

Researches concerning the influention of some technological factors over the production of one assortment of lettuce cultivated in field at the Didactic Base Timișoara

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Abstract This scientific paper is to make evident the influence of some technological factors at the lettuce cultivated in field in April – June 2010 period. The experience, were set as the polyfactor type, the set up of the variants being achieved according to subdivided plot method with three repetitions. The lettuce assortment introduced in experience, represented the a factor and it was constitute by the next lettuce lines: AS 104, AS108, AS 6119 (Geodis) and AS 6123 (Hedonis). The b factor, represented by the biological fertilizer substances and the c factor represented by the planting densities, assured the obtain of lettuce cabbages, with a hight quantity values of the cabbage weight, over 700 grams.

Keywords:

lettuce, fertilization substances, planting density, cabbage weight.

Comparative Quality evaluation of some Romanian and foreign winter wheat cultivars under conditions of Timis County, Romania

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Abstract The purpose of the researche is to follow the influence of the biological factor on quality of eighteen varieties of winter wheat: Element, Apache, Renan, Sorrial, Sobbel, Lovrin 34, Renesansa, SO-207, Ciprian, Palesio, Andalou, Mulan, Dropia, Boema, Kalango, Soissons, Exotic and Pobeda. The experimental field was placed in Banat County in 2011, on a cambic chernozem and the fertilisation level was N₁₂₀P₆₀K₆₀. Quality parameters that were monitored are: moisture, protein content, gluten content and Zeleny sedimentation index. In 2011 agricultural year, under conditions of Banat area, the winter wheat cultivars: Ciprian, Soissons and Lovrin 34, registered the best quality parameters and the lowest quality was registered by Andalou winter wheat varieties.

Key words

winter wheat cultivar, protein content, gluten, Zeleny index

The influence of sodium selenite on biometric parameters of wheat, barley and oat seedlings

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Abstract It was studied the influence of sodium selenite (5 ppm Se, 10 ppm Se) on the biometric parameters (height and biomass) of germinated wheat, barley and oat. The study was made on germinated wheat, Lovrin 34 variety, barley (Sistem variety) and oat (Lovrin 1 varietie). The results showed the following: the height of wheat seedlings was insignificantly ($p>0,05$) directly correlated with sodium selenite doses; the barley seedlings height was not influenced by sodium selenite dose and the oat seedlings height was insignificantly ($p>0,05$) negatively correlated with Se dose. The results regarding the influence of Se on the biomass of seedlings cereals showed that for winter wheat, the biomass was insignificantly ($p>0,05$) directly correlated with Se dose. For barley seedlings, increasing the Se dose, produce an insignificant ($p>0,05$) increase of biomass. The direct correlation between oat seedlings biomass and sodium selenite was significantly ($p<0,05$).

Key words

seedlings, wheat, barley, oat, sodium selenite, height, biomass

Study regarding Cu contamination of vegetables grown in Ruschita (Caras–Severin county)

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Abstract The aim of this study is to measure the levels of Cu found in common vegetables parsley (*Petroselinum crispum*) and carrot (*Daucus carota*) grown in farms located in contaminated mining areas Ruschita (Caras Severin County). Ruschita village is the mining centre of the massif Poiana Rusca. This place has crystalline schist, limestone and sandstone rich in zinc, copper and especially lead. We prelevated vegetables from different distances from the pollution source: 500m, 1000m and 1500m. High correlation was found between „total” soil metal concentration of Cu and their concentration in the parsley and carrot roots. Our results show that parsley and carrot have a similar Cu accumulation in roots. Raising the distance from the pollution source, copper content in soil and vegetables decreased.

