



Amaranth 'K432' - Restoring Adapted Varieties

USDA-Agricultural Research Service and Rodale Institute, USA

Incorporation of amaranth grain into gluten-free foods is burgeoning. Much of the current supply is imported into the United States. Domestic buyers want to source grain from the U.S. and U.S. growers want to produce it, but the seeds stocks of advanced Midwest-adapted varieties from the 1980's exist only at the USDA genebank in Ames, Iowa. Seeds of 'K432' (PI 538323) were provided to the Rodale Institute Midwest Organic Center in Marion, Iowa where Sean Stokes and Drew Erickson are increasing seeds to commercial scale to restart commercial production.



Photo by David Brenner

Drew Erickson at his amaranth seed increase plot.

PROJECT GOALS

- ✓ Increase quantities of seeds for a lost grain amaranth cultivar
- ✓ Resume commercial amaranth grain production in the U.S.

Problems Addressed

Grain amaranth has a variety of uses that make it a valuable food, feed, and industrial product. Due in part to its excellent nutritional qualities and an increased market for gluten-free grains, demand for amaranth has risen gradually in the U.S. Farmers want to produce amaranth grain, but seeds of the advanced cultivated grain amaranths are commercially unavailable and not in breeders' or commercial growers' seed vaults.

Solutions Developed

The Rodale Institute developed 'K432', an *Amaranthus* hybrid that performed well in Mid-Western Regional variety trials. In 1990, they donated the accession to the National Plant Germplasm System (NPGS), where it was maintained at the North Central Regional Plant Introduction Station in Iowa. In 2022, agronomists at the Rodale Institute requested seeds of 'K432' and other grain amaranths from the NPGS. They are now growing these varieties to increase the seed supply, enabling commercial growers to have access to adapted competitive grain germplasm for commercial production fields.



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