

COLLEGE OF AGRICULTURAL, HUMAN, AND NATURAL RESOURCE SCIENCES

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# Bud Ryan, Bioplastics, Wine Geology

Posted by steven.reynolds | October 10, 2007

## Plant Science Pioneer Clarence “Bud” Ryan Dies

Clarence A. “Bud” Ryan, a pioneer researcher in plant biochemistry and the first Washington State University faculty member to be admitted to the National Academy of Sciences, died Sunday at age 76. The cause of death is believed to be a brain aneurism.

Ryan, whose career at WSU spanned more than 40 years, is internationally known for his discoveries that plants produce natural insecticides to protect themselves from predation by herbivores. Ryan pioneered the study of what has come to be known as the “innate immune response” of plants. A protein chemist by trade, in the early 1970s he began trying to understand how plant protease inhibitors work. The inhibitors are natural insecticides made by plants that prevent insects and microorganisms from digesting plant material.

The breakthrough opened a whole new field of research in plant defenses and secured Ryan’s election to the National Academy of Sciences in 1986. Ryan retired from WSU in 1999 but maintained an active research program since then. He had published more than 250 papers and articles and had at least two more in press at the time of his death. The rising reputation of WSU’s work in plant sciences was due in no small part to Ryan’s efforts.

“Bud Ryan was a scientist’s scientist. He accomplished more in his research program during retirement than some people do during their whole career. He

loved what he did, and his enthusiasm about science was contagious, whether he was talking to students, tomato and potato producers or fellow faculty members. We will miss him,” said Dan Bernardo, dean of the College of Agricultural, Human and Natural Resource Sciences.

For more on Dr. Ryan’s life and work, please visit: <http://tinyurl.com/yo5d7f>



Ryan in doctoral regalia in 2005 when the WSU Board of Regents voted him an honorary doctorate degree. The university had not awarded an honorary doctorate since 1995 and has awarded only four such degrees in the last half-century. In recommending the degree for Ryan, then-WSU President V. Lane Rawlins said, “Bud has made such an impact on the world and is so much a part of the fabric of WSU that this honor seems especially appropriate. It is awarded only to those whose work is truly significant in a global environment.”

## Biodegradable Food Utensils

At the Washington State University Wood Materials and Engineering Laboratory, Jinwen Zhang is working hard to change the negative impact plastic food utensils and other household items have on the environment.

Zhang, an assistant professor in the Department of Civil and Environmental Engineering, uses natural fibers, like bamboo and soy meal, to create composites, which are then paired with plastic to create biodegradable products.

Zhang is creating a prototype that uses bamboo fiber and PHA composites—a

biodegradable thermoplastic derived from cornstarch—that will eventually create a more durable product. “By adding the fiber, the plastic product becomes stronger, allowing for a longer service life,” Zhang said.

The Washington Technology Center provided funding for Zhang’s research on biodegradable utensils. Zhang also collaborates with Cascade Quality Molding, a plastics company based in Yakima, Wash.

Shawn Cox, general manager at CQM, believes the market for biodegradable utensils is very promising and could help bolster the state’s economy. “If the need for biodegradable plastic parts is great enough, it would create more jobs in Washington and would take away from the current purchase of plastic parts out of state,” he said.

–Brianna Brue, Marketing, News, and Educational Communications intern



Jinwen Zhang, an assistant professor in the Department of Civil and Environmental Engineering, is developing bioplastic tablewear.

## Geology of Wine

The geologic history of wine is the topic of a consumer wine seminar at 6:30 p.m. Thursday, Oct. 11, at Washington State University Tri-Cities. WSU professor emeritus and famed geologist Alan Busacca will explain how the history of Washington’s terrain—including dirt, rocks and floods—influences today’s wine industry.

Busacca is author of the PBS television program “Get the Dirt on Washington Wine” and is the geologist responsible for gaining American Viticulture Area recognition for Washington appellations including Red Mountain and Wahluke Slope.

Following the presentation, Busacca and winemaker Robert Smasne will guide

attendees through a tasting, comparison and discussion of barrel samples and finished wines from different growing areas in the state of Washington. This is an excellent opportunity to taste and recognize the differences with guidance from some of the foremost experts in their field.

The two-hour wine education seminar costs \$30. To register, call (509) 372-7394, e-mail [aphilip@tricity.wsu.edu](mailto:aphilip@tricity.wsu.edu), or visit the WSU Tri-Cities student accounts window in the West Building. Participants must be 21 or older. The seminar is on the WSU Tri-Cities campus in the Consolidated Information Center (CIC), upstairs in Room 216, at 2770 University Drive, Richland. Go to [www.tricity.wsu.edu/wine](http://www.tricity.wsu.edu/wine) for more details, directions or to download the registration form.



Washington's unique "sense of place" or *terroir*, is at least partially attributable to the state's geology.

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