Key words

copper, contamination, parsley, carrot

Herbicides effectiveness on the weed control in *Allium cepa* culture

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Abstract The purpose of this paper is to determine the control degree of weeds from *Allium cepa* culture when are used chemical treatments with herbicides and agro-technique measures. The experience was set up in an experimental field in Becicherecul mic, near Timisoara, on a Chernozem (Cz). Herbicide used were Goal 2XL - 1 l/ha, Dual Gold - 1,5 l/ha and Stomp 330EC (6 l/ha) and the onion variety used in experimental field was De Stuttgart. The research was organized as a single factorial experience and experimental plots were: V1 – without application of herbicides and hoeing; V2 – Dual Gold (1,5 l/ha) + 2 hand hoeing; V3 – Goal 2 x (1 l/ha) pre-emergence application + 2 hand hoeing; V4 – Goal 2 x (1 l/ha) post-emergence application + 2 hand hoeing, V5 – Stomp 330EC (pre-emergence application) 6 l/ha; and V6 – 3 hand hoeing. In order to determine the degree of weeds present in experimental plots before and after herbicide application, was used *weed mapping method*. Values recorded were statistically interpreting using analysis of variance. Predominant weeds present in onion culture field, were: *Echinochloa crus-galli* (25.74%), *Amaranthus retroflexus* (21.12%), *Chenopodium album* (17.24%) and *Hibiscus trionum* (14.57%). Perennial weeds present in the experimental field were: *Convolvulus arvensis* 4.84%, *Chenopodium hybridum* 2.98 % and *Cirsium arvense* 0.05 %. According to the weed control method, used in onion culture field, the number of the controlled weeds range between 90.87 weeds/m² (V6) to 96.45 weeds/m² (V2), so were registered very significant negative difference between control variant V1, and all other variants V2 - V6.

Key words

onion culture, herbicides, weed control

Statistical evaluation of cumulative effect of chemical substances–humidity over actinomycetes

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Abstract For this study, the attention of research group was oriented to a microbial segment with a big biodegradative capacity, actinomycetes. For the first step it was evaluated actinomycetes` behavior under anthropogenic pressures because of the incorporated insecticides and of the humidity factor. The evolution of actinomycetes in the presence of pyrethroid insecticides: cypermethrin (0.03%) and thimethoxan 25W (0.02%) was followed at 7, 15 and 21 days after the treatment was applied. During the whole treatment period there weren't detected quantitative decreases of actinomycetes from treated varieties, by comparison with untreated witness sample.

Key words

actinomycetes, cypermethrine, thimethoxane 25W, actinomicete, *Streptomyces* genus, syntethic pyrethroid insecticides

Studies Concerning The Variability Of Plant Productivity Characters In A Collection Of Local Landraces Of Bell Pepper (*Capsicum annuum* L.var.grossum)

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Abstract Exploring the local populations in different crop species allows finding valuable gene resources for different objectives for breeding. The study aimed to evaluate a collection of local landraces of bell pepper, originating from western romania concerning the main traits that compose the production ability. The collection subjected to study presents a variability that can be used in pepper breeding programs for fruit weight and number of fruit per plant.

Key words

Bell pepper, local landraces, variability

Research regarding the effect of foliar fertilizers on the agrochemical characteristics of nutritive soil in the greenhouse culture of tomatoes

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Abstract The greenhouse soil we studied has a neutral to slightly alkaline reaction, a high content of humus and humified organic matter, resulting in a regime of excessive nitrogen and potassium, which may be at a disadvantage and imbalance toward the low representation of phosphorus.

Key words

soil fertility, agrochemical optimization, organic and mineral fertilizers, foliar fertilizers, risk areas, tomatoes

Research regarding the soluble salts regime for field cultivated tomatoes, whit extraradicular fertilization (field culture and greenhouse culture comparative studies)

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Abstract The studies we did on a faeoziom argic type of soil and on tomatoes cultivated greenhouse soil, proved that that there is no excessive accumulation of soluble salts under the administration of large quantities of organic and mineral fertilizers (simple and complex), the extraradicular fertilization being a means of prevention and limitation of such accumulation.

Key words

soluble salts, areas of risk, optimal agrochemical foliar fertilization, faeoziom argic soil, greenhouse soil, tomatoes

Fertilization optimization in the case of the gared potato variety through superior valorization of the Romanian chemical fertilizers in the Tg. Secuiesc depression

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Abstract Profitable potato cultures cannot be developed without chemical and/or organic fertilization. The fertilization must assure the best possible valorization of the intensive varieties' production potential under the ecological conditions existing in the cultivation region.

The experiments took place at the Potato Research and Cultivation Station Targu Secuiesc in the period 2008-2010, in this paper we presents the partial results of 2009 year.

