Abstract

The current use of biological products to prevent pesticides is an important approach to fix the problem from the effects of such chemicals. The Entomopathogenic fungi is one way to efficiently and safely, because they are able to infect insects through penetration of the cuticle, thereby eliminating insect pests for both groups bite and sucking mouth. Small and large insects as well as different instar of insect. Entomopathogenic fungi can increase the quantity of spore in nature and are stable in the environment, soil, or planting material, so it is possible to eliminate pests. The roses have many kinds of pests. A key pest of rose were red mite or red spider mite. Therefore, this research aims to development mycopesticide and application technique to decrease red spider mite for upland farmers. Selection of substrate for the fungus produces conidia from blastospore at high concentrations, texture as fine powder, low cost and long shelf life as well as have efficiency to control red spider mite both under greenhouse and field conditions. The ratio blastospore suspension: substrate of 15:40 was incoherent and mycopesticide into a fine powder which is better than other the ratio. Concentration and morphology of mycopesticide depend on substrates, fungi, ratio and incubation time. *M. anisopliae* and *B. bassiana* had effective to control red spider mite with percentage mortality between 90.81 to 96.67 and ranged from 48.17 to 55.55 percent for the hatch. Mycopesticides base on corn grinding had no phytotoxic, while rice flour and wheat flour caused phytotoxic. Production cost of mycopesticide produced from corn grinding were 72.00 and 63.20 bath per kilogram for *B. bassiana* and *M. anisopliae* respectively. There were significantly difference between formulated prototype and application technique. Mycopesticide base on *M. anisopliae* decrease number of red mite and egg more *B. bassiana*. Week interval applications decrease number of red mite and egg more than two weeks interval. The finally, formulated prototype was compared pathogenicity to the commercial products and acaricide. The results found that acaricide showed better than formulated prototype but no significant difference follow by commercial products as follow 90.63 78.18 and 67.85 %, respectively. Mycopesticide prototype inhibited hatching 83.60 % Cost of application per rai were 15.20, 44.00 and 360.00 bath for prototype, acaricide and commercial mycopesticide product, respectively.