

**VARIABILITY OF *BIDENS FRONDOSA* (ASTERACEAE) AERIAL PART
COMPONENT COMPOSITION DEPENDING ON THE DRYING CONDITIONS**

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SUMMARY

The aim was to study the effect of drying conditions on the component compositions of *Bidens frondosa* L. aerial part. It was harvested in the budding phase and the beginning of flowering in July 2014 in its natural habitation in the Republic of Belarus. The collected raw materials were dried at different temperatures without ventilation. To assess the quality of raw materials the colorimetry, gravimetric method for the determination of polysaccharides, spectrophotometric method for the determination of flavonoids and high performance liquid chromatography for the analysis of component composition were used.

The colours of material dried with forced ventilation at 40 and 50 °C and of raw material dried under natural conditions did not differ.

Polysaccharide content was 4.4 ± 0.5 % in raw materials dried under natural conditions, 4.0 ± 0.2 % in raw materials dried without venting. 4.4 ± 0.3 , 4.3 ± 0.4 and 2.2 ± 0.2 % in the raw material dried with forced ventilation at 40, 50 and 60 °C correspondingly.

Flavonoid content was 5.2 ± 0.2 % in the raw material dried under natural conditions, 5.0 ± 0.2 % and 4.2 ± 0.2 % in the raw material dried without ventilation at 40 °C and 60 °C, raw material, dried with forced ventilation at 40, 50 °C and 60 °C contained 5.6 ± 0.3 %, 5.3 ± 0.3 % and 4.9 ± 0.3 % respectively.

Only flavones were found in *B. frondosa* aerial parts dried under natural conditions. The main components were luteolin-7-glucoside and luteolin. Raw material dried without ventilation at 40 °C contained 2.5 times less luteolin and luteolin-7-O-glucoside than raw materials dried under natural conditions. Temperature in the absence of ventilation results in a significant reduction in the content of luteolin-7-O-glucoside and other flavonoids. The raw material dried with forced ventilation contained 12–15 % aurones and chalcones. The component composition of the raw material dried at 40 °C was closest to the raw material, dried under natural conditions.

Based on the data it is recommended to dry of *B. frondosa* aerial part under natural conditions and with forced ventilation at 40 °C.

Key words: *Bidens frondosa*, aerial part, drying, flavonoids, polysaccharides.