

TERI develops 'Bollcure' - A new bio-pesticide for Cotton Bollworm

An eco-friendly plant extract developed with the help of BPT to increase cotton crop yield

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New Delhi: In a breakthrough research, The Energy and Resources Institute (TERI) under the patronage of the Department of Biotechnology, has developed a plant extract based biopesticide formulation '**Bollcure**', against cotton bollworm (*Helicoverpa armigera*), a common larvae affecting cotton crop yield.

Cotton bollworm (*Helicoverpa armigera*) being polyphagous in nature is the major insect pest of many crop species. It attacks many economically important crops such as cotton, pigeonpea, chickpea, tomato, sunflower, etc. Having a host range of more than 181 plant species, it is currently the most difficult insect to control because of its developed resistance to most of the commercially available insecticides. Due to its resistant nature towards pesticides, prevalence of the insect is leading to economic burdens of farmers.

'These facts reflect the seriousness of the *Helicoverpa* problem and consistent research at TERI has made a possible breakthrough. This emphasizes the need for the development of management strategies that are less dependent on chemical insecticides and conducive to the development of resistance to present chemical control measures' said Dr RK Pachauri, Director General of TERI.

Taking up the challenge for developing a biopesticide to tackle the problem of *H. armigera* infestation, TERI scientists began research in this area during the late 1990s. The research was done at TERI's research station in Delhi and Gual Pahari under Department of Biotechnology (DBT), Government of India's network initiative to develop biopesticides.

'It affects the growth of the bollworm larva resulting in reduction of larval weight up to 88%, hence restricting the larvae population, resulting in ultimate death of the larva itself, thereby, preventing the crop damage' says Dr. Nutan Kaushik, Scientist at TERI.

Station field trials were conducted at Indian Agricultural Research Institute, New Delhi, with American cotton and chickpea, to evaluate the bio-efficacy. The results were a whopping increase up to 205 per cent.

'Since it is a plant extract of Eucalyptus, it is 100% environment friendly, suitable for Conventional, Organic, Bt cotton and Integrated Pest Management crop practices, apart from its mild antifeedancy. The product controls the bollworm complex of cotton. It is also effective against jassids, white fly, and spodoptera' adds Dr Kaushik.

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