Aspects regarding the dynamics of pests found in forest nurseries in North-East of Moldova during 2009-2011

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Abstract This research refers to the dynamics of pest species found in forest nurseries of the Forest Directorates Botosani, Iasi and Suceava during 2009-2011 and it is a part of an extensive research in this area. Research results show that biotic pests represent the largest percentage of harmful factors, i.e. 93.81% and from these 72.60% are insects compared with plant parasites (19.81%) and harmful mammals (7.59%). The most dangerous pests for saplings from the forest nurseries are root insects (87.20% of all harmful insects), out of which the largest share (70.87%) is Melolontha melolontha Larvae, followed by species of Elateridae with 13,20%. In practice, there are detected and predicted all kinds of insect pests, but the focus is on insects which attack the root of saplings in nurseries because the damages caused by them are significantly higher. The intensity of larvae beetles during the years studied has generally been ranked from low (43.02%) to medium (24.58%), only in certain areas the intensity was high (24.74%) or very high(7,66%). For the application of modern prevention methods and pest control is absolutely necessary to permanently know and monitor them. This will ultimately lead to the production of healthy and vigorous forest material ensuring the performance of the afforestation work quality.

Key words

pest, forest nurseries, root insects, saplings

The dynamics of the damage caused by *hylobius abietis* (l.) in the first two years after the spurce plantations establishment in relation to the control measures applied

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Abstract The large pine weevil, *Hylobius abietis*, can cause significant damages, unless efficient protective measures are applied and which most of the times must to have a prevention character. That's why, it is necessary to evaluate these measures in order to improve them both from an economical and ecological point of view. The results of this study shows that in the spurce plantations set up after 3 years from the cutting area exploitation, the damages caused by the *Hylobius abietis* pest in the first two years are held under control through the protective measures applied, the success index of artificially regeneration being placed between the accepted limits of at least 85% for the mountain and pre-mountain area. Even though, the damage index determined for the first year since the setting up of the plantation shows that *Hylobius abietis* causes significantly bigger damages, the share of the losses due to this pest being over 80 % out of the total losses.

Key words

large pine weevil, *Hylobius abietis*, artificially regeneration, spurce plantations

Varieties of roses of the thea group used in landscaping in Timisoara and their morphological behaviours

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Abstract For over 5,000 years, rose and chrysanthemum have been the favourite flowers in Japan and China. Rose, known from times immemorial, is present, nowadays, in almost all of our gardens. About 400 rose species are known, of which over 200 originate in the northern hemisphere, together with an impressive number of rose cultivars – about 20,000. The features of this flower consist in its particular beauty, in its wide range of colours (from white to different shades of cream, pink, yellow, orange, red, and even purple and blue). Due to these considerations, we have carried out a trial for two years (2011 and 2012) in the open in the climate conditions of the Municipality of Timişoara.

Key words

rose, cultivar, cut, morphology, observations

Bioecological and aesthetics behaviour of some rose varieties from thea group at different cutting types

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Abstract Roses are incredibly diverse. It is not only about the number of cultivars (well above 25,000), but also about all possible features: colour, size, shape, growth rate, and leaf aspect. Due to these varied aspects, the system of rose classification is a very varied one: even so, some cultivars cannot be included in either category (Eckart Haenchen, M.A.S.T. 2005). As far as the flowers are concerned, some cultivars are characterised by a large number of petals, some others have fewer petals, and some have an unpleasant look because of their morphology. The most cultivated roses are scented ones and their production has turned into a real business (William Grant, 2006).

Key words

rose, cultivar, cut, morphology, observations

Preliminary results on the influence of growth hormones on the *in vitro* regeneration of Phalaenopsis flower stalks

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Abstract This paper follows the propagation of *Phalaenopsis* by *in vitro* technique, starting with floral - stalk fragments inoculated in Murashige and Skoog medium supplemented with different concentrations of growth hormones. The aim is obtaining a large number of plants in a short period of

Key words

orchid, Phalaenopsis, propagation, modern,

time. The biggest advantages of this propagation method are genetic preservation of the mother plant and the fact that parent plant itself remains unharmed in the tissue harvesting process.

flower-stalk

Observations of the regeneration composition in some silvicultural experimental areas of Tomnatic Forest District, Suceava County

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Abstract Following the idea of excessive introduction of coniferous, especially at the expense of introducing spruce in stand of beech mainly applied to early last century, many forests have suffered some negative changes, especially ecologically (loss of ecological stability, biodiversity loss, etc.). This article, will follow as a brief presentation of the evolution of both stand composition and how to regenerate their territory Tomnatic Forestry, the Forestry ICAS also will perform a comparative analysis of how the development of beech seedlings under the influence of environmental factors and stationary conditions, between two different test surfaces.

