EFFECT OF CULTIVAR, INSECTICIDE AND SPRAYING TIME ON INFESTATION OF BROAD BEAN DRY SEEDS WITH LARGE BROAD BEAN BEETLE

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ABSTRACT

Plants of two broad bean (Roumi) cultivars (Reina Blanca and Equadolce) were sprayed with two insecticides (Dimethoate and Malathion) in the field starting at different times. Results indicated that spraying the plants starting at the flowering stage was very effective in reducing the external and internal infestation of the dry seeds with the large broad bean beetle [Bruchus rufimanus (Boh.)]. Dimethoate was found to be more effective than Malathion in controlling the insect. A highly significant interaction effect between cultivar and spraying time was detected.

In another experiment, plants of the two cultivars were planted under isolation cages and artificially infested with the large broad bean beetle at different stages of the plant development. Results indicated that the infestation of the broad bean dry seeds occurred mainly during the flowering stage. The large broad bean beetle was found to be not able to breed on the dry seeds.

INTRODUCTION

Large broad bean beetle [Bruchus rufimanus (Boheman)] is one of the most serious insects which attacks broad bean plants and results in reducing the quality of dry seeds. Eggs are laid by adults on flowers and young pods and the beetles bore into the developing seeds, in which they develop and pupate (De Meirelere and Rouzet, 1979; Hill, 1990). Some adults can emerge before harvesting the crop and hibernate on the bark of trees and field margins whereas those remaining in the seeds emerge during the following season (Bardner, 1983).

It has been reported that Malathion is an effective insecticide against broad bean beetle (Bruchus rufimanus Boh.) (Hill, 1987). Dimethoate was described as a contact and systemic insecticide