Increased Yield Production of Chasmogamous and Cleistogamous Glycine max Using Apis mellifera, Organic Kaolinite Pesticide on Aphis glycines, and More Natural Potassium Fertilizer (Phase III)

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The hypotheses were made that with the use of contained Apis mellifera pollinating the soybeans, the beans would be more productive. Containments were able to hold cleistogamous, chasmogamous, and a control variable. Cleistogamous and chasmogamous stood by one another in equal amounts, in order to have equal opportunity for pollination. The control was set up the same, just without pollination and only with cleistogamous as this was to represent typical Iowa practice. All plants had potash (potassium) fertilizer spread; again, a typical Iowa farming practice for soybeans. No pesticide was used due to the chemicals potentially harming the bees. In the stages of R1-R2, the bees were placed into the cleistogamous and chasmogamous containments and the control was left with no pollination. After the flowering had ceased, the bees were removed until harvest. When harvested in the R8 stage, the results were staggering. The cleistogamous had increased in yield 12.43% compared to the corresponding control, and the chasmogamous skyrocketed with an increase of 18.67% compared to the control. My hypothesis was greatly upheld. Although this was a fantastic find, the trouble was with pesticide. It would almost be impossible, or frowned upon, to implement honeybees to fields due to the use of neonicotinoids used on soybean fields. So, a natural form of pesticide was the thought. A pesticide solution using the mineral kaolinite proved effective.

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