Key words

ecological stability, biodiversity, evolution, stands composition, regeneration

Association of annual flowering plants in a flower bed in the Municipality of Timisoara and results during vegetation in 2011

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Abstract Choosing plants can be one of the highest pleasures of a landscapist, but it can also engender dilemmas. The number of cultivated flowering plant species and varieties is so large and varied that it is almost impossible to say the decision we have made for a planting sketch is the best.

In the present paper, we study a few annual plants used to decorate green areas in parks and gardens; the research result is the choice of the most suitable plant combination for the climate conditions of the municipality of Timisoara.

To get the best results, we monitored the evolution of plants during the vegetation period from the point of view of plant height, diameter, blooming period, and compatibility with other plant species. Measurements were made in 2011, at different plant development stages, aiming at achieving the best flowering plant combinations.

Key words

annual plants, flower bed, combinations

Preliminary studies on the marketing of fresh processed potatoes by using the marketing mix

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Abstract Due to the chemical composition, the potato is considered an easily digestible and almost completely dietary staple food, according to UN and FAO it is one of the viable solutions for the present and future in eradicating poverty and hunger.
Processed fresh food market has evolved continuously during the past decade. Both the number of competitors and the diversification increased considerably, and the standards are much higher today.
For a better efficiency of potato production, potato tubers should be processed for fresh consumptions beside the other forms of processing: pommes frites, chips, flakes, pellets and so on, which require high energy consumption.

Key words

potato, processing, food market, HORECA, efficiency, market

Partial research concerning the behavior of the *Hepatica transsilvanica* in the process of *in vitro* micropropagation

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Abstract In order to develop an *in vitro* micropropagation protocol of the rare, endagered and ornamental plant *Hepatica transsilvanica* Fuss different types of explants cultivated on normal-strenght Murashige and Skoog (MS) macronutrients and micronutrients supplemented with BAP, alone or in combination with NAA were tested. For the *in vitro* establishment of *Hepatica transsilvanica* Fuss axillary buds, leaf and petiol explants were disinfected by standard methods, varying the time action of disifectant agents. The best results were obtained when axillary buds from rhizomes were cultivated on MS medium (modified) supplemented with 0.5 mg/l BAP, 78.9% of explants regenerating shoots.

Key words

endemic, *in vitro*, nutritive media, initiation

Urban green space management opportunities for wildlife management. Bird pests

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Abstract Starting with landscape and urban planning, integrated management programs are required to optimize costs in terms of environmental and economic pests' impact. Yet, urban sustainability is unfortunately a nebulous issue of the national development, making from vertebrate pests a true *can't live with it, can't live without it* issue. *Pest birds* are a constant presence in Romanian plain and hilly urban landscapes. They signal environmental disorders on different spatial and temporal levels, ranging from the habitats in urban, agricultural or even natural context – brown, grey or green fields – up to the ecological landscapes that include human settlements, farms, forests, wetlands and water bodies. Considering that extensive development corrections are unlikely to happen in the near future, this study investigates the short and middle term options that green space offers mainly for the bird-pest management. There were identified two possible directions: integration and mitigation. In the first case, green space management is required to form a framework for the cultural integration – by landscape – of the bird pests, making them easier to live with, thus increasing urban life quality. In the second case, green space management addresses urban ecology: wildlife and habitat management are approached as ecosystem services of the green infrastructure aimed to mitigate primarily bird pests, but also other vertebrate pests – like dogs, cats and rats. The study results in a list of options that could be considered with minimum investments for urban bird pests approach. The conclusions focus on the green space management limits in the bird space issue, showing that long-term vertebrate pest management is a must-learn lesson for local and central administrations, since virtually no-pests can only be achieved this way in a sustainable manner.

