Postharvest storage behavior of litchi

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Abstract An experiment was conducted in the laboratories of the Department of Horticulture, Biochemistry and Plant Pathology of Bangladesh Agricultural University, Mymensingh to study the postharvest behavior especially, fruit quality attributes of three commercially important litchi varieties of Bangladesh, namely 'Bombai', 'Bedana' and 'China 3'. Physico-chemical parameters such as peel colour, pericarp browning, weight loss, dry matter content and pulp pH to increase with the duration of storage, whereas moisture content and vitamin C content decreased with the progress of storage. Among the varieties, changes in the above parameters were slower in 'Bedana' as compared with 'China 3' and 'Bombai'. On the other hand, pulp to peel ratio and TSS increased initially but declined afterwards in all varieties. The level of disease incidence and severity increased proportionally with the storage period. Fungal pathogens like *Aspergillus* spp., *Rhizopus* spp. and *Penicillium* spp. were identified from the infected fruits. Significant difference in respect of shelf life was also observed among the varieties. The longest shelf life was observed in 'Bedana' (3.75 days) as compared to those of 'China 3' (3.07 days) and 'Bombai' (2.08 days) varieties.

Key words

Physico-chemical, vitamin C, pathogen, peel

Study on the contamination with heavy metals of the vegetation harvested around the Baia Mare area

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Abstract The aim of this paper was to determine havy metal content in vegetal matter. The presence of metals in plants is due to the metals being absorped from the soil, and the presence of metals on the plants is due to metal powder being deposited on the leaf surface. In order to determine the degree of heavy metal contamination of the plants in the Baia Mare, area with intense pollution, a number of 40 samples were collected and analyzed by atomic absorption spectrophotometry.

Key words

contamination, heavy metals, plants

Romanian sector of organic vegetables: an overview

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Abstract **Purpose** - The main objectives of this paper are to present the characteristics of organic farmers in Romania and to present strategies of the product, price, distribution and promotion used. They are analyzed in terms of organic vegetables destination produced by them.
Findings - there is a lack of information on this emerging market, causing some problems in choosing by the farmer of vegetables that are to be produced. Farmers association is required in order to reduce costs (through sharing of know - how and other resources). The existing problems in the distribution area will be solved through supermarkets involving, by selling vegetables by producers directly to consumers and through a natural evolution of the market that will mean the opening of many specialized organic stores. Farmers' communication with the market is almost nonexistent and it is imperative to be developed in two main axis: informing consumers about the benefits of organic food products but also educate them to accept vegetables produced by farmers.
Originality / value – the paper explores strategies of product, price, distribution and promotion adopted by organic farmers from Romania, being one of the first papers addressing to this area. Also, the paper can be used as a benchmark for implementation of effective marketing practices by organic farmers.
JEL classification - M31: Marketing

Key words

marketing, vegetables, organic, association, consumer

Distribution channels on the organic foods market

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Abstract **Objective** - This paper aims to explore distribution channels on organic foods (OF) market. Special attention is given to advantages and disadvantages of each variant and the best choices by the farmer of the distribution channels that he will use.
Findings - Distribution has a key role in the development of the OF as one of the main obstacles to market development is the relatively low availability of OF on market. Market development depends on how farmers will know how to choose an optimal distribution channel for their products. For small farmers is recommended keeping a closer link with the final customer, using distribution channels directly, without intermediaries such as systems "box schemes" community supported agriculture (CSA), peasant markets and shops at the farm gate. If large farms that produce crops that require special storage conditions it is recommended the use of indirect distribution channels, through which can be sold large quantities of goods. These channels are the supermarkets, organic shops specialized, processors and various intermediaries.
The practical value of work - Farmers can choose from this research work, appropriate ways of distribution for their products.

