ABSTRACT

Oil palm (*Elaeis guineensis* Jacq.) is one of the main plantation commodities that are quite abundant in Indonesia. Problems or disturbances that often occur in oil palm cultivation activities are the presence of weeds. This study aims to identify the types of weeds, analyze the dominance and diversity of weed vegetation and determine the difference in weed types in Single Herbicides and Mixed Herbicides in Afdeling III PTPN IV REGIONAL 1 Kebun Tanah Raja. This research was conducted in Afdeling III PTPN IV REGIONAL 1 Kebun Tanah Raja, Serdang Bedagai Regency, North Sumatra Province. The method used in this study was a descriptive method by analyzing in a descriptive manner for the weed data and presented in the form of a table. Weed sampling was carried out by *purposive sampling* using the quadrant method using observation plots measuring 100 cm × 100 cm with a total of 15 plots in Single Herbicides and 15 plots in Mixed Herbicides so that a total of 30 observation plots were obtained. The observed variables were weed dominance, similarity index, weed diversity index, evenness index and type of weed. The results showed that the Similarity Index (IS) was 37. 03 %, this means that the weed communities at both research sites have low similarity. The calculation of the diversity index (H') for Single Herbicides was 1.92 and for Mixed Hebicides was 2.21 which showed that in all observation locations the diversity of weed species was moderate. The result of the Evenness index (E) in Single Herbicides was 0.75 and in Mixed Herbicides which was 0.83 which showed that in all observation locations the evenness of existing weed species was relatively high.

Keywords: Diversity, Mixed Herbicides, Oil Palm Plantations, Single Herbicides, Weeds.