Effect of wheat resistance, the parasitoid Aphidius rhopalosiphi, and the entomopathogenic fungus Pandora neoaphidis, on population dynamics of the cereal aphid Sitobion avenae

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The influence of wheat (Triticum aestivum L.) resistance, the parasitoid Aphidius rhopalosiphi De Stephani-Perez (Hymenoptera: Braconidae) and the entomopathogenic fungus Pandora neoaphidis (Remaudiere et Hennebert) Humber (Zygomycetes: Entomophthorales) on the density and population growth rate of the cereal aphid Sitobion avenae (F.) (Hemiptera: Aphididae) was studied under laboratory conditions. Partial wheat resistance was based on hydroxamic acids, a family of secondary metabolites characteristic of several cultivated cereals. The partial resistance of wheat cultivar Naofen, the action of the parasitoid and the joint action of the parasitoid and fungus, reduced aphid density. The lowest aphid densities were obtained with the combination of the parasitoid and the fungus, but wheat resistance under these circumstances did not improve aphid control. Significant reductions of population growth rate (PGR) of aphids were obtained with the joint action of wheat resistance and natural ene