



Beneficial Health Effects of Consumption of Barley and Barley Components by Humans

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Published: June 04, 2008

Research Project: Beneficial Health Effects of Consumption of Barley and Barley Components by Humans

Location: Food Intake and Energy Regulation Lab

<http://arsserv0.tamu.edu/main/site_main.htm?modecode=12-35-60-00>

Project Number: 1235-51000-050-00

Project Type: Appropriated Start Date: Apr 08, 2004

End Date: Apr 07, 2009

Objective:

- 1) To assess the ability of barley and barley fractions to improve glucose utilization and insulin sensitivity in acute and chronic studies of normal-weight and overweight adults, and individuals with the metabolic syndrome. To assess the role of soluble fiber in improving glucose utilization and insulin sensitivity in acute and longer-term studies in normal-weight and overweight/obese adults with the metabolic syndrome.
- 2) To assess the ability of barley and barley fractions to improve risk factors for cardiovascular disease in chronic studies of normal-weight and overweight/obese adults. To assess the role of soluble fiber in improving risk factors for cardiovascular disease in normal-weight and overweight/obese adults with the metabolic syndrome.
- 3) To test the effectiveness of foods high in soluble fiber, including barley, in inducing and maintaining weight-loss in weight-reduced subjects. To determine if chronic consumption of food supplements high in soluble fiber affects ability to maintain a 10% weight loss. Approach: Acute and long-term controlled human studies will evaluate reducing risk factors observed with excess weight and the metabolic syndrome by consumption of grains such as barley or oats or grain components. Overweight/obese (body mass index [BMI] >27) and control (normal weight, BMI <25) individuals will be chosen from the diverse population with special interest in groups identified to be at high risk for obesity. Samples would be collected periodically throughout the study. Measurements would be made during weight loss and weight maintenance periods in overweight subjects. Measurements will be made for markers of glycemic control, energy regulation, and lipid metabolism, blood pressure, body composition, measures of satiety, nutrient digestibility and metabolizable energy, and energy expenditure.