Key words

organic food products, distribution, consumers, intermediaries

Assessment of Physicochemical Properties of Jackfruits' (*Artocarpus heterophyllus* Lam) Pulps

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Abstract A study was undertaken to determine the physical properties and chemical composition of three types of jackfruit (*Khaja, Dorasha* and *Ghila*) pulps collected from different growing areas for a period of 6 months. In these circumstances, the pulps of *Khaja* (Both Modhupur and Valuka) were firm textured and those of *Ghila* were very soft to soft. Correspondingly, intermediate textures of pulps were observed in case of *Dorasha*. Furthermore, the pulps colour of *Khaja* fruits were whitish yellow whereas that of *Ghila* pulps were deep yellow. The colour of *Dorasha* pulps were light yellow. The *Khaja*, *Dorasha* and *Ghila* pulps were found less, medium and very juicy, respectively. However, highest moisture content was found in Valuka *Ghila* (84.44 %) and lowest in Modhupur *Ghila* (79.62 %) type of jackfruits. *Khaja* and *Ghila* collected from Valuka had greater ash content than *Khaja* and *Ghila* from Modhupur. Beside this, titrable acidity, Vitamin C and carotene content of *Khaja* type of jackfruits were lower than that of *Ghila* types. Highest carotene content was observed in Modhupur *Ghila* (520.46 µg/100g) while lowest in Valuka *Khaja* (334.06 µg/100g). TSS, starch, total sugar, non-reducing sugar and carotene content were higher in the jackfruit pulps from modhupur than that of Valuka. It was also found that *Khaja* types had higher starch content than *Ghila* types. The highest pH value was found in Modhupur *Khaja* (6.45) and lowest in Modhupur *Ghila* (5.61). There were slight variations in fibre content among the jackfruit pulps. Lowest reducing sugar content was found in *Dorasha* type of jackfruit (4.90%). From the study it is concluded that the proximate composition of jackfruit pulps is influenced by both type and place. Therefore, this information would be useful to select the best quality jackfruit to prepare different food products.

Key words

Artocarpus heterophylus, physico-chemical, Proximate, pulps

Presentation and interpretation of results during 2006- on water river quality Danube-Buzias and Danube – Pristol

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Abstract Mehedinţi County is situated in the south – west part of Romania, with a surface of 4933 km^2 – 2.1%. The total population is 332000 from which 49% live in cities. Nature gave Mehedinţi County, part of the grandiose Carpathian – Danubian – Pontus edifice, features that are found all around our beautiful country.

Key words

surface water, alkalinity, chlorides, sulphates, bicarbonate, calcium, magnesium, sodium, potassium, ammonium, nitrates, nitrites, orthophosphates, and total phosphorus

Presentation and interpretation of results during June/September 2008 on water quality from drilling in Cujmir locality, Mehedinti County

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Abstract The fountain from where water was taken to determine the analysis is located in the Cujmir Locality, Mehedinti County, and belonging to a household. The water source is protected, in its neighbouring not existing any animal shelter or toilet.

Key words

chemical indicators, german degrees, anions, phenols**,** oil product

Aluminium (Al) tolerance variability in seven wheat cultivars

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Abstract A petri dish and hydrophonic culture experiment was conducted at Crop Physiology Laboratory, Department of Crop Botany, Bangladesh Agricultural University, Mymensingh to investigate the effect of aluminum on seed germination, morphological characters and growth of wheat seedlings. The experiment comprised two levels of aluminum concentrations *viz*., 0 (control) and 250 ppm and seven wheat varieties *viz*., B1064, Sonalika, B20, B1059, Kanchan, B21 and B19. The experiment was laid out in two factors completely randomized design with three replications. Application of 250ppm aluminum had a profound influence on hypocotyl and epicotyl length, germination percentages, root and shoot length and fresh and dry mass production in wheat. Results indicated that germination percentage, hypocotyl and epicotyl length, root and shoot length, leaf length, fresh and dry mass plant^{-1} were greater in control than that of aluminum treatment indicating wheat seedlings are susceptible to aluminum stress. However, among the studied varieties, the reduction of dry mass due to aluminum was minimum in Sonalika (3.31% reduction over control) followed by B1059 (6.19% reduction over control) indicating that Sonalika was more tolerant to aluminum toxicity than the other varieties while the varieties, B20 and B21 were more susceptible to aluminum stress.

Key words

epicotyl, hypocotyl, toxicity, susceptible

Influence of fertilization on peach production (Redheaven, Sunhaven and Redglobe varieties) and nectarine (Cora, Delta and Romamer varieties)

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Abstract Differentiated agro-technical measures have resulted in a marked difference in the study of the factors taken all varieties (both peach and nectarine) and the doctoral thesis will present large variations studied each factor so as to demonstrate that with the use of agro-technical measures differentiated production and fruit quality improved considerably. In terms of the degree of binding of the fruit, we could say that it was higher in 2009, when the percentage exceeded 50%, and Cora, Romamer varieties exceeding 80% and even 97,6% Delta variety.