Key words

Corvus frugilegus, green infrastructure, green space habitat, integrated pest management, urban landscape, vertebrate pest management

Abundance and dominance of aphid species collected in the depression area of Targu Secuiesc

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Abstract Virus infection trigger requires three factors: host plant (potato), virus and the vector (aphids). Potato virus transmission from one field to another and virus transmission from one plant to another within a potato culture is attributed primarily to aphids. This paper presents the abundance and dominance of aphid species as virus vectors in the Depression of Targu Secuiesc, the main growing area for seed potato. It is very beneficial for potato growers to know the potato aphid fauna structure, as they can control potato pests.

Key words

aphids, potato, abundance, dominance

The assessment of genetic stability of *Magnolia x soulangiana* and *Magnolia stellata* plant regenerated *in vitro* using RAPD markers

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Abstract The objective of this study was to determine the genetic stability of *Magnolia stellata* and *Magnolia x soulangiana* microshoots regenerated *in vitro*. For this purpose five primers were used (from 12 previously tested) and the similarity between RAPD profiles corresponding control plant respectively microshoots regenerated *in vitro*, was interpreted as suggesting genetic stability.

Key words

Magnolia x soulangiana, Magnolia stellata, in vitro, genetic stability, RAPD

Nitrogen content in lettuce under the influence of magnetic nanofluids

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Abstract Our research focussed on the modification of total and nitric nitrogen content in lettuce, under the influence of treatments with magnetic nanofluids. We used water-based magnetic fluid $(\mathrm{WMF/H_2O})$, with saturation magnetization $\mathrm{Ms} = 32\ \mathrm{Gs}$. The magnetic nanofluid was applied at foliar level, in four concentrations: 0.05%, 0.1%, 0.5% and 1%, and were compared to the control variant. Magnetic nanofluid treatments influenced the content of total and nitric nitrogen in lettuce. Total nitrogen ranged from 4.960 to 3.740 ± 0.291 % N_{tot} in the treated variants, as compared to 3.350 ± 0.291 % N_{tot} in the control variant. Nitric nitrogen is reduced in the treated variants, ranging from 1252.00 to 1068.00 ± 397.40 ppm $-NO_3^-$, while in the control variant we identified 3101.00 ppm $N - NO_3^-$. Variable distribution analysis through cluster analysis place the experimental data into two groups: the group of variables with magnetic fluid, split, in its turn, into two subgroups according to their magnetite concentration (subgroup WMF 0.1% - WMF 0.5% - WMF 1% with higher magnetite concentration and variant WMF 0.05% with lower concentration). The control is found in the second group (without magnetite). Multiple criteria data analysis helped establish the groups of variables with positive reaction regarding the change in the nitrogen content in relation to the nitrogen treatments.

Key words

magnetic nanofluids, magnetite, lettuce, total nitrogen, nitric nitrogen

Research regarding the weeding level in winter wheat and grain maize in Western Caras-Severin County (Romania)

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Abstract Research carried out in 2011 offers a whole image on the segetal flora in winter wheat and grain maize in the Caras-Severin County (Romania) (floristic inventory, share of different biological categories). *Veronica hederifolia*, an annual dicot weed species, has become a problem-weed in wheat, sharing 18.28% of the weeds in the Berzovia area and 20.19% in the Gradinari area. The weed group representative for maize is that of dicots represented by *Amaranthus retroflexus*, *Chenopodium album*, and *Polygonum lapathyfolium.* We noted a massive infestation by annual monocots. Thus, *Echinochloa crus-galli* shares 11.72% of the weeds in Berzovia and 17.65% in Gradinari. Mean weeding was 98.5 plants/m^2 in winter wheat and 123.5 plants/m^2 in grain maize.

Key words

segetal flora, weeding degree, winter wheat, grain maize

Researches concerning landscape planning of the banks of the river Timis in Lugoj, Timis County

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Abstract At the order of the Lugoj Municipality City Hall, it was requested the arrangement of the land located on the left Timis River bank, from Lugoj, in the neighborhood of the open air public swimming pool Park and of Plopilor street, at 200 m from downtown, and from the Iron Bridge, aiming to continue the extensive process of modernization and arrangement of the green spaces from the municipality, represented by works of seeding of more than 100 trees on the Timis River bank, in order to consolidate the banks' resistance.

