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FIRST HUMAN STUDY ON BENEFITS OF KAMUT® KHORASAN WHEAT DEMONSTRATES POSITIVE RESULTS IN PROTECTING AGAINST OXIDATIVE STRESS AND INFLAMMATION

Big Sandy, MT, January 2013 – Kamut International is pleased to announce the publication of the first study in Phase III of its multi-year research program to understand the unique properties of ancient wheat sold under the Kamut trademark and why most people who can not eat modern wheat have no problem eating this ancient wheat. This study focuses on the affect of the ancient Kamut brand wheat on healthy human beings. Published in the *European Journal of Clinical Nutrition*, January 2013, this study focused on the two most important factors protecting people against heart the disease, increasing antioxidant capacity and decreasing inflammation. The randomized, single blind, crossover study took place in Italy with a research group of 22 healthy adults—eight men and 14 women—over two test periods, each eight weeks in length.

“This is a big break through in learning more about ancient, organic grains and the health benefits they offer,” commented Bob Quinn, Kamut International Founder. “Over the past four years we completed the first two phases of our four phase research project. In phase two of our project, we studied the effects of eating ancient and modern grain on rats. Now we have begun our third phase based on studies of healthy human subjects. We were excited to see the same results as we had seen in the rat studies. A diet of KAMUT® Brand wheat product compared to traditional durum wheat resulted in a higher anti-oxidant capacity and decreased inflammation activity.”

Whole grain consumption has been associated with playing a role in fighting against cardiovascular disease, diabetes and even cancer. As KAMUT® Brand khorasan wheat has emerged as a popular ancient grain, especially in Italy. Their researchers designed the study to determine if a replacement diet with grain products made from organic whole grain KAMUT® wheat would reduce the cardiovascular risk profile of participants, compared with a similar replacement diet using grain products made from organic, whole-grain wheat durum.¹ The institutional review board at the University of Florence approved the study protocol, which separated subjects in to the experimental group—those consuming KAMUT® wheat—and the control group who ate modern wheat, each composed of 11 people. S. Benedetteli was responsible for the project, which was divided between studies on blood analyses led by F. Sofi at the Agency of Nutrition, Careggi University Hospital, Florence (in collaboration with F. Cesari, A.M. Gori, C. Fiorillo, M. Becatti, A. Casini, R. Abbate and G.F. Ginsini) and flour analyses conducted by A. Whittaker (in collaboration with G. Dinelli and I. Marotti).

The first part of the study took place over an eight-week period, where each group fed on the same amount of “wheat” products, not being allowed to consume any other type of grains. After initial eight weeks, all participants went through an eight-week “wash” period, where they could eat a normal diet before the second part, where the experimental and control groups exchanged for another eight-week period of testing.

As reported in the published study, “*The major differences reported in the above-mentioned constituents were between the KAMUT® (wheat) and control flour, or the part of the diet involving the consumption of bread, biscuits and crackers. A significantly higher amylose/amylopectin ratio, protein content, antioxidant activity as well as 2,2-diphenyl-1-picrylhydrazyl antiradical activity were apparent in the KAMUT® flour with respect to the control flour.*” Meaning the health benefits of KAMUT® wheat were highlighted in the results as it offered a higher nutrition content that could be effective in reducing

metabolic risk factors, markers of both oxidative stress and inflammatory status. The researchers found that there were various parameters relevant to cardiovascular disease in adults, showing improvement for some blood variables such as minerals (such as potassium and magnesium) and metabolic biomarkers, including total cholesterol. Stand out results show significant improvements of the inflammatory profile of participants.

These results follow the first two phases of the research of KAMUT® wheat. In the first phase the concentration of important anti-oxidants such as poly phenols and minerals such as selenium were present generally in significantly higher amounts in the KAMUT® brand ancient wheat compared to the varieties of modern wheat tested. The results of the first phase were published in two papers. There were also two papers published from Phase II. They describe the benefit of these higher levels of anti-oxidants on a living system which was not surprising considering the results from Phase I. What was surprising was the discovery that the KAMUT® brand products seemed to prevent inflammation normally caused by drug used to promote the formation of free radicals in the rats being studied. One more paper from this study, which is now submitted for publication, will describe the inflammation caused by modern wheat itself and the absence of this inflammation with a diet of ancient wheat.

The first paper from the Phase III of our study, just published, now confirms some of these same results in healthy humans. It is expected that two to three more papers will be published from studies of healthy humans, which give even more information on this subject. Phase IV of the research plan, which has already began, compares the effects of ancient and modern wheat on those suffering from specific maladies such as irritable bowl syndrome, cardiovascular disease and diabetes.

“We are making great strides in documenting the significant health benefits of KAMUT® brand ancient wheat,” concludes Bob Quinn, who has been an organic wheat farmer for nearly 30 years after earning a PhD in biochemistry from UC Davis. “This study just strengthens our ongoing commitment to research in order to understand the role that ancient wheat can play in human health and disease prevention. Our thanks to the dedicated team of researchers whose expertise make it possible.”

Media interested in setting up an interview with Bob Quinn to discuss the latest study, as well as previously published studies and upcoming research plans, please contact Leesa Raab, Leesa@adinfinityny.com, 212.693.2150 x314. The fully published article, “Characterization of Khorasan wheat (Kamut) and Impact of a Replacement Diet on Cardiovascular Risk Factors: Cross-over Dietary Intervention Study”, as well as previously published articles are also available.

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.

For additional information please visit www.kamut.com or contact Leesa Raab at leesa@adinfinityny.com

ⁱ Characterization of Khorasan wheat (Kamut) and impact of a replacement diet on cardiovascular risk factors: cross-over dietary intervention study, *European Journal of Clinical Nutrition* (2013), 1-6