



Barley Breeding Progress in Alaska

by

Dr. Stephen M. Dofing
Assistant Professor of Agronomy

Barley is the cereal crop best adapted to Alaska because of its ability to ripen under cool, short-season conditions. Significant progress has been made at the University of Alaska Agricultural and Forestry Experiment Station to develop improved barley varieties which have been used by Alaska farmers.

The first barley breeding in Alaska was done at the Rampart Experiment Station on the Yukon River, which operated between 1900 and 1925. Barley varieties, primarily from north-latitude countries were evaluated for adaptation to Alaska, and a hybridization program was initiated. The primary breeding objectives were very early maturity, strong straw strength, and high grain yield. This work led to the release of 'Trapmar' (Rampart spelled backwards) barley, which was grown successfully in the Tanana Valley and other regions in Alaska for several years. In 1950, 'Trapmar' accounted for 90% of the barley acreage in Alaska.

Other barley varieties grown in Alaska were developed in Scandinavia. These include 'Olli', a Finnish variety developed in 1927, and 'Edda', a Swedish variety developed in 1943. Although 'Edda' is slightly later maturing than 'Olli' it has been more widely grown because of its superior agronomic characteristics.

A second generation of plant breeding research in Alaska began during the early 1950s by the U.S. Department of Agriculture. The USDA World Barley Collection, consisting of over 5,000 varieties, was screened to identify promising parents for the breeding program. This work eventually led to the release of several improved cultivars including 'Weal' (1972) and 'Otal' and 'Datal' (1981). These newer releases represent significant improvements over their predecessors, and they are currently being used to develop lines with even better performance under Alaskan conditions.

Average Barley Yield (bushels per acre)

Old varieties: Trapmar	31 - 38	New Varieties: Weal	64 - 80
Olli	35 - 43	Otal	72 - 77
Edda	53 - 61	Datal	76 - 78