Our research proposed this approach to the aspects of potato fertilization in the case of the Gared variety, created at the Potato Research and Cultivation Station Targu Secuiesc.

To achieve a higher production level, 4 levels of fertilization and 2 types of fertilizers were studied.

Key words

fertilization, variety, potato, nitrogen doses

Research concerning the zeolites influence, used in the culture substratum, upon the quality of greenhouse grown tomato

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Abstract The quality of the vegetable products, in the actual context of Romania, supposes the introduction on a larger scale of some high technologies that will assure the obtainance of high productions needed on the market, checking the main indicators mentioned in the quality standards. The use of 25% zeolites in the nutritious mix on tomato culture in greenhouse, determines significant differences of the fruit quality concerning the content in Ca, Mg and K.

Key words

zeolite, culture substratum, tomato, quality and quantity yield, culture in greenhouse

Proline accumulation in some barley genotypes exposed to drought

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Abstract The objective of this work was to evaluate the changes in the amino acid, proline accumulated in plants under stress conditions. The osmotic stress were induced by PEG 6000 solution with the osmotic potential (-2.72 Bars, -4.48 Bars -7.35 Bars) using method suggested by Michael and Kaufman (1973). The results of this study showed that water deficit led to generally high free proline levels. From this parameters stand point the genotypes with a high drought tolerance correlated with high values of proline was presented by cultivars: Andrei, Dana, Mădălin, Lyric.

Key words

drought tolerance, winter barley, proline contents

Impact of soil works on the dynamics of the population of *Diabrotica virgifera virgifera* Le Conte

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Abstract *Diabrotica virgifera* is mainly a pest of maize (*Zea mays*), but other plants can occasionally be its hosts, such as some plants belonging to the Family Poaceae for larvae and to the Families Poaceae, Asteraceae,

Key words

Diabrotica, pest, population,

Fabaceae, and Cucurbitaceae for adults. There are over 22 host plant species, but maize is the most important plant host economically. Western corn rootworm can seriously damage maize roots and can result in yield losses (11). In order to determine the dynamics of the population of *Diabrotica virgifera virgifera* Le Conte, we have chosen as a research method ploughing, grubbing, and disking. Working the soil makes conditions favourable to plant development which in most cases makes them more tolerant to the attack by some pests (4). In the trial fields in Grabat and Lenauheim we set 48 isolators to determine visually the way in which these works influence the population of *Diabrotica virgifera virgifera* Le Conte. Results show that there is a correlation between the chosen soil work and the pest attack degree. Research show that grubbing had the least significant effects on the population of *Diabrotica virgifera virgifera* Le Conte, while ploughing had significantly stronger diminishing effects on this pest.

isolator, plough, disc, grubber

Research on the importance of game damage on forest and agricultural land

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Abstract Damage caused by agricultural and forest ecosystems game are pecuniary, tangible, caused by an imbalance between the number of roe deer population that live in these areas and carrying capacity of the forest ecosystem that agricultural food. They appear as interaction between two components: the populations of game and habitats they inhabit, in certain circumstances circumstantial.

Key words

damage, forest, populations, ecosystem

Caused damage of cervidae and suidae family in hunting fund Cocor and Chevereş

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Abstract This paper aims to establish damages by species of families Suidae and Cervidae and their intensity on crop hunting funds Chevereş and Cocor. In the present work are quantified the damage crops in order to prevent economic losses.

Key words

damage, hunting, animals

Issues of forestry fund administration by forestry department Reșița in the period 2001 - 2010

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Abstract In this paper we present aspects of forest management in Caraș - Severin in the period 2001-2010, the distribution of all forest land, forest structure classes of age, timber volume in relation to the possibility, forest development achievements cuts care, fire situation, the situation regeneration of damage, state roads, state security contracts.

