TOXICOLOGICAL ASSESSMENT OF A FUNGICIDE MIXTURE IN *CAERNORHABDITIS ELEGANS.*

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INTRODUCTION: The combined use of pesticides is common in agriculture; however, toxicological studies addressing interactions between such compounds are still scarce. Tebuconazole (TBZ) is among the most used fungicides in Brazil and is frequently found in commercial formulations with Trifloxystrobin (TFS). Both are widely applied in soybean, rice, and wheat crops, and studies have pointed to potential environmental toxicity from their indiscriminate use. Despite the increasing application of the TBZ-TFS mixture, its toxicological profile remains unclear. OBJECTIVE: This study aimed to assess the isolated and combined effects of TBZ and TFS in the alternative model *Caenorhabditis elegans*, using environmentally relevant concentrations. MATERIALS AND METHODS: Toxicological endpoints evaluated included pharyngeal pumping, defecation cycle, locomotion, oviposition, and neuronal integrity. RESULTS: The mixture induced increased mortality and alterations in neuronal integrity. TFS alone altered the defecation cycle, while both compounds affected pharyngeal pumping and locomotion. Oviposition and neuronal integrity showed no significant changes under the tested conditions. CONCLUSION: These findings suggest that the endpoints have different sensitivities to the compounds, and that mixture exposure can enhance adverse effects compared to single exposures. Further studies are needed to elucidate the mechanisms involved in TBZ-TFS toxicity and their potential environmental risks.

Keywords: Triazole; Strobilurin; C.elegans; Toxicology; Safety;