Keywords

Oviposition, bean beetle, water potential, egg laying

Introduction

Oviposition refers to an organism's ability to lay larvae eggs in an environment that is best suitable for its survival (Yee et al., 2021). Careful selection of an oviposition site is required because organisms are exerting energy and shortening their lifespans with the hope of producing viable of spring. The two stages of oviposition consist of pre-oviposition and post-oviposition. Pre-oviposition refers to identifying the best oviposition site, while post oviposition is when the female deposits the egg, hence the larvae try to maximize its surroundings to develop on its own (Lancaster and Downes, 2013). Since larvae are the juvenile form of an insect, they do not have the means to provide their own food; they depend on their selected deposit sites. The physical environment will determine if the larvae have

both wet and dry bean environment due to increased hydration benefts. By depositing their eggs in the moist environment, the larvae will not have to compete for water, thus increasing their likelihood of survival. The female bean beetle aims for the larvae to have maximized resources, which increases their chance to develop to adulthood. The dry environment will not contain water, only beans. Hence, in the dry environment, the larvae would be less likely to survive due to their ability to only feed on the bean. We predict that there will be a higher number of eggs deposited in a wet environment than dry environment. To test our hypothesis and prediction, we provided an option for female bean beetles to lay their eggs on blackeyed pea beans placed in either wet or dry environments.

Methods