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EXTRACTION OF ESSENTIAL OIL FROM FRUITS OF *Dysphania ambrosioides* AND ITS ACTIVITY AGAINST *Botrytis cinerea* / Extração de óleo essencial de frutos de *Dysphania ambrosioides* e sua ação inibidora sobre *Botrytis cinerea*. FIGUEIREDO, Y.F.¹; NOGUEIRA, C.C.A.¹; SANTOS, I.A.F.M.²; SALIMENA, J.P.³; MONTEIRO, F.P.⁴; SOUZA, J.T.¹.
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Dysphania ambrosioides is an aromatic herb commonly used in folk medicine as an anthelmintic. The essential oil extracted from this plant can be used to control the gray mold fungus, *Botrytis cinerea*, in strawberries. The objectives of this study were to determine the chemical composition of the essential oil extracted from fruits and seeds of *D. ambrosioides* and to evaluate its activity against *Botrytis cinerea* in post-harvest of strawberries. The essential oil extraction was performed by steam distillation and qualitative analyses by gas chromatography coupled to mass spectrometry. The main constituents of the essential oil were ascaridole, o-cimene and iso-ascaridole. The activity of the essential oil was evaluated on spore germination and mycelial growth of *B. cinerea* in Petri dishes and strawberry fruits. All experiments were installed in a completely randomized design with three replicates and four treatments 0, 250, 500, 750 and 1000 ppm of essential oil dissolved in 3% water-polysorbate (Tween 80) and were analyzed every 24 h for 3 days. The assessment done at 72 h did not show differences between the concentrations 750 and 1000 ppm, which proved to be the most effective. Mycelial growth of *B. cinerea* was inhibited by the essential oil after 48 h of incubation and there were no significant differences among the concentrations 500, 750 and 1000 ppm. All concentrations showed inhibition of more than 50% of mycelial growth. The pathogen was completely inhibited when fruits were exposed to 1000 ppm of the oil. In these experiments the shelf life of strawberry fruits was extended in 3 additional days. The results showed that the essential oil is a natural antimicrobial agent against *B. cinerea*.

Key words: Alternative control, Gray mold; Post-harvest; Strawberry.

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