Key words

variety, agro-technical, fertilizer, peach culture

The Impact of Herbicidation in variants on the degree of weedness to the Redglobe, Cresthaven and Sunhaven Peach-trees

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Abstract The differential agro technique ways of treatment have established an important difference in the factors studied in all the species, and this scientific paper deals with experiments in variants, that were undertaken during a period of 3 years (2009,2010,2011), so that we could ascertain that by using the differential agro technique ways of treatment, respectively using weed control treatment, the degree of weedness lowers toan unbeliavable level. According to the weedness level we investigated in the control variant of every species, and in every year of the research, we must take into acccount the significant role of the weeds Agropyron repens and Cynodon dactylon that were registered. The experiment was made by using two types of herbicides and two agro technique treatments that were very efficient. For the experimental variants, first a count of weed was necessary and afterwads the establishing of the weed. Finally, all the variants registered a degree of weed control of over 80%, with some differences between them.

Key words

weed, herbicides, monocotyledonous, variants

Researches on population dynamics of spruce bark beetle *Ips typographus* L. (Coleoptera: Scolytidae), his insect predators and parasitoids, in Natural Park Apuseni
- A project presentation -

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Abstract The spruce bark beetle *Ips typographus* (L.) create many economical damages and ecological disturbances in protected perimeters such Natural Park Apuseni. Large surfaces of forest stands are affected by the dangerous pest and his attack is more aggressive year by year from one area to another. This situation requires a permanently monitoring and measures of management.

Key words

population dynamic, insect predators and parasitoids, spruce bark beetle

Researches on insect predators and parasitoids of six-toothed spruce bark beetle *Pityogenes chalcographus* L. (Coleoptera: Scolytidae), his population dynamics, in Natural Park Apuseni
- A project presentation -

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Abstract The six-toothed spruce bark beetle *Pityogenes chalcographus* (L.) is, together with the spruce bark beetle *Ips typographus* (L.), the main pest in resinous forest stands in Romania. They create many economical damages and ecological disturbances in protected areas such Natural Park Apuseni. Large surfaces of forest stands are affected by these dangerous pests and the attack is more aggressive year by year, from one area to another. This situation requires a permanently monitoring and measures of management.

Key words

insect predators and parasitoids, population dynamics, six-toothed spruce bark beetle

Experimental results regarding the number of grains in the main spike for Dropia's somaclones and gametoclones

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Abstract Tissue culture is an important source of somaclonal variation thus for, starting from two types of explants represented by anthers and immature embryos gametoclones and somaclones were obtained for the wheat cultivar Dropia. The biological material used for these studies was represented of 18 somaclones and 7 gametoclones. The control was represented by the cultivar itself.

The somaclones and gametoclones of the cultivar Dropia were studied in two comparative cultures as for the randomized blocks by three repetitions.

Comparing the results obtained for the cultivar Dropia somaclones and gametoclones on observed that the average of the number of grains in the main spike is superior for the somaclones comparing with the gametoclones. The control presented inferior values comparing with both gametoclones and somaclones, for this character.

Key words

somaclones, gametoclones, comparative cultures, control, number of grain in the main spike

Researches regarding the effect of thermal power station ashes on the alkaline and alkaline-earth metal content of *Dactylis glomerata* L. plants

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Abstract Due to its high calcium and magnesium content, thermal power station ash can be used as amendment on some soils. As a soil amendment, the ash can be applied alone or in mixture with organic fertilizers or other materials. Studies were represented by a pot trial, the experimental substrate in pots being directly used for sowing the plant material. For the researches we used the following experimental variants: V_1 – 100% soil (control), V_2 – 50% soil + 50% ash and V_3 – 100% ash. Na, K, Ca and Mg content was determined with the atomic absorption spectrophotometry method. The ash had a direct influence on chemical composition of plants. Regarding the ash content in dry matter, the values were slightly higher in variants with ash from thermal power station in different proportions. Compared to control, the sodium, potassium, calcium and magnesium contents increased in variants with ash from thermal power station. The highest contents of sodium and potassium were found in the 100% ash variant, meanwhile the highest values for calcium and magnesium contents were measured in plants cultivated in ash + soil substrate mixture.

