

**The effects of food components and seed humidity on food  
preference of cowpea weevil  
(*Callosobruchus maculatus*)**

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**ABSTRACT**

Four-spotted pulse beetle (*Callosobruchus maculatus*) (Fabricius) is one of the most important pests which causes a great damage by feeding on pulses. In order to determine the reasons of food preference of this pest, some experiments were done. These experiments were carried out on 12 different varieties of pulses in two optional and obligative feeding methods. The insects were released on pulses and laid eggs and number of adults (F1 generation) on each variety of pulses considered as the criterion of preference. Humidity and temperature conditions of both series of tests were similar. It was revealed that in facultative feeding, cowpea var. Mashhad and in obligative feeding green gram var. Partow were more desirable food for test insects. The results of optional feeding used to determine the reasons of food preference. The amount of lipid, total protein, 16 kinds of amino acids and moisture content of all 12 varieties of pulses were measured as probable cause of preference. Statistical analysis did not show any relation between measured biochemical agents and food preference of *Callosobruchus maculatus*.

**Key words:** *Callosobruchus maculatus*, Food preference, Pulses' seed composition

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