


Альтернативное применение растений на крышах зданий – сады на крыше
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Alternative Implementation of Plants on Building Roofs – Roof Gardens

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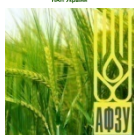
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Textbook presents the results of research and educational institutions and experts involved in the international network **AgroBioNet** oriented for the realization of international research, education and development program entitled "Agrobiodiversity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

In this textbook are 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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Alternative Implementation of Plants on Building Roofs – Roof Gardens

Environmental issues have recently become so crucial that new, ecologically motivated criteria for building construction in urban areas and their integration into the vegetation concept are required. Within this integration, an important approach is the implementation of vegetation also on rooftops and walls for its ability to regulate water management and positively impact climate conditions, while making urban environments culturally and aesthetically more valuable. Roof gardens, as a sort of alternative green space, represent an efficient way to have a positive ecological, psychological and economic impact on human environments through vegetation.

Many domestic xerophytic perennial species with a good vitality are predetermined for use on extensive green roofs. Considering the facts that perennials represent the widest ecological group of ornamental plants, which includes species from geographically and ecologically diverse locations, the selection has been focused on important species from the point of view of landscape architecture, namely domestic, partly wild-growing or introduced xerophytic perennials. The reason for choosing this ecological group of perennials is a certain analogy of climate, soil and hydrological conditions between the technical environment of roofs and natural biotopes of xerophytic plants on sunny and stony grasslands and field boundaries. Comparing 249 xerophytic plants according to Ellenberg (1992), Dostál (1989), Jurko (1990), Kuřková (1991), Ondřej (1996) and Marhold & Hindák (1998), 153 plant species have been chosen, which are domestic in Slovakia, wild-growing and xerophytic (Feriancová, 2000). The selected species have ability to provide the required colour effect during the whole vegetation period. A right combination of complementary colours in the period of flowering and through applying certain compositional elements of plantings, it is possible to achieve a high aesthetic quality of the landscape architectural composition. These 33 species are described in more detail: *Adonis vernalis* L., *Achillea millefolium* L., *Alyssum montanum* L., *Anthericum liliago* L., *Armeria maritima* (Mill.) Willd., *Aurinia saxatilis* (L.) Desv., *Carlina acaulis* L., *Cerastium arvense* L., *Coronilla coronata* L., *Cota tinctoria* (L.) Gay, *Dianthus deltoides* L., *Festuca ovina* L., *Filipendula vulgaris* Moench, *Geranium sanguineum* L., *Globularia punctata* Lapeyr., *Inula hirta* L., *Linum perenne* L., *Potentilla arenaria* Borkh., *Potentilla argentea* L., *Salvia pratensis* L., *Sedum acre* L., *Sedum album* L., *Sedum sexangulare* L., *Sedum spurium* Marsch.-Bieb., *Sempervivum tectorum* L., *Senecio doria* L., *Stachys byzantina* K.Koch, *Teucrium chamaedrys* L., *Teucrium montanum* L., *Thymus serpyllum* L., *Thymus vulgaris* L., *Tithymalus cyparissias* (L.) Scop., *Tithymalus epithymoides* L. Klotzsch et Garcke. The description includes information on the family, synonymic names, distribution, living form, leaves, flowers, fruits, seeds, planting scheme, reproduction, soil conditions, cultivars, possible medical use, contraindications, other utilisation of plants and their parts, protection status, requirements for growing in extreme conditions.

This publication aims to contribute to the implementation of nature base solutions on urban rooftops in the form of extensive green roofs or roof gardens. These have a great potential to enhance to the urban green infrastructure and the provision of ecosystem services, which is in line with the targets of the EU Biodiversity Strategy to 2020.

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