Key words

Dactylis glomerata, thermal power station ash, alkaline metals, alkaline-earth metals

Landscape development project of a roof garden for industrial hall in Timisoara Municipality

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Abstract Green roofs, also called "live roofs" or "ecological roofs", are installed onto the conventional roofs, being partially or entirely covered by vegetation, growing on a nutrition medium placed above a waterproof membrane.
The project intended to be executed is represented by covering with plants the roof of an industrial hall and of an office building; both situated at the outskirts of Timişoara municipality, in the South-Eastern part, in Calea Buziaşului area, an industrial area. This project will be a first for the city, initiating the roof arrangement. The two buildings are separate, with a considerable difference of their level, which leaded to the arrangement solution to be presented. The office building has a height of 12 meters, while the industrial hall, a height of 6 meters.
The arrangement of the two buildings is suggested, by using both systems of the green roofs.
Thus, the roof of the office building, with a surface of 2091 square meters will be arranged according to an intensive system, and for the roof of the industrial hall, with a surface of 9225 square meters, an extensive covering with plants will be designed.

Key words

green roof, insulation, plants, extensive system, intensive system

Study on achieving a garden of senses in Icloda Locality, Timis County

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Abstract Any garden of senses is created with the help of some plants which have different sensorial qualities, which can stimulate the 5 human senses (visual, auditory, olfactory, tactile and gustative).
Using these plants with special sensorial capacities, helps very much at maintaining a style more natural of arrangement and offers to visitors a moment of relaxation. At the same time these plants attract both birds and different insects, but especially butterflies, which through their chirping and buzzing gives more sensority to the garden.
In recent years, the gardens of senses were designed mainly for people with different emotional needs and for those who have vision problems.

Key words

garden of senses, sense of smell, sense of touch, sense of sound, herbs

Study regarding the natural landscaping of a private garden in Giroc Commune, Timis County

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Abstract As biodiversity is an essential feature of a balanced ecosystem, we have tried to comply with it as much as possible, using as many vegetal species.
They were chosen according to well determined criteria:
- the benefits brought to wild creatures by the quality and quantity of pollen, nectar, leaves, fruit, stem range, offering a place to nestle;
- species in jeopardy to extinct or in progress of extinction (e.g. *Liriodendron tulipifera*);
- native species well adapted to the proposed site.
The chosen vegetation is the focal point for the ideology of ecological design (wildlife gardening). With this concept as starting point, vegetation was chosen both for its aesthetic features, and for those directly involved in the natural ecosystem
We have used species like *Buddleia davidii* and *Asclepias tuberose* for their well known capacity to attract butterflies or species like *Pyracantha coccinea* and *Cotoneaster horizontalis* as they are a good food source for herbivorous birds.
When choosing the species, we followed both their origin character, preferring native species, some of them having as well an endemic feature (*Campanula carpatica*), and the character of their spreading areal, trying to use as well near extinction species (*Ginkgo biloba*).

Key words

natural style, ecology, endemic species

Study regarding the landscape arrangement of the green space located in the yard of Astronomic Observatory of Timisoara Municipality

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The reason for drawing up this documentation is represented by the green space of the Astronomic Observatory of Timişoara, having a surface of 2.27 ha, situated in Axente Sever Square, Bălcescu Area.
For elaboration of such project it shall be also taken into account that the building must fit very well into the arrangement of the surrounding space.
Location of the space is favorable for tourism development, due to the fact that the observatory is a scientific as well as an educational attraction.

Key words

astronomic observatory, hedges, labyrinth, lawn

Studies regarding the intraspecific phenotypic variability of *Anacamptis pyramidalis* (L.) Rich. (*Orchidaceae*) from Anina Mountains

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Abstract *Anacamptis pyramidalis* (L.) Rich is one of the 33 orchid species reported in the Anina Mountains. The intraspecific phenotypic variability was assessed by the biometric measurements. The measurements were made during the flowering and fructification season of two populations of the *Anacamptis pyramidalis* (L.) Rich. It was assessed the general morphological features, the morphological features of the flowers and the morphological features of the fruit. The average, the deviation from the average, and the variation coefficient were calculated for each feature. The greatest variability was observed in the fructification features.

