

Полезные свойства инвазионных растений

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Useful Properties of Invasive Plants

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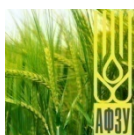
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Textbook presents the results of research and educational institutions and experts involved in the international network **AgroBioNet** oriented for the realization of international research, education and development program entitled "Agrobiodiversity for improving nutrition, health, and life quality" which solves the problems of preservation, assessment and use of traditional, lesser known, less-used and forgotten kinds of plants.

In this textbook is also presented results from the solution of research projects that are supported by the Operational Programme Research and Development of the European Regional Development Fund:

AgroBioTech ITMS 26220220180 Building Research Centre

TRIVE ITMS 26110230085 Development of International Cooperation for Purpose of the Transfer and Implementation of Research and Development in Educational Programs

ITEBIO ITMS 26220220115 Support of technologies innovation for special bio-food products for human healthy nutrition

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RESUME

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Useful Properties of Invasive Plants

Over the last 200 years, the flora in many countries has become so transformed that sometimes alien naturalized species make up almost half of the region's flora. The increase in abundance and widespread distribution of alien species is associated with a significant increase in trade and transport traffic and, presumably, with climate changes. The most aggressive non-native species belong to a special group - "invasive plants", which produce large numbers of diaspores, and therefore have the potential for rapid expansion of the secondary distribution range. They invade aggressively into the natural communities, while displacing native species, changing the ecosystem over a large territory. Currently, 57 countries of the world have 316 invasive vascular plant species (McGeoch et al., 2010). The damage from invasive species around the world is more than \$ 1.4 trillion, or ~ 5% of the world economy.

On the other hand, invasive species can become new resource plants, since a significant part of them are "escaping" from culture and possesses economically valuable characteristics. It's noted that in the secondary distribution range actively naturalized species have larger sizes than at "home" conditions and form powerful (usually single-species) thickets. According to the area of the occupied territory, invasive species, especially in anthropogenic disturbed habitats, practically don't differ from native species, their resource potential is quite high.

The main problem with the using of invasive species is the almost complete absence of information about their biological characters in the secondary distribution range, in particular the dynamics of the accumulation of chemical substances, its dependence on the habitat and the phase of plant development. Even if there are literary data on the biochemistry of species in natural ecosystems, they can't always be applied to the same taxa growing in the secondary distribution range in connection with the significant micro-evolutionary changes of the plants in new soil and climatic conditions.

The authors made attempt to generalize the world experience of using invasive species and develop recommendations for their application. The book presents summarizing data on the 40 species that the authors recommend to collected them in wild invasive populations and use for their intended purpose. It is prohibited to cultivate alien species at the gardens. Firstly, they aren't too decorative, and it is almost impossible to get rid of them, and secondly, it is well known that the plants usually lose some useful properties under cultivation. Third, collecting invasive species in natural communities. On the first part, we can receive economically valuable plant materials, and on the second part, we reduce the negative impact of alien taxa on the biodiversity of the region. In any case, it's necessary to have control over the dissemination of alien plants. Now this is one of the most important problem.

The book provides information on the secondary range and invasive status for each of 40 species. The data on their using as the resources of food, honey, vitamin, medicinal, essential oil, cosmetology, fodder, tanning, dyeing, technical (wood), decorative, phyto-recultivation, bio-energetic, bio-pesticides resources are given.

The authors hope that this publication will be an important stage in the beginning of screening of valuable properties of invasive species and large-scale actions for preserving the natural biodiversity, and it'll also help the farmers' education.

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