Key words

landscape, marine site, bank, urban framework

Researches concerning landscape development project of a roof garden in Timisoara municipality

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Abstract In terms of the microclimate, the city is a desert of stone and masonry, being much hotter in the summer than the neighboring regions. Although few are the natural features of the city, trees, interesting formations of land, the area that requires arranging has very rich vegetation that helps regulate the microclimate. Therefore, for the accomplishment of the project, the valuable specimens of a special expression were kept, to which new species were added in perfect harmony with the existing ones, but that gave a special touch of freshness.
The composition has three main interest points, one in the public area, and the other two in the private area.
Due to the placement on one of the most circulated roads of the city and in an area of particular spirituality, through the presence of these three buildings of cult of the Orthodox, Baptist and Nazarene Churches, the area was created as an open space, where the passer-by, who has to travel this road daily, or the pilgrim on his way to church, can rest for a few moments, on a bench in the shade, next to the inhabitants of the block of flats for which the development was proposed. Therefore, communication of the inhabitants of the block of flats with the passers-by is encouraged, the need of socialization of the contemporary man being fulfilled.

Key words

green roof, insulation, extensive system, intensive system

The analysis of the spatial distribution of arboretum and its adaption to a series of stationary factors

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Abstract One of the most important structural parameters of a stand is its spatial distribution. Although there are many statistical techniques in terms of obtaining relevant data on different populations or samples, they were not sufficiently used in forestry to verify the accuracy and the theoretical results and it's applicability in the field.

According to research conducted in this study, it emerges the idea that statistical analysis of the spatial distribution of a secular stand is of great value and can lead to many close results.

On the other hand, the close bound between the purely statistic data and stationary vectors emerges.

Key words

coefficient of variation, statistical indicators, forest secular, stationary factors, number of trees, cluster analysis

Research on the calculation of work required for development of the hydrographical basin in Unit VII Coltan

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Abstract Torrential corrections in hydrographical basin needed because of the beneficial effects they can produce. One of them is that if they are needed storage dams some torrential correction, namely the construction of dams breaking pressure and to stop silt brought by rivers that reach the bottom of the dam and its yield would decrease dramatically. We did some calculations which show that the most profitable are those torrential correction works only if it is clean these dams silt bottom.

Key words

hydrographical basin, torrential correction, morphological parameter, maximum flood flow, catchment's rainfall

Research on design works of correction of torrential basin in Poiana Mărului

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Abstract This work is necessary correction torrents to avoid floods, soil wash and soil erosion. In rainfall areas the soil is prone to erosion and landslides, in which case the correction works are good torrents and necessary. This work can help change the course of water and thus avoiding flooding of land settlements. One of the great advantages of this work is to prevent bringing silt (gravel, boulders, wood).

Key words

design works, basin, torrential processes, slope coefficient

Dendroclimatological analysis of the radial growth rings for oak in Moldova plateau

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Abstract By using the dendroclimatological method we have analyzed the climate influence upon the tree growth. Since the annual growth ring can be differentiated on intra-annual growing periods, respectively earlywood and latewood, the climate analysis was done with an intra-annual resolution, but finally reported to the total annual growth. The studied statistical parameters are the most representative for the definition of the analyzed relationships respectively the correlation and the response functions. In order to check the obtained results we will calculate the event years for the series of growth

Key words

dendrochronology, oak, response functions, earlywood, latewood

indexes of annual rings (RW). To understand ecosystem response and variety consequences of environmental changes I have built three oak tree ring chronology with a significant sensitivity to the climate. The importance of this study comes from the need to know the adaptation way of the tree to the climate factor, which is mostly essential for the long term evolution of wood species.

