

## SUMMARY

The drying method affects the stability and content of bioactive compounds in plant leaves, including polyphenols. Drying functions to reduce water content, but can also cause degradation of bioactive compounds. Extraction method plays an important role in determining polyphenol content in plant extracts. Ethanol was one of the solvents often used in the extraction of bioactive compounds because it has a balance between the polarity of water and alcohol which allows maximum extraction of phenolic compounds. The concentration of ethanol used also plays a role in determining the amount of polyphenols extracted. This study objectives to investigate the effect of different drying methods and solvent concentrations on the polyphenol content in Stevia leaf extract.

The research conducted at the Plant Physiology Laboratory and Greenhouse, Faculty of Biology, Universitas Jenderal Soedirman. This research conducted experimentally with a Completely Randomized Design (CRD) factorial treatment pattern with two factors. The first factor was the drying method consisting of 3 levels, namely oven drying, drying with sunlight, drying at room temperature. The second factor was the concentration of the solvent consisting of 2 levels, namely 70% and 96% ethanol. From these independent variables, 6 treatment combinations were obtained, each treatment combination was repeated 3 times, 18 experimental units were obtained. The research data were analyzed using analysis of variance (ANOVA) at 5% error rates and correlation coefficient test.

The results of the study showed that neither the drying method nor the solvent concentration had a significant effect on the polyphenol content of stevia leaf extract. The solvent concentration contributed 11.2% to the variation in polyphenol content, while the drying method contributed 2.6%. Furthermore, the study showed that the oven drying method combined with 70% ethanol as the solvent yielded the highest total polyphenol content, amounting to  $18.5 \pm 16.5$  mg GAE/g. The combination of sunlight drying method with 96% ethanol solvent produces the lowest total polyphenol content of  $7.88 \pm 6.11$  mg GAE/g.

**Keywords:** *drying method, extraction, polyphenols, solvent concentration, stevia.*