Key words

forestry fund, wood, fire, productivity

Echological characteristics of New Parks

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Abstract No institution is more symbolic of the conservation movement in the United States than the national parks. Although other approaches to conservation, such as the national forests, each have their own following, only the national parks have had both the individuality and uniqueness to fix an indelible image on the American mind. The components of that image are the subject of this volume. What follows, then, is an interpretative history; people, events, and legislation are treated only as they pertain to the idea of national parks. For this reason I have not found it necessary to cover every park in detail; similarly, it would be impossible in the scope of one book to consider the multitude of recreation areas, military parks, historic sites, and urban preserves now often ranked with the national parks proper. Most of the themes relevant to the prime natural areas still have direct application throughout the national park system, particularly with respect to the problems of maintaining the character and integrity of the parks once they have been established.

Key words

park, natural areas, historic sites, conservation

English modern gardens

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Abstract In this paper, we have sketched, briefly, the origins and traditions which went to the making of English gardens into the nineteenth century. The intention now is to describe and display a certain number of gardens which can safely be called representative of the ideal, the paradise so long sought and worked towards: representative, however, of styles and methods and skill, but in no sense "average", for each is an outstanding example of its kind.

Key words

gardens, styles, methods, woodland

Research on the measurements taken (used) in the sample areas, located in unit III production Steierdorf

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Abstract Also called the province of beech climate because the climate is characterized by sweet, with overtones of Mediterranean with hot, humid summers and mild winters, with snow not too high, with frequent winter frosts and frozen and low thermal amplitude. Precipitation annual average is 900 mm. The wettest months are from May to July, and the most arid, December and January. In growing season, the average monthly rainfall is 110 mm. Average numbers of snow days is 30-40 days, average number of days with snow cover, is 80 days. Mean annual evaporation is 300-400 mm. in general; soil water balance is favorable to the development of forest vegetation, the main species (fir, beech), under favorable conditions. The average annual temperature is between 6 ° -8 ° C. The hottest month is July-August (16-18 °) and the cold in January (- 3°C, -4°C). These values vary depending on altitude. Growing season average temperature is 12-14 ° C.

Key words

measures, products, forest

Protective curtains ponds from Moldova Nouă for developments afforestation to address pollution on natural way

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Abstract Grassing and afforestation of barren tailing ponds from Moldavia was made in order to strengthen and stabilize it with vegetation to reduce the effects of pollution by dust, sand, and other harmful substances and environmental restoration of the economic cycle sterile lands unsuitable for cultivation.

Key words

afforestation, developments

The influence of rooting biostimulators and substrate on biometric characteristics of *Kerria japonica* (L.) DC seedlings

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Abstract Japanese Rose is a species whose propagation by division or seeds are quite difficult. Propagation by cuttings is an alternative for obtaining seedlings of *Kerria japonica*. Research has aimed the influence of biostimulators on rooting. Two biostimulators have been used: Atonik, in solution with a dose of 1:4000, respectively 0.25 ml to 1 liter of water and Radistim 1 in powder form. Rooting was done in the sandy. The characters analysed were root length and root diameter. The influence of soil media on seedling growth was another studied aspect. Rooted cuttings were planted in different soil media made of sand or a mixture of sand and peat in various proportions. For every seedlings has been determined: height increment, root collar diameter increment, root length and diameter length increment. It was observed that steam cuttings treated by Atonik had a rooting percentage of 71, while cuttings treated Radistim had a rooting percentage of 80%. In terms of soil media, it has influenced all biometrical characters studied. Best results were obtain for the experimental trials with 25% or 50% of peat in soil mixture.

Key words:

steam cutting, soil mixture, biostimulators

Heritage silvic theft according to the Forestry Code, Law 46/2008

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Abstract This paper analysis of legal and criminal offense of theft of property forest incriminated by Article 110 of Law no. 46/2008 Forestry Code. The content of the paper is outlined legal concept and are detailed in their natural order, object of the crime, subject, objective side, the subjective side, forms the offense and the sanction. Addressing is done with reference to theory and practice in the field, the doctrine and jurisprudence and legal provisions governing the correlation defining elements of the offenses. Theft of forest heritage finds rules in article 110 of Law no. 46/2008 Forestry Code.

