Effect of the storage technology on the quality maintaining of some cauliflower cultivars

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Abstract Taking into account the importance of the cauliflower within the human diet, the purpose of modern valorisation technology is to extend the consumption period both through the diversification of cultivars and hybrids as well as through maintaining the quality of the inflorescences for as long a period of time as possible, by means of using various storage methods. This paper presents the results of the research carried out between 2008 and 2010 regarding the influence that protecting the inflorescences with polyethylene during storage has upon the duration of the quality maintaining of cauliflowers belonging to the following cultivars: Timpurie de Bacau, Fortados, Aviso and Cabrera. The storage was performed using two experimental variants: in unprotected plastic packages and in perforated polyethylene bags within packages, in frigorific spaces, at a temperature of 0-2°C and a relative humidity (RH) of the air of 80-85%. Inside the polyethylene bags the humidity (RH) was of over 95%. During storage the modification of the commercial aspect of the cauliflowers was dynamically monitored and observations were carried out concerning the turgescence, the altering of the colour and the occurrence of spots due to disease attacks or injuries. Before and after storage the main chemical components of the inflorescences were determined and at the end of the keeping, the weight losses were also recorded. The duration of the maintaining of the inflorescences' quality was influenced both by the storage variant as well as by the cultivar itself: for the inflorescences protected by perforated polyethylene foil the depreciation began occurring after 60 days, while in the case of storage in unprotected packages, it occurred after approximately 30 days. The Cabrera cultivar recorded the best results regarding the maintaining of quality. The level of weight losses at the end of the storage period was almost 3 times smaller at all cultivars in the case of protected storage than in the case of storage in packages.

Key words

biochemical composition, duration of storage, weight losses

Behavior of some new Rosa varieties in pedoclimatical conditions at Cluj-Napoca

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Abstract The rose – The Queen of all garden flowers, it's cultivated on world scale in Romania. Changing the actual range on roses, it's necessary because of the breeding activity for obtains the new varieties with excellent morphologic characters, and it's the main purpose of the research activity from the Research Fruit Station Cluj. The research activity consisted in studies on eleven new rose varieties: 9 from the Group of *Thea hybrida*: *Acapella, Caprice De Meilland, Monica, Valencia, Imperatrice Farah, White Succes, Vivaldi, Black Velvet, Frührot* and 2 rose varieties from the Group of *Floribunda*: *Leonardo da Vinci* and *Sachsengruss –U-*. On these varieties were made various determinations during 2011-2012. The results point up some of the varieties, that have special morfo-decorative characters, and which are recommended as cut flowers and floral decoration like as: *Acapella, Frührot, Monica, Black Velvet, Imperatrice Farah, White Succes, Vivaldi, Valencia, Caprice De Meilland,* and the varieties *Leonardo da Vinci, Sanchsengruss –U-*, which are recommended for gardens and parks. On the base of this studies can be extend in production in other firms, the varieties: *Imperatrice Farah, Caprice de Meilland, Monica* and *Sachengruss-U-*, which obtained after the determinations the best score.

Key words
cultivars, assortment, characteristics, evaluation marks

Gossypium spp. - a new ornamental plant use for indoor and flower arrangements

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Abstract The diversification and introduction of new plants in floriculture and ornamental horticulture is an important objective of our researches in order to diversify the Romania assortment for indoor design and floristiq art. Diversifying the assortment of ornamental plants by introducing exotic species is an actual objective of growers worldwide. In Romania we are lately witnessing to the importation of ornamental plants less known, but which are a great interest in terms of ornamentation. This requires knowledge of environmental conditions and culture technology so that the plants could be grown with good results. In this paper was presented cotton (*Gossypium spp.)*, including around 50 cultivated not only for natural fibres, for oilseed crop source for animal feed and medicine use as also for indoor design as pot plant or different arrangements. *Gossypium hirsutum* species is being taken in culture for ornamental value. It is a species of great beauty with spectacular inflorescences, and its leaves complement the decorative value.

Key words
houseplant, pot plant, characteristics, techniques, assortment, diversification

Establishing some technological methods to increase leaves production of kale (*Brassica oleracea* L. var. *acephala*)

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Abstract Kale, also known as *Brassica oleracea* L. var. *acephala*, is little known and cultivated in our country, so can be considered a new or rare vegetable. But kale is the oldest specie of *Brassica* genus and the closest to wild cabbage. It is one of the most valuable in terms of nutritional value, of all species of *Brassicaceae* group. If a comparison is made in terms of content in vitamin C and minerals between kale and cabbage, which is cultivated and consumed all over the country, it is observed that kale is much richer in nutrients.
This paper shows the influence of organic and chemical fertilizers on the yield of kale. The results showed that between the two hybrids that were used, Winterbor F1scored the highest yields under the influence of poultry manure and chemical fertilizer.

Key words

kale, multi-phase fertilization, yield, hybrids

Field study in the logging yard by modern methods

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Abstract Field study in the logging yard by modern methods leads to increased precision in design, as well as better planning of it by representing all activities on digital maps.

Field study using specialized software involves first obtaining digital map of the forestry yard or area where it is located and overlay over *GoogleEarth* satellite images.

With this digital map superimposed over *GoogleEarth* satellite images, or other G.I.S. specialized software, it is necessary to draw polygon boundaries representing logging yard, homogeneous surfaces etc. Below is presented the calculation of dimensional characteristics of these polygons.

This essay continues with determination and representation of homogeneous surfaces flow directions and then by tracing ways of collecting and calculating their length. To determine distances to collect wooden work, it is shown how to calculate distances from the centers of gravity of homogeneous surfaces to the collection routes and the establishment of focal points of concentration of wood and woodpiles.

The end result of a land survey in a logging yard is the forestry yard sketch. Represented digitally in G.I.S., forestry yard design provides to the user all geomorphologic and dimensional details of all technical features of the logging yard.

Key words

logging yard, forestry, land survey, Geographic Information System

Considerations regarding the slope forest land from Romania

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Abstract The land slope (inclination) and the versant length influence directly the hydrological regime and the pluvial erosion. The forest reduces the water leak and improve the hydrological regime, maintaining them appropriately reducing the pluvial erosion, the number and the intensity of the floods.

In this essay was made an analysis of the distribution of the forest land from The Forestry Departments and onto incline categories. Processing the entire occupied area by forests in the R.N.P. was found that the very quickly and steep slope land (> 256) occupies 2,288,026 ha, that is 43% of the total area.

Analyzing the distribution of these surfaces on Forestry Departments is found that they are located mainly (57%) in 11 Forestry Departments (holding 46% of forest area). Most of these Forestry Departments form a compact group in south-west of the country ţării (Caraş-Severin, Hunedoara, Alba, Mehedinţi, Gorj, Vâlcea and Argeş) with an average of 61% very fast and steep slope lands.

Analyzing the number of flooded towns in the period 2005-2009, we find that 42% of the total number of flooded villages in Romania is located in the area with the influence of water in these areas. Due to a huge damage caused by floods and presented in part in this essay, we believe that these departments should be treated as a single group and centrally funded for the action of improvement measures.

Key words

slope, flood, erosion

The effect interaction variety x rootstock on parameters bioproductiv plum tree to the species

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Abstract Plum species is an important species in the temperate zone for our country, for fruits rich in vitamins and products that are produced by industry. Adaptability plum varieties for our country, for areas where we want to be grown, highly dependent on the interaction of variety / rootstock and climatic conditions of the area. Oltenia soils reflects perfect correlation between rootstock and new varieties range promoted nationally.

Key words

rootstock, variety, plum tree, corelation, production

The taxonomic diversity of the macromycetes from Căpăţânii mountains (Romania)

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Abstract The mycological investigations undertaken in the Căpăţânii Mountains, along of seven consecutive years (2003-2010), have materialized through the identification in the territory of 421 taxa (species, variety, forms) belonging to 171 genera, classified in 66 families, 19 orders, 4 subclasses, 5 classes, 2 subphyla, respectively 2 phyla (*Ascomycota* and *Basidiomycota*).

Key words

Căpăţânii Mountains, macromycetes, taxonomy, Romania

The influence of forcing on callus formation and roots of some grapevine varieties

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Abstract The research was conducted in a nursery in Variaş, Timiş County, during 2012 and focused on very important aspects of the technology for producing grafted and forced cuttings.

Were made observations on eight varieties of table grapes and seven varieties of wine grapes grafted on two rootstocks Kober 5 BB and SO_4. We tried several variants regarding the duration of forcing, from nine days to 17 days and we also studied four variants of temperature control.

The variants with short duration, of 9, 10 or 11 days, led to unsatisfactory results, reflected in low percentages of suitable grafted and forced cuttings that developed callus, and low percentages of cuttings that developed roots. From temperature point of view, we tried several variants, and obtained the best results with variant V_3 - 28^0C, which is also the most expensive one.

