

"ZEKE"
(Exp. # BZ 987-331)

Exhibit A. Origin and Breeding History of the Variety

"Zeke" (Exp. # BZ 987-331) originated by crossing (in March, 1983) Western Plant Breeders' male-sterile population designated "EHRSP" (Early Hard Red Spring Population) with the Minnesota variety Marshall and the Minnesota lines MN 7357, MN 73168 and MN 73167 (these were obtained from Dr. Robert Busch – USDA/ARS). The EHRSP was developed by crossing early, semidwarf, Yecora Rojo type wheat's (obtained from CIMMYT) onto WPB's Arizona male-sterile bread wheat populations. The F1 was grown near Bozeman in the summer of 1983. Bulk F2 and F3 populations were grown near Bozeman in 1984 and 1985 respectively. Single F3 heads were selected for agronomic appearance in the fall of 1985 and planted as individual F4 rows in April, 1986. Agronomically desirable rows were harvested and the F5 seed was planted in 5'x7' plots in April 1987. Desirable F5 plots were harvested and tested for protein quantity and quality (SDS sedimentation test). One such plot was designated BZ 987-331. This has line been yield tested from 1988 through 1996 (F6 through F14) and also evaluated for disease resistance, plant height, lodging resistance, and various other agronomic characters (see Table 1.) and for end use quality (see Table 4.) as a hard red spring wheat.

Heads were selected from the F12 generation in 1994 and grown as head rows in 1995. Uniform head rows were harvested and bulked. This seed was planted in April, 1996 to produce Breeder's seed. The Breeder's seed was planted on approximately eight acres near Bozeman in May, 1997 to produce Foundation seed. Foundation seed was planted in the spring of 1998 for the production of Registered and Certified seed. Certified seed will first be available for sale to growers in the spring of 1999.

A variant that is similar to "Zeke" (BZ 987-331), but is 4 to 8 inches taller, occurs at a frequency of up to .08% (8 per 10,000 plants). Otherwise, Zeke is a stable and uniform variety in agronomic appearance and performance across several generations (F6 to F14) and growing conditions.

16 b. Exhibit B. Statement of Distinctness

Zeke is most similar to the variety Amidon. However, it averages 3 days early in heading date ($t = -17.02$ with 20 d.f., $p < .001$), Table 2, and is approximately 6 inches shorter ($t = -10.899$ with 20 d.f., $p < .001$), Table 3.

The above comparisons along with the complete objective description (Exhibit C) show Zeke to be a novel variety of hard red spring wheat.