

Abstract: Through my graduate work, I hope to increase our understanding of the role of diet in bee disease and improve pollinator conservation efforts. Preliminary data from our lab show that sunflower pollen dramatically reduces a gut parasite in the Common Eastern Bumble Bee and bees from farms across Amherst with higher acreage of sunflower have lower prevalence of the parasite. However, before recommending increased sunflower plantings to improve bee health, it is necessary to determine if this medicinal effect occurs in other wild bee species. Since sociality is often accompanied by differences in life history and physiology (i.e. gut microbiomes, nesting structures, sensory organs), I predict that bees with different levels of social organization would differ in their immune function, hygienic behaviors, foraging decisions, and responses to medicine.