



## Insect Community in Agroforestry: Role of Weather Parameters on Population Dynamics

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**Abstract:** The abundance, diversity and richness of the insects associated with crops and effect of weather parameters on the population dynamics of the insects were studied in an agroforestry area in Bangladesh during July 2015 to June 2016. In total 2936 collected insects, Hemiptera were most abundant (50.2%). The abundance of pest, predator, pollinator and other category were 63.2%, 12.4%, 13.8% and 10.6%, respectively. The pest population associated with mango were significantly higher (74.8%) followed by citrus (22.6%) and pineapple (2.6%). The pests showed highest abundance and diversity on mango but highest richness on citrus. The insects were highest abundant in the month of May and lowest in November. The abundance of insects revealed significant positive correlation with temperature, and insignificant positive correlation with relative humidity and rainfall, while insignificant negative correlation with light intensity. Multiple linear regression equation showed 53.8% role of weather parameters on population build up. Temperature exerted the most important effect, which individually contributed 25% on population abundance. The result of this study is a scenario of insects in an agroforestry and the finding indicates the importance of conservation of predator and pollinator insects.

**Keywords:** Agroforestry, Citrus, Mango, Pineapple, Pest, Predator, Pollinator, Seasonal dynamics

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