

**Table D-1. 20 Year Corn/Soybean Rotation Study - Corn.  
Arlington, WI Experiment 9690.**

| Tillage | Rotation<br>14th Year | Seeding<br>Rate<br>x 1000 | Final<br>Population<br>plants/a | Broken/<br>Lodged<br>% | Moist<br>% | Yield<br>bu/a |
|---------|-----------------------|---------------------------|---------------------------------|------------------------|------------|---------------|
| No-Till |                       |                           | 27692                           | 32.8                   | 21.3       | 160.7         |
| Conv    |                       |                           | 29207                           | 38.0                   | 21.1       | 174.1         |
|         | c s s s s s c c c c C |                           | 28185                           | 49.3                   | 21.1       | 158.3         |
|         | c c s s s s s c c c C |                           | 27026                           | 47.0                   | 21.6       | 161.6         |
|         | c c c s s s s s c C   |                           | 28829                           | 57.7                   | 21.6       | 163.7         |
|         | c c c c s s s s s C   |                           | 29239                           | 5.9                    | 20.4       | 186.1         |
|         | s s s s s c c c c c C |                           | 27822                           | 56.5                   | 21.7       | 157.4         |
|         | c c c c c c c c c C   |                           | 28794                           | 23.5                   | 20.9       | 163.7         |
|         | s c s c s c s c s C   |                           | 29251                           | 8.0                    | 21.1       | 181.3         |
| No-Till | c s s s s s c c c c C |                           | 27681                           | 44.1                   | 21.5       | 156.5         |
| No-Till | c c s s s s s c c c C |                           | 25550                           | 52.9                   | 21.5       | 146.6         |
| No-Till | c c c s s s s s c C   |                           | 28806                           | 56.0                   | 21.6       | 163.7         |
| No-Till | c c c c s s s s s C   |                           | 28642                           | 5.5                    | 20.2       | 180.9         |
| No-Till | s s s s s c c c c c C |                           | 27400                           | 45.0                   | 21.7       | 154.3         |
| No-Till | c c c c c c c c c C   |                           | 27728                           | 18.3                   | 21.2       | 152.1         |
| No-Till | s c s c s c s c s C   |                           | 28033                           | 7.7                    | 21.5       | 172.1         |
| Conv    | c s s s s s c c c c C |                           | 28689                           | 54.5                   | 20.7       | 160.4         |
| Conv    | c c s s s s s c c c C |                           | 28501                           | 41.1                   | 21.7       | 176.5         |
| Conv    | c c c s s s s s c C   |                           | 28852                           | 59.3                   | 21.6       | 163.8         |
| Conv    | c c c c s s s s s C   |                           | 29836                           | 6.3                    | 20.6       | 190.9         |
| Conv    | s s s s s c c c c c C |                           | 28244                           | 68.1                   | 21.7       | 160.3         |
| Conv    | c c c c c c c c c C   |                           | 29859                           | 28.8                   | 20.7       | 175.4         |
| Conv    | s c s c s c s c s C   |                           | 30468                           | 8.3                    | 20.8       | 190.4         |
|         |                       | 25                        | 24510                           | 26.0                   | 21.5       | 166.3         |
|         |                       | 30                        | 28344                           | 37.1                   | 21.4       | 166.6         |
|         |                       | 35                        | 32494                           | 43.1                   | 20.8       | 169.5         |
| No-Till |                       | 25                        | 23837                           | 22.6                   | 21.7       | 158.9         |
| No-Till |                       | 30                        | 27270                           | 35.4                   | 21.7       | 160.2         |
| No-Till |                       | 35                        | 31967                           | 40.3                   | 20.7       | 163.0         |
| Conv    |                       | 25                        | 25182                           | 29.4                   | 21.2       | 173.4         |
| Conv    |                       | 30                        | 29418                           | 38.8                   | 21.2       | 172.8         |
| Conv    |                       | 35                        | 33021                           | 46.0                   | 20.8       | 176.2         |
|         | c s s s s s c c c c C | 25                        | 24133                           | 37.6                   | 21.3       | 159.3         |
|         | c s s s s s c c c c C | 30                        | 28068                           | 47.5                   | 21.2       | 160.0         |
|         | c s s s s s c c c c C | 35                        | 32354                           | 62.7                   | 20.7       | 155.3         |
|         | c c s s s s s c c c C | 25                        | 23009                           | 33.8                   | 21.8       | 153.1         |
|         | c c s s s s s c c c C | 30                        | 27787                           | 55.2                   | 22.2       | 162.8         |
