil type and other conditions. The reduced tillage system must result in more than 30% of the production area covered with residue from the previous crop after planting.

Reference documents:

Conservation Tillage: A Checklist for U.S. Farmers. Conservation Technology Information Center. <http://www.ctic.purdue.edu/Core4/CT/Checklist/Checklist.html>

Tillage Best Management Practices for Water Quality Protection in Southeastern Minnesota. <http://www.extension.umn.edu/distribution/cropsystems/DC7694.html>

A Dozen Do's for Successful No-Till Corn Following Soybeans. <http://www.ces.purdue.edu/extmedia/AY/AY-313.pdf>

STEP 2. Following the check strip placement procedure, complete the Check Strip Information Form no later than one week after planting or June 30, 2007, and submit to the BMP CHALLENGE along with a copy of an aerial photo with field marked and check strip drawn in.

STEP 3. Assist the farmer in locating, selecting and setting up the appropriate tillage equipment. Be present when the field is tilled for both reduced and conventional tillage areas. Verify that the equipment is working properly and at the depth and width specified on the Check Strip Information Form.

STEP 4. Revisit the farmer and assess production on the field at least two additional times during the growing season:

1. Within two weeks of emergence. Assess stand, check for any other issues.
2. At V5-V6 stage. Assess weed management, nutrition, check for any other issues.

Based on your assessment of the production, make any recommendations necessary to respond to tillage-related conditions in the participating field. Make note of the date of your visits, any pertinent observations and recommendations. You will need to include those notes when you submit your yield/returns assessment after harvest.

STEP 5. Revisit the farm at harvest and supervise farmer harvest of the conventional (check) and reduced tillage production areas as per the protocol we will provide you and complete the Service Loss Assessment Worksheet we will also provide.

STEP 6. Enter tillage-related information on the reduced tillage and check production areas into the Purdue MAX software and print out the Production Cost Worksheet for areas.

STEP 7. Submit completed Worksheets to the BMP CHALLENGE.

REDUCED TILLAGE BMP CHALLENGE - CHECK STRIP PLACEMENT PROCEDURE

Establish one check strip in each enrolled field. The check strip must be 40 to 80 feet wide and run the length of the field, excluding any end-rows. Leave room for immediately adjacent strips on either side of the check strip equal in length and width to the check strip. One or both of these strips will be harvested and compared to yield on the check strip.

NOTE: Check strip should be wide enough to allow the farmer to harvest at least three passes. For example, if the farmer has an eight-head harvester and plants in 30-inch rows, the check strip must be at least 60 feet wide. This will allow three passes (8 rows each) of the check strip to be harvested for the yield comparison.

Step 1. Confirm with the farmer what field(s) will be enrolled.

Step 2. Determine the approximate location of the check strip and adjacent BMP strips on a map. The check strip and adjacent strips must be located in a uniform portion of the field. If possible, avoid areas that have variable soil types, slopes, irregular boundaries, variable fertility and/or tile lines running parallel to the row.

If it is not possible to avoid non-uniform areas, take the following steps:

- (i) If a slope, rocky area or any other feature breaks up the uniformity of the field, locate the strips so they run across the non-uniformity such that the check strip and adjacent BMP strips are affected equally by it.
- (ii) If the field has a small outcropping or a depression, avoid putting these in the check strip altogether. Locate the check and BMP strips on one side or the other of these features.
- (iii) If the field has two or more soil types, place the strips such that they cross the different soil types at right angles where possible. Make sure that the various soil types affect each of the strips equally.

Step 3. Travel to the location of the enrolled acres and make any adjustments in location needed to make the strips uniform. Identify the actual physical location of the check strip with Global Positioning System (GPS) coordinates and/or a measurement from an identifiable landmark (field corner, boundary marker, etc.).

Step 4. Mark the strip locations for the farmer with flags or other appropriate markers.

Step 5. Complete the Check Strip Information Form and submit to the TILLAGE BMP CHALLENGE. Thank you!

Contour Strips - If the acres to be covered are in contour strips that are not wide enough to contain both a check strip and two adjacent BMP strips, select one strip that best represents the productive capabilities of the covered acres and that is appropriate for use as a check strip. Split the contour strip in half and have the farmer apply the BMP rate of fertilizer on one half of the contour strip. The other half will serve as the check strip. Alternatively, the crop advisor may place the check strip in one contour strip, and the BMP strips in immediately adjacent contour strips, provided the three contour strips are reasonably uniform and representative of the balance of the field.