



Plantavorel

**Herbal Research and Processing Romanian
Company-Tradition, Opportunities, Challenges
and Prospects**



PLANTAVOREL

PLANTAVOREL COMPANY Motto:

***“The mysterious pharmacy of nature-warranty
of a healthy body!”***

PLANTAVOREL is a
Romanian private
company, that focuses
on the research,
development,
production and
distribution of food
supplements, cosmetic,
balneo - therapeutically
and herbal products.



Our Mission

We are dedicated to:

- Improvement of life quality;
- Applying the science of medicinal and aromatic plants, vitamins and minerals, and technology for human safety and good health add value;
- Helping to meet our customers' economic welfare.



PLANTAVOREL' history

- 1825 - Prince Ioan Sandu Sturza which is consider to be the forerunner of the pharmaceutical use of medicinal herbs in Romania, gave to the apothecary Anton Vorel the right to open "*an Apothecary's Shop in the borough of Piatra*" through a Prince's *hrisov*;
- 1878 - the Vorel Apothecary's is administered and directed by Anton Vorel's son, Lascar;
- 1883 - Lascar Vorel receives the patent of supplier of the Royal Court, the pharmacy being named "*Farmacia Regala Vorel*" (The Royal Vorel Pharmacy);
- 1910 -Constantin Vorel took over the management of the Laboratory for Quantitative and Qualitative Analysis;
- 1942 - there were produced over 120 products, distributed worldwide under the trademark VOREL LABORATORIES.

PLANTAVOREL' history



1923 - production and research are extended and the complex formed by the pharmacy and the laboratory is called "CHIMICO-PHARMACEUTICAL LABORATORIES Piatra Neamt".

1948 - the activity of the VOREL LABORATORIES was suddenly stopped by the nationalization law, thus being destroyed information of great scientific value in understanding nature.

1983 - the second birth of the VOREL LABORATORIES, by the founding of the PLANTAVOREL laboratory, thus continuing the tradition of capitalizing the 'green gold'.

Since then, the company has been specializing in researching and producing phytotherapeutic, dietetic, nourishment and cosmetic products from medicinal and aromatic herbs, cereals, vegetables, fruits and bee products.



PLANTAVOREL ACTIVITY AREA

❑ Medicinal and aromatic herbs
research and processing

❑ PLANTAVOREL activity main
sectors:

- Research Department;
- Production Department;
- Quality Control Department.

PLANTAVOREL research activities

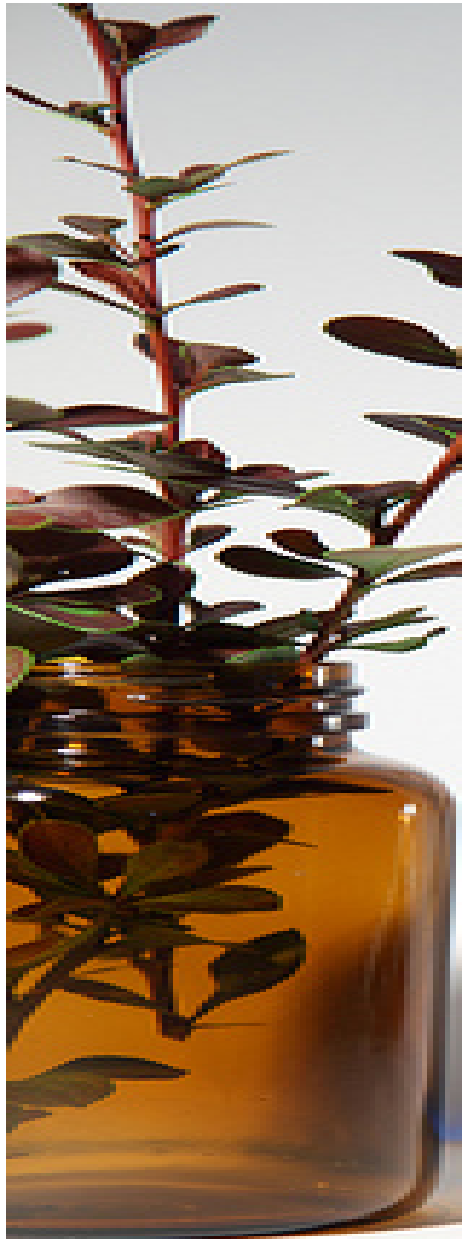


Product research:

- identification of new active principles derived from plants for pharmaceuticals, food supplements and cosmetics;
- formulation new and original food supplements, cosmetic, balneo-therapeutically and other herbal products.

Process research: original advanced industrial production processes.

Research and development activities carried out in partnerships with Universities and Research Institutions, in National Research Programs.





Scientific Expertise

- Pharmacognosy;
- Phytochemistry;
- Analytical chemistry;
- Phytotherapy;
- Pharmaceutical technology;
- Biochemistry;
- Food Science;
- Food nutrition.