|         | c c s s s s s c c c C | 35                        | 30281                           | 52.0                   | 20.8       | 168.7         |
|         | c c c s s s s s c C   | 25                        | 25152                           | 44.9                   | 21.7       | 172.4         |
|         | c c c s s s s s c C   | 30                        | 28806                           | 57.9                   | 21.9       | 160.2         |
|         | c c c s s s s s c C   | 35                        | 32529                           | 70.2                   | 21.2       | 158.7         |
|         | c c c c s s s s s C   | 25                        | 25152                           | 5.1                    | 20.8       | 181.8         |
|         | c c c c s s s s s C   | 30                        | 28806                           | 5.3                    | 20.3       | 177.1         |
|         | c c c c s s s s s C   | 35                        | 33759                           | 7.2                    | 20.2       | 198.3         |
|         | s s s s s c c c c c C | 25                        | 23923                           | 35.9                   | 22.2       | 159.5         |
|         | s s s s s c c c c c C | 30                        | 28244                           | 65.1                   | 21.9       | 158.8         |
|         | s s s s s c c c c c C | 35                        | 31300                           | 68.5                   | 21.1       | 154.3         |
|         | c c c c c c c c c C   | 25                        | 24766                           | 17.8                   | 21.1       | 163.3         |
|         | c c c c c c c c c C   | 30                        | 27681                           | 21.1                   | 21.1       | 166.5         |
|         | c c c c c c c c c C   | 35                        | 33934                           | 31.7                   | 20.6       | 161.3         |
|         | s c s c s c s c s C   | 25                        | 25433                           | 6.6                    | 21.4       | 173.5         |
|         | s c s c s c s c s C   | 30                        | 29016                           | 7.8                    | 21.3       | 182.1         |
|         | s c s c s c s c s C   | 35                        | 33302                           | 9.6                    | 20.7       | 188.2         |

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| Tillage             | Rotation<br>14th Year | Seeding<br>Rate<br>x 1000 | Final<br>Population<br>plants/a | Broken/<br>Lodged<br>% | Moist<br>% | Yield<br>bu/a |
|---------------------|-----------------------|---------------------------|---------------------------------|------------------------|------------|---------------|
| No-Till             | cssssscC              | 25                        | 23747                           | 28.1                   | 22.0       | 152.2         |
| No-Till             | cssssscC              | 30                        | 26768                           | 46.2                   | 21.7       | 157.7         |
| No-Till             | cssssscC              | 35                        | 32529                           | 57.9                   | 20.8       | 159.6         |
| No-Till             | ccsssscC              | 25                        | 21007                           | 44.2                   | 21.8       | 136.6         |
| No-Till             | ccsssscC              | 30                        | 26206                           | 63.9                   | 22.6       | 143.9         |
| No-Till             | ccsssscC              | 35                        | 29438                           | 50.6                   | 20.3       | 159.2         |
| No-Till             | ccsssscC              | 25                        | 25012                           | 35.1                   | 21.2       | 170.4         |
| No-Till             | ccsssscC              | 30                        | 29297                           | 59.4                   | 22.5       | 168.3         |
| No-Till             | ccsssscC              | 35                        | 32108                           | 73.5                   | 21.2       | 152.6         |
| No-Till             | ccccssscC             | 25                        | 24520                           | 4.5                    | 20.8       | 173.3         |
| No-Till             | ccccssscC             | 30                        | 27681                           | 5.9                    | 19.7       | 175.1         |
| No-Till             | ccccssscC             | 35                        | 33724                           | 6.1                    | 20.0       | 192.8         |
| No-Till             | ssssscC               | 25                        | 23817                           | 25.9                   | 22.4       | 160.9         |
| No-Till             | ssssscC               | 30                        | 27260                           | 51.1                   | 21.9       | 155.7         |
| No-Till             | ssssscC               | 35                        | 31124                           | 57.9                   | 20.9       | 148.0         |
| No-Till             | ccccccC               | 25                        | 24028                           | 14.7                   | 21.3       | 154.8         |
| No-Till             | ccccccC               | 30                        | 26136                           | 12.9                   | 21.3       | 150.2         |
| No-Till             | ccccccC               | 35                        | 33021                           | 27.3                   | 21.1       | 151.1         |
| No-Till             | scscscscC             | 25                        | 24731                           | 5.5                    | 22.2       | 164.6         |
| No-Till             | scscscscC             | 30                        | 27541                           | 8.7                    | 21.6       | 173.9         |
