

PROJECT RESULTS

1. Four extraction technologies at pilot stage:

- technology of dry extract production from artichoke leaves and fruits of mountain ash;
- technology of dry extract production from artichoke leaves and oat seeds;
- technology of dry extract production from wild garlic aerial part and fruits of mountain ash;
- technology of dry extract production from wild garlic leaves, artichoke leaves and oat aerial part.

2. Five standardized- association extracts, intermediate products for the manufacturing of food supplements:

- association dry extract of artichoke leaves and fruits of mountain ash, standardized in polyphenolcarboxylic acids expressed in caffeic acid;
- association dry extract of artichoke leaves and oat seeds, standardized in polysaccharides;
- association dry extract of wild garlic aerial part and fruits of mountain ash, standardized in polyphenols, expressed in gallic acid;
- association dry extract of wild garlic aerial part, artichoke leaves and oat aerial part, standardized in flavonoids expressed in rutin;
- association fluid extract of oat aerial part, artichoke leaves and fruits of mountain ash, standardized in flavonoids expressed in rutin.

3. Five pre-measured final products, in the form of tablets, capsules and glycerinate

- **ANGHICORD** – tablets – is a product based on association extract obtained from a mixture of **artichoke leaves** (*Cynarae folium*) and **mountain ash fruits** (*Sorbi fructus*), *processed with hydroalcoholic solvent*. Characterised by a complex composition, rich in *polyphenolcarboxylic acids* and *flavonoids*, this association has **outstanding antioxidant effects, anti-atherogenic, and platelet anti-aggregating effects**, contributing to **increasing blood vessel elasticity** and as **venous system tonic**. Owing to the highly antioxidant character of phenolic fractions, this association can be used to **fight against free radicals in the body**.

- **FIBRAVEN – tablets** – is a products based on association extract obtained from a water extraction- processed mixture of **artichoke leaves** (*Cynarae folium*) and **oat seeds** (*Avenae fructus*). This association characterised by its **fibre** input (beta-glucans, fructosans) and **polyholosides lowers cholesterol and lipids**, and is recommended as an adjuvant in **high cholesterol** and **high lipid levels**.
- **URSITON – capsules** – is a product based on association extract obtained from a processed mixture of **wild garlic aerial parts** (*Allium ursini herba*) and **mountain ash fruits** (*Sorbi fructus*). Its composition contains **sulphur organic compounds** (S-methyl-L-cysteine sulfoxide, allicin, ajoene, allyl disulfide), flavonoids and polyphenols, and is likely to be effective in **lowering lipids, cholesterol, platelet anti-aggregating, lowering blood pressure**, and as **protecting the heart**.
- **AVENOX – capsules** – is a product based on association extract obtained by hydroalcoholic extraction of **artichoke leaves** (*Cynarae folium*), **wild garlic aerial part** (*Allium ursini herba*) and **oat aerial part** (*Avenae herba*). The composition contains **sulphur organic compounds** (S-methyl-L-cysteine sulfoxide, allicin, ajoene, allyl disulfide), **flavonoids** and **polyphenols**, and is likely to be **effective as neuroprotector, vasoprotector, cardioprotector, venotonic, inducing calmness, and lowering blood pressure**.
- **TONOHERB – glycerinated extract** obtained from **artichoke leaves** (*Cynarae folium*), **oat aerial part** (*Avenae herba*) and **mountain ash fruits** (*Sorbi fructus*). It is characterised by a high content of **flavonoid and polyphenol compounds, tannins, proanthocyan, macro- and microelements** with high **antioxidant effects, liver protecting and venotonic effects**.

4. Five scientific studies:

- Preliminary phytochemical studies on the characterization of some medicinal plants used in the prevention of cardiovascular disease;
- Laboratory study to determine the optimum conditions for extraction of polysaccharides, sulfur compounds and polyphenolic compounds;
- Physico-chemical, microbiological and phytobiological (cytogenetic, cytotoxicity) characterization of extractive fractions;
- Screening of in vitro antioxidant action of extractive fractions;
- Study of the vascular effects

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5. Purchasing of a Research- Development equipment:

- Equipment for preparative liquid chromatography, preparative column chromatography pump, control unit, a device for filling columns.

6. Dissemination

6.1. Book:

“Medicinal plants in the prevention and treatment of some cardiovascular disease”

Author: Miron Anca, ISBN 978-973-7682-31-4/ Publishing G.T.POPA IASI, 2007

6.2. International scientific communication:

- **“Obtaining of phytoproducts for the cardiovascular diseases profilaxy; Note I: Some investigations of the *Allium Ursinum* chemical composition”.**
Authors: Mihailescu R., Mitroi G., Iacob E., Miron A., Stanescu U., Gille E, Cretu R., Ionescu E., Giurescu C., Cioclu L.; “The 5th Conference on Medicinal and Aromatic Plants of South East European Countries”, BRNO, 2-5.09.2008 Book of Abstracts/ Brno: Mendel University of Agriculture and Forestry Brno, 2008. (ISBN: 978-80-375-205-7).
- **“The effect of solvent extraction on the extractibility of some bioactive substances and antioxidant activity of some medicinal herbs indicated for cardiovascular protection. Note I: *Cynara scolymus* L. aerial part”**
Authors: R. Mihailescu, E. Iacob, G. Mitroi, R. Verdes, C. Bedreag, V. Ionescu, L. Cioclu, A. Macavei ; “The 6th Conference on Aromatic and Medicinal Plants of South East European Countries”, Antalya-Turkey, 18-22.04.2010, Abstracts Book, Volume 6, Issue 22/ Hotel Kervansaray Lara Convention Center, Antalya 2010. (ISSN: 0973-1296).
- **“The effect of solvent extraction on the extractibility of some bioactive substances and antioxidant activity of some medicinal herbs indicated for cardiovascular protection; Note II: Fructus of *Sorbus Aucuparia* L.”**
Authors: C. Bedreag, R. Mihailescu, E. Iacob, G. Mitroi, R. Verdes, C. Tebrencu, E. Ionescu, M. Chiriac; “The 6th Conference on Aromatic and Medicinal Plants of South East European Countries”, Antalya-Turkey, 18-22.04.2010, Abstracts Book, Volume 6, Issue 22/ Hotel Kervansaray Lara Convention Center, Antalya 2010. (ISSN: 0973-1296).