

Allelopathic effects of red pepper (*Capsicum annuum* L.) and coriander (*Coriandrum sativum* L.) on early seedling growth of wheat (*Triticum aestivum* L.)

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Abstract. A pot experiment was conducted to assess the effects of red pepper (*Capsicum annuum*) and coriander (*Coriandrum sativum*) on seedling growth of wheat (*Triticum aestivum*). The aqueous extracts treatment of red pepper and coriander showed a significant ($p < 0.05$) reduction in root, shoot and seedling length, number of leaves and seedling dry weight of wheat (*T. aestivum*) as compared to control. The inhibitory different effect on growth of wheat (*T. aestivum*) was directly proportional to the increasing concentration (1, 2, 3, 4 and 5%) of aqueous extracts of red pepper and coriander as compared to control treatment (0%). The root, shoot, seedling length and number of leaves of *T. aestivum* significantly $p < 0.05$ decreased at 5% concentration of red pepper as compared to control. The root, shoot and seedling growth of *T. aestivum* was also significantly reduced at 1, 2, 3, 4 and 5% concentration of coriander as compared to control. The root, shoot and leaves dry weight of *T. aestivum* at 5% coriander extract treatment concentration decreased as compared to control. The tolerance in seedlings of *T. aestivum* to red pepper and coriander extract treatment was dose dependent as compared to control. The seedlings of *T. aestivum* showed low percentage of tolerance to pepper extract treatment than coriander extract treatment.

Keywords: red pepper; coriander; plant extracts; allelopathy; phytotoxicity; seedling growth; wheat

1. Introduction

The releases of phytotoxic substances from plant species are commonly reported by researchers. Influence of leaf leachets of certain woody species on agriculture crops and allelopathic effects of *Eucalyptus tereticornis* on *Phaseolus vulgaris* seedlings was observed by Melkania (1984), and Puri and Khara (1991). Allelopathic effects of *Anastatica hiertochuntica* on five desert plants

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