Key words

law, sanction, forest, offence

Elements of law compared forest research and specific procedural rules forest crime

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Abstract In developing this paper, considered approach in all its valences of the problems on "forest crimes". Essentially sought to analyze the degree to which realities and political requirements, existing social economic and at some point find their legal expression in active fund legislation, pot cheese trends manifested in the relationship between the old law some still in action and new principles and rules states with increasing vigor. It was intended to set up a new legal system, particularly the one existing in the past. He can not only able to express political, economic and social new organized and of a state that is operating on new principles fundamentally different from those existing before. Currently timber thefts have increased both in Romania and other European Union States, as in the contemporary world, facts which causes immense damage, both public and private ownership.

Key words

damage, legal system, ownership, legislation

Studies regarding speciation and chemical fingerprinting as fruit products quality markers

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Abstract This paper presents an experimental research carried out on apples and grapes, using flame atomic absorption spectroscopy as a method for the analysis of mineral content and the thermo gravimetric analysis as a method for determining free water content. Speciation and Chemical Fingerprinting was realized taking into account the content in Ca, K, Na, Mn, Mg, Cu, Zn and Pb using FAAS method and statistical analysis program MVSP 3.1. Combined use of trace metals fingerprints and humidity may recommend this method as identification method for content composition and / or declared origin of fruits.

Key words

trace metals, thermo gravimetric analysis, fingerprinting, speciation

Auxological research concerning *Robinia pseudoacacia* L. from the sterile dump Cocoreni (Rovinari Basin)

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Abstract Black locust in a species from North America which found in Romania another home.. This species was used not only for afforestation and reforestation on sandy soil but also on degraded land. Fourteen years ago, on sterile dump Cocoreni from Rovinari Basin, forest culture with black locust has been installed. In order to put in evidence the growth of this species three tree from different crown class were selected. Trees were cut down and measurements were made on the cross sections. Then the sections area, the volume and factor form have been calculated. The research shows the rate of growth for the black locust on very difficult site condition.

Key words

Robinia pseudoacacia, auxology, increment

Effect of culture medium and cultivars on callus formation and plants regeneration from anthers and immature embryos culture of wheat (*Triticum aestivum* L.)

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Abstract Experiments were conducted to investigate callus induction and plant regeneration in two types of explants from two wheat cultivars Dropa and Lovrin 41. Explants used were anthers and immature embryos that give the best results when are cultured in vitro. Plants initiation and regeneration from cells and tissues cultured in vitro constitute a first stage but also an essential condition in using biotechnologies in order to develop different programs for cultured species breeding. Thus, callus initiation technique can be used in wheat breeding programs by inducing somaclonal variation generated by in vitro culture (1).

Key words

callus, anthers culture, immature embryos culture, culture medium

Area improvements with forest vegetation and sustainable development environment

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Abstract Stands at harvest wood from managed forests in the regular regime is very important for quality, quantity and continuity of forest and forest administration to return. Practical help at harvest timber fundamental in defining the structure stands as the aspect ratio but at the same time, it is fundamental to effective forest sector.

Key words age, exploitability, stand, volume

Elements for the determination best age (age exploitability) which table can be harvest in stands wood household under regular forest treatment

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Abstract Stands at harvest wood from managed forests in the regular regime is very important for quality, quantity and continuity of forest and forest administration to return. Practical help at harvest timber fundamental in defining the structure stands as the aspect ratio but at the same time, it is fundamental to effective forest sector.

Key words age, exploitability, stand, volume

Somaclonal variation at the nucleotide sequence level revealed by RAPD and ISSR markers

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Abstract Genetic diversity is one of the most important factors for crop improvement. On the the other hand, for micropropagation or genetic transformation the most crucial aspect is to retain genetic integrity with respect to the mother plants. In order to select genotypes with in vitro stability or instability we evaluate the regeneration ability of the 30 lines Romanian cultivars and genetic diversity of the regenerants using RAPD and ISSR markers. 3 out of 30 genotypes tested had regeneration ability with a frequency of 1 %. The RAPD primers amplified fragments with the size

Key words genetic diversity, alfalfa, ISSR markers

ranged from 200 bp to 1230 bp. The total number of clear bands obtained from each primer ranged from 4 to 9. The number of polymorphic bands ranged from 2 to 6. The ISSR primers amplified fragments with the size ranged from 130bp to 2420bp. The total number of clear bands obtained from each primer ranged from 10 to 26. There were differences between genotypes regarding the number of polymorphic bands obtained with the same primer. To date, few studies have been conducted to assess the level of variation among somaclones of *Medicago sativa* using DNA polymorphism.

