



# American Malting Barley Association, Inc.

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## **Becoming an AMBA Recommended Malting Barley Variety**

The American Malting Barley Association, Inc. (AMBA) is often asked about the process by which a malting barley variety is added to the AMBA recommended list. It takes a constant breeding effort to keep barley competitive with other crops while addressing new pest problems and industry quality shifts brought about by changing beer styles and brewing processes. The breeding of new varieties can take years and is truly a cooperative effort of many institutions, companies and organizations.

In the US there are three private and six public programs developing malting barley varieties. A typical state or federal institution with a barley program employs a barley breeder and cooperating pathology, agronomy and genetic programs, and their staff. AMBA currently provides \$446,000 in annual funding to public sector barley research programs.

The development of a new variety is a lengthy, but fairly straight forward process. Like other small grains, barley is an inbred or true breeding crop meaning that a farmer can save some of the seed produced for planting the following year. It also means that after a breeder makes the initial cross to create a new variety, it takes several generations or breeding cycles to become true breeding, with fully stable agronomic and quality traits.

In the early stages of developing a new variety, breeders begin testing their experimental lines for agronomic characteristics, such as yield and disease resistance. Later on, malting quality tests are conducted on lines in pilot scale programs. In the final stages of development, lines undergo commercial malting and brewing trials. If these trials are successful, malting varieties are released and added to the AMBA recommended list. Breeders often grow winter nurseries in the southern US or southern hemisphere to get two generations in a single year. Winter nurseries provide a second selection or screening opportunity and can also be used in later stages of testing to increase seed stocks for testing purposes or variety release.

Quality testing of public breeding lines is conducted at three levels. Early generation evaluations begin with micro-malting at the USDA-Agricultural Research Service Cereal Crops Research Unit (USDA-ARS CCRU) in Madison, WI. The CCRU analyzes thousands of breeder lines for malting quality and is located in a new facility adjacent to the University of Wisconsin. This \$11.4 million facility, built in 2006, and an additional \$1.0 million in annual operating funds, resulted from the efforts of the AMBA led National Barley Improvement Committee.

In the next stage of quality testing, breeders grow their most promising lines in regional nurseries and submit them to AMBA for pilot scale malting evaluations by it's membership. After two years of satisfactory ratings, the lines may be advanced to commercial scale malting and brewing trials by AMBA members. It is a malting barley lines performance in this last stage of testing upon which breeders base their decision on whether to name and release the new variety and for AMBA members to add it to it's list of recommended malting barley varieties. AMBA's recommended list not only lets growers know which varieties that the industry is interested in using, but is also used by federal agencies to distinguish between malting and feed varieties when administering their programs.