

**FACTORS INFLUENCING HONEY BEE ABUNDANCE ACROSS AGRICULTURAL LANDSCAPES IN  
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There have been recent reports of declining honey bee populations. One suspected cause is the widespread use of pesticides in agriculture. Experiments were conducted to examine potential exposure routes of pesticides to honey bees in the Midsouth. Neonicotinoid seed treatment compounds were studied to determine the rate at which they diminish in crop tissue during crop development. Tissue samples were taken during development from the newest growth on the plant and analyzed for neonicotinoid compounds from seed treatments applied before planting. There was a considerable reduction in neonicotinoid compounds from seed treatments found in plant tissue during development. Only tissue from corn treated with higher rates of clothianidin was found to have moderate levels of the compound still present at reproductive growth. Little to no neonicotinoid compounds were found in cotton and soybean tissue from samples taken at the start of reproductive growth. Another area of research included the observation of honey bee foraging activity in Midsouth crops. Fields of corn, cotton, and soybean were scouted for foraging honey bees at three time intervals during the day. The largest number of foraging honey bees were observed in soybean fields during the middle of the day. Foraging honey bees were not frequently observed in any crop of time interval. In conclusion, foraging honey bees in the Midsouth are not exposed to high concentrations of neonicotinoids from seed treatments through crop pollen or nectar. Pesticide exposure through foliar applications can be reduced through evening spraying and healthy communication with neighboring bee keepers.