

40611 SPRING TRITICALE

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TRITICALE "111"**Exhibit A. Origin and breeding history of the variety.**

Triticale "111" is the result of hybridization, individual and bulk selection from the cross CIMMYT 312-4 // CIMMYT 7 / CIMMYT 50. The International Wheat and Maize Improvement Center (CIMMYT) line 312-4 was obtained from a 1990 U.C. Davis planting conducted by Dr. C. O. Qualset. The genealogy for 312-4 is 2*IRA. The CIMMYT lines 7 and 50 were obtained from El Batan, Mexico in 1991. Their genealogies, respectively are Pika"S" / Yogui"S" and LT 978.82 / Asad"S" // Tarasca 87.

The cross of parent 312-4 by 7/50 was made in the field in 1992 at Woodland, California. The F1 was grown in Hollister, California the same summer. F2 and F3 individual plant selections were made in 1993 at Woodland and Gonzales, California respectively. The F4 generation plants were bulk harvested in 1994 at Woodland and entered into preliminary yield trials in 1995. This bulk line was selected for further testing and given the experimental designation 95T40611. Additional studies showed this triticale to be an attractive forage type, and an acceptable grain producer.

Seed purification began in 1995 when 20 heads were taken from the yield trial plot. These were advanced to individual head rows (HR-1) at Gonzales of the same year whereupon another set of heads was selected from the HR-1 rows that were the best agronomically. Those heads, designated as HR-2, were grown out in 1996 at Woodland and again subjected to further scrutiny for uniformity and agronomic type. Another generation of heads (HR-3) was taken to Gonzales where the most uniform head rows were bulked. The Gonzales bulk source was planted in Bakersfield, fall of 1996 and harvested in June, 1997 as pre-breeder seed. A planting to produce breeder seed was made at Gonzales in the summer. Foundation seed production was carried out in the 1997-1998 crop season.

Taller variants, both earlier and later than 40611, are present at a frequency less than 0.5%.

The variety has been observed to be uniform and stable over five generations of seed increases.

TRITICALE "111"

Exhibit D. Botanical description of the variety.

Triticale 111 is a spring, hexaploid that exhibits erect juvenile growth. Observations during the seedling growth phase show this variety to be high tillering, resulting in fine stems that make this line an attractive forage type. At maturity it is approximately 6 cm. shorter than Trical 105 and 28 cm. shorter than Juan triticale. The heading date of 111 is approximately equal to that of Juan and triticale 105.

Spikes of 111 triticale are long, lax and fully awned. The peduncle and glumes display some pubescence. The glumes and awns are tan in color. The grain is red, elliptical in shape and slightly wrinkled. The brush is long and large.