Key words

Anacamptis pyramidalis (L.) Rich., phenotypic variability, morphological features, Anina Mountains

Researches regarding antioxidant capacity in callus cultures and native plants of *Vaccinium myrtillus* L. local populations

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Abstract The bilberry fruit (*Vaccinium myrtillus* L.) has biological and medical effects, mainly due to high anthocyanin content of tissues. Calli containing anthocyanins, derived from bilberry plants, may represent a potential source of natural colouring matter, pharmaceutical and natural antioxidants. In the present study we investigated the occurrence of differences in elemental composition and antioxidant capacity of the three local populations of mountain bilberry collected in the western region of Romania (Arieseni, Retezat and Sebes Valley) in order to compare the anthocyanin production of plant and callus tissues originated from various plant populations. The total antioxidant capacity of callus cultures determined by FRAP method (ferric reducing antioxidant power) could be enhanced as a function of increasing adenine sulphate (AS) concentration in the culture medium and it depended on the origin of mother plants. The leaves of intact plants contained higher amount of total gluthatione than calli, and the decrease was especially significant in tissues cultures originated from the Retezat region. In contrast, depending on the AS concentration, the anthocyanin content could increase in callus cultures. The tissues originated from various populations exhibited different AS concentration optimum. This suggests that bilberry callus cultures can be a suitable source of the anthocyanins.

Key words

Antioxidant capacity, anthocyanins, callus cultures, intact plants, *Vaccinium myrtillus* L.

The forest evolution in Romania after 1990

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Abstract In rural areas, the predominant proportion of the land continues to remain more or less in a natural state and is mainly used for agriculture, forestry, tourism, mining, fishing, etc..
Given the role of forests in human life, we think it is necessary that the entire social mechanism (factor of liability, undertakings, man as an entity) to accept that assurance and ensuring sustainable forest management is the only policy that must be raised at a national rank.
In what follows we present, briefly, some aspects of rural development in terms of forestry, stating that sustainable forestry is an important, sometimes dominant regarding rural development.

Key words

forest, area, property, deforestation, evolution

The stage of agriculture county Timis

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Abstract Timis county agricultural potential plays an important role in national economy, with crucial implications on the living standards of population and food security.
The agricultural potential of Timis county is remarkable because of the large agricultural plains areas and high quality soil. Although it is currently subvalorificat, in the future can become one of the most important branches of Timis County economy as it was not long time ago.

Currently, the agriculture in Timis county is characterized by a very strong dual structure of exploitation agricultural area, on the one hand a large number of small individual farms (87 768), but operating 48,8% of the county area, on the other hand, a relatively small number of farms but large (706), using over half the agricultural area of the county (51.2%).All these elements allow us to perform an analysis of Timis County agriculture, which must acquire a special importance in developing county economy, but also the national economy.

Key words

potential, agriculture, economy, fertility, soil

Research on the production potential of some varieties and local biotypes of vines in the areas Selişte – Prunişor, Arad County

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Abstract The research was carried out during 2008, 2009 and 2010 in several vineyards of Arad County, which includes vineyard Miniş-Măderat and aimed at determining the quantitative potential of local varieties and vine biotypes identified in these territories.

Local varieties and biotypes investigated were divided into categories of production: local varieties and biotypes with specific features of the table grape varieties, local varieties and biotypes specific to varieties with mixed features and varieties and local biotypes with specific features for wine grapes.

The varieties of grapes for wine production should give satisfactory productions both in terms of quantity, but also in quality for providing the premises to obtain competitive quality wines.

Key words

local varieties, quantitative potential, quality wines

Chemical characteristics of natural watercourses in the Gurahont Depression

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Abstract We present, in this paper, the chemical characteristics of natural watercourses in the Guranhont Depression. The chemical composition of the water has been determined through quantitative and qualitative chemical analysis. The area of the Gurahont Depression is located hydrographically in the Crisul Alb Basin.

