**Project title:** Promoting Gastrointestinal Health and Reducing Subclinical Inflammation in Obese Individuals

**Date:** 11/27/2017

**NCT02602496**

**Statistical analysis**

Power. We estimated that we would be able to detect an effect size of 0.4 with 80% power by recruiting 52 subjects total divided into 3 groups. This was based on our whole grain barley and brown rice feeding trial in overweight subjects, where we saw an effect size of 0.48 for change in IL-6 with the whole grain treatment.

Analyses after the intervention. All data with the exception of OTU comparisons will be analyzed using SAS software (version 9.4, SAS Institute, Cary, NC, USA). Differences across treatment groups will be assessed using ANOVA where treatment group was the main factor and BMI (at baseline), gender, and baseline measurement were covariates. Changes in measured variables from baseline to the end of the study within each group will also be assessed after correcting for BMI (at baseline), gender, and baseline values. Stool bacterial data will be log2 transformed for the statistics and then converted back to the numerical values for data presentation. Correlations will be analyzed using Pearson's method. Changes in OTU abundances will be determined using DESeq2 (ver. 1.14) [33] in the R Bioconductor package (http://www.bioconductor.org) (ver. 3.1.2). P-values for stool bacterial data and correlations will be corrected using the false discovery rate procedure. P-values for other comparisons will be adjusted using Tukey's procedure. Adjusted $p < 0.05$ will be considered significant.