



Quality Characteristics of Twelve Advanced Lines of *Avena magna* ssp. *domestica* Grown in Three Contrasting Locations in Morocco

El hadji Thiam, Michael Dunn, Eric W. Jackson, Eric N. Jellen, Mark Nelson, Will Rogers, Carol Wallace, Gene Ahlborn, Majid Mounir, Teresa Yakovac, Shane Morris, and Ouafae Benlhabib

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Contact: Rick Jellen, rick_jellen@byu.edu

Summary:

The Moroccan wild oat species, *Avena magna*, has approximately twice the groat protein percentage of common oat and is adapted to the seasonally variable Mediterranean climate of Northwest Africa. The Israeli scientist Gideon Ladizinsky crossed the domestication syndrome genes from common oat into this species back in the 1990s to create *A. magna* ssp. *domestica*. We subsequently crossed this domesticated strain back to a wild parent to create a genetically variable, segregating population for breeding and genetic studies, and over the past 20 or so years conducted mutagenesis and selection to derive a series of advanced lines. Twelve of these lines, including the released variety ‘Avery’, have been field-tested in diverse Moroccan environments and shown to retain high levels of protein, oil, iron, and zinc in comparison with common oat. The downside is that beta-glucan content is significantly lower and is negatively correlated with other seed components.