

## Bio-efficacy of some plant leaf extracts against mustard aphid, *Lipaphis erysimi* Kalt. on *Brassica campestris*

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The effect of seven different botanical leaves, neem leaf extract (*Azadirachta indica*), Congress grass leaf extract (*Parthenium hysterophorus*) Lemmon grass leaf extract (*Cymbopogon citrates*), Bhang leaf extract (*Cymbopogon citrates*), Garlic leaf extract (*Allium sativum*), Punch phuli leaf extract (*Lantana camera*) and Marigold Leaf extract (*Tagetes erecta*) on mustard aphid was assessed in field at Student's Instructional Farm of Narendra Deva University of Agriculture and Technology, Narendra Nagar (Kumarganj), Faizabad (U.P.). The dead aphids were counted on tagged plants on 10 cm terminal shoot from 10 randomly selected plant per plot. The botanical extracts showed varying effect on aphid population and neem leaf extract (T<sub>1</sub>) inflicted consistently the maximum level of aphid mortality (77.33% and 71.76%) followed by Punch phuli leaf extract (74.35% and 70.96%) and Garlic leaf extract (73.19% and 62.17%) during seventh day after spray in both year 2009-2010 and 2010-2011. All the treatments of plant leaf extracts showed insecticidal activity, but Indian neem leaf extract followed by Punch phuli leaf extract and Garlic leaf extract reduced the aphid population to a great extent.

**Key words :** Mustard aphid, Botanical leaves extract, Yellow sarson

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### INTRODUCTION

Rapeseed-mustard is most important source of edible oil for human consumption. India is the second largest producer of rapeseed-mustard after China. To increase the productivity of this commodity various modern techniques of agricultural practices such as use of high yield varieties, and heavy manuring were used (Srivastava and Guleria, 2003). Rapeseed-mustard is highly vulnerable to attack of various insect pests. In this regard, (Bhakatia and Sekhon, 1989) reported more than three dozens insect pest associated with this crop. Amongthem, mustardaphid, *Lipaphiserysimi* Kalt.is thoroughly studied as serious insect pest of this crop. Most of the farmers are not aware with the effect of chemical pesticides and using most of the systemic and organic insecticides to control this insect pest. Injudicious and continuous use of insecticides may be deleterious to agro-ecosystem, public health and create residual problems. Therefore, in recent years many scientists have switched to use of botanicals as well as plant extracts instead of chemical insecticides for the control of insect pest of agricultural

importance. The botanicals are more compatible with the environmental components, eco-friendly with plant health and non-hazardous to human beings. Therefore, in present investigations the bio-efficacy of seven plant leaf extracts were tested against mustard aphid, *L. erysimion* yellow sarson variety YST-151.

### RESEARCH METHODOLOGY

The efficacy of plant extracts against mustard aphid in yellow sarson variety YST-151 was conducted with eight treatments. Each treatment was replicated four times in Randomized Block Design. These treatments included, Neem leaf extract (*Azadirachta india*), Congress grass leaf extract (*Parthenium hysterophorus*), Lemmon grass leaf extract (*Cymbopogon citrates*), Bhang leaf extract (*Cymbopogon citrates*), Garlic leaf extract (*Allium sativum*), Punch phuli leaf extract (*Lantana camera*) and Marigold leaf (*Tagetes erecta*). The experiment was conducted at Students Instructional Farm, N.D. University of Agriculture and Technology, Kumarganj, Faizabad (U.P.) during the two consecutive years from 2009-