| No-Till             | scscscscC             | 35                        | 31827                           | 8.9                    | 20.7       | 177.9         |
| Conv                | cssssscC              | 25                        | 24520                           | 47.2                   | 20.6       | 166.5         |
| Conv                | cssssscC              | 30                        | 29368                           | 48.8                   | 20.8       | 162.3         |
| Conv                | cssssscC              | 35                        | 32178                           | 67.4                   | 20.6       | 149.7         |
| Conv                | ccsssscC              | 25                        | 25012                           | 23.4                   | 21.9       | 169.7         |
| Conv                | ccsssscC              | 30                        | 29368                           | 46.5                   | 21.8       | 181.7         |
| Conv                | ccsssscC              | 35                        | 31124                           | 53.3                   | 21.4       | 178.3         |
| Conv                | ccsssscC              | 25                        | 25293                           | 54.7                   | 22.1       | 174.4         |
| Conv                | ccsssscC              | 30                        | 28314                           | 56.3                   | 21.4       | 152.2         |
| Conv                | ccsssscC              | 35                        | 32951                           | 67.0                   | 21.2       | 164.7         |
| Conv                | ccccssscC             | 25                        | 25785                           | 5.8                    | 20.7       | 190.4         |
| Conv                | ccccssscC             | 30                        | 29930                           | 4.7                    | 20.8       | 178.6         |
| Conv                | ccccssscC             | 35                        | 33794                           | 8.4                    | 20.4       | 203.8         |
| Conv                | ssssscC               | 25                        | 24028                           | 45.8                   | 22.0       | 158.4         |
| Conv                | ssssscC               | 30                        | 29227                           | 79.2                   | 21.8       | 161.9         |
| Conv                | ssssscC               | 35                        | 31475                           | 79.2                   | 21.4       | 160.5         |
| Conv                | ccccccC               | 25                        | 25504                           | 21.0                   | 20.9       | 171.8         |
| Conv                | ccccccC               | 30                        | 29227                           | 29.3                   | 20.9       | 182.9         |
| Conv                | ccccccC               | 35                        | 34848                           | 36.1                   | 20.2       | 171.4         |
| Conv                | scscscscC             | 25                        | 26136                           | 7.8                    | 20.6       | 182.4         |
| Conv                | scscscscC             | 30                        | 30492                           | 6.9                    | 21.0       | 190.2         |
| Conv                | scscscscC             | 35                        | 34778                           | 10.3                   | 20.8       | 198.6         |
| Mean                |                       |                           | 28449                           | 35.4                   | 21.2       | 167.5         |
| <b>Probability%</b> |                       |                           |                                 |                        |            |               |
| Tillage (T)         |                       |                           | 5.1                             | 10.4                   | 4.8        | 0.2           |
| Rotation (R)        |                       |                           | < 0.1                           | < 0.1                  | 35.3       | < 0.1         |
| T x R               |                       |                           | 8.1                             | 29.5                   | > 50       | 14.8          |
| Seeding Rate (S)    |                       |                           | < 0.1                           | < 0.1                  | < 0.1      | 43.2          |
| T x S               |                       |                           | 24.2                            | > 50                   | 16.6       | > 50          |
| R x S               |                       |                           | 43                              | < 0.1                  | > 50       | 7.6           |
| T x R x S           |                       |                           | > 50                            | 22.5                   | 29.9       | > 50          |
| <b>LSD 10%</b>      |                       |                           |                                 |                        |            |               |
| Tillage (T)         |                       |                           | 1126                            | NS                     | 0.2        | 2.8           |
| Rotation (R)        |                       |                           | 847                             | 11.5                   | NS         | 9.9           |
| Seeding Rate (S)    |                       |                           | 555                             | 3.4                    | 0.3        | NS            |
| <b>CV%</b>          |                       |                           |                                 |                        |            |               |
|                     |                       |                           | 6.2                             | 30.6                   | 4.2        | 9.0           |