

**Pemanfaatan Agen Hayati Untuk Pengendalian Hama dan Penyakit  
Pada Cabai (*Capsicum annuum* L.) Varietas TM 999 dan Varietas MB 333**

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**ABSTRAK**

Tanaman cabai merah (*Capsicum annuum* L.) merupakan salah satu komoditas tanaman hortikultura yang mempunyai nilai ekonomis tinggi di Indonesia. Pengendalian biologi dengan memanfaatkan Agenia Pengendali Hayati berupa *Trichoderma* sp., *Mikoriza* dan *Beauveria bassiana* merupakan salah satu alternatif untuk mengatasi serangan OPT. Penelitian ini dilaksanakan di Desa Bener, Ngrampal, Sragen pada bulan Desember 2019 – Maret 2020. Tujuan penelitian ini untuk mengetahui pengaruh agensia hayati dalam mengendalikan hama dan penyakit pada tanaman cabai. Penelitian disusun menurut Rancangan Split Plot, terdapat dua faktor (2x5) dengan 3 ulangan. Main plot berupa varietas tanaman cabai terdiri dari 2 taraf TM 999 dan MB 333. Sub plotnya terdiri dari 5 taraf terdiri dari tanpa agen hayati, *Trichoderma* sp., *Mikoriza*, *Beauveria bassiana*, *Trichoderma* sp. + *Mikoriza* + *Beauveria bassiana*. Data yang diperoleh dalam penelitian diolah dengan *Analysis of Variance* (ANOVA) pada taraf 5%, dilanjutkan dengan uji lanjut *Duncan Multiple Range Test* (DMRT) pada taraf uji 5%. Hasil penelitian menunjukkan terdapat interaksi pada parameter rerata bobot buah per tanaman, tingkat kerusakan tanaman oleh hama penggigit pengunyah umur 6 MST dan tingkat kerusakan tanaman oleh hama pencucuk penghisap 3 MST dan 6 MST. Aplikasi agen hayati *Trichoderma* sp., *Mikoriza*, dan *Beauveria bassiana* memiliki pengaruh yang tidak beda nyata. Pengaplikasian agen hayati secara campuran (*Trichoderma* sp. + *Mikoriza* + *Beauveria bassiana*) lebih efektif dibanding pengaplikasian secara tunggal dan merupakan campuran terbaik dalam menekan populasi hama. Varietas TM 999 lebih efektif menekan tingkat serangan hama dan penyakit tanaman cabai.

**Kata kunci** : cabai merah, agen hayati, hama tanaman cabai, penyakit tanaman cabai

**Utilization of Biological Agents for Pests and Diseases Control  
In Chili (*Capsicum annuum* L.) Variety TM 999 and Variety MB 333**

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**ABSTRACT**

Red chili pepper (*Capsicum annuum* L.) is one of the horticultural commodities that have high economic value in Indonesia. Biological control by utilizing biological control agents such as *Trichoderma* sp, *Mycorrhiza* and *Beauveria bassiana* is an alternative to overcome pest attacks. This research was conducted in Bener Village, Ngrampal, Sragen in December 2019 - March 2020. The purpose of this study was to determine the effect of biological agents in controlling pests and diseases in chili plants. The research was arranged according to the Split Plot Design, there were two factors (2x5) with 3 replications. The main plot in the form of chili plant varieties consists of 2 levels of TM 999 and MB 333. The sub plot consists of 5 levels consisting of no biological agents, *Trichoderma* sp., *Mycorrhiza*, *Beauveria bassiana*, *Trichoderma* sp + *Mycorrhiza* + *Beauveria bassiana*. Data obtained in the study were processed with Analysis of Variance (ANOVA) at the 5% level, followed by the Duncan Multiple Range Test (DMRT) further test at the 5% test level. The results showed that there were interactions on the parameters of average fruit weight per plant, the level of plant damage by chewing biting pests at 6 weeks of age and the level of plant damage by sucking pests at 3 weeks of age and 6 weeks of age. The application of biological agents *Trichoderma* sp., *Mycorrhiza*, and *Beauveria bassiana* had an effect that was not significantly different. Mixed application of biological agents (*Trichoderma* sp.+ *Mycorrhiza* + *Beauveria bassiana*) was more effective than single application and was the best mixture in suppressing pest populations. TM 999 variety is more effective in suppressing the level of pest and disease attack of chili plants.

**Keywords :** red chili, biological agents, pests of chili plants, diseases of chili plants