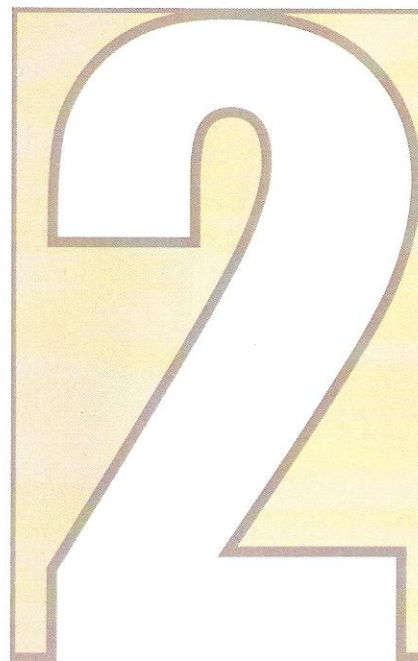
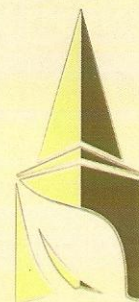




TRANSILVANIAN HORTICULTURE AND LANDSCAPE STUDIES CONFERENCE



Sapiientia Hungarian University of Transylvania
Faculty of Technical and Human Sciences
Tîrgu-Mures
Department of Horticulture

ABSTRACTS

12–13 APRIL 2013
TÎRGU-MUREȘ
MAROSVÁSÁRHELY

Zoltán PAPP, Ottó OLAJOS, Katalin ERTSEYNÉ PEREGI: **First experiences of vegetable growing in passive aquaculture**

Katalin SLEZÁK, Ákos DOKTOR, Aleš JEZDINSKÝ: **The change of dry matter and carotene content of Nantes type carrot roots, during a year**

Bernadette SZTOJKA, Rezső THIESZ, László FERENCZ, Attila BANDI: **Evaluation of the *Rosa canina* L. population from the Basin of Káczon**

Endre GYÖRGY TÓTH, Mária HÖHN: **Morphometric comparison of cone traits in distinct scots pine (*Pinus sylvestris* L.) populations**

Dániel VARGA, Magdolna TÓTH, Zsolt ERŐS-HONTI: **Observations on the anatomy of the leaves of the domesticated apple (*Malus domestica*)**

The 100-day variety was characterized by the highest average carotene content (19.21 mg per 100 g). Compare the varieties at the sampling near to the final days of own official vegetation period, also the 100-day variety had the highest carotene content (18.71 mg per 100 g). At the sampling near to official final days of varieties, the lowest value was observed in case of the 90-day and 95-day varieties (11.20-11.76 mg per 100 g), and in case of them, at the later samplings, higher values were found. Correlation between the length of vegetation period and average carotene content of varieties was not observed.

EVALUATION OF THE ROSA CANINA L. POPULATION FROM THE BASIN OF KÁSZON

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The fruit of the wildrose, the rosehip, is one of the richest source of vitamin. This species might have an important role in sustainable pomology, giving a valuable solution for economic, social and environmental problems. The aim of this paper is to present the results of our study on the *Rosa canina* population of the Basin of Kászón. During our research we have evaluated more than 90 selections, taking into consideration the physical and content parameters of the fruits. Besides morphological characteristics we have analysed the fruit weight, its length, diameter, biomass and the seedsnumber per fruit. In the course of measurements related to content of the fruits we have determined the total acidcontent, the water soluble solid content, the total sugar content, the sugar/acid ratio and the vitamin C content of the fruits. In the examined population 14 selection have a fruit

weight above 1,90g, in 15 cases the length of the pseudofruits is beyond 21 mm, while the diameter of 16 types is over 14mm. More than half of the selection shawe a biomassabove 65%. The great majority of the examined types have a high total sugar content, and in almost every case a high total acid content too. The selections with high fruit quality from the examined *R. canina* population, have had a high amount of vitamin C content, which has varied between 34 and 5301 mg% fresh substance. On the basis of our results we have concluded that, the wild rose population of the Basin of Kászón is characterized by intense variability, which enables the selection of types with high biological value.

MORPHOMETRIC COMPARISON OF CONE TRAITS IN DISTINCT SCOTS PINE (*PINUS SYLVESTRIS* L.) POPULATIONS

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Pinus sylvestris (L.) is the second most distributed conifer of the word. Due to its wide range of habitats the populations are morphologically diverse. Moreover isolated populations also carry phenotypic marks because of the extreme environmental factors. Cone morphometry was widely used formerly to differentiate phenotypes, but only few studies included Hungarian populations. Our aim was to reveal patterns of morphological variability of the Hungarian populations and to compare them with other southeastern populations. Seven Scots pine populations of distinct habitat type were examined in regard to six measured morphological traits. Beside Hungarians we included Romanian and Bulgarian proveniences. Altogether 250

samples were collected. The dataset was analyzed by correlation and discriminant analysis and a cluster analysis was also performed. We found statistical differences in case of all morphological variables in each population. The highest number of cone scales associated with smaller cone size was detected along the Bulgarian and Hungarian (from Kétyölgy) populations compared to the others. The ratio between the cone length and width were the same in all population, except in one of the Hungarian and in the Bulgarian population. The narrowest cone apophysis was observed in population from Zsidai valley (Hungary) while the widest in Fenyőfő and Kétyölgy1. Cluster analysis showed that the strongest variables in clustering were mainly the cone length-width and thickness of apophysis, and the weakest clustering variables were the properties of the apophysis (width and length).

OBSERVATIONS ON THE ANATOMY OF THE LEAVES OF THE DOMESTICATED APPLE (*MALUS DOMESTICA*)

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One of the most serious fungal diseases of apple in Hungary and in other countries is the apple scab caused by *Venturia inaequalis* (CKE.) WINT. It has been studied from numerous points of view, but still few studies examined the anatomical differences between the leaves of scab resistant and susceptible apple cultivars.

Certain studies have proposed that some anatomical features may be related to the scab resistance or scab susceptibility of some apple cultivars. Our aim is to find such quantitative characteristics in the leaves that can be related to the scab resistancy or susceptibility.

During an experimentat of almost three years, we have studied the possible anatomical backgrounds of the resistance against apple scab in fully matured leaves, where certain tissue regions (epidermal cells, cuticle) were analysed. Besides, we also examined the anatomical changes of gradually decaying leaves. We looked for a correlation between the collapse of the tissues and the development of the pathogen within the leaves. The complete anatomical structure of apple leaves was also explored: in this work we documented and analysed the crystal forms of the vegetative and generative organs of the apple; for the first time, according to the literature.

By these studies we approach toward the understanding of the anatomical background of a certain disease, what could serve as an advantage during the breeding process of resistant cultivars.

ALIEN INVADERS: NEW PESTS OF FRUITS, VEGETABLES AND ORNAMENTAL PLANTS IN EUROPE

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In the last 500 years, a huge number of living organisms have been spread worldwide both intentionally and unintentionally. Expanding global trade and transportation seem to overcome any geographic barriers which formerly hindered the natural dispersal of species. Thus man-mediated plants and animals may occur and establish outside of their native range or their natural dispersal potential. These species are regarded as aliens. A special group of aliens is invasive species, which have adverse environmental and socio-economic effects on the habitats and regions they invaded.

Several examples for pest species alien to Europe can be found in all fields of plant production, including horticulture. Amongst the