

Role of Physical Properties of Maize Grains Towards Resistance to *Sitotroga Cerealella* (OLIV.) (Gelechiidae: Lepidoptera) in No Choice

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Abstract : Physical properties of maize grains were correlated with levels of the life history of *Sitotroga cerealella* (Oliv.) (Gelechiidae: Lepidoptera) in no choice test to find out relative resistance in different varieties. Eight maize varieties /lines (EV-6089, Sahiwal-2002, Golden, 34N43, EV-1098, Sultan, China-1, EV-20) including seven yellow and one white were obtained from Maize and Millet Research Institute, Yousaf Wala, Sahiwal, Punjab, Pakistan. Freshly laid eggs (one day old) of *S. cerealella* were obtained and cultured on a susceptible maize variety for two generations for later on shifting to test varieties. Results showed that maximum moth emergence (10.33), fecundity (35.66), hatching (87.66%), moth weight (5.05 mg), development time (36.0 days) damage (93.35%) and grain weight loss (38.84%) was found in varieties, 34N43 and Golden, Sultan, Sahiwal 2002, 34N43, EV-6089, 34N43 and EV-1089, respectively. Varieties had significant difference with other varieties in these parameters ($P < 0.05$). The varieties had positive as well as negative correlation between hardness index, grain weight and bulk density with the biological parameters of *S. cerealella*, percent grain damage and weight loss. Possible involvement of these grain properties in the resistance of maize grains towards *S. cerealella* is discussed.

Keywords : *sitotroga cerealella*, hardness index, grain damage, maize, varieties

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