ABSTRACT

Active compounds have been always originated from plants. Plants though, were able to produce only very low amounts of them and that was the reason for trying many alternative ways of production, one of them being plant tissue culture cultivation. This method is any fragment of living tissue or organ taken from an intact plant or an already existing explant culture, with the intention of growing an artificial growth medium. Even this method though, is not able to produce large amounts compared to extraction from field plants. Elicitation is considered a possible way to increase the production of secondary metabolites. This method used the plant's own defense system, in order to increase the production of secondary metabolites *in vitro.* The compound which is used to produce the effect is called elicitor. During our experimental work I used as an elicitor the compound Ethephon (2-Chloroethylphosphonic acid) upon callus and suspension cultures of *Hypericum perforatum*, with intention to observe its effect on flavonoid production. This experiment was based on three different concentrations and six different withdrawal times, being 6, 12, 24, 72, 168 hours. The maximum effect of elicitor was reached with concentration c_1 (1mg/100ml) after 12 hours and with concentration c_3 (100mg/100ml) after 72 hours.