

Sericulture and viable technologies for better silk production*

A two-day workshop-cum-training programme on sericulture for the production of better cocoon crop was organized for the progressive sericulture farmers of Upper Assam from the districts of Sivasagar, Dibrugarh, Jorhat and Golaghat. The meeting was attended by delegates, including special invitees and the scientific community from the North East Institute of Science and Technology (NEIST), Jorhat and Central Silk Board (CSB), Jorhat. P. G. Rao (NEIST) in his welcome address during the inaugural session, expressed the need to transfer the scientific achievements and technologies from the laboratories to the society at large. He mentioned that the workshop was the right forum for good interaction between scientists and the sericulture farmers to address chronic problems faced in rearing of silkworm. B. G. Unni (NEIST) in his introductory remarks mentioned that the training programme was the first among a series of workshops scheduled in the northeastern region of India over the next five years. U. S. N. Murthy (Indian Institute of Chemical Technology (IICT), Hyderabad), while delivering his lecture on the activities of IICT in sericulture development, mentioned that modern rearing technologies are developed in the laboratory. The ultimate aim of the workshop-cum-training programme was to reach to the farmers and to transfer the technologies in sericulture from the laboratory to the field. Murthy also mentioned that IICT has been involved in the programme for the last 15 years in activities such as control of Uzi fly infestation, bacterial infection prevalent in sericulture, application of biocontrol agents, modelling of economical

rearing houses with better ventilation for prevention of insect infestation, development of mulberry hybrid for better yield and profitability. R. Chakravorty (Central Muga Eri Research and Training Institute (CMER&TI), CSB, Jorhat) in his address mentioned that some technologies are successful at field-level, while others need refinement. It is also worth mentioning here that with the application of new technologies, the production in Muga cocoons during the previous year had reached a record yield of 105 metric tonnes and the target for this year is 150 metric tonnes. However, he mentioned that production is dependent on many factors such as source of seeds (disease-free laying eggs, dfls), availability of good-quality food plants and other environmental factors. Hence scientists should take a fresh look at the adoption of technologies, wherein the farmer is the beneficiary.

The training session included lectures by resource persons from IICT, CMER&TI, NEIST and NABARD, Sivasagar Unit. Murthy, in his lecture during the training session, described the need for establishing rural IT centres (Samadhan Kendra) in the entire NE region for sericulture farmers and also talked about the need of using newer technologies in sericulture for better cocoon production. Some of these include the establishment of V₁ variety of mulberry, introduction of second crop of sericulture in J&K, introduction of sericulture in non-traditional areas, design of low-cost model rearing house, application of data-mining tools through internet for effective integrated control of vector and vector-borne diseases in rural areas, and value-added products from cocoon like neutral lipids from silkworm. Murthy mentioned that pupal oil contains large amounts of α -linoleic acid, which is highly nutritious. Its component can be used for nutraceutical applications.

Unni delivered a lecture on viable technologies for better cocoon production. He informed the farmers about

some of the technologies developed recently by his group for better production of silk in terms of quality and quantity.

Diganta Mech (CMER&TI) discussed the technological advancement in Muga culture as a whole. He also gave a demonstration on the cultivation of Muga host SOM plants (*Machilus bombycina*) for proper management and better yield of quality leaves by adoption of systematic block plantation (3 × 3 m), which can accommodate 150 plants per acre as against 71 plants under traditional stray planting systems. He mentioned that the plants would be ready within 3 years and the trees can be maintained to a manageable height of 10–15 ft with intermittent pruning thereby six different crops can be cultivated.

H. C. Biswas (NABARD, Sivasagar Unit) informed farmers about the various schemes of financing sericulture activities like host plantation and Muga rearing through bank loans. He also worked out the economics of a model sericulture farm which can be maintained at a nominal cost by the farmers.

A farmers' interaction session with the resource persons from NEIST, IICT, CMER&TI, NABARD and representatives from Assam Krishak Mahasangha (state-level organization) was also organized. The problems faced by the Muga farmers were discussed, and suggestions were provided. On the second day of the workshop, a demonstration and field visit to a Muga farm was arranged for the trainee farmers. The trainee farmers visited the farm of CMER&TI and were exposed to modern technologies that can be adopted for food plantation and post-harvest processing of cocoons.

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