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PERCEPTION OF FARMERS ON THE RELATIONSHIP BETWEEN WILD VEGETATION AND INSECT POLLINATORS ON A HIGHLY HETEROGENOUS AGRICULTURAL HIGHLANDS LANDSCAPE OF GUATEMALA

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ABSTRACT

Structurally complex landscapes, agroforestry and non-intensive, tradition-based practices may play an important role in preserving biodiversity in agroecosystems. Agricultural practices in Guatemalan highlands show a highly heterogeneous combination of traditional and technified methods. Despite the intense land use practiced in the area, insect pollinator populations are still relatively abundant and diverse. We surveyed 37 farmers from agricultural lands in the department of Chimaltenango about different crop-management practices that may affect pollinator populations, such as pesticide use and weed management. Also, we asked about their perception of the relationship between natural vegetation and insect pollinators.

We found that local agriculture is characterized by a combination of intensive and non-intensive practices (rotation, fallowing). Almost 80% of the surveyed farmers reportedly implement integrated pest control. Close to 50% answered that they have at times sprayed pesticides over flowering crops, and 30% of farmers abstain from using pesticides altogether. Most farmers (62%) answered that sometimes they allow weeds and wild vegetation surrounding their crops, while 24% report that they always let wild plants grow. Only 13.5% of farmers kept any bee species, although none of them consider any kind of bee to be harmful to their crops. Our results support the role of traditional and varied agricultural practices in the maintenance of insect pollinator populations, and highlight the importance of traditional farming knowledge on pollinator conservation in agricultural lands.