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Honey bees may be exposed to multiple stressors daily, with pesticide use being one of the most significant. Our study aimed to evaluate and elucidate the biological effects of commercial fungicide formulation (tebuconazole) and insecticide formulation (cypermethrin and methyl chlorpyrifos), both alone and in combination, on newly emerged and forager of Carniolan honey bees. The parameters analyzed were the survival rate and histopathological effects of pesticides on the midgut. The newly emerged and forager workers (20 bees in five replicates per treatment) were exposed orally, until the last bee dies, to a fungicide ($0.250 \text{ ng}/\mu\text{L} = 0.250 \text{ ppm}$) - FGD, and separately to insecticide ($0.250 \text{ ng}/\mu\text{L} = 0.250 \text{ ppm}$) - ISD, and to the combination of both pesticides ($0.165 \text{ ng}/\mu\text{L} = 0.165 \text{ ppm}$) - FGD+ISD. Untreated control (CTL) bees received only sugar syrup (1:1 sugar/water; w/w). The results showed a significant decrease ($p < 0.0001$) in the survival probability of newly emerged and forager Carniolan honey bees exposed to pesticides, both alone and in combination (FGD, ISD, and FGD+ISD). The median survival was similar for both age groups. Histopathological analyses after six days revealed that exposure to ISD in newly emerged bees increased the release of cells ($p < 0.001$), apocrine secretion ($p < 0.0001$), vacuolization ($p < 0.005$), and nest alterations ($p < 0.0001$) compared to bees from the CTL. Similarly, forager bees exposed to ISD demonstrated an increased release of cells ($p < 0.001$), vacuolization ($p < 0.05$), nest alterations ($p < 0.005$), and also appearance of atypical cell nuclei ($p < 0.05$) when compared to CTL bees. The total lesion index was significantly higher in both newly emerged bees ($p < 0.0001$) and forager bees ($p < 0.001$) exposed to ISD compared to CTL. The results for the FGD and FGD+ISD treated groups were comparable. Based on the results, bees from both age groups were adversely affected by the commercial pesticide formulations, with ISD being more harmful. Our findings highlight the potential risks of commercial pesticide formulations to bee health and survival, emphasizing the need for beekeepers to be aware of pesticide use near their apiaries.