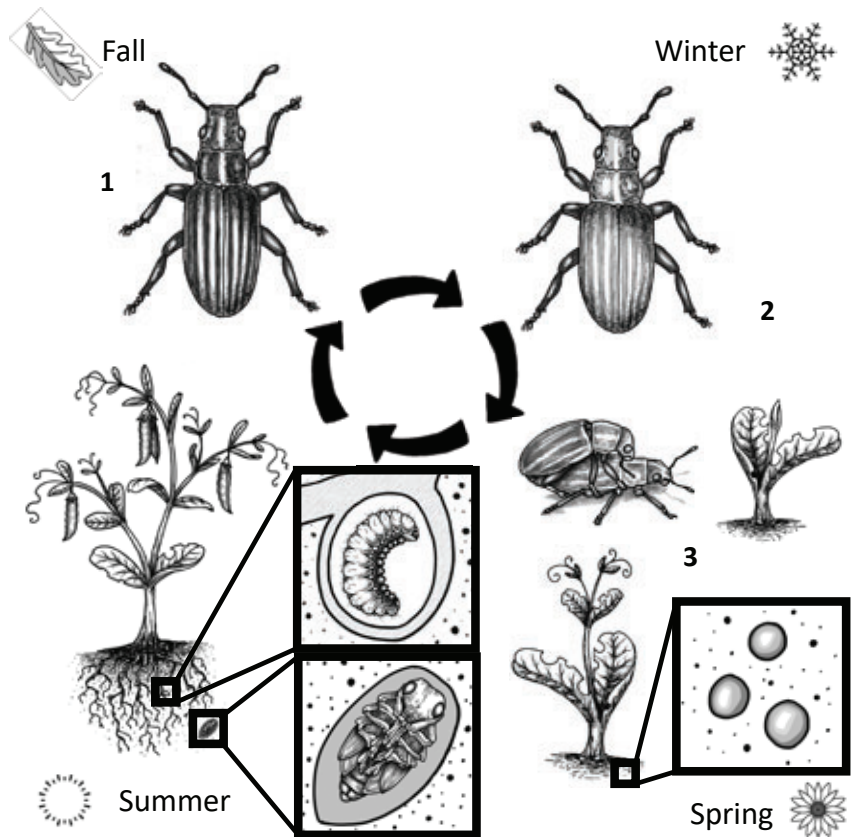


PEA LEAF WEEVIL LIFE CYCLE

Understanding the life cycle of pests is key to identifying potential points for integrated pest management practices.

Credit for this drawing goes to Ilan Domnich, MSc student in Dr Maya Evenden's lab at the University of Alberta. (Modified from Evenden 2018 Evenden, M.L. Semiochemical-based management of the pea leaf weevil (*Coleoptera: Curculionidae*). *Annals of the Entomological Society of America*, 111:154-180.)



BENEFICIAL INSECTS MOVING TO THE MAINSTREAM

For years, there's been talk of using beneficial insects to manage populations of insects that feed on agricultural crops. Beneficial insects include a number of species that perform valued services like pollination and pest control.

The theory is straightforward enough. If a beneficial insect feeds on a target insect, do you really need to spray? Let nature take its course and save the seed treatment or foliar insecticide application.

The practical reality, of course, is more complicated. Can you count on the beneficials to feed when you need them to? If they don't, what's the cost to the farmer in yield and dollars? Where does economic threshold fit in?

Lethbridge-based AAFC Entomologist Dr. Haley Catton is one of the scientists coming to grips with the practical aspects of beneficials. It's a multi-layered topic with complex causes and effects.

"Let's say you are spraying for aphids," Catton said. "You control the aphids, but you wipe out the beneficial insects that were controlling cutworm."

Today, she is working to understand in detail which beneficials in Western Canada feed on which target pests in which crops, and even assign a dollar value to beneficials' contribution.

Catton doesn't object to the use of insecticides, but believes farmers would be well-served by understanding the role that beneficials can play. Insecticides, after all, cost money to buy and apply. Beneficial insects work for free.

"I really respect how much farmers have on their plate," Catton explained, "and I want to give them an easier way to make decisions that benefit them."