Key words

water, chemical characteristics, content, substances, compounds, indices

Researches regarding the effect of ash from thermal power station on growth and development of *Festuca arundinacea* plants

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Abstract The areas affected by ash deriving from thermal power stations are not ideal for agricultural crop production, especially due to problems like increased heavy metal content, thus these soils could be successfully exploited by plants producing high quantities of biomass. The researches on ash pits and in pots with a mixture of ash with other types of materials, as soil or peat, show that *Festuca arundinacea* can properly use these types of substrates, with high concentrations of heavy metals, high pH and low content of nutrients. Studies were represented by a pot experiment, the experimental substrate in pots being directly used for sowing the plant material. For the researches we used the following experimental variants: V1 – 100% soil (control), V2 – 50% soil + 50% ash and V3 – 100% ash. The influence of ash on plant growing and development was assessed by measuring the following agro-biological parameters: plant height (cm), root length (cm), quantity of biomass (g/pot). The results of pot experiment regarding the effect of ash from thermal power station on Tall fescue's growing and development rate show that in the first two weeks of growing, the plants from pots with ash had a much higher intensity of growing rate than control plants. At the end of experiment, plants from 100% ash variant presented a low regression of height (19,64% less) compared to control variant. Also the variant with the ash + growing substrate mixture produced 32,15% higher plants than control substrate. Growing of root system was positively influenced only by the ash + soil mixture variant (with an increase of 78,13% compared to control). Tall fescue presented an increase of plant weight only in case of ash + soil mixture and a low decrease when ash was used alone as growing substrate.

Key words

Festuca arundinacea, thermal power station ash, biomass

Perception of relevant stakeholders on the potential of the implementation of the "Due Diligence" system in combating illegal logging in Romania

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Abstract Illegal logging became an international concern of growing importance, as it generates negative economic, ecological and social consequences. In 2003 the European Commission adopted an Action Plan for *"Forest Law Enforcement, Governance and Trade"* to address the problem of illegal logging and the trade in illegally logged timber. The European Parliament and the European Council published in October 2010 a new

Key words

illegal logging, Timber regulation, "Due Diligence" system, stakeholders

legislation - the European Union Timber Regulation 995/2010 (EU-TR) - that prohibits the sale of illegal harvested timber under the rules of country of origins. The aim of the present research is to briefly present the EU - Timber Regulation and to analyze the perception of the main stakeholders on the potential of the implementation of the *Due Diligence* system in Romania. The empirical results have been obtained through the analysis of the perceptions of two groups of stakeholders: respondents from the business sector and respondents from state and private forest administration sector. The main technique used to collect data has been the questionnaires. 122 representatives of private companies operating in the wood processing sector and 148 forest professionals filled in questionnaires with multiple-choices answers. The results show that more than half of the respondents in both sectors consider illegal logging as being a significant problem both in state forests, as well as in private forests. More than half of the respondents representing both analysed sectors are not informed about the EU - TR. This shows an inadequate visibility of the EU-TR or weak capacity of information of the relevant authorities in charge with this matter. Still, the EU-TR is a potentially powerful tool in order to exclude illegal timber from the European Union's market. Yet, the implementation of this regulation is likely to fail if the relevant stakeholders are not involved in the process of setting the institutional framework for its practical implementation.

The importance of forests in maintaining biodiversity. The case study Mureş meadow afforestation

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Abstract The biosphere represents a very thin and labile lay on the planet's surface. It has a thickness of only few kilometers in the atmosphere, hydrosphere and lithosphere. In this vulnerable lay humans action without thinking at the fact that any change of the air, soil or water affects the entire biosphere.

In the evolution process of live on earth, the human population lived and developed initially only in the natural environment, where the forest represented a first class entity. This population is not differentiated from other creatures, being fully subject to laws of balance in nature. Meanwhile, due to evolution, a part of human population has gradually emerged from the wild, making itself a unique living, more independent, more artificial.

