Globally Utilizing Perennial Intermediate Wheatgrass

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I was awarded an internship at a University Lab through a Youth Institute this summer. I joined a graduate student in evaluating the nutrition content of a perennial wheatgrass, and became intrigued with it because of the environmental and newly found superior nutritional content of this Thinopyron intermedium plant. I wondered if it could be used to replace flour in cooking and baking procedures. My hypothesis is that by replacing the flour in bread with Thinopyron intermedium flour, the result will have the same or better volume and moisture retaining qualities than that made with whole wheat, or white flour. While conducting this research, I realized that most people in developing countries do not eat traditional bread because they don't have an oven. To globalize the use, I changed my hypothesis to include both chapati and pasta. I used procedures compatible with the American Association of Cereal Chemists to test my hypotheses. In conclusion, replacing the flour in bread with Thinopyron intermedium was successful in making a bread similar in volume and moisture retaining abilities to whole wheat and white bread. Similar positive results occurred by replacing flour in chapati with Thinopyron intermedium flour. Making pasta with Thinopyron intermedium flour, rice flour, and xanthan gum resulted in pasta which had a better volume, but more sticky texture than pasta made from whole wheat, or white flour. The results are promising that Thinopyron intermedium flour can be utilized as a global human food source.

Awards Won: