

The influence of harvest time on production (herb yield, hypericin and essential oil content) of St.john's wort (*Hypericum Perforatum L.*)

Reza Omidbaigi¹, Majid Azizi²

1- Assistant professor, Colledge of Agriculture, Tarbiat Modares university, Tehran, IRAN.

2- PhD student of Horticulture, Tarbiat Modares university, Tehran, IRAN.

St.john's wort (*Hypericum perforatum L.*) is an important medicinal plant, used in pharmaceutical industry in developed countries of improved country. The herb of *H.perforatum* contains valuable compounds such as hypericin, pseudohypericin and essential oil. Some drugs for remedy of depression, sleeplessness and also for wound healing and burned have made from the compounds. In this research, carried out in field conditions and with a randomized complete block design (RCBD), the effects of harvest time on production (herb yield, hypericin and essential oil content) of *Hypericum perforatum* were studied. The herb of *H.perforatum* was harvested in three phase such as: before flowering, full flowering and fruit set stage and then hypericin and essential oil content were measured. Hypericin extracted by Soxhlet and measured by spectrophotometric method. Essential oil of *H.perforatum* extracted by clevenger (water distillation) and measured. On the basis of the results, harvest time has an important effects on St.joh's wort production so that, higher herb yield (4.69 t/ha dry weight) can produce in fruit set stage and hypericin content in full flowering stage was higher than other harvest time (328.9 mgr/gr dry weight). Hypericin content in before flowering and fruit set stage was 22.33 and 147.5 mgr/gr dry weight respectively. The highest content of essential oil produced and accumulate in full flowering stage (0.35 ml/100gr dry weight). On the respect of the results, harvest time has significant effect on production (herb yield, hypericin and essential oil content) of *H.perforatum* and the best time for harvesting of the plant is full flowering stage.