



## Odvračalni učinek nekaj naravnih snovi na nekatere fitofagne vrste insektov

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Razvoj okolju prijaznih metod za varstvo rastlin vse bolj pridobiva na pomenu. Ena od teh je uporaba naravnih odvrčal. V laboratorijskih poskusih smo ugotavljali učinek 3 rastlinskih izvlečkov: velikega trpotca (*Plantago major* L.), ogrščice (*Brassica napus* var. *napus* L.), lipovca (*Tilia cordata* Mill.) in enega encimskega inhibitorja, izoliranega iz vrste *Schistocerca gregaria*, tripsin himotripsin inhibitorja (SGTCI), na hranjenje dveh pomembnih škodljivcev: koloradskega hrošča (*Leptinotarsa decemlineata* Say) in obrobkarja (*Sitona* spp.). Odvrčalni učinek 4 snovi je bil preučen z metodo "circular leaf disc dual choice bioassay". Po 24 urah smo izmerili ostanek listne površine s planimetrom. Kot standard smo uporabili izvleček rumenega skrečnika (*Ajuga chamaepitys* L.) in baker. Izvlečke testiranih rastlin smo pripravili z namakanjem listov v vodi. Testirani odmerki SGTCI so bili med 1 – 2 mg/ml. Najpomembnejši rezultati analize so naslednji (podani z odvrčalnim učinkom):  $AF = (1 - \text{tretirano/kontrola}) \times 100$ : pri ličinkah *L. decemlineata*: SGTCI (1,0 mg/ml): 59 %, baker (standard): 45 %, pri hroščih *L. decemlineata*: SGTCI (1,0 mg/ml): 15 %, baker (standard): 0 %, izvleček *P. major*: 35 %, izvleček *T. cordata*: 49 %. Pri odraslih osebkih vrst *Sitona*: SGTCI (1,0 mg/ml): 0 %, izvleček *A. chamaepitys* (standard): 100 %, izvleček *B. napus* var. *napus*: 86 %, izvleček *T. cordata*: 94 %. Rezultati kažejo, da ima SGTCI znaten odvrčalni učinek le proti ličinkam *L. decemlineata*, med testiranimi rastlinskimi izvlečki pa je bil izvleček *T. cordata* najbolj učinkovit proti odraslim osebkom vrst *Sitona*.

### ABSTRACT

#### Antifeedant effects of several natural substances on some phytophagous insect species

Nowadays increasing efforts are made to develop environmentally safer pest control methods. One such method can be the use of natural antifeedants. Laboratory experiments were conducted to determine the effects of three plant extracts (*Plantago major* L., *Brassica napus* var. *napus* L., *Tilia cordata* Mill.) and one enzyme inhibitor isolated from the desert locust (*Schistocerca gregaria* trypsin chymotrypsin inhibitor = SGTCI) on the food consumption of two major insect pests (*Leptinotarsa decemlineata* Say, *Sitona* spp.). The insect antifeedant activity of the four substances was investigated by circular leaf disc dual choice bioassay. After 24 hours the surfaces of the leaf disc remnants were measured with leaf area analyzer. *Ajuga chamaepitys* L. extracts and copper were taken as standard. The tested 3 plant extracts were prepared from leaves diluted with water. SGTCI was tested with doses between 1-2 mg/ml. The most important results of the bioassay are the following (given in antifeedant activity:  $AF = (1 - \text{Treated/Control}) \times 100$ ): with *L. decemlineata* larvae: SGTCI (1,0 mg/ml): 59%, copper (as standard control): 45%, with *L. decemlineata* adults: SGTCI (1,0 mg/ml): 15%, copper (as standard control): 0%, *Plantago* extract: 35%, *Tilia* extract: 49%. With *Sitona* adults: SGTCI (1,0 mg/ml): 0%, *Ajuga* extract (as standard control): 100%, *Brassica* extract: 86%, *Tilia* extract: 94%.

The results show that SGTCl showed appreciable antifeedant activity only against *L. decemlineata* larvae, while amongst the tested plant extracts Tilia was the most active as antifeedant against *Sitona* adults.