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## Control of Lepidopteran insect pest, Helicoverpa armigera (Hubner) through ingested RNA interference

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R NA interference is a sequence homology dependent degradation mechanism, having tremendous potential in the management of the most devastating international pest, Helicoverpa armigera. This polyphagous pest inflicts economically important crops such tomato, brinjal, cowpea, chickpea, cotton, etc. and causing worth of billions of rupees of crop loss in every year. Currently used pest management strategies, viz. chemical pesticides and Bt transgenic technology are prone to failures due to resistance development. So, RNAi can be an alternative pest control strategy and could be achieved by exogenous delivery of cognate dsRNA, triggers RNAi in the target insect pest. Several methods have been used for delivering dsRNA that includes microinjection, diet mediated delivery, soaking, etc. Here the main concern was finding of suitable and inexpensive delivery method for performing RNAi in this pest. However, the microinjection is commonly used, but limited due to cause of injury and not relevant to field level management. So, diet mediated feeding is an attractive, simple, inexpensive approach and akin to the field level of pest management. We used chickpea based semi-synthetic diet for dsRNA delivery. Diet was prepared with DEPC (0.1%) treated water and spiked with dsRNA and larvae were fed on this. Using this method we have successfully silenced the  $\beta$ -actin gene of H. armigera. We have observed 93% of target gene silencing and eventually resulted in weight reduction of larvae. Our strategy could be utilized for effective management of this pest and it can also applicable to other insect pests for effective pest management.

## Biography

G. Sharath Chandra has completed Master of Science (M.Sc) in faculty of Biotechnology from Bangalore University, and pursuing Doctoral degree from Jawaharlal Nehru Technological University, Hyderabad. Area of work is on RNA interference in insect pest management and to impart traits such as drought and salinity tolerance to plants. He has a Patent on vector construction used for ihpRNA expression in plants and he has published 5 research articles in reputed international journals.

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