

The Potato Association of America
99th Annual Meeting – Portland, Maine
July 19-23, 2015

Minutes from the 2015 Frank L. Haynes Graduate Student Competition Committee

1. There were fourteen students in this year's Frank L. Haynes Graduate Student Competition. These students came to Maine from universities in the states of CO, FL, ID, MI, OR, ND, WA, and WI and provinces of MB and NS. Members of the committee for 2015 were Jay Anderson, Paul Bethke (chair), Dennis Halterman, Shelley Jansky, Craig Richael, Andrew Robinson and Jonathan Whitworth. A minimum of six members of the committee attended each student presentation, and the commitment of the committee members to the competition is gratefully acknowledged. Students were evaluated using a consistent set of criteria that included clarity and completeness of the abstract, organization of the oral presentation, effective use of time and visuals, presentation style and potential impact of the research on the potato industry. The committee decided that it was appropriate to make three awards.

1st place: Derek Herman from Dr. Rick Knowles' group.

Title: Screening sweetening-resistant clones for tolerance to heat stress.

Derek developed a post harvest protocol to identify lines that do not lose their resistance to cold-induced sweetening (CIS) as a result of heat stress. Potatoes with low invertase as a result of RNAi silencing were shown to maintain resistance to cold induced sweetening following a heat stress treatment, but many other clones lost resistance to CIS. Payette Russet, a new line from the Idaho breeding program, was a rare example of a conventionally bred clone that had excellent CIS resistance following the heat stress treatment.

2nd place: Luke Steere from Dr. William Kirk's group.

Title: Predicting potato early die using the conditional probability of *Verticillium dahliae* colony forming units in Michigan commercial potato fields.

Luke showed that the number of Vd colony forming units in subsamples of soil from production fields could be transformed into a conditional probability map for the whole field. The map could then be used to identify regions likely to have significant disease pressure. Spatial heterogeneity in Vd infection pressure was observed, and this could be used to guide decisions about where and when to apply soil fumigants.

3rd place: Amanda Crook from Dr. Harlene Hatterman-Valenti's group.

Title: Marketability and seed production effects from glyphosate drift injury to Red Norland potato.

Amanda looked at the effect of simulated glyphosate drift on appearance and seed piece performance of Red Norland potatoes and showed that exposure at the time of tuber initiation resulted in a decrease in tuber number at harvest and an increase in damaged tubers. Conversely, application of glyphosate during tuber bulking at all but the lowest concentration used resulted in reduced emergence when harvested tubers were used as seed.

2. Members of the committee noted that the research presented in this year's competition reflected well the diverse interests of the PAA and thank all of this year's entrants for their participation.

Paul Bethke, Chair

Frank L. Haynes Graduate Student Research Award Competition