

Efficacy of homeopathic medicine-Aakashmoni as potential bio-agent against various plant pathogens

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Mulberry (*Morus alba* L., cv. S1) is an important economical crop plant in sericulture and it grows under a wide range of ecological condition. It holds a special place as a major foreign exchange earner. India secures second position for the production of raw silk in the world, which is short about 30% to fulfill the home requirements. The reasons for this deficiency as well as low quality of raw silk are, however, generally attributed to build up of the diseases of mulberry and silkworms, inadequate employment of improved culture and rearing practice.

Recent studies have confirmed that eco-friendly biological agent homeopathic medicine- Aakashmoni 200C, prepared from the funicles of *Acacia auriculiformis* A. Cunn mixed with water @ 7.2 mg/ml, was applied by foliar spray once daily for 15 days @ 10ml/mulberry plant was highly effective in ameliorating mulberry diseases like root-knot [*Meloidogyne incognita* (Kofoid & White) Chitwood], leaf spot [*Cercosporam moricola* (Cooke)], powdery mildew [*Phyllactinia corylea* (Pers.) Karst], mosaic disease (mosaic virus) and tukra disease [*Maconellicoccus hirsutus* (Green)]. It also improves the growth of silkworms, shell weight, effective rate of silkworms rearing, sex ratio percentage and egg laying capacity of mother moth which commercially increased silk production without disturbing biosphere.

Keywords: Homeopathic medicine-Aakashmoni 200C, control, mulberry disease, and sericulture

Biography

Subhas Chandra Datta is headmaster and researcher, Eco-club Research Unit, Kanchannagar D. N. Das High School, Kanchannagar, West Bengal, India. He has 16 years teaching experience and has been publishing research for 19 years in various fields like homeopathy, allopathy, plant pathology, plant protection, tissue culture, sericulture, environmental biology, nematode control, entomology and education. He has 23 publications in various national and international journals. His project titled "Improved growth of silk worms from effective treatment of mulberry diseases by *Acacia auriculiformis* extract" 1997 published in *Sericologia* 37 (4): 707-712, in 1997 got the patent by CSB, India. His works, "Effects of Cina on root-knot disease of mulberry" published in Homeopathy; 2006 Apr; 95(2):98-102" is still in the PMID holding the 2nd position. He had the experience of attending many national and international seminars.

A recent approach of drug discovery from natural resources

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Development of new drug is a complex, time-consuming, and expensive process. Essentially, the new drug discovery involves the identification of new chemical entities, having the required characteristic of druggability and medicinal chemistry. Challenges in the new drug development are mainly encountered from two categories: the prevailing paradigm for drug discovery in large pharmaceutical industries and technical limitations in identifying new compounds with desirable activity. Compounds isolated from natural products must have some unique features for research work to be carried out i.e., increased steric complexity with more number of chiral centers, higher number of oxygen atoms, lower ratio of aromatic ring atoms to total heavy atoms, higher number of solvated hydrogen bond donors and acceptors, broader distribution of molecular properties such as molecular mass, partition coefficient, and diversity of ring systems. Researcher may work on compounds which have above features to improve the absorption or to reduce the toxicity and improve upon efficacy which is often achieved by addition or deletion of selected functional groups. Large number of natural products, despite being biologically active and having favorable ADMET profile do not satisfy the criteria "drug likeness". Thus the challenge is of building a physio-chemical tuned natural products with the lead generation to promote natural products to their full potential. Ethnopharmacology and zoo-pharmacognosy approach is very important for the selection of candidate plant species for screening.