Key words

planting material, forcing, callusing, national standard vine

Research on the potential alcohol of some local varieties and biotypes of wine grapes in Arad County

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Abstract The research was run over the course of three years (2008-2010) in several villages in Arad County. The aim of the study was to identify and analyse some local varieties and biotypes of wine grapes, grown in the courtyards and gardens of people living in this area.

The samples harvested from the cultivars destined for winemaking

Key words

local varieties and biotypes of wine grapes, potential alcohol

were vinified in small batches, in household system, using the same vinification technologies for all cultivars. No conditioning substances or bottle dosages were added, therefore the resulting wines were balanced and could be considered biological wines. Even more so, if we take into consideration that in producing the grapes we used neither substances for disease and pest control, nor chemical fertilizers.
The main focus of our research was the potential alcohol of the wines obtained. For this, after getting the results, we compared the local varieties and biotypes under study with the reference varieties: Fetească regală - for white wines and Cabernet Sauvignon - for red wines, but also with the mean of the experiment.

Technological aspects concerning the grafting of some japanese tomatoes

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Abstract The research watched establishing the technological flow for grafting of a Japanese tomatoes collection for cultivation in greenhouse (second cycle). The works were realised in the Laboratory of Protected Cultures of the ICDIMPH-Horting Bucharest, in 2010 year. Laboratory have a greenhouse specialized in producing from vegetables grafted seedlings. Greenhouse consists from room for grafting, with tunnels for forming the callus and room for growing. The biological material used was composed from scions – Japanese tomatoes F_1 hybrids (Red Ore, Shifuku and Kanpuku) and rootstocks from Lycopersicon specie, F_1 hybrids (Suketto, Konkurabe and Beaufort). Grafting was performed manually, with silicone tubes for grafting. Beaufort rootstock obtained the best result (98%), followed by Suketto and Konkurabe (97%). Were established the dates of the technological stages for production of the grafted seedlings in the Japanese tomatoes collection. The researches concerning grafting of the tomatoes are important; the quality of the planting material influences the success of the crop (quality and production). The Japanese tomatoes hybrids are an important biological material for the cultures from protected spaces (second cycle) in Romania

Key words

grafted seedlings, *Lycopersicon esculentum*, technology

Sugar Content of Carrot Roots Influenced by the Sowing Period

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Abstract The content of sugar in carrot roots has a great influence on the perception of sweetness and can even mask bitterness. The following experimental factors were taken into consideration: the cultivar (Nantes-5 and Flakker-3), the sowing period (March and May) and the mode of fertilization

Key words

carrot, content, fertilization, cultivar, sugar

(organic and chemical). The values that were registered in the experiences that were carried out between 2010 and 2012, on two carrot cultivars, highlight the high content of sugar (10.73 g/100 g of fresh product) in the Nantes-5 cultivar, sown early and organically fertilized. The main monosaccharides of the total sugar content from fresh carrot roots were determined with the HPLC method. The content of sucrose registers the highest percent from the total sugar content, with a value of 66.3 in 2010 and 58 in 2011, followed by glucose with 20.5 in 2010 and 25 in 2011. Fructose registers values of 13.1% in 2010 and 16.1% in 2011.

Indicators of economic efficiency for carrot cultivation in Transylvania

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Abstract The present study aims to analyze the economic efficiency in case of carrot culture experiments performed with different culture technologies: two cultivars, two periods of sowing and two methods of fertilization. Indicators of economic efficiency (unit cost of production, unit gross profit, profit rate, labor productivity, production costs on equivalent product) were calculated for each variant separately. It was found that best results were obtained in variant Flakker-3, sown in March and chemically fertilized, the profit rate was 38.36%, even if the production costs were the highest, and the lowest profit was recorded in the case of variety Nantes-5, 20.88%, fertilized with organic fertilizer and sown in May, due to the low quantity production.

Key words

carrot, economic indicators, efficiency, profit

Increasing and improving beans production of some beans varieties, by applying foliar fertilizers and specific bio-regulators to stimulate flower binding

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Abstract The information on some virtue, some recently discovered, of some products, whether vegetable or fruit, is rapid in the current stage of development of mankind, so sometimes there is unprecedented demand on the market for them. Beans are a vegetable garden cultivated in small areas, with the production of green pods also modest, but for which there is demand in the market.
Therefore, increased production of green pods per unit area is absolutely necessary, but also it is necessary to obtain higher economic efficiency, to value this crop, in order to become more attractive for growers. One of the reasons that green beans are not preferred by growers of vegetables is the lack of technology information, being not known those links in culture technology that need to give immediate production and quality effects.
In this article we present the influence of two technological links (extra root

Key words

production, green beans, variety, information, technology, fertilization

fertilization and flower binding stimulation) on the production potential of some garden beans varieties.

Study on the productive and qualitative potential of some watermelon hybrids under the impact of biostimulating treatments

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Abstract Currently, for obtaining an early watermelon production it is used, on large scale, the modern culture technology in low tunnels with polyethylene foil, and with the use of fert-irrigation system. The classical improved technology is not excluded, and it consists in direct seeding or seedlings' planting when the climatic conditions are favorable. Biostimulating products, by their favorable effects upon plants' metabolism in general, applied through foliar sprayings, also contribute to the improvement of the modern culture technology by favorable effects upon the production and its quality.
In this article we present the unilateral effects of differentiated application of the two growing technologies, but also the biostimulating products interaction effects on hybrids' production, both in terms of quantity and quality levels, but also on its earliness.

Key words

hybrid, technology, tunnel, foil, biostimulating products

New antibacterial horizons: study *in vitro* of plant extracts with bioactivity

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Abstract Looking for curative powers in plants is an old idea dating back to prehistory but presently more and more reasoned, as in the case of bactericides. Starting with quinine, isolated around 1820, against malaria and continuing with the discovery of penicillin by Alexander Fleming in 1929, only around 1960 problems of bacterial resistance have been made aware. Therefore in the past decades the dynamic of searching new anti-infection agents and compounds has increased and occupied many research groups in the field of ethnopharmacology and bio sciences. In the present study we propose testing extracts from 14 plant genera to check their ability *in vitro* to inhibit growth of 6 bacteria isolates: *Pseudomonas syringae pv. tomato* Van Hall (Gram -), *Erwinia amylovora* (Burill) Winslaw *et al.*(Gram -), *Escherichia coli* Migula (Gram-), *Pseudomonas aeruginosa* Schröter (Gram -), *Streptomyces griseus* Waksman and Henrici (Gram +), and *Bacillus cereus* Frankland & Frankland (Gram +). Results have been analyzed using criteria of interpretation, developed for accuracy. The study revealed the probable influence of extracts composition over normal development of the pathogens.

Key words

bacteria, natural products, biopesticides

The grapevine culture in vineyard Stefanesti-Arges, along time

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Abstract Viticulture is an activity the millenary nations, this time getting the new values. Today, wine is a profitable economic sector, able to provide food and therapeutic value products, intended for immediate consumption or subsequent recovery. Ştefăneşti vineyard is located in the central-southern Muntenia Subcarpathians, occupying the platform, slopes, Glacis and part of Arges valley about 24 ° 54 'east longitude and 44 º 55' north latitude. Vineyard territory covers piedmont area tems, relic, consisting of gravel from Candesti, occupying the platform, slope, glacis, with some extensions to higher areas of the northern third of the meadow Arges. Meadow Arges appears as a flat, with a slight southern slope, uneven as filing and different levels of groundwater and thickness of silt deposited (Romania's geographical Monograph, 1961). This vineyard area evolved as follows: 1959 = 105 ha, 1989 ha = 806, then the area under grape vines suffered a decline from year to year because of the new law of restitution: 1998 = 1109 ha, 2004 = 693 ha, 2012 = 423.39 ha.

Key words

viticulture, vineyard, edaphic factors, microclimates, soil

Multiplication and shaping of C*hrysanthemum* varieties cultivated in pots

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Abstract The increasing of global flower production is due to growing demand for ornamental plants and high incomes gained this activity. Genus of Chrysanthemum, occupies an important place on flower production. *Chrysanthemum* cultivation importance derives from its esthetic qualities, what make it to match for any occasion, also the diversity of shapes, sizes and colors makes the chrysanthemum to be highly appreciated by the general public, and in the same time to be economical a profitable crop.

High consumption of chrysanthemums (especially during Autumn), in our country, determined the investigation and improvement of cultivation technology and possibilities for the propagation of the species *Chrysanthemum multiflora*. It was followed the influence of rooting substrate (peat + perlite Klassman, peat Klassman + Osmocote, peat Klassman + NPK) on the developing of 3 Chrysanthemum cultivars.

