

Predicting the Potential Geographical Distribution of the Banana Aphid (Pentalonia nigronervosa) as Vector of Banana Bunchy Top Virus Using Diva-GIS

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Abstract : This study was conducted to predict the potential geographical distribution of the banana aphid (*Pentalonia nigronervosa*) in North Cotabato through climate envelope approach of DIVA-GIS, a software for analyzing the distribution of organisms to elucidate geographic and ecological patterns. A WorldClim database that was based on weather conditions recorded last 1950 to 2000 with a spatial resolution of approximately 1x1 km. was used in the bioclimatic modelling, this database includes temperature, precipitation, evapotranspiration and bioclimatic variables which was measured at many different locations, a bioclimatic modelling was done in the study. The study revealed that the western part of Magpet and Arakan and the municipality of Antipas are at high potential risk of occurrence of banana aphid while it is not likely to occur in the municipalities of Aleosan, Midsayap, Pikit, M'lang and Tulunan. The result of this study can help developed strategies for monitoring and managing this serious pest of banana and to prepare a mitigation measures on those areas that are potential for future infestation.

Keywords : banana aphid, bioclimatic model, bunchy top, climatic envelope approach

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