

**FOR IMMEDIATE RELEASE**

**THIRD AND FINAL PAPER FROM STUDY FURTHER CONFIRMS THAT  
KAMUT® KHORASAN WHEAT HAS ANTI-INFLAMMATORY AGENTS AND  
ANTIOXIDANT PROTECTION PROPERTIES**

**Big Sandy, MT, February 2014** – Kamut International is pleased to announce the publication of the *Role of Kamut® brand khorasan wheat in the counteraction of non-celiac wheat sensitivity and oxidative damage*, in Food Research International 2014 (doi: 10.1016/j.foodres.2014.01.065). The study investigates the difference in inflammation and oxidative stress resulting in rats fed a diet of pasta made from KAMUT® brand khorasan wheat compared to a pasta diet made from modern durum wheat. This is the third paper from a research project led by Alessandra Bordoni from the Department of Agri-Food Sciences and Technologies at the University Of Bologna. The first two papers were published in 2011 and 2012 and reported the effects of diets of KAMUT khorasan bread compared to bread made from modern wheat. The rats on the KAMUT khorasan diet had a significant increase in anti-oxidant capacity and for the first time anti-inflammatory properties of ancient grains were reported. This current paper helps further understand why the ancient KAMUT® wheat can be enjoyed without difficulty by so many people with non-celiac wheat sensitivities who cannot eat modern wheat.

As explained in the introduction of this paper, wheat products have been a key component of the human diet for centuries as they are a great source of vitamins, minerals and other nutrients important to maintaining good health. However, in recent decades the majority of the wheat being consumed has been significantly altered. Modern breeding programs focus on increasing yields in the field and loaf volume in the bakery. These changes have also affected protein, gluten, starch and other components. However, ancient grains, such as KAMUT® Brand khorasan wheat have never been altered or modified, thus preserving significant nutritional and health benefits compared to modern wheat.

“Wheat sensitivities are certainly on the rise, but I’ve had people tell me for years that while they have some difficulty eating modern wheat, KAMUT® wheat is easier for them to consume,” commented Bob Quinn, Ph.D., organic farmer and Founder of Kamut International. “Khorasan is an ancient grain; I knew there had to be significant differences between modern wheat and ancient wheat which was creating the problem. Therefore, I’m very pleased to have this study published which helps us further understand the effects that KAMUT® products have on living systems and how that compares to the effects of eating modern wheat.”

In this study, rats were fed organic modern whole-wheat pasta or organic ancient whole wheat KAMUT® pasta for seven weeks. After the seven weeks of dietary treatment, rats from each group were randomly divided into subgroups. One group received a single-dose injection of 10-mg/kg b.w. DOX (doxorubicin) this is a strong drug used to fight cancer that produces large amounts of free radicals and is also known to cause substantial inflammation in certain tissues. The control group received a similar volume of sodium chloride 0.9% (w/v) in distilled water solution. Forty-eight hours later, after 12 hours of fasting, key organs and tissues of the rats were examined for evidence of inflammation and levels of anti-oxidant protection.

The results showed that both pastas provided similar energy, fats and fiber, although the protein content was higher in KAMUT® pasta. The rats fed ancient KAMUT® pasta also showed normal cell and tissue characteristics, compared to rats fed whole wheat pasta, which showed inflammation in several tissues and organs even in the control group which did not receive the DOX treatment, which could resemble the effects of non-celiac wheat sensitivities.

The KAMUT® pasta had 20 times more selenium, an antioxidant that protects living systems from oxidative damage and infection. It's suggested that the high content of specific antioxidant components in the KAMUT® pasta may have contributed to anti-inflammatory action as well as played a role in the prevention of oxidative stress. At the same time, not only did the consumption of modern wheat in this study appear to offer less protection from oxidative stress, it also appeared to cause significant inflammation. This means, that KAMUT® wheat offers higher nutritional content, could be effective in reducing metabolic risk factors and also offer protection against inflammation; while as of yet unidentified compounds in modern wheat are causing inflammation in living systems.

“This is significant information that will shake up the dogma surrounding our current thinking about the consumption of wheat in general,” commented Quinn, “As the gluten-free fad continues to grow, this study provides interesting information that will help us as we advance in to other areas of research on KAMUT® wheat, and ultimately offer new options to those who suffer from non-celiac wheat sensitivities.”

For additional information on KAMUT® Brand wheat, or to speak to Bob Quinn, Ph.D., Founder Kamut International, or correspond with the researchers of the study, please contact Leesa Raab, [Leesa@ADinnyc.com](mailto:Leesa@ADinnyc.com), 212-693-2150 x314.

#### **About KAMUT® Brand Khorasan Wheat**

The mission of Kamut International is to promote organic agriculture and support organic farmers, to increase diversity of crops and diets, and to protect the heritage of a high quality, delicious ancient grain for the benefit of this and future generations. KAMUT® is a trademark of Kamut International which guarantees high quality standards that are verified by tests from every field.