During the experiments were made some morphological observations. Were studied the following: length of cuttings, diameter of leaves rosette, number of leaves, number and length of roots, plant growth and development. Recorded data were interpreted statistically by variance analysis. Results showed that the rooting process were different and depends on the variety. Branmaya rooted at the earliest (14 days), and was fallowed by Branfortune and Branroyal (rooting period - 19 days). Best rooting substrate was Klassman peat + perlite, followed by Klassman peat + NPK and Klassman peat + Osmocote.

Key words

cultivars, cuttings, mums, rooting substrates

Wallflowers: a new trend in interior design

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Abstract In modern cities buildings gain terrain and green spaces are invaded by concrete. As "green" lost its space on ground level, scientists and landscape engineers thought moving it on walls and on construction tops. It is not important, that we speak about vertical gardens or small compositions on walls, green "paintings" (living walls) gain space and can be admires all over the world: Paris, London, Vienna, Tokyo, Seoul. These opuses come as benefit for the ambiance and conditions of the living space. The present paper can be seen as an idea or a modern solution for setup of interiors, but in the same time, can contribute to the purification of the interior atmosphere.

Key words
indoor plants, landscape, living walls

Research on the potential quantity and quality of some varieties of wine grapes under the conditions in Paulian village, Arad County

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Abstract The research was run in years 2011 and 2012, on a private plantation in Paulian, a village in Arad County. The study focused on establishing the potential quantity and quality of certain varieties, as well as on revealing the physical, chemical and organoleptic properties of the wines obtained from those varieties.

The plantation was set up in 2008, the planting distances 2/1.2 m, and the pruning system used was Cazenave.

We determined grape yield by weighing the grape samples. We assessed yield quality by determining the sugar content, the acidity and the density of the must, then we determined the alcohol content, total and volatile acidity, dry extract and ash in the wines obtained.

Key words
wine grapes, quantity, quality

Research on the suitability of Fetească Regală variety for making sparkling wine, under the conditions in Buziaş-Silagiu viticultural area

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Abstract The research was performed in years 2010, 2011 and 2012 in Buziaş-Silagiu viticultural area, and it focused on assessing Fetească regală variety as raw material for obtaining sparkling wine. For this, we established the optimal moment for harvest, the sugar content and the acidity. The methods used for grape processing were: direct pressing, crushing/destemming with the separation of the free-run juice, crushing/destemming with the separation of the free-run juice and then mixing it with must obtained after pressing.
In what the variants of grape processing are concerned, it turned out that sparkling wines obtained from direct pressing of the grapes (V1) and from crushing/destemming with the separation of the free-run juice (V2) preserved better the flavour, harmony and characteristics of good stock of the raw matter, presenting better quality.

Key words

sparkling wine, fermentation, bottle fermentation, clarification

Partial results on potato production planted in ridges of different size and shape, 2012

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Abstract Recently many types of planting and ridging machines have appeared that can create ridges of different shapes and volumesfor potato production. The shape and the size of ridges have as much influence on the rate of binding and tuber development as the planting depth and in-furrow placement. The aim of this research is to study the connection between the shape and the size of ridges and of planting holesfor different cultivars and the methods of optimizing theextent of the nutrition areadetermined by different ridge volumes and shapes. In this studyI intend to presentthe different results in production, number of potato tubers obtained in a seedbed and the average weight of a tuberwhich were obtained due to the use of ridges of different shapes and sizes and also the influence of in-row seed spacing for two potato varieties planted in ridges in onerow and tworows.

Key words

ridges, potato, nutrition area, shape, size and in-row seed spacing

General aspects of the prevention and control of the potato ring rot disease (*Clavibacter Michiganensis Subsp. Sepedonicus*)

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Abstract In recent years and especially the last two years the spread of the potato ring rot caused by the bacterium *Clavibacter michiganensis* ssp. sepedonicus has increased greatly, in 2010 *Clavibacter michiganensis* ssp. sepedonicus produced very significant damages in Covasna County for certified potato seed growers. The transmission of this disease is alarmingly easy, both by seed and by ground, aphids, agricultural machinery, livestock, water and so on, and its control is practically impossible. The only way to control the disease is the quarantine.

Key words

Clavibacter michiganensis, potato, eradication program

Growth, development and regeneration of silver fir, beech and spruce in the Northeast of Romania

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Abstract The main objective of this study is to investigate (to explore) the conditions of growth, development and regeneration of stands of spruce, silver fir and beech in the North East of Romania. In this paper we proposed the investigation of quantity and quality of the seeding relative to main biometric features of the trees. Field date was collected using the 500 square meters circular surface method, in 2012. the results (spindles) related to the diameter ,height and structure of the natural regeneration. Also, we quantified the quantity and quality of the regeneration by species related to the height and the diameter of the seed spindle. The results show us a positive evolution of the natural regeneration of spruce species, especially in the category with heights greater than 21 cm. The silver fir presents a major regeneration for the third criterion witch shows a low quality.

Key words

natural regeneration, biometric measurements, diameter, height

Research regarding some physiological modifications in *Prunus domestica* L. as a result of the attack produced by *Polystigma rubrum* (pers.) Dc.

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Abstract The research regarding physiological modifications produced by *Polystigma rubr*um (Pers.) DC. has been carried in *Prunus domestica* L. - *Diana* variety cultivated in the climatic conditions in Oltenia region (Banu Mărăcine, Dolj).

As a result of research carried out on the leaves attacked by the pathogen, in comparison to healthy leaves, notice that these presents lower values of photosynthesis and transpiration intensity, due to the reduction of the assimilation surface of leaf and the malfunctioning of stomata mechanisms, as a result of e spots at the beginning of yellow-cream color, then of red-brown and necrosis of the tissue corresponding to spots. In the leaves attacked by the pathogen it can be observed a decrease of chlorophyll content and the decrease of the total water content which is manifested by the gradual drying of the leaves.

Key words

attacked leaves, healthy leaves, pathogen, plum tree

Research regarding some physiological modifications in *Pyrus communis* L. as a result of the attack produced by *Venturia pyrina* aderh.

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Abstract The research regarding physiological modifications produced by *Venturia pyrina* Aderh. has been carried in *Pyrus communis* L. - *Untoasa Hardy* variety cultivated in the climatic conditions in Oltenia region (Banu Mărăcine, Dolj).

In the leaves of the pear - *Untoasa Hardy* variety attacked by the pathogen observe that the physiological processes intensity presents, in comparison with healthy leaves, a specific variations due the damaging action of the pathogen. The photosynthesis and transpiration intensity in the attacked leaves by the *Venturia pyrina* Aderh., is similar to that in healthy leaves, but the recorded values are lower as a result of the reduction of the assimilation surface and the malfunctioning of the stomatic mechanisms due spots and necrosis produced by the pathogen. The leaves attacked by the pathogen present a decrease of chlorophyll content and the water content manifested by the decrease of the cellular turgor and gradual drying of the leaves with consequences on the quality and quantity of fruits.

Key words

attacked leaves, healthy leaves, pathogen, pear tree

Effect of Temperature and Light on the Promotion of Off-season Flowering in Island Purple Ginger, *Boesenbergia siphonantha* (Baker) M. Sabu *et al.* (Zingiberaceae) – A Promising Ornamental Ginger from Andaman Islands

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Abstract The experiment was carried out to study the effect of temperature and light on flowering of plants in their off season period. *Boesenbergia siphonantha* is a wild potential ornamental ginger endemic to Andaman Islands, India was selected for the current study. The rhizomes were collected and stored at 15^0C for 8 months during March to October. The sprouted rhizomes after chilling treatment were planted at regular interval and sprouted plants were transferred to green house with controlled light during night hours using incandescent lamp to extend flower production from December to March. Off-season flowering was observed during January to March. A detailed morphological analysis of 24 attributes all plants under study were recorded.

Key words

off-season flowering, Night break, Boesenbergia siphonantha, Island Purple Ginger, Zingiberaceae

New versions Romanian pots of local peat bio composites quantitative and qualitative analysis of fungal micro flora

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Abstract Seedlings production is an important link in vegetable culture because many vegetables species are grown by producing prior of seedlings.

The theme work is in line with Western trends to produce seedlings by integrating new vegetables technologies, profitable, with positive effect on limiting pathogens to obtain seedlings, using biodegradable pots.

Were made quantitative and qualitative analysis concerning fungal micro flora of plants rhizosfere.

At variants without plant fungal communities were dominated generally by *Acremonium charticola*, specific wetland habitats rich in organic matter. At V2 dominates *Trichoderma viride* accompanied by *Humicola grisea* involved in humification and proven V3 installs *Rhizoctonia solani* as an accidental species.

At variants with pepper dominate *Acremonium charticola* at V5, at V6 is predominantly *Penicillium funiculosum* and in fungal communities V7 and V8 there is a dominance of the genus *Trichoderma*, formidable antagonist with *T. harzianum*, accompanied by representatives from other genres as *Artrobotrys*, P*enicillium*, *Humicola*. *Torula*, *Rhizoctonia* and *Fusarium* species are pathogenic. The soil is favourable also *Artrobotrys oligospora* development which is predatory species.

