

**The Effect of Main Pest Control of String Beans (*Vigna sinensis* L.)
Using *Beauveria bassiana* on Plant Damage and Yield**

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ABSTRACT

String beans productivity decreases every year. One of the causes is pest attacks. Pest control using *Beauveria bassiana* is an environmentally friendly pest control. The aim of this study was to determine of the *B. bassiana*'s effect to string beans main pest, determine the best *B. bassiana* application frequency to control pest attacks and determine the correlation of main pest population with the damage and yield of string beans. This study was conducted in Krobot, Sendangsari, Pajangan, Bantul, Daerah Istimewa Yogyakarta in Januari – April 2019. This study used a single factor experiment arranged in a Randomized Completely Block Design (RCBD). This study used the following treatments: once *B. bassiana* application at 5 weeks after planting (wap), two times *B. bassiana* application at 3 and 7 wap, three times *B. bassiana* application at 3, 5 and 7 wap, four times *B. bassiana* application at 3, 4, 6 and 7 wap, five times *B. bassiana* application at 3, 4, 5, 6 and 7 wap, negative control (without *B. bassiana* application) and positive control (profenofos insecticide application). The results of the study showed that *B. bassiana* could control *Aphis craccivora*. The best *B. bassiana* application frequency was 5 times at 3, 4, 5, 6 and 7 wap. Leaves damage increased as the population of leaf beetles increased. Yield of string beans decreased as the population of *A. craccivora* and leaf beetles increased as well as the leaves damage increased.

Keywords: main pest, *B. bassiana*, damage, string beans yield