Bazos arboretum, the source of biodiversity in Timis county

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Abstract Bazos Arboretum, created 100 years ago, is a valuable collection of exotic species. Arranged in a landscape-specific style, it was designed as a recreational park where trees with particular ornamental qualities have been planted, brought from far away and strongly contrasting with the local vegetation.

Originally, the collection counted 120 specimens from Harvard University's Arboretum (North American species). By courtesy of I.C.A.S. (Forest Research and Management Institute) (which took it over in 1934) and benefiting from a favourable legislation, the scientific collection has diversified, currently reaching over 800 specimens, with some rare or very rare species from different parts of the world.

Key words

arboretum, exotic species, management plan

Land study of the logging yard Pârva Reca with G.P.S and data processing in G.I.S.

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Abstract By applying a modern technology, land study in the logging activities can be done using GPS (The Global Positioning System). The analysis and processing of the data, the representation of the characteristics of the forest yard on the plans and all related calculations can be done in GIS (Geographic information Systems).

Designing the collection routes can be done in GIS after the browsing of the land with an G.P.S. receiver and after discharge and G.I.S. commissioning of data collected. In the same mode it can proceed for the determination of the enclaves, homogeneous surfaces, roads, limits of the exploitation swaths etc. All these, methodology of work, results, plans of the forest yard "Pârva Reca" with afferent details and conclusions of this study are presented in this article.

Key words

exploitation yard, forest exploitation, Global Positioning System, Geographical Information System

The analysis of landscape development in the waste heaps area from Moldova Noua after their stabilization with forest species

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Abstract Resulted from flotation process of the cuprifer ore, the waste heaps from Moldova Noua is presented as a sterile sandy deposit, with an area of 120 ha and a height of 20 m.

The main forest species that were cultivated on waste heaps from Moldova Noua and have achieved the best results in terms of growth and development were locust and oleaster. In addition into the assortment of species introduced was also included the species: canadian poplar, american cherry, ash and willow thorn.

The research conducted on plantations from the waste heaps group "Boşneag" from the complex of waste heaps from Moldova Noua, targeted the analysis of landscape developments in this area, after the waste heaps stabilization of here, stabilization achieved with vegetation in general and with forest vegetation in particular.

I conducted the researches in three sample surfaces, totaling 300 square meters. Biometric characteristics were measured for all trees in these areas, for determinate the repartition of trees on diameters categories, growth and development of plantations and their density. We performed correlations between trees heights and diameters measured.

Correlations reveal a harmonious development of exemplars, especially for locust.

Growth and development of these plantations, the small number of exemplars in the lower diameter classes, good density and significant correlation between heights and diameters, are prerequisites for good development of the landscape in the waste heaps from Moldova Noua.

Key words

landscape, waste heaps, sterile, mining activities

Studies regarding the value of a garden beans (*Phaseolus vulgaris* L. var, *nanus*) local landraces collection concerning the number of pods per plant

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Abstract Variability of traits in garden beans is very high there are many genotypes being untapped. Land races are a pool of genes for breeding programs. The number of pods per plant varies widely depending on the growing type and vegetation conditions. The study aimed to assess the garden beans land races collected in western Romania in terms of pods per plant, as an element of productivity. Local land races are inferior to varieties

Key words

bean, local landraces, number of pods per plant

grown in the area. There are emphasized as valuable Joia Mare 2 and Bârzava land races. The number of pods per plant is directly correlated with the number of beans in the pod, number of beans per plant and weight beans per plant. The links of number of pods per plant with the main traits components of productivity are linear.

