

WSU Food and Farm Blog



Connecting resources to support local food production

February 27, 2008

Hello, Dahlia!



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On Solid Ground (WSU newsletter)

"Say it with flowers." A dahlia bloom; WSU research scientist Hanu Pappu. Pappu has received emails from all over the world regarding his online informational resource, located at <http://dahlia.wsu.edu>. That's no surprise given that the flower industry relies heavily upon international trade.



Ornamental flowers contribute an estimated \$1 billion in sales to Washington's "green industry," making the greenhouse and nursery industry one of the state's most valuable.

In order for the flower industry to remain so robust, it's vital for nurseries and growers to keep their plants free of disease and infection - especially when cuttings and bulbs are the primary means of crop cultivation. Since there is no effective means by which to cure an

infected plant, preventive measures such as rapid identification and elimination of infected material are the only way to stop further propagation of an infection. Awareness is key, especially when dealing with ornamentals. That's where WSU researcher Hanu Pappu comes in.

As holder of the President Samuel H. Smith and Patricia Smith Distinguished Professorship in Plant Virology, an endowment established by the American Dahlia Society, Pappu's research focuses on viruses that affect dahlias. His efforts have resulted in many informational and diagnostic materials and disease-identification aides. "Growers want to know that the material they provide is clean," said Pappu, "and they want to be able to detect and intercept infected material."

Pappu has developed a cost-effective, practical, ELISA-based assay that can test multiple samples at once, which is already the most widely used testing method and complements the more sensitive but more expensive PCR assay. ELISA and PCR both test for antibodies that develop in the presence of a disease. Along with several others, Pappu's detection methods are being commercialized through licensing agreements with agri-diagnostic companies.

Dahlia mosaic virus, or DMV, is responsible for most diseases in dahlias, and is unique in that it is one of the very few viruses that can integrate itself into its host plant's genome. Once thought to be a single virus, Pappu and his

WSU Jefferson County

- FOOD AND FARM HOMEPAGE

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research team, including Keri Druffel, have shown that it is, in fact, a complex of at least three viruses. Graduate students in Pappu's lab are exploring the implications of this discovery.

Pappu is starting a lecture series on his research in Samuel Smith's name. A former WSU president and plant pathologist, Smith will deliver the inaugural lecture on April 7.

--Phil Cable, Marketing and News Services

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