Propagation and shelf-life of weed pathogenic fungi in alternative media and their effectiveness in billygoat (Ageratum conyzoides L)

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Abstract	Control of billygoat (Ageratum conyzoides L) currently uses herbicides, on the other hand, control using pathogenic fungi is environmentally friendly, but for mass propagation and storage, alternative media are needed. The aim of the study was to determine the best type of alternative media for fungal growth and shelf life, as well as its effectiveness against billygoat. The treatment tested involves a combination of two factors: the type of pathogenic fungi (Curvularia lunata or Fusarium oxysporum) and the type of medium (rice washing water or tofu liquid waste). A completely randomized design was used for the in vitro test, while in planta test used a randomized block design with each experimental unit repeated five times. The observed variables were conidia density, number of colonies, incubation period, disease symptoms, disease intensity, and area under the disease progress curve (AUDPC), as well as weed height, number of leaves, fresh and dry shoot, and root weights. The results showed that the conidia density of F. oxysporum was 57% better in rice washing water than in tofu wastewater. The best shelf life for the fungus was four weeks. The use of rice washing water for F. oxysporum and C. lunata effectively delayed the incubation period by 77 and 71% respectively, suppressed disease intensity by 90 and 88%, and AUDPC by 94 and 93% compared to the control. The F. oxysporum grown on rice washing water media was able to reduce the number of leaves, fresh and dry weight of billygoat by 25, 30, and 20% compared to the control, respectively.
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