Impact of Different Border Crops on Growth and Yield Performance of Cauliflower (*Brassica oleracea* var botrytis L.) Varieties

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Abstract: Cauliflower produces best curd in cool and moist climate and affected mainly by some pests. Natural pest control provides a safe and more sustainable approach for managing pest populations. The use of border crop was an eco-friendly method for the management of pests. Research was conducted to assess the impact of different border crops on growth and yield performance of cauliflower varieties at Faculty of Agriculture, Kilinochchi during December 2018 to April 2019. Experiment was carried out in a split plot design with three replicates. Four different borders such as sunflower (T_1), lemongrass (T_2), chrysanthemum (T_3) and no border (T_4) were selected as main plot treatments and two different cauliflower varieties such as Mareet ($V_{1)}$ and White Shot (V_2) were used as sub-plot treatments. The cauliflower varieties were planted at the spacing of 60 cm × 45 cm. All the agronomic practices were done according to the recommendations of the Department of Agriculture except plant protection methods. The growth, plant protection measures and yield parameters were recorded. ANOVA and Duncan's Multiple Range Test (DMRT)were performed to find out the significant differences among the treatments. Type of the border and the variety were not significant for plant height and number of leaves per plant. The curd weight, curd circumference, curd diameter, total yield and marketable yield was significantly different among the border crops and the highest was observed in the lemongrass border (T_2). There was no interaction effect between 2 type of border crops and varieties. The varieties of cauliflower showed the nonsignificant effect on the yield parameters and the highest was recorded in White Shot variety. Marketable yield and infested yield were significantly differed among the different border crop treatments and the highest marketable yield was obtained from lemongrass border (T_2) in both varieties. The plant protection parameters such as number of damaged leaves per plant and number of damaged curds were significantly differed among the border crops and the highest was recorded in control (T_4) treatment in Mareet variety. It can be concluded that lemongrass border and White Shot variety can be recommended as the best treatment combination for cauliflower cultivation in Kilinochchi district of Sri Lanka during *Maha*