DETERMINATION OF THE AMOUNT OF QUERCITRIN IN Hypericum perforatum

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We have previously determined the percentage of hyperoside in the raw material for novoimanin – Hypericum perforatum (common St. John's wort) (herbage, stems, flowers, and industrial wastes).

The aim of our further investigations was to determine the amount of quercitrin (quercetin 3α-L-rhamnofuranoside) [2] in the same raw material.

The comminuted plant material was treated with 70% methanol in a Soxhlet apparatus to exhaustion. After filtration, the extract was chromatographed on FN-1 paper by the ascending method in the butan-1-ol–acetic acid–water (4 : 1 : 5) (aqueous phase) system. The quercitrin spots were revealed in UV light; standard quercitrin was used as marker; the R_f value of quercitrin is 0.72 ± 0.02.

The quercitrin was eluted under dynamic conditions by dimethylformamide into 5-ml measuring flasks, and the optical densities of the eluates were determined on an SF-4A spectrophotometer at a wavelength of 358 nm (maximum of the light absorption of a solution of quercitrin in dimethylformamide), using as the comparison solution a dimethylformamide eluate from a sheet of pure chromatographic paper.

The concentration of the quercitrin was calculated by means of the specific absorption index that we have determined (364.93 ± 3.78).

It was found that quercitrin is 87.69% eluted from FN-1 paper. This must be taken into account in any calculations.

Using the method described, 0.524% of quercitrin was found in the St. John's wort raw material, 0.412% in the wastes from the raw material after the production of novoimanin, and 0.582% in the flowers of the common St. John's wort.

LITERATURE CITED

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