

**BARLEY APPLIED GENOMICS & POTENTIAL NEW BARLEY CULTIVARS,
USDA-ARS CSREES**

The barley Coordinated Agricultural Project (CAP) is a cooperative effort of 30 scientists from 19 institutions with expertise ranging from genetics/genomics, breeding, pathology, databases, computer science, food science, malt quality, and statistics. This project is funded by the National Research Initiative (NRI) of the USDA Cooperative State Research, Education and Extension Service (CRSEES) for a period of four years. The University of Minnesota is the lead institution for this project.

The principle objective of the barley CAP is to integrate and utilize genomic tools and approaches in barley breeding programs, thereby facilitating the development of superior barley cultivars that possess genes that produce high yield, superior quality, which can be use in high-value markets.

The primary role of the Virginia Tech Barley Breeding Program is to evaluate 960 Barley CAP lines, from cooperating institutes including Virginia against three races of leaf rust (Race 8, Race 30 and ND89-3) over a period of four years. We will evaluate disease infection type (0-4 scale) of 5-10 seedlings per entry (from breeder's source seed) in inoculated greenhouse tests.