

IMPACT OF BIOTIC FACTORS ON MAIZE CULTIVATION: A CASE STUDY IN HOROWPOTHANA DS DIVISION, SRI LANKA

D.C.D. Rajapaksha, S. Anula* and T. Geretharan

Department of Crop Science, Faculty of Agriculture, Eastern University, Sri Lanka

Abstract

Maize (*Zea mays* L.) is the most important cereal crop globally. Most maize is expected to come from Sri Lanka's districts of Anuradhapura, Moneragala, and Ampara. Horowpothana is the second-largest Divisional Secretariat (DS) in the Anuradhapura District and is composed of 38 Grama Niladhari Divisions (GN). Thus, the purpose of this survey was to determine the influence of biotic factors on maize cultivation and assess the management strategies employed by farmers to overcome biotic challenges such as pests, diseases and weeds in the Horowpothana DS division. Simple random sampling method was used for the study. The sample size was decided as 60 farmers. Farmers were selected in proportion to the number of maize farmers available in 12 GN divisions. The data for this research were collected from primary data and secondary data sources. The primary data were collected from maize farmers in selected GN divisions using structured questionnaires through personal interviews. Then statistical analysis was done using the Minitab statistical software. The results revealed that among that 100% of farmers experienced problems with brown spot disease and 15% of the farmers faced downy mildew attack in maize cultivation. Fall armyworms and maize weevil bug attacks impacted every farmer (100%) whereas aphid attacks had the least impact (8.33%). Birds provided the greatest threat to farmers' fields (100%) whereas deer posed the least threat (28.33%). Through field observation, 100% of farmers were able to identify the impact of biotic factors on maize cultivation. 15% of farmers employed mechanical means to control diseases and pests, compared to 85% who relied on chemical approaches. In order to reduce the biotic factor damages such as pests, diseases and weeds in maize cultivation in Horowpothana DS division, awareness programs are needed for farmers about biotic factor influence and management practices in Horowpothana DS division. Additionally, while creating extension plans to increase maize production even more, the relevant authorities should take all of these factors into consideration.

Keywords: Biotic factor, Cereals, Maize, Pest and diseases

**Corresponding author: anulasivarajah1997@gmail.com*