

Grant obtained to conduct research on pea leaf weevil

By Gadi V.P. Reddy, Ph.D., Superintendent & Associate Professor of Entomology/
Insect Ecology, Montana State University, Western Triangle Ag Research Center

Montana is the number one pulse producer in the United States. Forty-six percent of the country's lentil production occurs in Montana. Growing pulse crops in crop rotations benefits soil productivity by creating macropores in the soil and through nitrogen fixation. As the acreage of pulse crop increasing, the damage caused by pea leaf weevil is also increasing many pulse growing areas in Montana. The larvae of the weevil damages particularly the root nodule damage affects nitrogen fixation. The pea leaf weevil, *Sitona lineatus* is emerging as a serious pest of pulse crops in Montana. Lentils, peas and beans have increased in acreage in the last 7 years in this area. Larval damage to N-fixing nodules can reduce yields by as much as 30% and further damage legume benefits as a crop rotation by reducing N-fixation in the soil.



Adult of the Pea leaf weevil

The Montana Speciality Crop Block Grant of \$92,000 was awarded to Dr. Gadi V.P. Reddy, the Principle Investigator of the project to develop pheromone attractants into a monitoring systems for pea leaf weevil. The project has started October 2015 and will end by June 2018. A pheromone lure discovered in 1988 in England by Blight et al. (1984) and used for pea leaf weevil monitoring in 1999 by Quinn et al (1999) in Washington state shows promise for a development of an early warning system and mating disruptor. This pheromone has not been developed for extensive monitoring and trapping programs in peas despite its potential and the relative ease of optimization required. Testing of different trap types, trapping distance, timing, and lure concentration are the next steps toward development of this system into a quantifiable easy to use tool for farmers. Current management strategies rely on accurate monitoring of pest populations. Pheromone baited traps will help in monitoring and mass trapping the weevil population.

This project is timely because, although many Montana, North Dakota, Saskatchewan pulse growers are initiating control methods for the pea leaf weevil based on the sweep nets, this method has not been reliable for timing of insecticidal applications. Second, there is no current monitoring for the pea leaf weevil that allows growers to make decisions about their timing of insecticidal applications. Without monitoring and raised awareness now, we are



Characteristic 'scalloped' damage to pea leaves highly likely to lose yield levels due to pea leaf weevil in pulse crops. The beneficiaries of this project are the pulse industry growers and agricultural professionals in Montana. This includes businesses that provide consulting and pesticide sales.

Dr. Reddy hired Debbie Miller from Brady to work on this project. She is very interested in working with growers and setting up traps and taking observations as needed. Growers that have experienced problems with pea leaf weevil damage and would like to cooperate with with a off station research project on their land are asked to call Dr. Reddy or Debbie at 278-7707 for more details.