Public Abstract

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Title:HABITAT MANIPULATIONS TO ENHANCE THE ABUNDANCE AND DIVERSITY OF POLLINATORS VISTING HELIANTHUS ANNUUS L.

Insect pollinators face many challenges with the development of modern agriculture. These challenges, such as reduction in habitat range and landscape fragmentation, may be overcome by diversifying the plant community. By planting intercrops alongside a cash crop, there is potential to promote the abundance and richness of pollinator insect species by providing additional resources. Using visual observations and blue vane traps to monitor the bee and fly pollinators of sunflower, buckwheat, and partridge pea, we determined if intercrops can enhance pollinator services in sunflower by promoting abundance and diversity. We found that while the presence of a buckwheat intercrop enhances sunflower seed yields, buckwheat does not enhance pollinator abundance or diversity in the cropping system. Alternatively, the presence of partridge pea enhances the abundance of pollinators within sunflower crops but does not influence sunflower yields. Additionally, when buckwheat and partridge peas are planted together as an intercrop mixture, competition exists and buckwheat presence reduces plant height of partridge peas. These findings are important to understand the role of intercrops and polycultures in cropping systems to assist pollinator conservation.