



# MSU Collaboration Opportunity: **Controlling and Stabilizing Color, Shelf-life and Off-Flavoring in Wheat-Based Food Products**

The demand for higher grade and specialty food quality specifications for grains is growing. Montana State University is seeking wheat breeders interested in developing varieties where end-product food properties such as color, shelf-life and off-flavoring can be optimized. Through traditional breeding, MSU researchers are selecting genes that regulate the level of seed lipoxygenase, an enzyme known to impact flour color, pasta brightness, and affect other wheat-based food traits. MSU researchers are looking for collaborators interested finding new beneficial properties for end-product quality in wheat lines.

## **Background**

Reducing lipoxygenase activity in wheat can provide a number of benefits to flour, pasta and other wheat-based food products. Selecting for genes that control lipoxygenase at the seed level can provide benefits that include:

- Increased stability and control of flour and food color
- Greater food brightness
- Better control of off-flavors
- Potential agronomic benefits such as increased seed longevity and seed germination rates

Importantly, the reduction of lipoxygenase in seeds is not expected to negatively impact plant growth or agronomic yield.

## **Research and Development**

The Giroux lab at MSU is seeking collaborators interested in applying wheat seed lipoxygenase gene selection for improving end-product quality to enhance market share and enable new product development. The lab contains a library of hard red spring and a soft white spring wheat populations that are available for screening of mutations in wheat seed lipoxygenase genes and can also screen varieties provided by collaborators. The MSU screening capability includes testing for improved end-product color, taste and shelf-life.

## **Intellectual Property Status**

MSU sponsoring collaborators are provided an option to license technology coming out of the lab.

## **MSU Researcher**

Mike Giroux, <http://plantsciences.montana.edu/facultyorstaff/faculty/giroux/index.html>

## **Contact for Inquiries**

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