Key words

seedlings, biodegradable pots, fungal micro flora

Seed germination and seedling growth of tomato as affected by different types of compost water extracts

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Abstract We investigated the effects of water extracts of composts (CWE) from six different types of composts (different compositions of organic matter), using seed germination bioassay as an indicator of phytotoxicity in compost extracts.

After incubation was determinate number of seeds germinated in each type of CWE at 24, 48 and 72 hours, evaluating the compost maturity. Germinated seeds were counted (nVSS and nVSC) and root growth (RLS and RLC) measured. After 14th day, was measured the Germination index (GI) according formula GI = nVSS x RLS / nVSC x RLC x 100, where nVSS and nVSC express the number of viable seeds in the sample and in the control, respectively (extract compost was replaced by distilled water); RLS and RLC expressed the root length in the sample and in the control, respectively. (if the compost is providing plant nutrients adequately).

Key words

seeds germination, compost extracts, tomato seeds, phytotoxicity

Aspects of the pollen grains diameter variability and the pollen viability to some sunflower genotypes

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Abstract Generally speaking, the pollen is not capable to maintain the viability and the germination capacity longer. Direct sunlight, on the other hand, reduces the pollen viability, which dries and loses its ability fertilization. Pollen grains diameter variability and pollen viability was highlighted to several Romanian and foreign hybrids of sunflower, in an experience in the central area of Oltenia. Among the native genotypes, Performer registered the highest value in terms of pollen grains diameter, compared with the control, but the best percentage of viable pollen had the hybrid Saturn. Among the foreign sunflower genotypes, the biggest diameter of the pollen grains has been registered to the Flavia hybrid, which, besides along with PR64A83, had the largest percentage of viable pollen.

As regards the average values, both the pollen grains diameter and the pollen viability values were approximately similar to native and foreign sunflower genotypes. The small advantage for the native hybrids is conferred, probably, by better adaptability to the environmental conditions of the experimental area, and the fact that these hybrids have been created through the improvement in the conditions of Fundulea area, confirms once again their greater capacity of resistance to the biotic and abiotic factors stress.

Key words

sunflower, genotypes, variability, pollen grains, viability

The genetically modified plants – acceptance and controversies

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Abstract Obtaining of new plant genotypes with higher quality than existing ones, supposes the creation of new combinations of genes that correspond to environmental conditions and agronomic conditions in which these new plants will be grown.
A genetically modified plant is one of great controversies of our time. The people pro GM plants point to great possibilities of nutrient-packed food and solving world hunger, while critics fear unknown effects on human health. In fact, it is normal that like any other science, bioengineering also has pros and cons. However, it seems that there is not enough information to consumers or misunderstanding the phenomena involved in the transgenesis process creates the biggest controversy. It would be wrong to make just conjecture, with no clear responses provided by specialized laboratories which are qualified to investigate the possible side effects of genetically modified plants to humans and animals. After all, as many specialists advocate, the crossing and the selection applied to the plants growing along the centuries have led to changing the genetic structure of plants, so that we could consider that nearly all species of cultivated plants are …genetically modified. It is also a mistake to issue false alarms, because genetically modified organisms have shown that bring a real progress in terms of modern improving plants, for a growing population.
In 2011, the Academy of Agricultural and Forestry Sciences (ASAS) expressed its opinion on GM crops, and the conclusion was that they do not carry risks to human health and can be further promoted. Although the bioengineering and biotechnologies have already proved their usefulness, it is imperative that the new bioengineering techniques should be prudently addressed without disturbing the ecological balance principle of the living world equilibrium.

Key words

bioengineering, GM plants, consumers, advantages, controversies, health, environment

Study on production potential and quality of first cycle tomato crops established on typical chernozem soil, endocalcaric, in solariums

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Abstract Tomato production's characteristics such as size, earliness and quality, situated at the highest possible level of genetic potential of a cultivar determine the profitability of the crop. This paper presents the effects of those technological links improvements which contribute to the production of tomato in a solarium located on typical chernozem soil, endocalcaric, with the characteristics previous listed under the highest values.

Key words

tomato, production, earliness, quality, technology, type of soil

The impact of some biostimulating products upon the production and its' quality of some melon hybrids cultivated in field

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Abstract Obtaining productions out of melons cultivated in open or protected field, economically profitable, requires a certain level of its quality and quantity. Adequate quantity and quality production obtained from good hybrids is decisively influenced by the modernity of culture technologies applied. In this experiment we have applied two different culture technologies in terms of protecting crops against late spring frosts, in both cases their establishment being done by planting seedlings.
Results of this work show the impact on production, in terms of quantity and quality, of applied crop technologies in interaction with biostimulating products administered by foliar sprayings.

Key words

production, quality, hybrid, culture, technology, biostimulating product

Evaluation of growth and yield of organically-grown mungbean

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Abstract Considering the fact that all over the world significant climate changes were registered, it is vital to work in purpose to find feasible solution in order to preserve natural resources (especially vegetal genetic resources, land and water) and to assure quantitative and qualitative food for all people. The use of genotypes resistant to pathogens distinguished by high yield potential and with minimum inputs might represent an alternative solution to the current challenges. The aim of this study was to investigate aspects regarding grow and yield potential of mungbean species. In our experimental context, it has been studied a collection of fifty genotypes different from the view point of plant height, seed colour, seed yield, vegetation period. Our study relived the fact that variety influenced: germination, emergence duration, interval to appearance of first true leaves, flowers and pods, plant height, number of fertile shoots, number of pods per plant, pod length, number of seeds in pods, production of grain.

Key words

Phaseolus aureus Roxb., yield, resistance, earliness

Studies to identify pepper genetic resources suitable to organic and conventional farming systems

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Abstract Organic production is considered by many researchers to be a viable alternative to conventional farming systems. Equivalent yields already have been demonstrated in several studies. The major objective of our study was to collect data on total fruit yields of round pepper (*Capsicum annuum*) under organic farming conditions in the North East part of Romania. The current study presents our research activity based on: identification, evaluation and use of pepper germplasm resources in order to establish the suitability of species to cultivation in organic farming conditions. This work presents: morphological characterization of thirty accessions of *Capsicum annuum* L and also the potential yield of accessions in organic system.

Key words

local populations, line, variability

Study of variants to reduce inputs in vegetable crops

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Abstract **1. Reducing energy consumption during the period between sowing to young seedlings transfer to the container cells.**
The second variant - Heating with diesel heater, had the highest cost in the period from sowing to transfer the young seedlings to container cell. The option to produce seedlings and perform sowing in rooms heated by gas, represented 2.73% of 2 cost variant at tomato and 1.95 of 2 cost variant at peppers.
Variant 3, where heating was done with vegetable debris, straw and wood, was the most economical.
2. The study of influence of sowing containers type, thickness of sowing soil on the period of emergence and the period from plant emergence to transfer the young seedlings to the container cells.
The planting container type is chosen depending on the amount of seeds that will be sown. Thickness peat layer will be 2 to 15 cm according with the period between plant emergences to their transfer in container cells. Drills peat layer shall be at least 2 cm, when the transfer of the young plants in container cells will be done after 2 to 10 days and up to 15 cm, when the transfer of young plants in container cells is accomplished after 2 to 30 days.
3. The determination of the biomass per hectare that remain after harvesting.
The amount of plant debris is important and depends on the specie: corn – 27 t/ha, long pepper - 18,4 t/ha, sweet pepper - 17,5 t/ha, round pepper - 16,5 t/ha, eggplant - 13,5 t/ha, cabbage -12,4 t/ha, tomato – 8 t/ha. This plant debris can be destroyed with a vegetable waste shredder and incorporated into the soil after drying. They will become an excellent fertilizer by dew composting area.

Key words

energy consumption, seedling, biomass

Variation of foliar area in apple in response to nutrition guidance through foliar fertilisation

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Abstract Foliar area is a feature of apples, which varies depending on nutrition and stress. We monitored the variation of foliar area in five varieties of apple (Generos, Florina, Delicios de Voineşti, Jonathan, and Pionier) in response to nutrition guidance through foliar fertilisation. The amplitude of variation of the indicator monitored is specific to each apple variety. The lowest variation was recorded in the Florina apple variety (26.92±3.02 – 34.88±2.99 cm^2) and the highest one was in the Generos (27.50±1.09 – 44.47±1.02 cm^2) and Jonathan (19.12±1.08 – 33.54±1.58 cm^2) apple varieties. Multivariate data analysis shows that the biological material, i.e. the apple varieties can be grouped, depending on the degree of similarity, into two groups with the cophenetic coefficient 0.864 pointing to high significance. The same method groups the fertilisation variants into two distinct groups of which one has three sub-groups, with a cophenetic coefficient 0.783.

