# Gibberellic Acid for Deep-planted Wesley Under Dryland Conditions

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Winter wheat variety Wesley grown under dryland conditions is planted deeper than when planted under irrigation. Because it is a semi-dwarf, Wesley may have difficulty establishing itself under these conditions. The objective was to determine whether treating seed with gibberellic acid (GA3) at the optimal rate determined under irrigation would improve growth of the plants. Wesley seed was treated with 0 and 1000 ppm GA3, and planted 3 inches deep on Sep 17, 2009 at the High Plains Ag Lab, Sidney. Stand and vigor of Wesley were slightly improved by GA3 (Table 1). Plant height at five and nine weeks after planting (WAP) was increased by GA3 treatment as well (Table 2). The height stimulation, however, did not continue into spring and summer. Biomass was not affected nor was yield affected by GA3 (Table 1). This trial is being repeated this season. Wesley was planted on Sep 16 and seeds were treated with GA3 at 0, 1000, and 2000 ppm.

Table 1. Stand and Vigor of Wesley on Oct 23, 2009 (5 WAP) and Biomass on May 26, 2010.

| GA3 | Stand | Vigor | Fresh Biomass | Dry Biomass | Yield |
|---|---|---|---|---|---|
| | October 23, 2009 | | May 26, 2010 | | July 21, 2010 |
| ppm | % | scale 0-5 (best) | -------- gram / 6 sq ft -------- | | bu/a (adjusted) |
| 0 | 91.0 b^ | 4.0 b | 715 | 160 | 78.9 |
| 1000 | 97.0 a | 5.0 a | 670 | 152 | 79.2 |

^ Numbers followed by the same small letter in a column for each cultivar are not different at the 90% confidence level.

Table 2. Wesley height from Oct 23, 2009 (5 WAP) to July 15 (43 WAP), 2010.

| GA3 | Plant Height, inch | | | | |
|---|---|---|---|---|---|
| | October 23 | November 18 | March 30 | May 26 | July 15 |
| ppm | ---------- inch ---------- | | | | |
| 0 | 4.95 B* | 4.63 B | 3.3 | 14.8 b^ | 28.8 |
| 1000 | 6.44 A | 6.09 A | 3.3 | 16.1 a | 28.7 |

* Numbers followed by the same capital letter in a column for each cultivar are not different at the 95% confidence level. ^ Numbers followed by the same small letter in a column for each cultivar are not different at the 90% confidence level.