

Kaçar O, Göksu E, Azkan N (2008) Effects of morphogenetic and diurnal variability on the hypericin content in st. john's wort (*Hypericum perforatum* L.). African Journal of Biotechnology 7 (13):2163-2168 .

Abstract

This research was conducted to investigate effects of morphogenetic and diurnal variability on the hypericin content of St. John's Wort (*Hypericum perforatum* L.) populations originating from Turkey for maximum utilization of the active substance in plants. During 2002 and 2003, field trials were conducted at Uludag University, Faculty of Agriculture, Department of Field Crops, Bursa, Turkey. Samples of bud, flower and capsule of *H. perforatum* L. populations were collected in the second year of cultivation (2003). Factorial arrangements of three *H. perforatum* L. populations (Bursa, Edirne, Izmir), three part of plant (bud, flower, capsule) and six collection h (8:00, 10:00 a.m; 12:00 (noon), 2:00, 4:00, 6:00 p.m) were evaluated in a completely randomized block design with three replications. Hypericin content (%) in parts of *H. perforatum* L. populations was determined according to DAC (1986). Consequently, the content of hypericin in the examined populations varied from 0.260% in Bursa to 0.283% in Izmir. Evaluating plant parts revealed that the hypericin content both in floral parts (0.309%) and buds (0.308%) were higher than capsule tissues (0.208%) for all populations. When collection hours were examined for the hypericin content of plants, the highest content was recorded at 10:00 a.m (0.279%) and the lowest value at 4:00 p.m (0.272%) and 6:00 p.m (0.272%). As a result, this study showed that the highest hypericin ratio was determined in flowers and buds generally collected between 8:00 and 10:00 a.m within a day for examined *Hypericum* populations.