Key words

apple, foliar fertilisation, mineral nutrition, foliar area, correlations

The behavior of some biotypes and old apple tree varieties under Caras Severin County natural conditions

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Abstract The apple tree is one of the most important and popular fruit species, being found since ancient times on the entire area of our country, fact certified and proved by the names of several localities in Romania, for example: Meri, Merești, Merișani, Mărul, Poiana Mărului and others.

The climate and edaphic conditions of our country confer a favorable climate for apple tree growing and developing, thus for a long time, the Romanians cultivated this important fruit tree species. First empirically and then scientific trying to multiply and perpetuate the varieties with special characters.

In Romania were conducted and investigated by certain authors research programs concerning the selection of the most valuable apple biotypes. As a research result were obtained and recommended for growth in production some valuable apple varieties.

The apple is a fundamental tree species all over the basin of southwest of country (Domașnea-Cornea, Borlova-Marga, Vârciorova, Caransebeș, Hațeg, Dobra and others).

Over the time were destroyed a good part of local varieties of this species, but still remain specimens or isolated groups which deserves to be identified, studied and propagated to recover the valuable genetic material.

Key words

apple tree, biotypes, varieties, regions

Research concerning the behaviour of some local apple tree varietis in the Luncsoara village, Arad County

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Abstract In many fruit-tree growing areas the native varieties and those belonging to the old assortments were maintained in a great proportion because of their vigor and productivity, resistance to pests and diseases, a long holding period and, last but not least, because some areas of the country were not collectivized and each grower cultivated traditional varieties. The main selection objectives in the apple variety improvement process were: tree resistance to frost and drought, resistance to pests and diseases, constant productivity from one year to another, aspect, taste, sugars and vitamin C content. So, the varieties and the local biotypes, which have some important features, were considered an important germplasm source, being observed by researchers and other growers. Luncsoara –Arad area is very favorable for apple tree culture because there were maintained many varieties and local biotypes. In this research are presented partial results concerning some studied aspects: the fruits biometry and the fruit production tree in conditions of the 2012 research year.

Key words

apple, varieties, local biotypes, biometry

Research regarding the influence of crop substrata and the concentration of fertilizing solution on the yield of some strawberry cultivars

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Abstract The annual strawberry culture in modern system, in solarium, with the varieties Camarillo and Jubilee, on peat and coconut fiber substrate, had different results also depending on the concentration of the fertilizing solution. During the time period from July to October, a gradually production was endured, slightly earlier for the Camarillo variety on coconut substrate. This variety had a longer harvesting period, while for the Jubilee variety the harvesting lasted less. The production was larger when the fertilizing solution was used with the standard concentration depending on the phenophase. Increasing the concentration of the fertilizing solution during the first part of the vegetation period and the slight exfoliation of the plants after the first harvest are not justified due to the fact that in both cases the production recorded lower values.

Key words

substrata, peat, coconut fiber, production

Research regarding the influence of various pruning systems at Cornichon cucumber cultivated in solarium

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Abstract The research regards the cucumber crop cultivated in solarium, in Ist cycle, using as biological material F1 Mirabelle hybrid. Due to its considerable capacity of shoots forming and to its exuberant leaves system (very large, abundant leaves), this research focused on the effect of shoots removal from the main stem, at different heights of the plants, with or without preservation of fruits on the areas which lacked shoots. At variants with shoots removed before 1m and 1.2 m heights, fruits were kept on the plant. On the other hand, at variant with shoots removed at 50 cm height, fruits were also removed. From research, it was observed that when shoots were kept from 50 cm upwards, the number of fruits on main stem dropped, but the number of shoots increased, which led to a higher yield on plant and on square meter. Nevertheless, when shoots are removed on higher heights such as 1 m or 1.2 m, the number of fruits on main stem increases, the number of shoots decreases and thus the yield declines also. However, the advantage of this situation is that plants are less prone to disease attack due to a smaller vegetative crop and a better air circulation among the plants.

Key words

cucumber, pruning system shoot, yield

Research on obtaining valuable genotypes for the columnar type apple

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Abstract In the apple improvement program, the possibility of extending genetic variability and creating opportunities for obtaining valuable genotypes on plant structure and fruit quality has been highlighted.
Descendent transmission of growth character for columnar type is done relatively easy. The chances of transmission to followers the genetic resistance to Endostigme inequalis is easy, but usually the poor quality fruit is transmitted too. They selections M9-3-2006; H2-4-2005; H1-16-2007; M30-R4-2007 etc. were highlighted.
The improvement of fruit quality requires continuing the works of improving by backcrossing, using valuable standard varieties.

Key words

Apple improvement, Genetic variability, Columnar, descendance

Beech growth variability on an altitudinal gradient in northeastern Romania

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Abstract The variability of anual tree ring size for beech (Fagus sylvatica L.) was analysed for the North –Eastern part of Romania. 33 stands were studied from which 409 growth samples were taken. These were measured and standardised. Growth curves were elaborated which were analysed in terms of altitude and expositon. At 400 m and 500 m altitudes, the growth curves from southern and northern flanks are much alike. At 700 m, 800 m and 1000 m altitudes the growth curves vary a lot. On southern expositions the growth curves variation is fairly high, the exposition influence being low. The growth achieved at high altitudes (800 m, 1000 m) showed out high variations beside those brought out at low altitudes (400 m, 500 m). The growth curves variations at high altitudes can be determined by the temperature conditions. On northern expositions the growth achieved are more uniform. In this case, the exposition has a greater influence on growth.

Key words

beech, variability, radial growth, altitudinal gradient

Norway spruce growth variability on an altitudinal gradient in northeastern Romania

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Abstract The variability of anual tree ring size for spruce (Picea abies L.) was analysed for the North – Eastern part of Romania. 79 stands were studied from which 1057 growth samples were taken. These were measured and standardised. Growth curves were elaborated which were analysed in terms of altitude and expositon. At altitudes of 700 m, the northern expositions lead to the formation of some more constant growth curves due to more constant conditions of light and humidity. The case is different at higher altitudes where the northern expositions lead to the formation of growth curves with bigger amplitudes. The influence of limiting factors from the altidudinal limit leads to a strong anual variation of growth. At altitudes which vary from 900 m to 1400 m, the spruce growth is not influenced by exposition, the two exposition curves overlaping. On sothern exposition the spruce registers greater growth curves variations than on the northern expositions, where the growth curves are overlaping.

Key words

spruce, variability, radial growth, altitudinal gradient

Management of commercialization of potato production through processing

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Abstract Potato is one of the main crops in the world and in our country. Potato is a valuable food, considered by Food and Agriculture Organization (FAO) as an important pillar in enhancing food security worldwide. Need for efficient management, complex climate,tehnological, economic and biological changes occurred in recent times in agrosystems, require continuous and accurate knowledge of growing resources and vegetative state of crops.
Processing of agricultural products is a priority for national food industry to improve quality of life and level of performance of research by promoting new technologies in order to meet food safety requirements.
Increasing quantities of processed products will lead to a secure production commercialization, profit insurance at farm level and increase of competitiveness of food industry.

Key words

potato, processing, marketing, food safety, variety

Antibacterial activity of *Pleurotus ostreatus* gemmotherapic extract

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Abstract The antibacterial activity of a gemmotherapic extract of *Pleurotus ostreatus* was investigated against 5 species of bacteria, three Gram-positive bacteria: *Bacillus subtilis, Bacillus cereus* var. *mycoides* and *Streptococcus faecalis* and two Gram-negative bacteria: *Pseudomonas aeruginosa* and *Serratia marcescens*, using the well diffusion assay. The extract was prepared from young parts of *P. ostreatus*, in according to the gemmotherapic principles. The result revealed that the extract had a significant inhibitory activity against *Bacillus subtilis* and *Bacillus cereus* var. *mycoide*s but moderate on the other species and minimal on *Serratia marcescens* at a concentration of 50mg/mL and 5 mg/mL. The results indicate that the gemmotherapic extracts can be a viable alternative to the modern extraction techniques.