R&D Areas

- Medicinal and aromatic plants;
- Botany-Pharmacognosy;
- Phytotherapy;
- Microbiology;
- Biochemistry-Nutrition;
- Food Sciences/Technology;
- Food bioactives;
- Process and product development.

ADVANCED RESEARCH FROM SOUND TRADITION

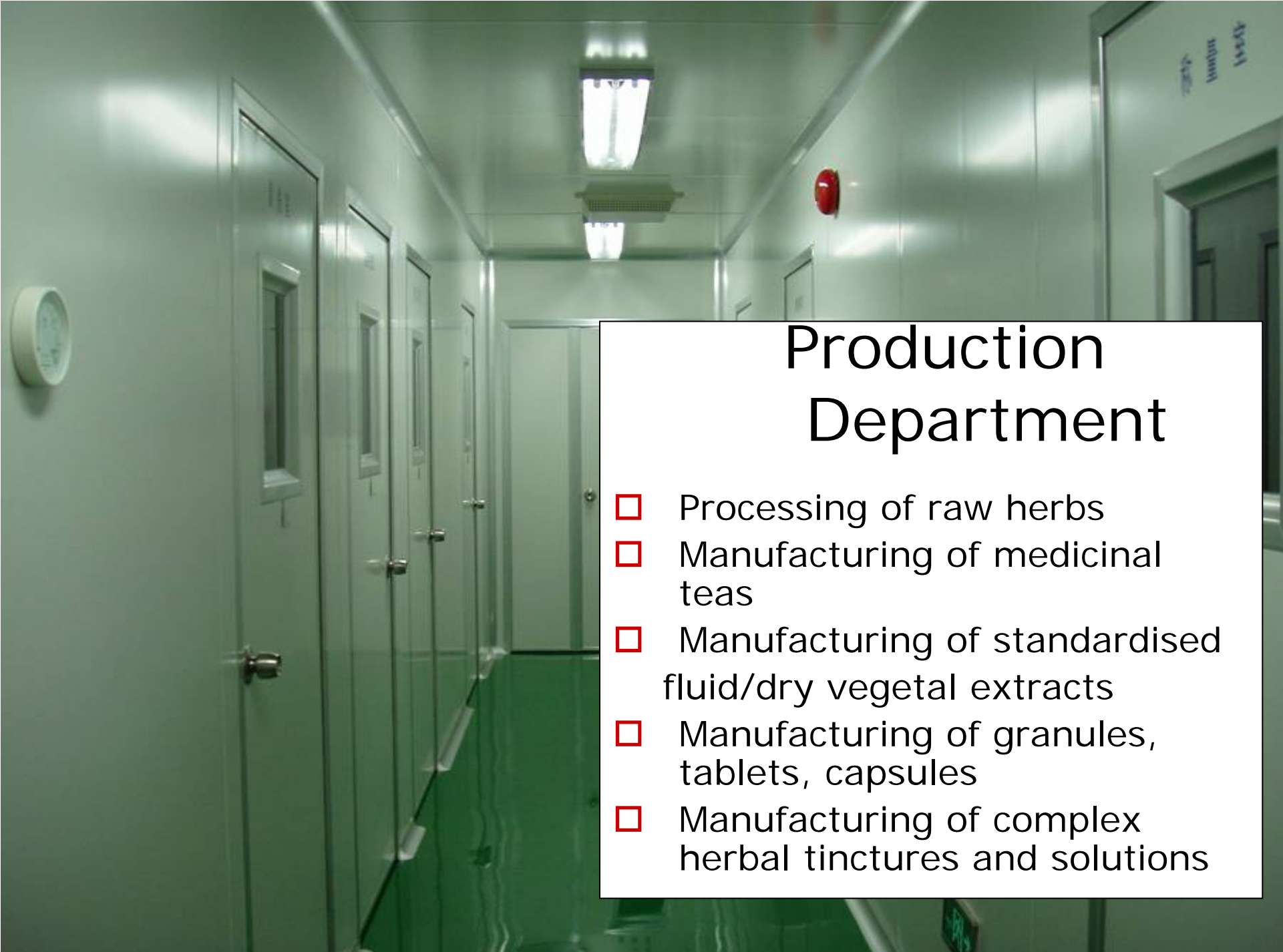
Our product research is carried out for setting-up innovative botanical derivatives through:

- Ethnopharmacology;
- High throughput and targeted screening;
- New uses of traditional and already developed botanical products.



RESEARCH LABORATORIES

- ❖ Pharmacognosy lab;
- ❖ Analytical/quality testing lab;
- ❖ Natural product isolation/formulation;
- ❖ Herbal extraction/product development;
- ❖ Pilot plant for herbal extraction;
- ❖ Pilot plant for food supplements;
- ❖ Pilot plant for cosmetic and balneo - therapeutically products.



Production Department

- Processing of raw herbs
- Manufacturing of medicinal teas
- Manufacturing of standardised fluid/dry vegetal extracts
- Manufacturing of granules, tablets, capsules
- Manufacturing of complex herbal tinctures and solutions

MAIN PRODUCT CATEGORIES

STANDARDISED EXTRACTS

- ❑ Total/selective liquid or dry extracts with a reproducible content of active or characteristic principles.

