

## **ABSTRACT**

Muga culture is an age old traditional practice and it has immense potentiality for socio-economic improvement with sustainable income generation among the rural folk in Assam particularly. In the recent past, various improved technologies were developed and recommended for enhancing production and productivity of muga. However, production of muga raw silk is yet to be reached in to a desired level of 200 MT and has been swinging from 105-158 MT during last 10 years. The reasons behind low production may be due to unaware of improved technologies among the muga farmers, high inclination towards traditional practices, etc. Hence, present study was undertaken to examine the following four prime objectives.

- (1) To understand knowledge and adoption of technologies by the muga farmers
- (2) To ascertain the association between the socio-economic factors, knowledge and adoption of improved technologies
- (3) To assess the muga cocoon yield through adoption of improved technology and traditional practices at the farmers' level
- (4) To identify the constraints for non adoption of improved technologies among the muga farmers, if any.

The study was carried out in Golaghat district of Assam, India based on the existence of large number of traditional as well as non-traditional muga growers. Besides, Central Muga Eri Research & Training Institute, Central Silk Board, Lahdoigarh, Jorhat, Assam has made special efforts for intervention of improved technology among the farmers in the district since last two decades. In order to ascertain the extent of knowledge and adoption of improved technologies among the farmers, 12 recommended improved technologies of muga culture namely spacing of host plants, application FYM and NPK, pruning schedule, stem borer control, intercropping, pre brushing care, early stage rearing, biological control of uzi fly, lahdoi, improved mountage, mother moth examination and disinfection of egg were selected with the help of expertise from Central Silk

Board and Department of Sericulture. Survey was conducted at 200 farmer's field to collect the required information *viz.*, socio-economic status, knowledge and adoption of technologies, constrains for non adoption of improved technologies, etc using the interview schedule specially structured for the purpose. Cocoon production under improved as well as traditional practice was also assessed at the framers level by observing the crop performance in different seasons for two years.

The study revealed that knowledge level on improved technologies was high in majority of the muga farmers (40.0%) followed by medium (32.5%) and low (27.5%). Majority of the farmers possessed high level of knowledge in case of certain technologies like spacing of host plants (89.5%), intercropping (87.0%), early stage rearing (86.5%), pruning schedule (81.5%), lahdoi (81.0%) and application of FYM & NPK (64.5%). On the other hand low level of knowledge was possessed in case of certain technologies like mother moth examination (24.5%), egg surface disinfection (33.5) and biological control of uzi fly (39.5%). Socio-economic factors namely age, land holding, experience and extension participation showed positively significant relationship with knowledge level of the farmers. As regard the adoption of technologies, majority of the muga farmers (51.5%) belongs to low adopter followed by medium (27.5%) and high adopter (21.5%). Adoption of technologies among the farmers was high only in spacing of host plants (64.0 %) and pre brushing care (55.5 %). Medium adoption was found in FYM and NPK (43.5 %), pruning schedule (42.0%), control of stem borer (31.5%), intercropping (42.0%), early stage rearing (42.0%), lahdoi (39.0%), On the other hand, low adoption of technologies among the farmers was very high in case of biological control of uzi fly (86.0%), improved mountage (67.0%), mother moth examination (96.5%) and egg surface disinfection (98.5%). Socio-economic factors namely age, sericulture income, land holding, experience and extension contact had positive and education had negatively significant relationship with the adoption of improved technology. The study also ascertained that the farmers mostly adopt the traditional practices of silkworm rearing, seed production and

disinfection of appliances, silkworm pest and diseases management and stifling of cocoons. Assessment of muga cocoon yield showed that the improved practice was effective for significantly higher cocoons yield in both seed and commercial crops against the traditional practices. The study shown that higher cocoon yield in improved practices of muga culture resulted to generate higher net income. Thus, benefit cost ratio (BCR) was calculated to be high in improved practice though involvement of production cost was relatively high in comparison to traditional practice. The study also revealed that high inclination towards traditional practice, lack of proper knowledge and non availability of silkworm seeds on time were the major constraints for non adoption of improved technologies among the muga farmers. Other constraints were non remunerative, lack of time, non availability of materials, high cost, labour intensive, non availability of own farm and marketing of cocoons.

From the present investigation, it could be concluded that improved practices of muga culture was effective for higher cocoons yield. However, due to certain constraints, adoption level of improved technologies among the farmers was not encouraging. Hence, the extension workers associated in the field of sericulture, need to be involved more as a collaborator, consultant and facilitator for awareness and effective dissemination of the improved technologies among the farmers. Measurers to supply the inputs and some costly and inaccessible items at subsidized costs, training on specific technologies to educate the farmers, etc will encourage the farmers to adopt the improved technologies. As some of the socio-economic factors namely age, sericulture income, land holding, experience and extension contact highly influenced for adoption of improved technologies, these may be taken in to consideration in disseminating the improved technologies effectively. Besides, the traditional practices associated in muga culture need to be studied properly and validated scientifically.