Variability of some *Allium sativum* L. landraces from Romania cultivated *ex situ*

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Abstract The garlic plants are included in the *Liliaceae* family and belong to the *Allium* species, in our country it is grown widely, the edible part of the plants may be the bulb, false strain carrier or the green leaves.(2) In order to offer the plants the possibility to grow and develop in some way, for example to produce bulbs or seeds, there must be provided with a certain sequence of the life conditions, for the entire vegetative period. So, for the plants to react in a usual way, we have to assure the usual sequence of the life conditions which was repeated from one generation to another in the latter part of filogenesis. Therefore we took in the study 16 landraces from three Romanian counties (Timis, Arad and Hunedoara), cultivating them in Timisoara and Cenad. The repeating of the usual sequence of the plants life conditions was done during 4 years, next we did the statistic interpretation of the morphological characters. The data obtained from the landraces studies were analyzed comparing with the data obtained from the studies of the morphological characters of the same landraces from Cenad, which was used as a control variety. If the usual sequence of the life conditions changes in some way and in some point during the plants life - then the usual sequence of the vital possibilities is also changing, the plants will show in a total different way.

Key words

garlic, landraces, morphological traits

Studies concerning the lead effect *in vitro* and *in vivo* on the plants development of *Lycopersicum esculentum* L.

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Abstract The known affections of the human organism after intoxication with lead were the following: the anemia, the affection of brain vas, chronic nephritis, arterial hypertension, decrease of children capacity of learning, changes in the babies behavior and of little children (conditioned by the lead influence through the mother organism in the nursing and intrauterine development period), for instance the aggression, impulsivity, hyperactivity. The pollutant of heavy metals type was very dangerous through the maintenance of a long time in the soil, and also thanks its taking-over by the

Key words

in vivo, *in vitro*, lead, *Lycopersicum esculentum*

plants and animals. Those elements of toxicity on adjusted the combination possibility of heavy metals with minerals and the oligominerals becoming locked of those, depriving of those important elements of organisms life. The lead, entered in the organism, was absorbed by the erythrocytes, the nervous and boned tissue, reins. The biochemical effect consisted in controlling the erythrocytes activity and the quantity increasing of lead in the blood. The functions of the soil were disturbed, especially nearly the streets of intense traffic, where registered big concentration of lead. So, it were affected also the organisms from the soil.

Aspects of the copper on seeds germination of *Capsicum sp.* L.

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Abstract The experiment was performed to study the seed germination and seedling growth in pepper under the influence of different concentrations of copper. The germination %, death seeds, abnormal seeds, normal seeds, sample seeds decreased with increase in copper concentration V1- 10 ppm; 50 ppm; 100 ppm. The copper took place from the structure of some enzymes, which had the role of transforming the superoxide in oxygen and peroxide, named superoxide dismutase, as hemocopper, hepathocopper, cerebrocopper, eritrocopper, citocopper. The copper deficiency was in general a little spreading, in comparison with the deficiency in others heavy metals and affected a small relative number of species. A big concentration of copper in the nutrition environment was toxic for the major of plants. Copper as another heavy metals, had activated as enzymes delayer, limiting the phosphatase activity alkaline, catalase, xantionxidase and ribonuclease. Also, the copper could combine the cellular membranes permeability braving its break.

Key words

copper, death seeds, abnormal seeds, normal seeds, sample seeds

Mathematical models to optimize the use of forest land

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Abstract Large share of that land covered with forest vegetation occupies, both at planetary and national level, determine a very high importance to its administration. Forests as a whole are the main means of environmental protection and cover a significant land area. Forest management planning is a science of organization, modeling, and forest management depending on the objectives set by policy makers at a time. This way of organizing and trying to ensure a continuous harvest of wood faced great difficulties for private forests due to relatively small areas and the high degree of territorial dispersion and of properties and the divergent interests of holders. In order to optimize the exploitation of forest instruction were issued as prescribed by the forest management plans, as follows: general plan of operation, especially operating plan, the plan of improvement works, works of

Key words

graph, forest management plan, Hamiltonian path

afforestation plan, and the plan of construction. In present, a special chapter on forest protection, including measures necessary to ensure stability or ecological restoration of this fund, where applicable, was added. Note that, initially, in the process of recovery and optimize forest resources, forest management plans were focused especially on the upper side turning wood as the main resource of the forest and then, so far, the data collected from field were becoming more complex in order to identify and higher capitalization of all forest resources.