FORMULATED PRODUCTS

- ❑ Food supplements in form of hydro-glycerites, powders, granules, tablets and capsules designed for:
 - Digestive functions improvement and protection;
 - Nervous system protection and tonification;
 - Circulatory system protection and tonification;
 - Respiratory functions protection and improvement;
 - Cardiovascular system protection and tonification;
 - Immunitary system stimulation;
 - Urogenital functions improving and protection;
 - Normalization of metabolic functions;
 - Detoxifying and tonifying;
 - Strengthening;
 - Anti-inflammatory products.
- ❑ Skin care products made from essential oils and vegetal extracts, in form of creams, ointments, and solutions;
- ❑ Balneo - therapeutically products in form of solutions made from herbal complex combinations extracted in hydro-glycerol solvent.

PLANTAVOREL QUALITY SYSTEM

PLANTAVOREL research activities are carried out according to regulations/standards of the major international authorities:

- **EMA** - European Agency for the Evaluation of Medicinal Products;
- **EPH** - European Pharmacopoeias;
- **ESCOP** - European Scientific Cooperative on Phytotherapy;
- **WHO** - World Health Organization;
- **USP** - US Pharmacopoeia.

PLANTAVOREL Quality System is based on:

- **QUALITY ASSURANCE;**
- **QUALITY CONTROL.**
- ❑ PLANTAVOREL Quality System ensures that all manufacturing, control and packaging processes comply with **GMP** and **HACCP** (Hazard Analysis Critical Control Points).
- ❑ All products are notified and registered by Romanian Health Ministry.

BOTANICAL SOURCES



Medicinal and aromatic plant material is obtained both from plants growing in the wild and from cultivated stock.

- More than 30% of the botanical raw material is grown in plantations
- *Cultivated* herbs are dominated by valerian, chicory, lemon balm, artichoke, and marigold, which comprise over 20 percent of total raw vegetal materials followed by purple coneflower, hop, chamomile, mint, sage, thyme, oregano, fenugreek, jerusalem artichoke.
- Among *wild-harvested* herbs the most common are celandine, alder buckthorn, dandelion, St. John's wort, hawthorn, plantain, elder, linden, nettle.

Echinacea angustifolia

Benefic properties

- *Stimulate the immune system;*
- *Antibacterial agent.*

Active principles

- *polyphenolic compounds;*
- *polysaccharides.*

Plantavorel Echinacea (aerial parts) based products:

- ❑ *Echinacea dry extract (standardized in polyphenolic compounds);*
- ❑ *Echinacea glyceryte;*
- ❑ *Echinacea and plantago tincture/glycerite;*
- ❑ *Tablets of echinacea, plantain, rose hips and wild thyme;*
- ❑ *Tablets with echinacea, burdock, willowherb and St. John's wort dry extracts;*
- ❑ *Combined teas based echinacea.*



Plantago spp.

Benefic properties

- *Stimulate the respiratory functions;*
- *Demulcent/anti-irritative;*
- *Stimulate the immune system.*

Active principles

- *polysaccharides;*
- *polyphenolic compounds;*
- *iridoides.*

Plantavorel plantain (aerial parts) based products:

- *Plantain dry extract (standardized in polysaccharides compounds);*
 - *Plantain fluid hydro-alcoholic extract;*
 - *Echinacea and plantain tincture/glycerite;*
 - *Tablets of echinacea, plantain, rose hips and wild thyme;*
 - *Tablets of plantain, St.John's wort, oregano, marigold dry extracts;*
 - *Balneo - therapeutically products in form of glycerite from plantain, wellow sweetclover, lady's bedstraw, sage, nettle, thyme;*
 - *Combined teas - based plantain.*
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Calendula officinalis



Benefic properties

- *Demulcent/anti-irritative;*
- *Anti –inflammatory.*

Active principles

- *carotenoids;*
- *ursolic/oleanolic acids;*
- *triterpenoides and flavonoids.*

Plantavorel marigold flowers based products:

- Marigold dry extract (standardized in oleanolic acid/flavonoids);*
- Marigold fluid extract tincture/glycerite/oil;*
- Tablets of marigold, plantain, St.John's wort, oregano, dry extracts;*
- Tablets of marigold, spiny cocklebur, white deadnettle, cough grass, nettle, comfrey;*
- Combined teas - based marigold;*
- Skin care products based marigold oil/glycerite/alcoholic extract.*

Challenges and Prospects

- ❑ Formulation and authorization of herbal medicine products based on purified and standardised herbal extracts;
- ❑ Organic cultivated herbs as raw materials;
- ❑ Manufacturing of purified bioactive compounds;
- ❑ Perfomed supercritical fluid extraction;
- ❑ Refinement of vegetal raw materials;
and waste recovery for heavy metals
biosorption.



Thank you for your attention!

Plantavorel

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