Results in *Ficus australis* rooting on different substrata and with different rooting enhancers with effect on cutting rooting in the fall

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Abstract Ficus is an ornamental plant that, due to its presence, can add life and beauty to a flat room. So far, they know more than 800 species of ficus of the tree, shrub or climbing plant type (Bala Maria, Floricultura generala si speciala, 2007). A ficus can be described as a vigorous, woody plant with large, skinny, ellipse-shaped, dark green to yellowish leaves. The genus Ficus contains plants that are extremely varied from trees over 30 m tall in their countries of origin to dwarf, creeping species. Some of these species are largely used in manufacturing medicines.
Ficus Australis is a plant with difficult rooting: this is why we have used four types of rooting substrata and three rooting stimulators. The trial was carried out in the greenhouses of the Faculty of Horticulture of the Banat University of Agricultural Science and Veterinary Medicine of Timisoara (Romania) where climate factors supply good conditions for the rooting of this plant.
As a result of the trial, we came to the conclusion that the greenhouses in which we carried out the trial provide good conditions for plant growth and development over one or several years (Bala Maria, Floricultura Generala-Curs, 1998).
Results show that the culture substratum has different effects on plant rooting and development from the biostimulators used in the trial.

Key words

ficus, substratum, stimulator, rooting

Studies regarding the seedling biomass in Uivar, Vermeş- Izgar and Luncaviţa- Verendin amelioration perimeters

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Abstract This paper presents a synthesis of the seedlings biomass în improvoving perimeter Uivar, Vermeş-Izgar end Luncaviţa – Verendin. This perimeters consisting of degraded lands by sheet erosion.

Key words

Degraded lands, afforestation works, biomass

Studies regarding the seedling diameter in Uivar, Vermeş- Izgar and Luncaviţa- Verendin amelioration perimeters

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Abstract
This paper presents a synthesis of base seedlings diameter în improvoving perimeter Uivar, Vermeş-Izgar end Luncaviţa – Verendin. This perimeters consisting of degraded lands by sheet erosion. Was fallowed the base diameter of seedlings plants.

Key words

Degraded lands, afforestation works

Research regarding the impact of weed control on grain maize yield in 2011

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Abstract Research was carried out in 2011 and aimed at mapping weeds in maize in the control variant, the impact of weed control measures on weeds, and the efficacy of weed control measures on grain maize yield. The total number of weeds was 155.59 weeds/m² with predominance of the wed species *Setaria glauca* (48.98 weeds/m², i.e. 31.48%). The variant treated with Adengo (0.4 l/ha) + Equip (1 l/ha) controlled 139.36 weeds m² (88.56%). The lowest control degree was in the variant treated with Gardoprim (4 l/ha) + Buctril Universal (1 l/ha) (78.80%). In the variant treated with Adengo (0.4 l/ha) + Equip (1 l/ha), maize yielded 75 q/ha. In the control variant (not weeded, not treated), maize yielded only 7.70 q/ha.

Key words

maize, weeds, control, herbicide, yield

Research on the influence of minimum tillage on physical properties of soil, crop production and quality in winter wheat in Western Romania climate conditions

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Abstract Research was carried out between October 1, 2010 until September 31, 2011 and focused on the following aspects: influence of minimum tillage on soil physical properties in the experimental field, located in the village of Sag, where we have 4 different tillage variants : disc harrow, rotarry harrow, total processing cultivator, and direct sowing.
At the Monastery in the agricultural year 2010-2011 we had a humidity

Key words

minimum tillage, winter wheat, soil moisture, production, fertilization, , quality

between 21% and 32% and a total of 573 plants sprung per m². Protein content was 12.5% and Zeleny had a record of 41%.
The Scarification made at Dig (2B) had a major influence on soil moisture ,between 15% and 33% and a total of 926 plants sprug per m².

The effects of osmotic stress on seedlings growth of barley (*Hordeum vulgare*)

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Abstract Drought (water stress) and salinity are major problems facing agriculture all over the world. Plants are exposed to many types of abiotic stresses during their life cycle. The objective of this study was to determine if there were differential responses to osmotic stress on seedlings' growth dynamics in some barley cultivars. Fluid deficit was induced by polyethylene-glycol (PEG6000) solution, using control and 3 variants with different osmotic pressure (-2.72 Bars, -4.48 Bars, -7.35 Bars.). Determinations of seedlings'growth were effectuate after a periods of 5/10/15/20 and 25 days from the induction of osmotic stress .Seedling growth was significantly reduced by , -7.35 Bars polyethylene glycol-induced drought stress.