Key words

antibacterial activity, *Pleurotus ostreatus*, gemmotherapic extract, well diffusion assay

Evaluation of antibacterial activity of *Lentinula edodes* gemmotherapic extract

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Abstract In this paper, it is presented the investigation of the antibacterial activity of a gemmotherapic extract of *Lentinula edodes* (Berk) Pegler, against 5 species of bacteria, three Gram-positive bacteria: *Bacillus subtilis, Bacillus cereus* var. *mycoides* and *Streptococcus faecalis* and two Gram-negative bacteria: *Pseudomonas aeruginosa* and *Serratia marcescens* using the well diffusion assay. The extract used was made from young shoots of *L. edodes*, in according to the classic gemmotherapic principles. The result revealed that the extract had a very strong inhibitory activity against *Bacillus subtilis* and *Bacillus cereus* var. *mycoides* but little or no effect on the other species at a concentration of 50mg/mL and 5mg/mL. The results indicate that *L. edodes* active compounds can be used to develop antibacterial agents against *Bacillus subtilis.*

Key words

antibacterial activity, *Lentinula edodes*, gemmotherapic extract, well diffusion assay

Preliminary results obtained in the experimental area the agro productivity study of some quince varieties in the fruit growing basin Târgu Jiu

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Abstract The experimental area is located on the third terrace of the Jiu River at the altitude of 383 m in the northern part of Târgu-Jiu City on the experimental plantations established in 1987 at Târgu-Jiu Fruit-Growing Research and Production Station.
Considering the favourable area of the quince culture in Northern Oltenia an experience was placed under the conditions for intensive plantations for zoned varieties.
An important factor in intensive quince cultures is the crown shape, with influence on the quantity and quality of the production and especially on the disease attack, mainly Erwinia amylovora and Monilii.
From the observations it results that, no matter the variety, the quince is less productive when having either a “Simple Palm” crown or a “Bush Trunk” one. As a conclusion, the quince does not react positively to palm shape crown or to a stuffy crown as bush trunk.
As a general conclusion of the obtained preliminary results is that the form of "late bowl" and "shapeless hedge" are the most suitable for intensive plantation quince, using Moldovenesti and De Constantinopol varieties, which have a 2-4 day later flowering compared to the other studied varieties. This way it is avoided the negative effect of some environmental factors of that time of the year (white frost, late frost, cold rain).

Key words

quince, crown shape, variety

Analysis of the rooting system for the locust and oleaster trees planted on the tailing dumps from Moldova Nouă

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Abstract This study gives the results of research conducted on the tailing dumps from Moldova Nouă at the rooting system of locust and oleaster, with average diameter and height, representative for the two species in plantations on the tailing dumps made from Moldova Nouă.

On the soil profiles dug near a locust tree and one of the oleaster, have been identified roots by measuring their diameter and depth level where they are.

The roots were divided into groups by diameter and order of depth. There were determined root frequency and root area for each diameters groups. Grouping the roots by order of depth has allowed determination of the root surface and the index of root distribution or each order of depth.

After analyzing the number of roots, root frequency and surface and the index of root distribution so for locust and oleaster, we made comparisons between the development of the root system of the two species planted on the tailing dumps and in the future to make research on root system for locust and oleaster planted on the unoccupied field by tailing dumps.

Key words

root system, tailing dumps, Moldova Nouă

Biodiversity of the microfauna plantations installed on the tailing dumps from Moldova Nouă

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Abstract Biodiversity of the microfauna plantations installed in the tailing dumps from Moldova Nouă represents an important indicator of the renaturation, the development of biodiversity at this level are directly influenced by employment dumps with vegetation, generally and specifically forestry.

The analysis of the microfauna biodiversity was done on the soil microfauna and entomofauna of the canopy trees. The collection of the insects was made with ground surveys in the first case and with traps in the second case.

The analysis of the microfauna biodiversity, in both cases, has involved determining the number of species, the level taxonomic relative abundance of orders which include these species, and similarity of these specific compositions of the microfauna communities from the plantations performed on the tailing dumps of "Boşneag" and "Lunca Dunării".

Thus, the age differences between the two dumps plantations and the influence of other environmental factors, induce the biodiversity of microfauna both at the canopy trees and the soil.

Key words

tailing dumps, entomofauna, biodiversity, Moldova Nouă

Landscape project for enhancing the value of Iron Bridge – the forgotten monument of Timişoara

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Abstract The presence of the Bega canal flowing through the very heart of the city is one of the most important characteristics of Timişoara. In spite of this, the inhabitants are unaware of the importance of the canal for the city life, because of the residual character of the banks in most areas and of the poor connection public urban spaces have with the river. On the other hand, along the banks are placed old industrial buildings and structures, a category of monuments often neglected, in spite of being both a testimony of the high technical performances of the end of the 19th century and important urban landmarks. This paper proposes an approach integrating landscape design and architecture. The presented project aims the restoration of a forgotten monument – the Iron Bridge – and the rehabilitation of the Bega canal and its banks in the bridge proximity, a design that should bring the city and its inhabitants the benefits water provides.

Key words

iron bridge, landscape design, water, green areas, monument, Timisoara

Setting Connections between Landscape and Cultural Productions – A Concept Design Method

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Abstract Landscape designs are often approached as artistic manifestos – with disproportionately emphasized cultural show-off load, sometimes in disregard with the sustainability issue. This paper introduces a reactionary design method, aimed at raising landscape professionals' and customers' awareness on the phenomenon of unsubstantiated landscape design. The general concept of the study is bridging the low landscape culture and the high culture of sustainable landscaping via a cultural mediator. In the studied case the Jonathan Demme movie, "The Silence of The Lambs", offered an unexpected and original bridge for the landscape concept design of a student campus in Bucharest. The paper concludes that punk attitude can enrich landscape aesthetics with humor, emphasizing the need for elaborate and responsible concepts in landscape designs.

Key words

cultural referencing of landscapes, landscape concept, humor, punk landscaping

Preliminary results on the *in vitro* propagation by leaf explants and axillary buds of *Iris aphylla* L.

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Abstract In order to develop an *in vitro* micropropagation protocol of the rare, endangered and ornamental plant *Iris aphylla* L., leaf explants and explants of rhizome buds cultivated on normal- strenght Murashige and Skoog (MS) basal media, supplemented with growth regulators. Explant types were disinfected by standard methods. The higher percent of contamination was recorded for the rhizomes explants with axillary buds (86%). The potency of cytokine-like thidiazuron (TDZ) combined with auxin alpha naphtyl acetic acid (NAA) as plant growth regulators in evoking morphogenic responses from leaf explants and explants of rhizome buds in *Iris aphilla* L. was evaluated. Maximum percentage of callus induction was obtained from the leaf explants of *Iris aphylla* L. cultured on MS basal medium augmented with 2.0 mg l^{-1} TDZ and 3.0 mg l^{-1} NAA.

Key words

leaf and rhizomes explants, axillary buds, disinfection, culture medium, TDZ

Planning research on hydrographic basin Bârzava

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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

torrential correction, hydrographical basin, morphological parameter

Research on the calculation of work required for development of the hydrographical basin Poiana Mărului

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Abstract Torrential processes and land degradation produce large disturbances and imbalances both to the environment and human life and activity, leading to the production of disasters with casualties. Main determinant of the process is the disrupting torrential hydrological regime of

Key words

catchment, basin slope, hydrographical basin, forest

water courses. This disorder alters surface protective functions against leakage and accelerated erosion, the vegetation cover and biological degradation of soil physical function as a result of their use of natural resources in mountainous and hilly areas, in particular through rational exploitation and destruction of wild forests.

basin

Research on the influence of minimum tillage on phisical 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, 2011 until September 31, 2012 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 2011-2012 we had a humidity 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.

Key words

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

Researches on the helpful coleoptera entomofauna from the viticultural ecosystem S. D. Banu Maracine

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Abstract All over the world, the order Coleoptera has a broad spread, about 300.000 species are known, specialists consider that there are many more. This order contains harmful species but also species useful for different plants.

Most of useful species are part of the Carabidae Family, Coccinelidae Family and Staphylinidae Family. They are known as predatory and parasitic species, some of them feed with living food, harmful insects belonging to the same or different orders, both in larva and adult stages. The useful species are also biological indicators of great importance in agricultural crops.

Key words

Coleoptera, entomofauna, parasites, predators

Effects of osmotic stress on sorghum (*Sorghum bicolor* L. Moench) seed germination and embryo growth

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Abstract Romania is one of the European countries with vast areas of low productivity soils containing toxic salts, being frequently associated with poverty. The problems determined by osmotic stress are associated mostly with other abiotic stress factors, as drought and phosphorus deficit. The osmotic potential of a colloidal solution can mimic the soil water potential, and that is a most important parameter in controlling seed germination under normal farming conditions. The effects of osmotic stress on seed germination and early embryo growth were investigated in laboratory in three cultivars of sorghum – cv. "F135ST", cv. „Sugargraze I" and „Sugargraze II"– to verify how stress may limit crop growth during the very early stages of growing season. Two water potentials (ψ) of the germination solution (from 0 to-0,3 and -0,6 MPa) in polyethylene glycol (PEG-6000) for osmotic stress tests were studied. The experimental design was Completely Random Design (CRD), which was based on factorial with 3 replications. In the experiment, seeds were germinated in covered, sterilized, disposable Petri dishes. Daily germination was recorded, radicle and shoot lengths were measured during 7 days after initial germination. Seed germination was reduced in stress conditions, and shoot/ root growth was adversely affected. Four parameters, namely germination percentage, germination rate, germination index and coefficient velocity of germination were estimated. The results of this study showed that different levels of the osmotic stress had significantly affected the germination percentage, germination rate, germination index and coefficient velocity of germination. The evaluation of the three varieties showed that F135ST (V1) had a higher germination percentage (89%) than the Sugargraze I (86%) and Sugargraze II (76,66%).The maximum germination index (624) and coefficient velocity of germination (74,88) were retrieved from F135ST. The cultivar with the longest coleoptil at the highest PEG concentration was F135ST and radicle at the highest PEG concentration was Sugargraze I.

