

## Dr. Brent Bean

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### *Wheat Crop*

The wheat crop throughout the Panhandle is in, or soon will be in, the reproductive stage of development. As the wheat plant enters this stage, the wheat head forms and begins to be pushed upward through the culm. The potential size of the head (number of kernels per head) is determined at the beginning of this stage. For this reason, any stress on the wheat will directly influence potential yield. We are very much in need of a good rain throughout the area. The dryland crop got off to an excellent start this fall, and was actually in relatively good shape until about two weeks ago. Since that time, the crop has gradually slipped downhill as moisture stress became more severe. The crop will continue to deteriorate, primarily through the aborting of tillers, until moisture is received. If irrigation is an option, and has not been applied in the last two weeks, it should be considered immediately.

#### Wheat Field Day Schedule

##### Tentative

|                        |        |
|------------------------|--------|
| Gray County            | May 8  |
| Castro County          | May 19 |
| Hemphill County        | May 13 |
| Ochiltree County       | May 21 |
| Bushland (TAES,ARS,WT) | May 22 |
| Deaf Smith County      | May 28 |
| Briscoe County         | May 29 |
| Swisher County         | June 4 |
| Dallam County          | June 5 |

**Contact County Extension  
Agents for Details**

### *Can You Afford to Irrigate Wheat?*

With gas prices approaching \$10.00 per MCF, this is a question many are asking. The cost of an inch of irrigation water is usually very close to the cost of a MCF of natural gas. Leon New, county extension agents, and farm demonstration assistants, have been collecting yield and irrigation data from producers throughout the Panhandle since 1998. Since that time, 63 irrigated wheat crops have been monitored. The following table is a summary of that data.

**Summary of 63 Irrigated Wheat Farms in the Texas Panhandle from 1998 to 2002.**

| Irrigation Type   | Number of Farms | Irrigation Applied (inches) | Yield, bu/acre | Water Use Efficiency, bu/inch | Return per inch of Water Based on \$3.00 Wheat* |
|-------------------|-----------------|-----------------------------|----------------|-------------------------------|---|
| Center Pivot      | 50              | 7.8                         | 67             | 3.63                          | \$9.40  |
| Furrow Irrigation | 13              | 9.6                         | 75             | 4.32                          | \$11.23   |
| <b>Average</b>    | 63              | 8.2                         | 69             | 3.77                          | \$9.80  |

\* Water Use Efficiency x \$2.60. Note: \$3.00 minus 40 cents for harvesting and hauling = \$2.60

The last column is a calculation made to estimate the return on an acre-inch of water based on a wheat price of \$3.00 a bushel minus \$0.40 a bushel for harvesting and hauling expenses. This does not take into account any other variable costs or fixed cost associated with irrigation. **Based on these 63 irrigated wheat crops, the average return on an acre-inch of water is \$9.80.** So, if it cost more than \$9.80 to apply an inch of water to wheat it will not pay to irrigate. This figure can be improved upon by increasing the water use efficiency of the crop. Every inch of water that is applied to wheat does not give the same rate of return. In the data presented water use efficiency ranged from 1.96 to 8.16 bu/acre. At the current price of natural gas it is unlikely that fully irrigating wheat will return as much as timely, limited irrigation. If limited irrigation is desired, there are three key times in the development of the wheat plant where irrigation will provide the greatest return, these are: a) Establishment; b) Just prior to jointing; c) Flag leaf to boot stage. Once a good stand has been established, the next key time in the development of the wheat plant is just prior to jointing. If the wheat crop was not irrigated prior to jointing, and is under moisture stress, it should be irrigated as soon as possible. This will encourage the development of secondary tillers that can make up for fewer spikelets per head on the main tillers. The final key stage is the flag leaf and boot stage of development. An irrigation at this time will minimize moisture stress during and through the heading and flowering stage when kernels per spikelet is determined. Having three or even four kernels per spikelet rather than two will obviously make a big difference in yield.

### ***Glyphosate Options***

As you know, many companies are now selling generic glyphosate. We have tested several of these generic products and have not seen any significant difference in their performance compared to the various Roundup formulations. Care should always be taken in the purchase of any herbicide to make sure the company will stand behind the product. The table contains a list of glyphosate products now being sold. In pricing any of these products, note the pounds of active ingredient per gallon and if surfactant is included. Clear Out 41 is the only product that does not receive its glyphosate directly from Monsanto. The source used by Clear Out 41 is unknown.

| <b>Glyphosate Product</b> | <b>Company</b> | <b>lb ai/gallon</b> | <b>Surfactant Load</b> |
|---------------------------|----------------|---------------------|------------------------|
| Cornerstone               | Agrilience     | 4                   | Partial                |
| Silhouette                | Agrilience     | 4                   | Partial                |
| Gly Star Original         | Albaugh        | 4                   | Partial                |
| Gly Star 5                | Albaugh        | 5                   | Partial                |
| Gly Star Plus             | Albaugh        | 4                   | Full                   |
| Glyfos                    | Cheminova      | 4                   | Partial                |
| Glyfos Xtra               | Cheminova      | 4                   | Full                   |
| Clear Out 41              | CPT, LLC       | 4                   | Partial                |
| Clear Out 41 Plus         | CPT, LLC       | 4                   | Full                   |
| Glyphomax                 | Dow            | 4                   | Partial                |
| Glyphomax Plus            | Dow            | 4                   | Full                   |
| Engame                    | Entek/UAP      | 10.3                | None                   |
| Glyphomax Original        | Griffin        | 4                   | Partial                |
| Rattler                   | Helena         | 4                   | Partial                |
| Gly Flo                   | Micro Flo      | 4                   | Partial                |
| Roundup Original II (RT)  | Monsanto       | 4                   | Partial                |
| Roundup Ultra (RT)        | Monsanto       | 4                   | Full                   |
| Roundup Ultra Max (RT)    | Monsanto       | 5                   | Full                   |
| Roundup Ultra Dry         | Monsanto       | 71%                 | Full                   |
| Roundup Custom            | Monsanto       | 5.4                 | None                   |
| Roundup WeatherMax        | Monsanto       | 5.5                 | Full                   |
| Touchdown IQ              | Syngenta       | 4                   | Full                   |

Source: Dallas Peterson, K-State Research and Extension Weed Scientist

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