Effect of different tillage methods on grain yield and its components in wheat cv. Alvand under East Azarbayjan conditions

ultimately, it makes the text more accessible for future research and documentation.
مجله، جلد نهم، ۶۸۳۱
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مقدمه
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باید )Hargraves et al., 1982 .
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ژ
تینه
عند هدف از این تحقیق بررسی روش‌های مختلف هنرهای زمین با ادوات متفاوت در کشت کندم پایه به جهت فراهم نمودن شرایط بهینه سیز شدن بذر و استقرار و رشد
ionate experiment (before experiment)

<table>
<thead>
<tr>
<th>Depth (cm)</th>
<th>Soil properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pH of saturated soil</td>
</tr>
<tr>
<td>0-15</td>
<td>5.57</td>
</tr>
<tr>
<td>15-30</td>
<td>6.26</td>
</tr>
<tr>
<td>30-50</td>
<td>3.35</td>
</tr>
<tr>
<td>50-90</td>
<td>3.77</td>
</tr>
<tr>
<td>90-130</td>
<td>3.14</td>
</tr>
<tr>
<td>&gt;130</td>
<td>6.14</td>
</tr>
</tbody>
</table>
Table 3. Mean comparison of morphological characteristics grain yield and its components in wheat cv. Alvand

<table>
<thead>
<tr>
<th>Tillage treatment</th>
<th>Grain/Spike</th>
<th>Plant Height (cm)</th>
<th>Spike length (cm)</th>
<th>Spike/m²</th>
<th>1000 GW (g)</th>
<th>Grain yield (kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>48 a</td>
<td>84 ab</td>
<td>40.66 a</td>
<td>280 ab</td>
<td>48 a</td>
<td>3823 bc</td>
</tr>
<tr>
<td>A2</td>
<td>47 a</td>
<td>88 a</td>
<td>39.66 b</td>
<td>267 b</td>
<td>47 b</td>
<td>4746 ab</td>
</tr>
<tr>
<td>A3</td>
<td>47.67 a</td>
<td>86a</td>
<td>37 b</td>
<td>364 a</td>
<td>47.67 a</td>
<td>5034 a</td>
</tr>
<tr>
<td>A4</td>
<td>44.33 a</td>
<td>79.33 b</td>
<td>38.66</td>
<td>191.66 a</td>
<td>44.33 a</td>
<td>2903 c</td>
</tr>
</tbody>
</table>

Means, in each column, followed by similar letter(s) are not significantly different at 5% probability level using Duncan's Multiple Range Test.

Means, in each column, followed by similar letter(s) are not significantly different at 5% probability level using Duncan's Multiple Range Test.
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Table 4. Mean comparison of soil cone index in different depths in two cropping seasons

<table>
<thead>
<tr>
<th>تیمار خاک‌ورزی</th>
<th>0-10</th>
<th>10-20</th>
<th>20-30</th>
<th>30-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>1.26 ab</td>
<td>1.83 ab</td>
<td>1.95 ab</td>
<td>1.95 ab</td>
</tr>
<tr>
<td>A2</td>
<td>1.18 ab</td>
<td>1.65 ab</td>
<td>1.95 a</td>
<td>1.95 a</td>
</tr>
<tr>
<td>A3</td>
<td>1.1 b</td>
<td>1.44 b</td>
<td>1.65 a</td>
<td>1.65 a</td>
</tr>
<tr>
<td>A4</td>
<td>1.41 a</td>
<td>1.99 a</td>
<td>2.23 a</td>
<td>2.23 a</td>
</tr>
</tbody>
</table>

Means, in each column, followed by similar letter(s) are not significantly different at 5% probability level using Duncan’s Multiple Range Test.

References

Whiteley and Dexter, 1982.


Effect of different tillage methods on grain yield and its components in wheat cv. Alvand under East Azarbayjan conditions

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ABSTRACT


In order to study the effects of tillage methods on wheat grain and its components an experiment was conducted using randomized complete block design (RCBD) with four treatments including 1-Chisel plow in depth of 5-20 Cm, 2- Moldboard plow in depth of 15-20 Cm, 3- Moldboard plow in depth of 25-30 Cm and 4-control (No tillage) with three replications, in Khosroshahr Research Field Station in two cropping seasons (2004-2006). Tillage treatments were conducted in the same field for two years. First year safflower was grown and in the second year wheat. Data of cone index, grain yield and its components were collected for evaluation and analysis. Results showed that the effect of different tillage methods were not significant for the grain weight, spike length, grain numbers per spike. However, there were significant (P<0.05) differences among different tillage methods for grain yield and plant height. Moldboard plow in depth of 25-30 Cm had the highest effect on grain yield (5034 Kg/ha) and No-tillage had the lowest (2903 Kg/ha). Mold board plow in depth of 25-30 Cm had the least cone index, soil properties, but the highest soil permeability. Among the tillage methods, moldboard plow in depth of of 25-30 Cm compared to the other treatments had greater effect on soil cone index and grain yield.

Key words: Tillage, Wheat, Grain yield, Cone index, Soil property.

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