drugs and balanced foods. During the last time, the scientists have the main subject for scientific research algae as potential producers of different useful biochemicals.
Aim of the study. To evidentiate the algae species as producers in biotechnological medicine.
Materials and methods. The profile literature and databases on microalgae as biotechnological producers in alimentary and pharmaceutical industries were evaluated and analyzed.
Results. Microalgae are sunlight – driven cell factories that are able to efficiently utilize CO2 for the production of biochemicals such as polysaccharides, proteins, oils, vitamins, carotenoids and others. We evidentiated some algal taxons and application of their biotechnological products in pharmaceutical, cosmetic and food industries: *Aphanizomenon flos-aquae* produces mycosporine-like amino acids used as UV-screening agent; *Amphidinium sp.* – macrolides amphidinolide as antitumoral remedy; *Ascophyllum nodosum* – proteins used in cosmetics as anti-aging agent; *Chlorella sp.* – proteins, carotenoids, triglycerides and hydrocarbons as immune stimulator and free radicals scavenger; *Ch. zofingiensis* – astaxanthin as antioxidant remedy; *Ch. vulgaris* – biochemicals stimulating collagen production in the skin; *Crypthecodinium cohnii dinoflagellates* are used to produce docosahexaenoic acid; *Dunaliella salina* – B-carotene used as colorant, antioxidant, and cancer-preventive properties; *Nostoc flagelliforme* – pigments echinenone and myxoxanthophyll, allophycocyanin, phycocyanin and chlorophyll, 19 amino acids, vitamin B_{12}, cryptophycin used for the treatment of diarrhea, hepatitis, and hypertension; *Haematococcus pluvialis* – astaxanthin as antioxidant, used in nutraceutical, cosmetics, food and feed industries; *Spirulina platensis* – proteins, g-linolenic acid, vitamins, applicated as nutritional supplements, and infant formulas.
Conclusions. There is indeed a wide range of applications of microalgae in biotechnology and a great potential to further exploit the rich microalgal resources for various biotechnological applications in medicine. They are potential sources of high-value products, that may lead to the discovery of new generation of drugs.
Key words: microalgae, biochemicals, application.

424. THE ANTIOXIDANT PROFILE OF *SOLIDAGO* SPECIES

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Introduction. Antioxidants from natural sources are valuable bioactive compounds with well-demonstrated health potential for use in several human disorders. Some species of genus *Solidago* represent a rich source of natural compounds with multi-pharmacological properties, including phenolic compounds which express antioxidant activity.
Aim of the study. This paper provides a review of current studies on antioxidant activity of *Solidag*o species. The main purpose of the research represents the evaluation of the correlation between phytochemical characteristics and antioxidative properties of *Solidago* species, and methods used for determination of their antioxidant activity.
Materials and methods. The bibliographic complex study was performed using the databases of scientific references: *PubMed, ResearchGate, GoogleScholar* and *ScienceDirect.*
Results. In recent years, great interest has been focused on researching and using natural antioxidants in medicine and pharmacy applications, due to their considerable biological value.

Several *in vitro* and *in vivo* studies revealed that the presence of phenolic compounds in plant extracts could be related with important biological properties, such as antioxidant, immunomodulatory, antimicrobial and anticancer activities. One of the main groups of biologically active compounds in *Solidago* species (goldenrods) is represented by phenolic compounds. According to the bibliographic review, the profile of phenolic compounds in *Solidago* species varies significantly in qualitative and quantitative composition and strongly depend on the species, plant part, ontogenetic development, geographic regions and environmental conditions. It was revealed the widely used methods for determination of phytochemical and antioxidant profiles of goldenrods, such as HPLC post-column assays, DPPH and ABTS radical scavenging activity assays, using the reference antioxidant Trolox. It was evaluated the principal radical scavengers in chemical profile of goldenrods: phenolic compounds of sp. *S. canadensis* and *S. virgaurea* differed with predominant antioxidant activity of rutin, chlorogenic and 3,5-dicaffeoylquinic acids; of sp. *S. gigantea* − quercitrin, chlorogenic and 3,5-dicaffeoylquinic acids; of sp. *S. graminifolia* − chlorogenic acid, quercitrin and hyperoside. Consequently, these compounds can be considered as antioxidant activity markers in phytochemical profiles of the corresponding *Solidag*o species.

Conclusions. Several studies predict the importance of *Solidago* species as valuable raw materials of biologically active phenolic compounds, which express important pharmacological effects and possess antioxidant activity.

Key words: *Solidago* species, antioxidant activity, phenolic compounds.

425. THE TOTAL CONTENT OF POLYPHENOLS IN DRY EXTRACTS FROM DIFFERENT PARTS OF *HYPERICUM PERFORATUM* L.

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Introduction. *Hypericum perforatum* L. belonging to the family Hypericaceae is a reputed medicinal plant including a wide range of important phytochemical components. The major components are: chlorogenic acid, rutin, hyperoside, quercitrin, quercetin, pseudohypericin, hypericin and hyperforin. Crude extract and individual compounds of *H. perforatum* have been reported to exert antidepressant, antibiotic, and antitumor activities. Getting of dry extracts is beneficial in terms of rational use of plant products, because the extraction yield of biologically active compounds is maximum, which also determines their high therapeutic properties.

Aim of the study. Quantitative determination of total polyphenols and flavonoids in dry extracts from aerial parts, flowers and seeds of *H. perforatum* L.

Materials and methods. The aerial parts, flowers and seeds of *H. perforatum* L. have been collected from the spontaneous flora and shade-dried. The dry extracts have been obtained through fractional maceration method. It was used as solvent ethanol 80%. The concetration of the extracts was done with the rotative evaporator *Laborota* 4011. Quantitative analysis of the phenolic compounds was realized using the *Metertech* UV/VIS SP 8001 Spectrophotometer.

Results. The total of flavonoids and polyphenols in the dry extracts from flowers (57,10 and 105,04 mg/ml) is higher than in the aerial parts (38,24 and 42,63 mg/ml) and the seeds (14,04 and 32,39 mg/ml). The total polyphenol content was estimated using *Folin-Ciocalteau* reagent.