

## Relation between Honey Bees and Agriculture

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### DESCRIPTION

Honey bees ingest only plant pollen as a source of protein. Scientists have discovered that in the presence of agricultural production, honey bee hives' general health increases, while some reports have claimed that a regularly used agricultural pesticide is harmful to honey bee health. Some studies regarding the pesticide effects and agricultural landscape on honey bee biological traits examined the effects of row-crop farming on honey bee well-being including traditional pesticide use.

Colonies in non-agricultural areas struggled to find enough food and had fewer offspring as a result. The existence of agriculture was found to be a strong link between hive well-being and the agribusiness. Scientists report that pesticides are not a component in bee wellbeing, but there were a few events during the season where insect poison applications caused the death of some searching honey bees.

The benefits of greater food sources and nectar yields found in rural areas outweigh the risks of being exposed to horticulture pesticides. Honey bees benefit from farming. Though there is traditional use of pesticides, there will be an impact on the well-being of honey bee if there is line crop farming. The studies suggest that the benefits of better nutrition in horticultural areas outweigh the risks of being exposed to pesticides in rural areas. Some analysts established test apiaries in a variety of locations throughout western Tennessee, ranging from non-rural to exceptional farming. Settlements were evaluated for execution and utility over the course of a year by estimating state weight, brood formation, and province thermoregulation.

State thermoregulation, or the ability to maintain an appropriate temperature inside a hive, is an important factor in brood

development and the well-being of the adult honey bees. Researchers believe that the larger colony sizes allowed for better thermoregulation in these hives. Meanwhile, bees living in non-agricultural areas faced difficulties in finding food and die due to starvation. Brood rearing disruptions and fluctuations were also more noticeable in a non-agricultural environment. Interestingly, places with the most evenly distributed mix of agricultural production, forests, and urban activity had the highest brood production.

Urban areas boost the pollen diversity by placing the ornamental plantings around homes as well as backyard gardens. More pollen diversity has been linked to improved colony formation. Pesticide residues were also tested in captured pollen from each colony. Fungicides, herbicides, and insecticides were found in low concentrations, but at levels well below the lethal dose for honey bees. The only neonicotinoid found was Imidacloprid, which was also at sub-lethal doses.

### CONCLUSION

Some experts believe that agricultural pesticides, notably neonicotinoids, are the major contributor to decline honeybee populations. The study discovered that increased pesticide exposure in agricultural environments had no impact on colony output. Agricultural producers are trained on how to choose pesticides carefully and apply them correctly to reduce bee exposure, but it's becoming clear that the varroa mite and food availability are more important factors in honey bee health rather than agricultural pesticides.

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