Key words

seed, germination, embryo growth, osmotic stress, sorghum bicolor

Plant growth and development monitoring through integrated sensor systems

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Abstract This paper proposes an integrated sensor based system that combines the need for continually monitoring and control of the environmental conditions with the phytomonitoring technique in order to assure the well

Key words

sensor systems,

being of plants inside a greenhouse. Also this system is a statement that we can combine two different methods of data aquisition like wired and wireless to make sure that all the needed parameters are monitored. Three basic components satisfy these need as follows:a sensing system, a communication system and a data processing system.Wired and wireless sensors are deployed inside the greenhouse, all together with a family of controllers and smart actuators in order to set up a control system whose behavior can be remotely programmed. The wired system is doing a real time monitoring of the following parameters inside the greenhouse: light intensity, soil moisture and temperature, air temperature and humidity and air temperature at canopy level; all of the data being stored using a software made by "Tedelco". In the same time the wireless system is acquiring data from four more sensors: leaf temperature sensor, quantum(PAR)sensor, soil moisture sensor and leaf wetness sensor. In order to assure the optimal conditions for the inhibition of pests, the greenhouse is also equipped with an artificial lighting system specially designed for greenhouses, an irrigation system and an artificial fog system.Sensor systems are the ideal support for preventive monitoring and at the same time it offers all the support data necessary for decision making regarding crops development.

phytomonitoring, greenhouse

Research regarding the influence of the area climate changes on some local clonal selections behavior of the main varieties cultivated in Vineyard Pietroasa

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Abstract Throughout various research stations and prestigious wine tradition institutions in our country, owner of germplasm we find vineyard Pietroasa, which quality attributes derive on one hand from the ecopedoclimatic conditions met here, and on the other hand from the scientific activity oriented to creating new vine varieties and improving the main local varietis of the sortiment throughout clonal selection. In the last years, though, as well as in almost all the regions of our country, we assist with a certain worry to a serie of extreme climate events (strong winds, extrem high temperatures in summer, extreme negative temperatures in winter, as well as the freezing rain phenomenon, all with effects on the normal process of the growing cycle of the vine. This paper represents an informative study and in the same time a practical and scientifical solution which followed the effect of local climate changes on the agrobiological and techonolgical potential of some local clonal selections in P.V.R.D.S. Pietroasa, between 2010-2012.Climate data has been colected from the center's own weather station and regarded daily observations on the parameter evolution – temperature, precipitations, insolation, and based on these observations climate indexes that define the degree of favorability of an area, as well as Huglin index have been calculated. Results obtained after the study prove that they are in direct correlation with these area climate modifications, that have on the short run a pozitive influence on the precocity of grape maturation (6-8 days in advance), on the sugar accumulation potential (Busuioaca de Bohotin 26 Pt – 244 g/l – 2012) and which, alltogether bring a quality plus to the final product, the wine.

Key words

climatical index, clonal selections, grape varietes, favorability, vineyard

Fruit trees thinning in sustainable agriculture

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Abstract Living in the context of the 3rd millennium, when the global technology reached amazing points, the need to satisfy the human desires is directly proportional to the human's development but also with the development of the environment in which the human lives. The main problem of the human nature was and will be the increase of production in order to insure the food necessities. For the research in the field of fruit tree farming, and especially for the fruit producers, the increase of the production and the quality of the fruit with regard to the plum tree is a main objective. A too big load of fruit/tree leads to obtaining small fruit and of inferior quality, braking of branches, finishing the reserves and reducing the trees' resistance to the cold. The load of fruit is appreciated in report to the number of leaves and the number of fruit on a tree. The thinning of the fruit load is carried out differently on trees, thus: thinning trees with weak differentiation, thinning trees with normal differentiation and thinning trees with excessive differentiation. At the trees with weak differentiation a differentiation of the number of buds is desired which to insure a higher number of fruit. At the trees with normal differentiation special works to thin the fruit load do not apply, with the exception of the years when climate accidents occur. At the trees with excessive differentiation the fruit load thinning is necessary, which applies in the blossom period, but also in the various stages of the fruit development. Cutting the fructification is an important part in adjusting the fruit load, but this operation does not solve the problem entirely, and this is why a thinning of flowers or fruit is compulsory. Thinning the flowers has the advantage that it eliminates the smallest quantity of metabolic substances. Thinning the fruit applies in the years when the trees had a high quantity of fruit, which disrupts the physiologic equilibrium of the trees. The number of fruit over the optimal load intensifies the vital processes of the trees, reduces 2-3 times the surface of the foliar apparatus, the structure and the concentration of chlorophyll in leaves. By thinning the fruit, significant aggregations of substances which inhibit the floriferous buds' differentiation are eliminated, an intense vegetative increase is ensured and bigger and better qualitative fruit are obtained.

Key words

buds differentiation, fruit load, physiological equilibrium, thinning flowers, thinning fruit

Future plans for developing the forestry and countryside and in the Natural Reserve Domogled

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Abstract National Parks by the very act of birth were organized in order to preserve nature for the benefit and entertainment of the public. Although

Key words

human needs have been one of the arguments establishments of national parks, they have registered significant tourist destinations relatively recent category. Diversity of landscapes (steep limestone Banat black pine, canyons with strongly fluctuating flow streams, sub-Mediterranean vegetation limestone peaks, vast forests aged beech high alpine with juniper trees, mountain lakes, gorges and limestone cliffs, isolated hamlets in the mountains, subalpine meadows with ditches) unique thermal caves in Romania, thermo springs, endemic and rare flora and fauna offer unique experiences to all nature lovers.

Natural reserve, forestry, ecosystems, protected area

Experimental results concerning the impact of fertilisation on yielding capacity at variety potato Ostara

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Abstract Variety Ostara that comes from the Netherlands, created by Ari x Sientje sexual hybridization. Morphological characters Bush is of medium height, robust, based compact and diffuse peak, well dressed in leaves. Stems are few, thick, crenate-edged, green, weakly pigmented in brown based purple. The leaves are large, usually segmented stems inserted on an angle sharp, especially at the top, consisting of leaflets ovoid, acuminate tip, light green color. The inflorescence is a simple, short stalk, with flowering weak and short-lived. The flowers are large, white. Tubers are large, oval. Crust is quite thick, slightly reticulated yellow with a slight reddish tint. The flesh is light yellow. The eyes are large and shallow. Light-grown teeth are pigmented red - purple with green little leaves and fine dense hairs.

Key words

potato, variety, fertilization

Studies regarding the influence of some morphological characters concerning the possibilities of association and arrangement of ornamental vegetable species in landscaping

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Abstract In the food strategy, along with other vegetable products, vegetables occupy a very important place.
Introduction of some ornamental vegetable species in landscaping confers the garden a unique component both by aesthetic and economic value.
The multitude and variety of ornamental vegetable species allows combining and connecting them to various landscaping and the knowledge of their biological development is an important element for the private sector.

Key words

ornamental vegetable species, morphological characters, landscaping

The influence of fertilizers and herbicides upon physical-chemical proprieties of triticosecale Mungis variety in agro-climatic and soil conditions from Timis county

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Abstract The purpose of this paper was to analyze quality parameters of triticosecale, Mungis variety grown in different agro-techniques condition in Didactic Station of USAMVB Timisoara. Triticosecale is a healthy grain with higher protein content which can be used in bread manufacturing. Mungis triticosecale variety was subjected to a factorial experience: factor A - base fertilization with macro elements with the following dosing: V_1- $N_0 P_0 K_0$, V_2-$N_{45} P_{45} K_{45}$, V_3-$N_{60} P_{60} K_{60}$, V_4-$N_{120} P_{60} K_{60}$; factor B – herbicides: V_5- no herbicides, V_6- DMA 6 (1 l/ha), V_7- Buctril Universal (1 l/ha), V_8- Rival Super Star (20 g/ha). The qualitative parameters (protein, moisture, gluten, Zeleny index) were determined by the OmegAnalyzer G, which is a workhorse of Bruins Instruments NIR grain analyzers. Nitrogen dose applied in studied variants (with fertilizers) increases the triticosecale protein content; the values being between 9.9% to control sample (v1) and 11.0% on variant fertilized with highest dose of $N_{120} P_{60} K_{60}$ (v4). Experimental samples of triticosecale have gluten index values between 12.5 % (v1) and 17 % (v4), the highest value being recorded for sample treated with $N_{120} P_{60} K_{60}$. Zeleny index values are between 19 % for control sample and (v1) and 35 % (v4) variant fertilized with highest fertilizer dose $N_{120} P_{60} K_{60}$.