Mathematical modeling of forest land quality monitoring

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Abstract Scale representation is an operation known especially, in the field of cartography, where the main objective is to draw the map with a certain degree of detail. On such a scale, relief details, for forestlands cannot be represented, as graphics resolution of the map is too small. Given the density of species and relief variety, the new map permits now representation of any trees species and any relief form, watercourses or forests. An easy to use and accurate map should prove a good compromise in scale of graphic representation and resolution. Resolution of representation in the mapping of forestlands increases with the scale of representation only effect of scaling is to increase and not to decrease the data imaging.

Key words

multiresolution, wavelet, signal, cartography

Platanus trees in the parks of Timisoara

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Abstract Platanus is a tree species that cannot be found very often in the streets and green spaces of Timisoara. There are some parks in the town where you can find this species, in small numbers. Platanus are not used often in Timisoara for rows on the sides of the streets. Isolated or in small groups, Platanus trees are always conspicuous, because of their special dimensions, nice patched bark and foliage.

Key words

Park, trees, Platanus, Timisoara

Thuja trees in the parks of Timișoara

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Abstract Thuja sp. is a conifer species that can be found today very often in the streets and green spaces of Timisoara. In the parks of the town the species is more and more present. Thuja are not used for rows on the sides of the streets, but have become a common presence isolated or in small groups in gardens, and urban green spaces. Thuja are appreciated because they are evergreen, and because they can be shaped in different forms easily.

Key words

Park, trees, Thuja, Timisoara

Prunus trees in the parks of Timișoara

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Abstract *Prunus* is one of the frequent tree species that can be found in the streets and green spaces of Timisoara. There are many parks and private domains in the town where you can find this species in greater or smaller numbers. It was always very common in the town, especially in yards, some of the parks and avenues. Generally speaking prunus trees are a usual presence in the green spaces of Central Europe, because of their nice flowers without being excessively sensible or very expensive.

Key words

Park, trees, Prunus, Timisoara

Potato (*Solanum tuberosum* L.) regeneration using the technique of meristem tip culture

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Abstract Technique of meristem tip culture is one of the most used for in vitro culture initiation. It is one of the most used techniques to obtain virus free plantlets. Four Romanian potato cultivars and ten artificial nutritive medium variants were used in this study, in order to establish the best protocol for potato shoots regeneration starting from meristems. The best results have been obtained on PM medium added with 1mg/l indolyl acetic acid, 1mg/l indolyl butyric acid, and 0.3 mg/l gibberelic acid for the genotype Nicoleta when the meristem was constituted of meristematic dome and four leaf primordia.

Key words

meristem tip culture technique, in vitro regeneration, potato, culture media

Leaf litter decomposition and nutrient release in *Salix* spp under temperate conditions of Kashmir valley (India)

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Abstract Litter bag experiment was carried out during 2006 - 2007 to study the role of microorganisms in leaf litter decomposition of *Salix alba* and *Salix fragilis* under natural *Salix* stands. The experiment was laid in completely randomized design with three replications which comprised ten treatment combination of 5 inoculants (No-inoculant, *Azotobacter chroococcum*, *Pseudomonas fluorescens*, effective microorganism and combination of *Azotobacter chroococcum* + *Pseudomonas fluorescens* + effective microorganisms). Higher rate of decomposition of leaf litter was recorded in June in case of *Salix fragilis* (88.90%) as compared to *Salix alba* (80.16%). Lower rates of decomposition of both the species were recorded in January. Plant N, P, K, Ca, Mg and organic carbon release showed an increasing trend from July onwards upto November and immobilization of above nutrients was observed in December and January. In the succeeding months an increasing trend in the nutrient release was observed. Highest nutrient release was recorded under combined inoculation of *Azotobacter chroococcum* + *Pseudomonas fluorescens* + effective microorganisms followed by effective microorganisms as compared to other treatments and control. Combined inoculation resulted in a significant increase in total viable bacteria, fungi and actinomycetes followed by effective microorganisms, *Pseudomonas fluorescens*, *Azotobacter chroococcum* and control respectively. Thus the treatment combination of *Azotobacter chroococcum* + *Pseudomonas fluorescens* + effective microorganisms proved to be the best for decomposition of *Salix* leaf litter and nutrient release

Key words

Azotobacter chroococcum, Decomposition, effective microorganisms, Microbial inoculation, *Salix alba*, *Salix fragilis*, *Pseudomonas fluorescens*