

Mucho Barley14.a. Exhibit A, Origin and Breeding History of Mucho Barley.

Mucho barley was selected by Arizona Plant Breeders, Inc. at Casa Grande, Arizona in the spring of 1988 as a single F₂ plant from a genetic male sterile facilitated recurrent selection population. This population was developed by Dr. R. T. Ramage, U.S.D.A., ARS and the University of Arizona and released as Composite Cross XXXII-86. An F₃ row was grown at Galen, Montana in the summer of 1988. Four heads were selected from this row and seeded in Arizona as an F₄ plot consisting of four single rows in the fall of 1988. Twenty-four (24) heads were taken from one F₄ row within the plot and seeded in Montana in the spring of 1989. Eighteen (18) uniform, non-segregating F₅ rows were bulked to form the F₆ generation. The resulting F₆ bulk was used for yield testing in Arizona and California and used to produce the F₇ generation in Arizona during the fall of 1989. The bulk F₇ seed was used to plant a small increase during the summer of 1990 in Montana. The F₈ seed harvested from Montana was designated basic seed and was used to produce Breeders seed during the winter of 1990 in Arizona.

Mucho has a light blue aleurone variant that occurs at the frequency of 1 in 10,000 seeds, and a tall variant that occurs at a frequency of 1 in 20,000 plants. Currently, Mucho is being head-rowed in an attempt to eliminate these variants.

Mucho is a stable and uniform variety in agronomic appearance and performance across several generations and environments. Agronomic data to support stability is presented in Tables I.a. through d.

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14.b. Exhibit B, Novelty Statement.