

ABSTRACT

Hajjah, Jaliyatul. 2012. **The test of the isoflavones callus compound content in some Varieties of soybean (*Glycine max (L.) Merr*) In MS Media With the addition of ZPT 2,4-D (Dichlorophenoxyacetic Acid)**. Thesis, Department of Biology Faculty of Science and Technology Islamic University State of Maulana Malik Ibrahim Malang. Mentors I: Evika Sandi Savitri M.P. Mentors II: M. Imamuddin, M.A.

Key Words: Isoflavones, Callus of Soybean (*Glycine max (L) Meril*), ZPT 2,4-D (Dichlorophenoxyacetic Acid)

Isoflavones are secondary metabolites synthesized by plants. Isoflavones are compounds found in higher concentrations Leguminosae plants, especially in soybean seeds contained in a concentration between 2-4 mg / g of soy, especially in the hipokotil and partly contained in the cotyledons. Secondary metabolites are usually obtained by direct extraction from the plant. But this way is considered to be less effective and less profitable if used in large scale because of secondary metabolites obtained by bit, so it takes the plant raw material is large enough. Tissue culture methods is one means used to induce secondary metabolites in plants by using ZPT 2,4-D (Dichlorophenoxyacetic Acid) which can increase the content of secondary metabolite in plants.

The research was conducted at *the Laboratory of Genetic and Plant Tissue Culture* Department of Biology Faculty of Science and Technology State Islamic University Maulana Malik Ibrahim of Malang in June-September 2011. The study design used was Randomized Complete design with 2 factors. The first factor is the concentration of ZPT treatment of 2,4-D (Dichlorophenoxyacetic Acid) which is 0.25 mg / L, 0.5 mg / L, and 1 mg / L. The second factor is soybean varieties which consist of four varieties of Wilis, Tidar, Anjasmoro and Detam. To determine the content of isoflavones in soybean callus performed by Column Layer chromatographic separation.

Data obtained from this study were analyzed by Analysis of Variance (ANAVA) followed by Duncan's test with a level of 5%. The result of this study indicates that there is influence of ZPT 2,4-D (Dichlorophenoxyacetic Acid) against the content of several varieties of soy isoflavones callus (Willis, Tidar, Anjasmoro and Detam). The highest content of isoflavone compounds produced by callus culture Anjasmoro varieties at a concentration of 1 mg / L that is as much as 6067.69 ppm. Differences influence the content of isoflavones varieties. Anjasmoro varieties are varieties that produce the highest isoflavone compounds, when compared to the varieties of Tidar, Detam and Wilis.