

## BECK'S Tiling Study - 2005

|                       |                  |                       |  |
|-----------------------|------------------|-----------------------|--|
| <b>Location:</b>      | T3, T4 plots     | <b>Previous Crop:</b> | Pasture  |
| <b>Planted:</b>       | May 6, 2005      | <b>Tillage:</b>       | Moldboard Plow / S-tine                          |
| <b>Harvested:</b>     | October 13, 2005 | <b>Herbicide:</b>     | PPI: 2.5 qts. Bicep II Magnum<br>1.0 qt. Princep |
| <b>Rows:</b>          | 30" rows         |                       | Post: 1.6 qts. Lexar / 8 oz. Stinger             |
| <b>Population:</b>    | 33,600 seeds/A.  | <b>Insecticide:</b>   | Aztec  |
| <b>Soil Type:</b>     | Crosby           |                       |  |
| <b>Hybrid Tested:</b> | BECK 6722CBRR    |                       |  |

| RAINFALL |                |
|----------|----------------|
| April    | 3.4 in.        |
| May      | 3.2 in.        |
| June     | 4.0 in.        |
| July     | 6.8 in.        |
| August   | <u>3.3 in.</u> |
| Total    | 20.7 in.       |

**Purpose:** In this study we are comparing yield between a non-tiled plot and a plot that was tile ditched in September 2004 with 4" tile every 20'. We are also measuring yield in the four rows directly above the tile lines verses the three rows between the tile lines.

### Tiled Plot

|                                   | Bu./A.<br>Difference | Bushels*<br>Per Acre |
|-----------------------------------|----------------------|----------------------|
| Rows Over Tile                    | 26.2                 | 230.5                |
| Rows Between Tile                 | 47.1                 | 251.4                |
| Rows Over Tile                    | 9.0                  | 213.3                |
| Rows Between Tile                 | 25.6                 | 229.9                |
| Rows Over Tile                    | -23.3                | 181.0                |
| Rows Between Tile                 | 8.5                  | 212.8                |
| Rows Over Tile                    | -43.3                | 161.0                |
| Rows Between Tile                 | -0.7                 | 203.6                |
| Rows Over Tile                    | -20.3                | 184.0                |
| Rows Between Tile                 | -10.8                | 193.5                |
| Rows Over Tile                    | -8.2                 | 196.1                |
| Rows Between Tile                 | -16.8                | 187.5                |
| Rows Over Tile                    | 6.9                  | <u>211.2</u>         |
| <b>PLOT AVERAGE</b>               |                      | <u>204.3</u>         |
| <b>AVERAGE YIELD BETWEEN TILE</b> |                      | 213.1                |
| <b>AVERAGE YIELD OVER TILE</b>    |                      | 196.7                |



### Un-Tiled Plot

|                | Harvested<br>Population | Test<br>Weight | Percent<br>Broken<br>Stalks | Percent<br>Root<br>Lodging | Percent<br>Moisture | Bushels*<br>Per Acre | Bu./A.<br>Difference<br>from Plot<br>Average |
|----------------|-------------------------|----------------|-----------------------------|----------------------------|---------------------|----------------------|--|
| Rows 1 – 4     | 32,500                  | 53.0           | 20.0                        | 1.5                        | 21.4                | 219.7                | -5.0   |
| Rows 5 – 8     | 30,750                  | 53.0           | 19.3                        | 2.5                        | 21.7                | 215.2                | -9.5   |
| Rows 9 – 12    | 29,750                  | 52.5           | 5.0                         | 0.0                        | 21.3                | 226.3                | 1.6  |
| Rows 13 – 16   | 31,250                  | 53.5           | 10.4                        | 6.4                        | 21.5                | 223.6                | -1.1   |
| Rows 17 – 20   | 30,500                  | 53.5           | 15.6                        | 4.9                        | 21.7                | 228.8                | 4.1  |
| Rows 21 – 24   | 30,750                  | 52.5           | 45.5                        | 8.9                        | 21.5                | 213.7                | -11.0  |
| Rows 25 – 28   | 32,500                  | 52.5           | 52.2                        | 15.3                       | 20.7                | 230.6                | 5.9  |
| Rows 29 – 32   | 29,500                  | 53.5           | 38.3                        | 14.3                       | 21.1                | 214.2                | -10.5  |
| Rows 33 – 36   | 29,500                  | 52.5           | 41.5                        | 9.4                        | 20.9                | 223.7                | -1.0   |
| Rows 37 – 40   | 31,750                  | 52.0           | 32.3                        | 8.7                        | 21.8                | 217.6                | -7.1   |
| Rows 41 – 44   | 29,500                  | 52.5           | 37.5                        | 15.2                       | 22.6                | 227.7                | 3.0  |
| Rows 45 – 48   | 31,250                  | 52.0           | 20.2                        | 4.0                        | 21.9                | 234.9                | 10.2   |
| Rows 49 – 52   | 31,250                  | 53.0           | 10.3                        | 0.0                        | 21.4                | 246.9                | 22.2   |
| Rows 53 – 56   | <u>30,000</u>           | <u>53.5</u>    | <u>1.7</u>                  | <u>0.0</u>                 | <u>20.8</u>         | <u>222.4</u>         | -2.3   |
| <b>AVERAGE</b> | 30,768                  | 52.8           | 25.0                        | 6.5                        | 21.5                | 224.7                |  |

### Summary:

In this first year following tile installation, rows over the tile averaged 16.4 bushels per acre less than the rows between the tiles. We anticipate that tile benefits will likely occur in the next few years once the soil has settled and subsoil structure begins to develop. The tiled study averaged 20.4 bushels per acre less than the un-tiled plot overall, but only 11.6 bushels per acre less where yields were taken from rows between tile lines where subsoil structure was not disturbed.

The un-tiled plot is slightly better soil and will likely produce more in most years. This study will help us determine if we can help soil that is not as productive, become as productive as better soil through the use of tiling.

In the un-tiled plot we planted only one hybrid and harvested every four rows across the plot to determine the plot's uniformity. These results magnify the importance of replicated testing; five to ten bushels swings occurred regularly every four rows with the largest swing being over 20 bushels per acre. Stalk and root lodging percentages also varied drastically in some areas of the field.