Goldenrod: Alternative Raw Material for Pharmacology and Energetics

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Goldenrod is an invasive plant that spreads quickly and displaces native plants. People actively struggle with it. It is almost impossible to get rid of the plant but we can figure out how to make a good use of it. Industrial use of tall goldenrod (Solidago altissima L.) will allow us to regulate their number in native vegetal communities and treat it as a raw material. The aim of this project is to establish objective opportunities for using tall goldenrod (Solidago altissima L.) as a raw material in the pharmaceutical industry – by defining biologically active substances (BAS), and as an alternative fuel. I calculated perspective yield of the green mass of tall goldenrod (S.altissimaL.) which is to reach 50 t/ha. On the basis of the experiments, I developed a technology of a complex processing of tall goldenrod (S.altissimaL.). It includes the following stages: 1. Receiving BAS from inflorescences of tall goldenrod (S.altissimaL.). A major group of compounds consists of flavonoids with antineoplastic and antiinflammatory properties. 2. Receiving fuel briquettes and pellets. Their heat capacity reached 13,9-14,7 MJ. These parameters surpass a thermal rating of dry firewood, combustible shales and peat. Thus, the high productivity of tall goldenrod makes it a promising raw material for pharmacology and energetics.

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