Key words

triticosecale, protein, moisture, gluten content

Studies regarding rheological properties of triticale, wheat and rye flours

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Abstract In this paper it was study the rheological properties of triticale, wheat and rye flours and also of mixed flours obtained from triticale and wheat in different percentages using the Mixolab system. It was calculated the primary parameters from the rheological profile: water absorption (WA,%), stability (ST, min), mechanical weakening (C1, Nm), minimum torque (C2, Nm), peak torque (C3, Nm), cooking stability (C4, Nm) and setback (C5, Nm), the angle between ascending and descending curves (α, β, γ and δ), which correspond to the arc tangent of the four curve angles. The scores of the index defined by Mixolab Profiler: absorption potential or Water absorption index (WAI), Mixing index (MI), Gluten+ index (GI), maximum viscosity during

Key words

triticale, wheat, rye, flour, Mixolab

heating expressed as viscosity index (VI), starch stability or amylolysis index (AI) and starch retrogradation - retrogradation index (RI) were also presented. The results highlighted that the Mixolab profile of triticale, wheat and rye flours are different and the triticale incorporated at different levels (20-50%) into wheat flour significantly change the rheological parameters of dough.

Genetic analysis of spike yield components in winter wheat

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Abstract Parent selection with desirable traits and making crosses among them is an important procedure for increased production. The knowledge of genetic association between grain yield and its components would improve the efficiency of breeding programs by identifying appropriate indices for selecting wheat varieties. Diallel analysis is most effective with proven merits for ascertaining the systematic genetic architecture of metric traits within a short period. In diallel technique, analysis of variance components are of considerable use in gathering precise picture of genetic architecture. The objective of this study was to obtain information on nature of gene action and magnitude of contribution to various characters like spike yield and its components in 7×7 diallel crosses. For both traits there is an asymmetry of the positive and negative alleles showing a degree of dominance in the studied varieties. The partial dominance was involved in the determinism of these traits. In case of grain number, at GKHattyu and Ati varieties the high proportion of recessive alleles were associated with positive effects, while for Romulus and Lovrin 34 varieties, the dominance causes an increase of grain number. At Lovrin 34 variety the dominant alleles are associated with higher values of grains weight while in GKHattyu variety the recessive allele causes an increase of spike yield.

Key words

winter wheat, diallel, genetic analysis, spike yield

Combining ability of diallel crosses of winter wheat varieties for spike yield components

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Abstract Combining ability is one of the most important properties of cultivars, which determines the value of hybrids. Numerous researches led to the conclusion that between productivity of cultivars and simple hybrids, obtained with those cultivars, is not a tight enough correlation. In wheat where the final objective of breeding is to obtain homozygous lines, the assessment of general combining ability is very important because it expresses the additive

Key words

winter wheat, combining ability, spike yield

genes effects and the additive x additive interaction effects, which can be fixed in future generations, while the specific combining ability represents the dominant epistasis. The present research was under taken to study the general and specific combining ability and mode of gene action for grains number and weight per spike from a diallel cross of Romanian and Hungarian varieties of wheat. Both additive and non-additive dominant effects play an important role in the genetic determinism of these two traits at studied genitors, with a predominant action of additive effects of 86.83 % for grains number/spike and 60.89 % for grains weight/spike. The additive effects are strongly correlated with the values of the parental forms, suggesting that these genotypes transmit faithfully these traits to their offspring. The greatest general combining effect for grain number were achieved by Ati and GKHattyu varieties, and GKHattyu and Lovrin 34 varieties for grains weight, respectively. These varieties can be used in breeding programs in order to obtain segregants with high values of these traits.

The effect of salt stress on proline accumulation in several Romanian tomato varieties

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Abstract Osmotic behavior to salt stress of 15 Romanian tomato varieties was followed in this study by quantifying proline accumulation in leaves.

Proline content increased during salt stress treatment with 200mM and 400mM NaCl solution, and reached the highest value of 1.833 mg/g in Buzau 47, when this genotype was treated with the second variant of saline solution. The lowest value was achieved by Coralina variety during the same treatment (0.829 mg/g). Most of genotypes were statistically significant positive in terms of proline accumulation in both variants of treatments compared to control sample (Carisma).

These results show the differences in salt tolerance between varieties of tomatoes from our country.

Key words

tomato varieties, salt stress, proline

The effect of salt stress on chlorophyll content in several Romanian tomato varieties

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Abstract In this study we investigated the effect of salt stress on chlorophyll content in several varieties of Romanian tomatoes. During salt stress treatment with 200mM and 400mM NaCl solution, chlorophyll content of all genotypes decreased. The lowest value (16.900 SPAD units) was recorded in Carisma and the highest value (31.678 SPAD units) in Buzau 50

Key words

tomato varieties, salt stress, chlorophyll

after the second variant of treatment solution. The most dramatic decrease in chlorophyll content was noticed in Buzau 1600, where the initial value registered in normally hydrated plants decreased by approx. 10 SPAD units after saline treatment, compared to the minimum decrease (below 0.1 SPAD units) distinguished in Buzau 50. However, with the highest initial chlorophyll content, despite this decline resulted from treatment, Buzau 1600 was ranked among the top five genotypes that revealed highest levels of chlorophyll content after saline treatment. With best levels of this factor were marked Buzau 50, Pontica, Kristinica, and Maratonus. Buzau 22 also showed a good level of chlorophyll content after salt stress. Some genotypes, although they had a lower chlorophyll content, however, behaved very well in terms of the influence of salt stress on their chlorophyll content modification, showing a high stability (Viorica, Vidra 533). In these cases, decreased chlorophyll content was minimal for both treatments.
These results show the differences in salt tolerance between varieties of tomatoes from our country.

Bio regulator Effect on Floral Stem Length in *Pelargonium zonale*

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Abstract Geraniums are among the most loved potted flowers due to their wide range of colours – white, pink, red, bordeaux, combined colours, spotted, etc. (2). They are used to decorate balconies, terraces, and indoor areas, and parks, gardens, green areas during the hot season(3). Depending on their location, they use tall or short plants obtained after treating with bio regulators such as Cycogan, Revital, etc. Research was carried out in 2012 at the Didactic Station of the Banat's University of Agricultural Science and Veterinary Medicine of Timisoara, Romania, within the Department of Floriculture, using three *Pelargonium zonale* hybrids: Blanka, Jitka and Alena. We monitored the length of the flower stem in *Pelargonium zonale* plants treated with Cycogan and Revital.

Key words

Pelargonium zonale, Cycogan, Revital, floral stem length, Blanka, Jitka

Bio regulator Effect on Inflorescence Diameter in Pelargonium zonale

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Abstract Pelargonium zonale or geranium is one of the most potted plants. It grows as a bush 30-60 cm tall, but some varieties can reach 1.2 m or more (4). Geraniums are used to decorate both inner and outer areas (green areas during summer) (2; 3). Research was carried out in 2012 at the Didactic Station of the Banat's University of Agricultural Science and Veterinary Medicine of Timisoara, Romania, within the Department of Floriculture, using three Pelargonium zonale hybrids: Blanka, Jitka and Alena.

Key words

Pelargonium zonale, Cycogan, Revital, inflorescence diameter, Blanka, Jitka

We monitored the diameter of the inflorescences in Pelargonium zonale plants treated with Cycogan and Revital.

Effect of Some Control Measures on Weeding and Yield in Grain maize in the Conditions of the Didactic Station of Timisoara, Timiş County, Romania

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Abstract Research was carried out in the conditions of the Didactic Station of Timisoara, Timiş County, Romania, in 2012. We mapped weeds in maize monitoring the effect of control measures on the diminution of weeding and the efficacy of control measures in grain maize yield. In the control variant (not treated with herbicides), the total number of weeds in grain maize was 177.28 weeds/m², with *Setaria glauca* as a predominant species (50.13 weeds/m², i.e. 28.27%). The weed control rate is influenced by the weed control method and ranges between 92% and 72.59%. After applying the herbicide, the number of the weeds diminished with 163.1 weeds/m² in the variant treated with Dual Gold (1.5 l/ha) + Buctril Universal (1 l/ha), i.e. 92%, while the lowest rate of weed control was in the variant treated with Merlin Duo (2 l/ha) + Dicopur (1 l/ha), i.e. 72.59%. The herbicide Dual Gold (1.5 l/ha) associated with Buctril Universal (1 l/ha) yields the highest yields (66.36 q/ha). The variant not weeded and not treated yielded 6.12 q/ha, i.e. insignificant increases in yield compared to the control variant.

Key words

grain maize, weeds, control measures, herbicides, production