

Parasitoid wasps are important agents of pest suppression in agroecosystems. Sometimes, however, the impacts of parasitoids on pest populations are inadequate, necessitating the use of chemical insecticides. In conservation biological control, one approach for enhancing parasitoid impacts on pest populations is to subsidize nutritional resources available to adult parasitoids, typically in the form of nectar from flowering forbs planted on field edges. Nectar is known to increase longevity of female parasitoids and may thereby increase parasitism and reduce pest densities. Nectar subsidies don't always increase pest suppression however.

Ongoing research by myself and my graduate student, Marcela Lopez-Coreas, investigates the role of nutritional sources other than nectar to parasitoids, specifically yeasts and pollen. Using a relatively novel approach in insect ecology – stable isotope analysis – we are trying to determine the extent to which carbon and nitrogen in yeasts and pollen are assimilated by adult parasitoids. Future research will investigate how non-nectar food sources affect parasitoid behaviors related to pest suppression, rates of egg production and longevity. Manipulating the presence of fungi and pollen in agroecosystems represents a potentially useful approach for achieving greater suppression of pest populations by parasitoid wasps.