Ecological Standards of Medicinal, Aromatic, Spicery and Poisonous Herbs of Georgia

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A rich and unique genetic fund of Georgia represents a natural-historic treasure calling for permanent conservation-rehabilitation. The issue is important to our country while the number of cultural plants and their wild ancestors originate from Georgia as their primary and secondary hearth of origin. In Georgia those unique medicinal, aromatic, spicery and poisonous plants are spread which cannot be found anywhere in the world.

The referred above topic results in protection of human health in any country. It is not necessary to assert the significance of pure natural fermentative medical preparations made from plants grown in our eco-systems. Natural complex chemical compounds, as a rule, have less harmful and specific impacts on human body rather than its synthetic analogues and substances with artificially made structures, thus, enabling their use in cases of chronic and acute diseases. This can be explained in the way of the process of the vital functions during ontogenesis period, many substances are formed. Many of these substances have explicit impact on human and animal organisms. Biogenesis occurring in plants on the basis of assimilation of simple molecules in systems of extremely complicated complexes of biologically active substance, goes even beyond the opportunities of complex modern chemical (synthetic) and plants of Chemical Synthesis.

Purpose is searching for and cataloguing germplasm of the medicinal, aromatic, spicy and poisonous plants of Georgia, including the unique plants and those on the verge of extinction, wild and cultural species, establishment of data bank of the present pharmacological peculiarities to ensure preservation of flora resource and sustainable use of its components, updating of the seed bank based on differentiated goods value to facilitate further raw material production and development of pharmaceutical industry as a basis of project viability.

Criteria which we have been used for species selection procedure is for the standardization of those plants:
- The use of plant species by local population;
- Species status - abundant, rare, threatened, Red Data Book. Priority is given to species which are protected, globally threatened or endemic and overuse might lead to their extinction (Valeriana Colchica Ut., Taxus baccata L, Dioscorea Caucasica Lipsky, Rubia Iberica L);
- Pharmacological and aromatic properties of species. High activities value of plant species is considered as additional benefit for successful marketing, which will increase chances of local farmers to bring products to the farmers;
- Species potential for cultivation (Calendula officinalis L). Special consideration is given to plants used as pharmaceutical industry, nutriment supplements, food and bringing immense financial benefit.

On the base of pharmacological studies (1999-2009) for the standardization and quality control of herbal medicinal plants, we have developed recommendations concerning historical and traditional priority – technology of production of ecologically sound standards of raw materials and products of medicinal, aromatic, spicery and poisonous plants of our country: *Foeniculum vulgare* L - essential oils -3-5%, flavonoids -0,5%; *Valeriana officinalis* L - extracted solids 27,8%, essential oils - 2%, isovaleric acid 0,91; *Melissa officinalis* L - essential oils - 0,33%, vitamins C 150 mg%, carotene 7mg%; *Carum carvi* L - essential oils – 7,2%; *Thymus vulgaris* L - essential oils 2,2%, *Salvia officinalis* L - 2,5%; *Hyoscyamus niger* L – alkaloids -0,5%;

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Datura stramonium L – alkaloids 0.14%, impact of ecosystems on productivity, quality of raw materials and products is differentiated.

Widespread in Caucasus Endemic species Valeriana Colchica Utk with its composition is invaluable. These indicators significantly exceed any standards. In addition, they are characterized with high productivity and have a great export potential.

Chemical Parameters of Valeriana Colchica Utk

<table>
<thead>
<tr>
<th>N</th>
<th>composition</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>extract substances</td>
<td>26.90</td>
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<tr>
<td>2</td>
<td>essential oils</td>
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</tr>
<tr>
<td>3</td>
<td>Isovaleric acid</td>
<td>0.95</td>
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Calendula officinalis L is a well known medicinal herb. It is common knowledge that its medicinal properties are conditioned on biologically active complex substances of Carotene (Provitamin A) -31%, Stearin, Triterpiniod, Plavonoid, Kumarin, macro and micro compound elements. Because of constant need in raw material of Calendula officinalis L, features of its ontogenetic development agro-biological qualities in various eco regions of Georgia were investigated. The data of biologically active compounds, biochemical structure and the maintenance both in flowers and in others parts of plant is presented; the pharmacological activity and importance in medicine was reviewed.

Standards are differentiated and proseed releasing in Georgia in accordance with our country legislation.

References