Key words

forest, afforestation, deforestation, hectares, carbon

Land Cover Change Detection in Suceava County in 1956-2005

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Abstract The distribution of different land cover types represents a key element in defining landscape structure and its functionality. The evolution of the land cover is a measure of impact exerted by the drivers of change on the landscape, in the specific conditions of the studied region. The paper presents the results of a land cover change analysis over the past 50 years in a representative study area located in the North part of the Eastern Carpathians. The research relied on up-to-date orthophotographs and archive aerial photos taken int 1956 and 1979. After the georeferentiation and mapping of land cover at different moments of the study, an overlay function applied on the vectorial maps differentiated the changes in area repartition on landcover types and furthermore, the direction of change for each of the elementary units of the maps. The integration of results showed a cyclic evolution, with an increase in forest cover from 1956 to 1979 and a decrease in the next interval.The modification of the forest vegetation covered areas occured in pasture areas. These two landcover types showed the largest exchanges in area in the analyzed period of time. Some less obvious changes occured in the cases of riverbeds and settlements, but much smaller than forest vegetation and pastures. An interesting aspect of forest vegetation change is observed when analyzing the spatial pattern of very low canopy cover forests (< 0.3). After a very uniform distribution in 1956 and in 1979, these patches tend to aglomerate in the central area of study region, along the major localities. This fact showed a concentrated human impact, less important when analyzed at the landscape scale but having high implications in landscape functions and increasing the risk for natural hayards because of its location around the human settlements.

Key words

change detection, North Eastern Carpathians, forest cover change

The influence of temperature and precipitations on soil humidity in the hilly forestry area of Suceava County

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Abstract This article establishes which of the climatic factors have the higher influence on the instant soil humidity and how they influence the dynamics of humidity during a vegetation season in Dragomirna plateau

Key words

humidity, precipitations, temperature, forest sites, Dragomirna plateau

Study regarding the projection surface of the ornamental trees species from Justice park located in downtown Timisoara

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Abstract The research aims to conduct a study aimed at identification of vegetation in the Justice park of Timisoara and finding the crown surface for calculate the percentage of shading the soil.
Following these measurements, the data obtained will know the reality of loaded vegetation in the Justice park entering the heritage of Timisoara.
We can say that the work is to inventory the vegetation of the parks under study, but also an organizational goal, achieving both ecological and landscape reasons.
In the first part is contained the method of working and materials necessary for these data collections.
The research will show the second their projection on the earth, but also the percentage of shading the soil.

Key words

green space, ornamental trees, ecology

Study on surface of vegetation coverage in the Alpinet park located on the river Bega Timisoara

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Abstract The research aims to conduct a study aimed at identification of vegetation in the Alpinet park of Timisoara and finding the crown surface for calculate the percentage of shading the soil.
Following these measurements, the data obtained will know the reality of the Alpinet park vegetation load entering the heritage of Timisoara.
We can say that research is intended to inventory the vegetation in the park under study, but also an purpose of organization, achieving both ecological and landscape reasons.
In order to obtain outcomes will be processed on the ground a series ofdata on each tree separately, and will be placed on the plan.

Key words

vegetation, ecology, percentage of shading

Results regarding the time and duration of flowering at the sunflower hybrids Mateol and Splendor

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Abstract At the studied sunflower hybrids were performed the following determinations:
- date for the first sunflower calatides flowering;
- date for the beginning of the flowering process, (when 10% of the sunflower calatides have flowered);
- date for the plain flowering phase,(when 50% of the total sunflower calatides have flowered);
- date for the full-flower phase, (when all the sunflower calatides have flowered);
- date for the time when only 10% of the sunflower heads were still in flower;
- date for the end of flowering (when no sunflower heads are in flower in the whole crop);
- the number of days between different flowering stages.

Key words

sunflower hybrids, duration of flowering, .Mateol, Splendor, calatides

Experimental results regarding the weed degree and weed control at sunflower crop

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Abstract The weeds are the major problem of sunflower crops until they reach six weeks of vegetation.In this study we followed the weed control at sunflower crop in West side Romania . The researches have been made between years 2006-2008, on two sunflower hybrids MATEOL and SPLENDOR. In order to try to reduce pollution of soil and underground water , along with the variants in which we used powerful herbicides we introduced one variant with two manual and two mechanical hoeings.We studied five variants. First variant: no hoeing no herbicide, second variant: two manual hoeings and two mechanic hoeings, third variant: herbicided with STOMP 330 CE, fourth variant herbicided with GUARDIAN, the fifth variant herbicided with DUAL GOLD. We calculated: the total number of weeds, weed degree, the degree of weeds control according the applied method.
The studies about the weeds control at sunflower crop were made in the experimental field of University of Agricultural Science of Timisoara.

