Comparative evaluation of production potential of standardized raw vegetal material for triterpenic acids content using conventional and ecological technologies of cultivation applied to Ocimum Basilicum and Satureja Hortensis species

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The complex biological activity of triterpenic acids, exerted on vital organs in different pathological conditions, imposed finding the solutions for their applicability in pharma industry. These solutions are conditioned by the use of industrial technologies working with standardized raw vegetal material in triterpenic acids content, which are available in industrial quantities and obtained through reproducible cultivation technologies applied on large areas. The assessment of production potential for raw vegetal material with high triterpenic acids content of the mentioned medicinal plants was studied on extended areal, which covered the south, east and central parts of Romania, taking into account the results obtained by Biotehnos, SCDA Secuieni and USAMV Cluj in their own experimental fields. The best results obtained at Satureja hortensis species were those when the plants were cropped in phenophase III and the drying was done in natural shadow conditions. In that phase of harvesting the plants were at growing and developing phenophase when over 50 % from total number of principal inflorescence had mature fruits. Natural shadow drying induced the increase in triterpenic acids content for both cultivation technologies, excepting the harvest made in phenophase I. The triterpenic acids content is higher in herba obtained in ecological cultivation system for the phenophases I, II and IV. The herba production in ecological system was higher for the harvest phases I and II than the conventional cultivation system, which in change was superior in herba production in phenophases III and IV. The triterpenic acids content from herba of Ocimum basilicum, dried at shadow, had a tendency of increase starting with the harvest phase III. In the ecological cultivation system the triterpenic acids content from herba was higher than in the herba obtained with conventional technology, for all harvest phases, excepting the third one. The shadow drying of plants determined the increase of triterpenic acids content in both cultivation systems. The highest level of triterpenic acids production from Ocimum basilicum herba was achieved in the last phase of harvest (V). Taking into account the presented results, thus was proved the utility of identified technological models for the production of standardized vegetal raw material for triterpenic acids content from the studied species of medicinal plants.