

# Effects of DIMBOA levels in wheat on the susceptibility of the grain aphid (*Sitobion avenae*) to deltamethrin

NICOL, D.

WRATTEN, S. D.

EATON, N.

COPAJA, S. V.

The effects of DIMBOA in cultivars of wheat on aphid antibiosis and tolerance to the insecticide deltamethrin were investigated for the aphid *Sitobion avenae*. Over 48 hours the mean relative growth rate differed significantly between nymphs of *S. avenae* reared on wheat cultivars containing different levels of DIMBOA. Nymphs on the resistant cv. Altar showed a significantly greater susceptibility to deltamethrin, with nearly a three-fold increase in the relative toxicity of deltamethrin, compared with the susceptible cv. Dollarbird. The LC50, adjusted for weight, was reduced by 91% for nymphs reared on the high DIMBOA cultivar. The potential for the enhancement of predation under a reduced pesticide régime is discussed in relation to this research. Copyright © 1993, Wiley Blackwell. All rights reserved