

**THE INFLUENCE OF CONVENTIONAL RICE CULTIVATION AND SRI
(*SYSTEM OF RICE INTENSIFICATION*) ON THE CHEMICAL
PROPERTIES OF SOIL IN PEMATANG SETRAK VILLAGE DUSUN VI,
TELUK MENGGUDU DISTRICT, SERDANG BEDAGAI DISTRICT,
NORTH SUMATRA**

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ABSTRACT

There are still many farmers who apply conventional cultivation which will have a negative impact on the agricultural ecosystem and the environment, namely decreasing soil fertility. There is innovation in rice cultivation, namely SRI (*System of Rice Intensification*). SRI Rice Cultivation gradually reduces inorganic fertilizer and replaces it with organic fertilizer. Rice cultivation, both conventional and SRI (*System of Rice Intensification*), allows for differences in soil chemical properties. The aim of this research is to determine the effect of conventional rice cultivation and SRI (*System of Rice Intensification*) on soil chemical properties. This research uses a survey method. Determining the research location used the purposive sampling method. Determination of soil sample points was carried out using *systematic sampling* (SyS), determining points on a grid with a grid area of 3.8 hectares, 23 conventional rice samples and 5 SRI rice samples. The parameters of this research consist of pH analysis, redox potential, C-organic, N-total, P-available, K-available, KPK, Fe-available and Mn-available. This research uses T Test analysis to compare the results of soil chemical properties analysis. Based on the analysis results, it shows that the highest yield is dominated by SRI rice cultivation, namely pH 7.27, redox potential 65 mV, C-organic 2.94%, N-total 0.27%, P-available 102.55 ppm, K-available 135.83 ppm, KPK 18.14 Cmol(+)/kg, Fe-available 6.83 ppm and Mn-available 16.26 ppm. SRI rice cultivation is a recommendation based on the results of parameter analysis and benefits for land in Serdang Bedagai Regency.

Keywords: conventional rice, SRI rice, soil chemical properties.