Deep-Tillage Study—Northwest Research Farm

Paul C. Kassel
Iowa State University, kassel@iastate.edu

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Abstract
A deep-tillage study was started during the fall of 2003 to evaluate the effects of deep (~20 in.) preplant tillage on corn and soybean yields.

Disciplines
Agricultural Science | Agriculture
Deep-Tillage Study—Northwest Research Farm

Paul Kassel, extension field agronomist

Introduction
A deep-tillage study was started during the fall of 2003 to evaluate the effects of deep (~20 in.) preplant tillage on corn and soybean yields.

Materials and Methods
Tillage treatments were applied to the experimental area on November 28, 2003. Plots were established in corn stubble and soybean stubble so yield information could be collected on corn and soybean crops. Tillage treatments included v-rip treatments (16 in. deep), in-line ripper (20 in. deep) and disc harrow (4 in. deep). All tillage treatments in subsequent years were shallow spring tillage passes performed by either a disc or field cultivator.

Results and Discussions
No yield data was taken in 2004 because of severe crop damage from a mid-summer hailstorm.

There was no yield benefit from the initial deep-tillage treatments during the fall of 2003. Corn and soybean yields in 2005, 2006, and 2007 were similar for all tillage treatments each year.

Table 1. 2005 to 2007 results, corn.

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</thead>
<tbody>
<tr>
<td>Shallow tillage (disk)</td>
<td>193.2</td>
<td>158.6</td>
<td>170.2</td>
<td>174.0</td>
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<tr>
<td>V-rip</td>
<td>176.7</td>
<td>155.1</td>
<td>168.2</td>
<td>166.7</td>
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<tr>
<td>In-line rip</td>
<td>179.5</td>
<td>159.3</td>
<td>173.5</td>
<td>170.7</td>
</tr>
</tbody>
</table>

Table 2. 2005 to 2007 results, soybean.

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<tbody>
<tr>
<td>Shallow tillage (disk)</td>
<td>60.8</td>
<td>58.7</td>
<td>59.4</td>
<td>59.6</td>
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<tr>
<td>V-rip</td>
<td>60.4</td>
<td>58.2</td>
<td>61.0</td>
<td>59.9</td>
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<tr>
<td>In-line rip</td>
<td>60.9</td>
<td>59.7</td>
<td>60.7</td>
<td>60.4</td>
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