

1997 'Bannock' Thickspike Wheatgrass Breeder Block  
 Field 424 U of I Brewington Farm  
 Loren St. John, PMC Team Leader

In May, 1997 a Breeder block of 'Bannock' thickspike wheatgrass *Elymus lanceolatus* ssp. *lanceolatus* was established in field 424 at the University of Idaho, Brewington Farm located northeast of Aberdeen. One seed was planted in each "Jiffy-pellet" in the PMC Greenhouse in late February, 1997. The seed used was from Breeder seed produced in 1994. The plants were initially evaluated for seed emergence. Seed that had not emerged within two weeks of planting were discarded. The plants were transplanted to the field on May 16, 1997.

The Breeders block is composed of 625 spaced plants on 3 x 3 foot centers with a border row around the block. During 1997 and 1998, the block was irrigated and weeds were hand rogued.

On July 29-30, 1998 the plants were evaluated. A stratified random sample of 5 plants from each row were evaluated for total plant height, canopy width, spike length, leafiness, seed abundance, and vigor. The data from the sample was analyzed to determine means for each of the attributes sampled. The following table illustrates the mean and standard deviation for each attribute:

|       | Total Canopy      |            |             | Spike Seed |     |     | Leafiness | Abundance | Vigor |
|-------|-------------------|------------|-------------|------------|-----|-----|-----------|-----------|-------|
|       | Plant Height (cm) | Width (cm) | Length (cm) | *          | *   | *   |           |           |       |
| Mean  | 110.6             | 87.0       | 19.6        | 2.5        | 3.0 | 3.3 |           |           |       |
| Sd De | 11.9              | 18.2       | 3.3         | 1.6        | 2.0 | 1.9 |           |           |       |

\* leafiness, seed abundance, and vigor are subjective ratings; 1=excellent, 9=poor

Based upon this data, the following criteria was used to determine which plants to maintain in the block:

Total Plant Height: 98 cm + (38 in. +)  
 Canopy Width: 68 cm + (27 in. +)  
 Spike Length: 16 cm + (6 in. +)  
 good vigor, seed abundance and leafiness

The entire block was then evaluated to determine which plants to remove. Eighty two plants (13.1 percent) which did not meet the criteria will be removed in the spring of 1999 prior to flowering. The goal is to remove 10 - 15 percent of the plants with the poorest attributes. Seed will be harvested beginning in 1999.

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write the USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14<sup>th</sup> and Independence Avenues, SW. Washington, D.C., 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.