ABSTRACT

Chili plants are one of the strategic horticultural commodities that have high economic value for farmers in Dungaliyo District, Gorontalo Regency. However, the productivity of this plant is often disrupted by attacks by fruit flies (Bactrocera sp), which cause significant damage to the fruit and have a direct impact on farmers' income. This study aims to analyze the intensity of fruit fly attacks and measure the magnitude of economic losses experienced by chili farmers due to decreased production. The study was conducted using a quantitative descriptive approach through field surveys, direct observations, and distributing questionnaires to 57 chili farmers who were respondents.

The data were analyzed using the attack intensity formula and multiple linear regression tests to determine the relationship between the level of pest attacks (variable X) and farmers' economic losses (variable Y). The results showed that the intensity of attacks varied between villages, with Dungaliyo Village recording the highest attack of 50% and the average attack in all villages reaching 40%. This condition reflects the high level of attacks that have the potential to significantly reduce crop yields. Through multiple linear regression analysis, it was found that the economic losses of chili farmers were significantly influenced by six variables, namely decreased production, seed use, pest attacks, climate change, price fluctuations, and agricultural inputs. Among these factors, climate change has the greatest influence on economic losses. However, the coefficient of determination (R^2) value of 0.046 indicates that only a small part of the variation in losses can be explained by the model, so external factors such as market access, farmer institutions, and farmer knowledge also need to be considered in efforts to mitigate losses.

Keywords: Chili, attack intensity, fruit fly (Bactrocera sp), economic loss, climate change, multiple linear regression