

Use of nectar providing plants by the parasitoid wasp *Ascogaster quadridentata* WESMAEL (Hymenoptera: Braconidae)

Eder, G.¹, Herz, A.¹

¹ Julius Kühn-Institute, Institute for Biological Control
Email of corresponding author: gudrun.eder@sh-soft.com

The codling moth *Cydia pomonella* is the main pest in apple production. Oviposition takes place on the fruit and subsequent feeding of larvae cause direct fruit damage. Infested apples can only be used for the production of apple juice, thus lowering yield and income for the farmer. The codling moth has many specific natural enemies. One of the most important ones is the braconid wasp *Ascogaster quadridentata*. This wasp places its eggs inside the eggs of the codling moth. The wasp's larva develops inside the codling moth larva. When the wasp's larva is fully developed it leaves the codling moth larva which dies afterwards. Although the apple is still damaged by the parasitized codling moth larva, the population density of the pest will be reduced in the next generation. The adult braconid wasp lives on nectar, thus requiring the presence of blooming plants. In many plantations however, soil treatment removes any flowering vegetation. The aim of the present work is to elaborate recommendations to the farmer which nectar producing plants should be planted or conserved in the field to

allure braconid wasps. Therefore, the effects of different flowering plant species on the longevity and parasitism capacity of *A. quadridentata* were evaluated. In the field, plastic cylinders were installed on specimen of a particular plant species. The following plants were used during the study: Alyssum, buckwheat, carrot, *Echium sp.*, flax, parsnip, phacelia, white mustard and a control with grassy, non flowering vegetation. Five wasp couples were given in each cylinder. Furthermore, codling moth eggs, laid on plastic sheets from a laboratory rearing, were added and replaced on Mondays, Wednesdays and Fridays with new ones. After two weeks yellow sticky papers were placed in each cylinder to catch the surviving wasps. The eggs were kept until the eclosion of the larvae. Then parasitism of the larvae was determined by dissection. Therefore larvae were frozen, then dissected and examined for the presence of wasp larva under the binocular. Results showed that nectar of parsnip supported both survival of wasps and parasitism of codling moth eggs best from all tested plants.