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The UWA Institute of Agriculture

Food and Agriculture Lecture Series 2013

Reaching new heights: Antioxidants in wheat

Prof. Ron Madl

Director, Wheat Research Centre, College of Agriculture, Kansas State University, USA

Date: Thursday, 18 July 2013

Time: 5.00 - 6.00 pm

Place: MCS Lecture Theatre (Room G33), Bayliss Building

Parking: visitor parking along Myer St and Parkway; (alternatively: free parking in yellow bays on campus all day; from 5pm: free parking in red bays)



Cereals typically are not considered as dietary sources of antioxidants even though they can compare well with some berries known for their high antioxidant content. Wheat antioxidant levels vary substantially –even within a cultivar– across years and geographic location, and we set out to investigate.

We showed that external events can significantly increase antioxidant levels which has led to the search of chemical elicitors that trigger the same biosynthetic pathways.

Our studies on mice found that consumption of wheat bran with high antioxidant levels significantly decreased the occurrence of colon cancer in the mice.

We explored whether increased antioxidant levels in wheat enhance other compounds that express the same benefits in cancer suppression, such as phenolic compounds, many of which are found in wheat.

Professor Ron Madl was appointed to lead the Wheat Research Centre at Kansas State University's Agricultural College in 1997, leaving a career in industry spanning 24 years. His responsibilities during that time included product development, product quality, productivity, technical planning of isolated soy proteins worldwide, and marketing for wheat starch and modified starch ingredients in South East Asia, Europe and Mexico.

In his present role, he helped introduce Hard White Wheat to the central plains region of the US and worked with the Kansas Wheat Commission to diversify their support towards more value-added uses for wheat. Learning how to enhance levels of antioxidant compounds in wheat has been his research focus for over ten years.

Professor Madl holds a PhD in Biochemistry from Kansas State University, Manhattan, Kansas.

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