Key words

barley, shoots groowth, polyethylene glychol

Monitoring of nitrogen compounds content in underground water from Timis river

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Abstract The purpose of this paper is to present the results of monitoring the river Timis in terms of nitrogen compounds content in the period 2011. Experimental were determined nitrogen compounds (nitrate, nitrite, ammonium) in wells from six localities situated along the river Timis Slatina-Timis Caransebes, Gavojdia, Cebza, Graniceri, Lugoj points distributed between the source and the point out of the river, namely the border with Serbia. Samples determinations were done with the help of Spectrophotometer SQ 118. In autumn and winter months, concentrations of nitrogen compounds have higher values and are due to frequent rainfall recorded during this period of year. Samples analyzed from drilling along the Timis River, are characterized with low nitrates, nitrites and ammonium ion content. In July 2011, concentrations of nitrogen compounds have maximum values and are due to excessive rainfall of 107.9 mm.

Key words

nitrates, nitrites, ammonia, water, Timis river

Production of seedling tubers from true potato seed (TPS) in protected area

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Abstract The potato *(Solanum tuberosum)* can be propagated both vegetatively (clonally) and sexually. True potato seed (TPS) technology is based on the natural ability of the potato to produce flowers, which are then fertilized and set berries that contain potato seeds, which will be used later as planting material. Initially, the main problem of potato hybrids derived from true seed was related to the difficulty of producing uniform potatoes in terms of shape, color, size and seed quality. Currently there are companies that produce true potato seed, rigorously tested qualitatively superior (free from diseases and pests).

Key words

true potato seed, seedlings, minitubers, greenhouse

Impact of soil works on dynamics and spread of *Diabrotica virgifera virgifera LeConte* in the conditions of Western Romania

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Abstract *Diabrotica virgifera virgifera* LeConte originates in Kansas, USA, and was mentioned and described by the entomologist John Lawrence Le Conte in the year 1867 (4).
In Europe, *Diabrotica virgifera virgifera* LeConte appeared in the 1990s, being seen for the first time in a maize field around the airport of Belgrade, in 1992.
In order to determine the dynamics of the population of *Diabrotica virgifera virgifera* LeConte, we have chosen as a research method ploughing, grubbing and discing. Soil works create conditions favourable to plant development which makes them more tolerant of pest attacks (1).
Because the eggs of *Diabrotica virgifera virgifera* LeConte are laid 10-15 cm deep in the soil, soil works destroy and diminish the population of this pest. Research results show there is a correlation between the soil work chosen and the degree of attack by the pest. Research shows that grubbering had the least effect on the population of *Diabrotica*, while ploughing and disking had significantly stronger effects on this pest.

Key words

Diabrotica, population, roots, maize, plough, disc, grubber

The necessity of the durable management of water resources in Timiş County

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Abstract Analyzing the statistic data regarding the relation between the water demanding and the water resources and also to the estimations for the increasing rate of the population in Timiş county for 2008 – 2038, it is presented the necessity of the durable management of the water resources. The water that is available at the moment and in the future depends on *the quantity and quality* characteristics of the *water resources,* so they should be alocated in an efficient way to the productive economic domains which offer social opportunities and durable environment conservation

Key words

water crisis, the pollution of the water resources, water demanding, water consumption, integrated and durable methods of water management

Research regarding biochemical characterization of volatile oils in some valeriana genotypes

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Abstract The purpose of this work was to determine the possibility of volatile oil extraction from rhizomes at 4 genotypes of *Valeriana officinalis*: Rossica x Magurele 100, Sambucifolia, Volgensis x Magurele 100, Moscova 835 x Magurele 100. This direction was obtained through the extraction of the volatile oil by using the steam distillation method. Beforehand the dry substance percentage was determined from the rhizomes. The obtained results have shown the presence of some differences between the genotypes as far as the dry substance percentage obtained (24-36%-6.1. BBCH) and the efficiency of volatile oil extraction (1,16 – 0.87%).

Key words

volatile oils, valeriana, biochemical and physiological research