**Table 5. Comparison of select soil characteristics between direct seed and conventional/conservation tillage sites from each of the three rainfall zones, averaged across all landscape positions and depth increments. Different letters in the same section in the same column are significantly different at *P*<0.05.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **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 |
| **High Rainfall:** |   |   |   |   |   |   |   |   |   |   |   |   |
| **Direct Seed** | 16.3 a | 1.2 b | 5.0 b | 237.9 a | 18.6 b | 72.6 a | 7.3 a | 34.1 a | 319.5 a | 39.4 a | 65.1 a | 1.44 a |
| **Tilled** | 13.2 a | 1.7 a | 5.5 a | 138.4 b | 24.7 a | 48.1 a | 8.5 a | 33.6 a | 258.7 a | 24.9 b | 17.1 b | 0.05 b |
| **Intermediate Rainfall:** |   |   |   |   |   |   |   |   |   |   |   |   |
| **Direct Seed** | 9.3 a | 2.3 a | 6.7 b | 144 b | 11.9 b | 32.6 a | 6 a | 25.7 a | 668.2 a | 13.7 a | 10.4 a | 0.06 a |
| **Tilled** | 9.7 a | 2.4 a | 7.4 a | 182.4 a | 14.1 a | 31.3 a | 4.7 a | 15.2 b | 448.1 b | 4.1 b | 3.9 a | 0.02 b |
| **Low Rainfall:** |   |   |   |   |   |   |   |   |   |   |   |   |
| **Direct Seed** | 14.1 a | 1 b | 6.3 b | 106.1 b | 8.9 b | 23.9 a | 4.9 a | 22.5 a | 548.2 a | 10.4 a | 2.1 a | 0.04 a |
| **Tilled** | 12.3 a | 2.5 a | 7.3 a | 161 a | 13 a | 22.4 a | 3.2 b | 13.7 b | 407.8 b | 5.4 b | 0.3 b | 0.02 b |