September 10, 2008

Protecting Palouse Legumes from Viral Epidemics

WSU researchers are part of a team selected to receive a $1.3 million competitive grant from USDA to work toward protecting some Palouse-area legume crops from virus epidemics, as well as predicting the virus disease outbreaks.

“Virus epidemics tend to be cyclical, with a severe outbreak in one year followed by a negligible incidence in the following years,” said Hanu Pappu, a member of the interdisciplinary team and President Sam Smith Chair in Plant Virology in WSU’s plant pathology department. “Understanding the nature of the virus reservoirs and the aphid migration patterns in combination with information on virus incidence could lead to development of forecasting models.”

The project is headed by Sanford Eigenbrode, an entomologist at the University of Idaho. “Insect-transmitted viruses are an important issue for legume growers in both Washington and Idaho and the partnership between WSU and UI brings together experts in plant pathology and entomology,” said Pappu.

Work will include study of the ecology and epidemiology of viruses, aphids that transmit them and developing forecasting models, virus-resistant crop varieties and vector management tactics.

To ensure grower participation and outreach, the project will include an advisory group comprised of growers, workshops with the industry and a Web site with information on aphid populations and virus incidence.