Key words

sunflower, weeds, herbicide, degree of control

Research on the influence of different types of cuttings and training operations used in the fruit fences

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Abstract In the first part of the research paper notes which thematerial and working method are required throughout the study. Here you will find crown types of systems that will follow, and the impact ofworking and training operations on different species to training of thesefences trees.
In the second part of the paper, the results, we see how they evolved and how were carried the fruit fences systems.

Key words

Fences fruit, operations traini ng, training cuttings

Study on establishment of a crown-shaped fruit fence "U" simple and "U" double at some species of apple and pear

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Abstract The research aims stages and technical operations that have passed different varieties of fruit trees to obtain two systems of artistic crown.
The fruit trees were conducted in the "U" simple and "Double U" and have used both apple varieties and hair.
In the first part are observed the operations and methods to which they were subjected, and finally observed results.

Key words

artistic forms, cutting trees, crown training

Quantifying landscape fragmentation on orthophotos in Suceava and Neamt Counties using FRAGSTATS

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Abstract The development of landscape ecology as a science led the scientists to give another look at ecosystem study, in order to fully understand the complex relations between the structural landscape elements. The landscape structure indices were a very sinthetic way to quantify the landscape complexity and the main data source were the land cover maps of

Key words

North Eastern Carpathians, land cover maps, landscape structure

the areas. The article presents a study on landscape structure quantification on digital aerial images of two representative sites in Neamt and Suceava counties, in the North Eastern part of Romania. The study showed the differences between the two areas in regards to landscape fragmentation, shape complexity and landscape level diversity. The Neamt site showed lower fragmentation and shape complexity than Suceava, with landcover classes grouped in large areas located different parts of the landscape. The landscape diversity reached its maximum in Neamt site, with a double value of the Shannon diversity index than in the case of Suceava target area. This difference in diversity is given by the increased number of land cover classes in Neamt on one hand and the higher evennes of area distribution found in this area. The landscape structure elements could become very useful when correlated with the values of species diversity and richness, obtained by detailed ecological studies, further integrated at landscape level.

On assessing the effect of rooting stimulators and substrate of the roots' development and growth of *Buddleia davidii and Campsis radicans* shoots

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Abstract The study revealed the decisive role played by rooting stimulators and substrate foe a successful rooting process. Two pytho-hormones were tested as root stimulators: indolil butyric acid (IBA), diluted in 0,005% solution and RADI-STIM, which is applied as a powder. The substrates were combinations of sand, peat and pearl stone, in different proportions. The shoots that were tested in the field were already lignified and, for each separate case, the following parameters were measured: rooting percentage, average length of roots, and the number of roots per shoot. Comparing with de blank test, not treated with rooting stimulators, it was proved the effectiveness of rooting stimulators. Extending the study on the substrate composition, various combinations of sand, peat and pearl stone were also tested, in order to figure out their effect upon the same parameters mentioned above.

Key words

sapling, rooting process, rooting stimulators, rooting substrate, *Buddleia sp, Campsis sp*.

Assessing the leaf gas exchange for *Platanus hybrida* seedlings

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Abstract The paper presents the results of the researches carried out in assessing the influence of CO2 content and the active photosynthetic radiation for the basic processes (photosynthesis, perspiration and transpiration). The measurements were carried out with the foliar gas analyser CIRAS 2 and physiological and the physiological processes were tested in standard conditions (CO_2= 360 ppm) as well as in an artificial atmosphere enriched in CO_2 (CO_2=700 ppm) using an artificial source of CO_2 , while the PAR has been varied from 0 to 2000 $\mu molm^{-2s-1}$ using an LCD lamp.

The measurements highlighted that both CO2 concentration and PAR have a great influence upon the physiological processes considered. The response curves for the two parameters were drawn and the saturation points were also figured out. It was demonstrated that a CO2 high content atmosphere might have beneficial influence on the plant physiological process, bringing about higher photosynthesis rates. The same effect was also pinpointed for the light intensity, which also produces significant higher photosynthesis rates.

Key words

Platanus sp, photosynthesis, stomatal conductance, perspiration, CO_2 concentration, active photosynthetic radiation