

Does Cloth Bagging Protect Ata Fruit (*Annona reticulata*) from Mealybug Infestation?

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Abstract—Ata (*Annona reticulata*) is a climacteric, highly perishable fruits in Bangladesh. Recently this fruit production reduced drastically in north-eastern part (Sylhet; N24°54.680' W091°54.045') of Bangladesh due to heavy infestation of mealybug. A field based investigation was conducted to minimize the infestation as well as production of safe and good quality ata fruits. In this experiment, two treatments were considered viz. bagging of fruits using cloth bags and control (without bagging). Fruits were bagged in October when the mealybugs start to colonize on the surface of fruits. Bagging was continued until the final harvest of the fruits. Bagging reduced the mealybug infestation in a great extent. In case of non-bagged fruits 256 adult mealybugs were counted in per fruit. The shape and size of fruits were gradually developed in bagged fruits. During the final harvest, diameter of cloth bagged fruits were higher (28.71 cm) than non-bagged fruits (26.17 cm). Fruit weight was also increased by using the cloth bagging. The average weight of bagged fruits was 238.89 g which was lower in non-bagged fruits (188.44g). Mealybug infestations reduced the total soluble solid contents (9.98%) in ata fruits than the bagged fruits (11.37%). Fruits macro and micro mineral contents were also measured in both treated fruits. All the mineral contents did not differ significantly except S (Sulphur) content. It can be concluded that cloth bagging is an eco-friendly management technique against mealy bug infestation in ata fruits.