



Title: Selection for edible parts potentially alters aboveground-belowground interactions.

Abstract:

Crops are plants which have undergone artificial and natural selection for desirable traits (e.g. increased yield, easier harvest, enhanced taste or nutrition). However, selective breeding for domestication has been shown to reduce plant defence levels in domesticated crops compared to their wild ancestors. Furthermore, selection for larger edible parts can result in a trade-off between growth and defence. Differences in defence compounds across organs (both edible and nonedible) have been observed in lima beans and two varieties of *Brassica oleracea* (kale and cabbage). However, this pattern has yet to be assessed across a broad range of crops with targeted domestication (for leaves, fruits, shoots, roots). My research will look at both broad patterns in different edible parts as well as more specific mechanisms associated with the process of domestication in species that have been bred for both aboveground and belowground edible parts.

Bio: Chelsea completed her B.Sc. at Susquehanna University in Selinsgrove, Pennsylvania. She found her love for agriculture as a student worker at the Susquehanna campus garden. After graduating, she became a carbon dynamics research intern at the MacArthur Agroecology Research Center (MAERC) collecting data for a carbon dynamic study on a cattle ranch in Central Florida. Chelsea continued to develop her laboratory skills at Victory Brewing Company in the quality assurance laboratory. However, her curiosity and passion for research brought her back into academia where she completed her MSc in Dr. Juli Carrillo's studying pest behaviour. Now she's shifted her focus for her PhD research towards plant interactions in relation to domestication.