**Table 6. Comparison of select soil characteristics between direct seed and native/undisturbed sites from spring 2014, averaged across all depth increments. Different letters in the same grower’s section in the same column are significantly different at *P*<0.05.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **GROWER** | **SOIL** | **β-glucosidase** | **Dehydrogenase** | **pH** | **EC** | **CEC** | **NO3-N** | **NH4-N** | **Olsen P** | **K** | **S** | **Al** | **Cd** |
|  |  | ρ-nitrophenol g-1 soil hr-1 | µg g-1 soil hour-1 | 1:1water:soil | µs cm-3 | meq 100g-1 | mg kg-1 |
| **Bailey** | **Direct seed** | 11.5 b | 0.9 b | 5.5 a | 144 b | 17.5 a | 19.9 a | 6.0 b | 31 a | 520 b | 26 a | 11.0 a | 0.01 a |
|  | **Undisturbed** | 26.1 a | 2.1 a | 6.7 a | 228 a | 16.1 a | 54.2 a | 56.5 a | 48 a | 1156 a | 13.3 a | 1.4 b | 0.03 a |
| **Cochran** | **Direct seed** | 20.2 a | 1.8 b | 6.1 b | 194 a | 21.8 a | 38.3 b | 8.8 b | 33 a | 562 b | 20.7 b | 0.7 a | 0.01 a |
|  | **Undisturbed** | 24.1 a | 2.9 a | 6.5 a | 192 a | 17.0 a | 56.6 a | 28.3 a | 58 a | 915 a | 21.5 a | 0.6 a | 0.05 a |
| **Hutchens** | **Direct seed** | 14.8 b | 0.9 b | 5.6 b | 123 b | 16.9 a | 20.7 b | 7.8 a | 46 a | 618 b | 20.3 a | 5.1 a | 0.10 a |
|  | **Undisturbed** | 33.8 a | 4.1 a | 6.4 a | 315 a | 17.8 a | 118.7 a | 35.0 a | 48 a | 929 a | 17.2 b | 1.2 b | 0.06 a |
| **Jensen** | **Direct seed** | 18.7 a | 0.8 b | 5.5 b | 144 a | 19.9 a | 20.7 a | 7.7 a | 45 b | 508 a | 24.6 a | 11.4 a | 0.10 a |
|  | **Undisturbed** | 20.4 a | 2.2 a | 6.5 a | 72 b | 24.4 a | 10.7 b | 6.1 b | 59 a | 521 a | 24.0 a | 0.6 b | 0.05 a |
| **Juris** | **Direct seed** | 12.8 a | 1.2 b | 6.2 b | 139 b | 14.1 a | 22.4 b | 5.4 b | 34 b | 455 a | 18.0 a | 13.9 a | 0.05 a |
|  | **Undisturbed** | 16.3 a | 2.7 a | 7.1 a | 231 a | 12.5 a | 55.2 a | 7.5 a | 52 a | 517 a | 12.1 a | 0.4 b | 0.04 a |
| **Koch** | **Direct seed** | 12.3 a | 0.9 b | 6.1 a | 88 a | 8.9 a | 23.9 a | 4.9 a | 22 a | 548 a | 10.4 a | 2.1 a | 0.04 a |
|  | **Undisturbed** | 8.8 a | 2.0 a | 6.9 a | 79 a | 9.3 a | 35.3 a | 3.5 a | 17 a | 443 a | 7.6 a | 0.7 b | 0.03 a |
| **Odberg** | **Direct seed** | 16.2 b | 1.1 b | 5.7 b | 142 a | 18.7 a | 12.2 b | 5.2 b | 25 a | 326 b | 19 a | 8.7 a | 0.05 a |
|  | **Undisturbed** | 25.5 a | 5.9 a | 6.4 a | 177 a | 19.1 a | 100.7 a | 13.7 a | 35 a | 657 a | 25 a | 0.8 b | 0.03 a |
| **Schultheis** | **Direct seed** | 17.3 b | 0.8 b | 5.4 b | 186 b | 19.8 a | 29.6 b | 6.9 b | 23 b | 313 a | 15 b | 13.1 a | 0.04 b |
|  | **Undisturbed** | 33.0 a | 3.9 a | 6.8 a | 331 a | 18.0 a | 100.4 a | 36.2 a | 92 a | 336 a | 21.2 a | 1.2 b | 0.72 a |
| **Sheffels** | **Direct seed** | 11.9 a | 2.0 b | 6.6 b | 160 b | 11.9 a | 32.6 b | 6.0 a | 25 b | 668 a | 13.7 a | 10.4 a | 0.06 a |
|  | **Undisturbed** | 14.4 a | 4.2 a | 7.7 a | 295 a | 11.2 a | 52.8 a | 7.1 a | 47 a | 798 a | 12.6 a | 0.24 b | 0.03 a |
| **Stubbs** | **Direct seed** | 16.2 a | 0.7 b | 5.7 b | 220 a | 13.3 a | 33.0 a | 32 a | 32 a | 509 a | 20 a | 2.3 a | 0.06 a |
|  | **Undisturbed** | 21.1 a | 2.1 a | 7.5 a | 223 a | 11.7 a | 45.2 a | 5.2b | 40 a | 544 a | 9.7 b | 0.2 a | 0.04 a |
| **Thorn** | **Direct seed** | 13.6 b | 0.8 b | 5.7 b | 139 a | 15.5 a | 31.1 b | 8.6 b | 47 b | 566 b | 31.0 a | 5.42 a | 0.06 a |
|  | **Undisturbed** | 26.8 a | 5.7 a | 6.6 a | 168 a | 17.6 a | 73.0 a | 12.2 a | 64 a | 805 a | 11.5 b | 0.3 b | 0.05 a |
| **Zenner** | **Direct seed** | 19.3 b | 1.2 b | 5.4 b | 513 a | 20.4 a | 14.9 b | 4.5 b | 38 b | 444 b | 13.0 a | 0.7 a | 0.06 a |
|  | **Undisturbed** | 22.7 a | 6.2 a | 7.0 a | 170 b | 23.0 a | 56.4 a | 12.9 a | 80. a | 709 a | 23.0 a | 0.0 a | 0.06 a |