DOES SCENT DISTURBANCE AFFECT EGG LAYING BEHAVIOR IN BEAN BEETLES?

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Introduction

We wanted to test whether unfamiliar scents influence the egg laying behavior in bean beetles.

By adding experimental scents, eucalyptus and vanilla, to the beans the behavioral difference could be tested, next to a control group.

The bean beetle (*Callosobruchus maculatus*) is a practical model organism due to its short lifecycle, consisting of only two stages. The beetles lay their eggs on beans from where the juveniles feed upon hatching. The adult stage is focused on reproduction alone.

Hypothesis

Unfamiliar scents affects the egg laying behavior in bean beetles.



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Some statistical difference in number of eggs laid. Due to overlapping results between eucalyptus and natural scent the difference is non-significant.

There is a significant difference between natural and vanilla scent.

Experimental means: E = 28, N = 62, V = 3

Influencing factors

Variables influencing the results in egg laying number and preference may be due to:

- Unequal number of beans in the small petri-dishes for the eucalyptus test.
- Experimental scents added a unnatural coating to the beans.

Conclusion

Method

For the two experiments, a total of eight large petri-dishes were used, all containing two smaller petri-dishes.

A specific amount of beans were added in the smaller petri-dishes.

Six female bean beetles were added in each large petri-dish.

The eggs produced were counted in respect to the different scents.



The beetles were able to lay eggs on all bean scents tested.

There is a clear preference for the natural beans, however it is difficult to point out the exact reason for this.

By adding unfamiliar scents to the beans, other variables were changed as well.

Further measurements are needed to prove a statistical difference for the eucalyptus test.