## **Prospects for Weather-Indexed Insurance for Blueberry Growers in British Columbia**

Xuan (Sheri) Liu (Presenter); G. Cornelis van Kooten (Supervisor)

University of Victoria

**Abstract**

Blueberry quality is highly sensitive to heat units and precipitation, and their timing, but traditional crop yield insurance often fails to protect growers against quality risk. The purpose of the current study is to address this challenge by examining the conceptual feasibility of using weather-indexed insurance (WII) to complement existing crop yield insurance to hedge against non-catastrophic but quality-impacting weather conditions. We develop a theoretical model based on third-generation prospect theory and then use the results of a survey of blueberry producers in British Columbia to analyse the demand for a WII product. We apply a partial least-squares path model to identify key weather factors that likely affect blueberry yields and quality. Based on this modelling exercise, an index is then calculated using a group of variables related to the yields and monetary values of blueberries sold in the fresh and processed markets. The index has the potential to be used to develop a WII product that would represent the effects of weather on blueberry quality. However, the level of farmers’ willingness to buy a WII product is not high. Even if farmers choose to purchase such a product, their willingness to pay is only a fraction of the actuarially-sound premium. Hence, the development of a WII product is possible, but education and government subsidies are two key factors influencing its acceptance.