Angiospermic flora studies from B.S. Abdur Rahman University campus

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Abstract In this study, we have taken angiospermic flora survey around non-building constructed area of B.S. Abdur Rahman University campus, Seethakathi estate, Vandalur, Chennai. This esteemed university has good vegetation. The availability of abundance of plants and their binominal name, family name, habit along with the IUCN red list category plants should be documented. In this study area total 111 species belonging to 94 genera in 42 families are reported. Moreover families with maximum number of species were included Fabaceae (10 species) and Euphorbiaceae (10) followed by Apocynaceae (7), Araceae and Arecaceae, (5), Amaranthaceae, Asteraceae, Bignoniaceae, Malvaceae, Poaceae, Verbenaceae (4), Cyperaceae, Nyctaginaceaea, Rubiaceae (3), Acanthaceae, Commelinaceae, Cucurbitaceae, Moraceae, Myrtaceae, Violaceae (2), Anacardiaceae, Annonaceae, Asclepidaceae, Asparagaceae, Aizoaceae, Boraginaceae, Caesalpiniaceae, Combretaceae, Capparidaceae, Casuarinaceae, Convolvulaceae, Crassulaceae, Gisekiaceae, Lecythidaceae, Meliaceae, Oleaceae, Rhamnaceae, Scrophulariaceae, Sapindaceae, Solanaceae, Strelitziaceae and Oxalidaceae (1). In this study area Herb-49, Shrub-29, Tree-19, Creeper-6, Climber-4 were observed. Among all the plants, we have identified IUCN Red list category plants *Borassus flabellifer* L. is the most endangered species extinction recorded in the study-IUCN 2012; Status: Endangered B2ab(iii); D ver.3.1) followed by *Kyllinga nemoralis*- IUCN 2013; Status: Threatened ver. 3.1), *Adonidia merrillii*-IUCN 1998; Status: Lower risk/ near Threatened ver. 2.3), *Acacia auriculiformis* Benth.-IUCN 2012; Status: Least concern ver. 3.1), *Bauhinia Purpurea* L.-IUCN 2012; Status: Least concern ver. 3.1), *Colocasia esculenta* (L.) Schott-IUCN 2013; Status: Least concern ver.3.1), *Commelina benghalensis* L.-IUCN 2013; Status: Least concern ver.3.1), *Couroupita guianensis* Aubl.-IUCN 1998; Status: Lower Risk/Least concern ver. 2.3), *Cyperus iria* L.-IUCN 2014; Status: Least concern ver.3.1), *Cyperus rotundus* L.-IUCN 2013; Status: Least concern ver.3.1), *Eclipta prostrata* (L.) L.-IUCN 2014; Status: Data Deficient ver. 3.1), *Erythrina variegate* L.-IUCN 2012; Status: Least concern ver. 3.1), *Euphorbia milii* Des Moul.-IUCN 2004; Status: Data Deficient ver. 3.1), *Mangifera indica* L.-IUCN 1998; Status: Data Deficient ver. 2.3), *Mimosa pudica* L.-IUCN 2012; Status: Least concern ver. 3.1), *Pongamia pinnata*-IUCN 2012; Status: Least concern ver. 3.1), *Saccharum spontaneum* L.-IUCN 2013; Status: Least concern ver. 3.1) from B.S. Abdur Rahman University. For the past 30 years university have been maintaining all the plants; the ornamental plants are undergoing proper pruning, training and hence thereby conserving all the plants.

Key words

Angiospermic flora, B.S. Abdur Rahman University, Conservation, IUCN Red list plants

Influence of temperature in dormancy period on fruit buds of some stone fruit tree species

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Abstract During the dormancy period, due to hereditary properties, the fruit trees accommodated to the climate in our country have different resistance, according to species, variety, age, parent stock, climate conditions in the respective year, the applied land use.

According to literature, the degree of resistance to frost is higher in pome species (apple, pear) and lower in stone species. During biological dormancy, the stone species trees can withstand absolute minimum temperatures ranging from -26℃ to -28℃ (apricot), sweet cherry -29℃, sour cherry -30℃ and plum tree -30℃, -32℃.

Only trees with good vegetation conditions, having accumulated great amounts of reserve substances, which completed their growth in due time and have had good conditions for the completion of the hardening can withstand these temperatures.

If the variety of plum Tuleu gras phenophase beginning of swelling buds of fruit unfolded 39 years ago in early April, now, in most years occurs in mid-March. In these circumstances, the risk of accidents climate the vegetation of trees by the action of frosts, grew in all species within each species of fruit and especially at early flowering varieties.

In conclusion we can assert that although the resistance parameters in apricot species are -26℃ to -28℃, as a result of negative minimum temperatures a oscillations of temperature and after smattering much of the flowering buds were affected.

Key words

fruit species, phenology, optional dormancy, climatic conditions

Viviana- a new variety of peanut obtained on sandy soils

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Abstract Thermal potential of the sandy soils with average annual temperatures higher minimum requirements of peanuts corresponding to the periods of vegetation of main phases led to the introduction of peanuts into the assortment of plants grown on sandy soils in the southern of Oltenia. The work of creating new peanut varieties with short vegetation period, production was boosted after 1990 at CCDCPN Dăbuleni. Thus it was obtained two peanut varieties approved in 1997 under the name of variety Dăbuleni and Viorica,Viviana variety approved in 2015 and recorded in the official list of varieties grown in Romania.

Production capacity has been verified Viviana variety ISTIS network. In most centers Viviana variety was superior to witness Venus variety.

Key words

peanuts, sandy soils, production

Researches regarding the influence of climate change on the quality of potato tubers in the conditions of sandy soils of southern Oltenia

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Abstract The instability of climate it is one of the leading causes, of, unstable harvests and presents an inherent risk for agriculture. Observations, climate data, in the period 1956-2015 to Weather Station to CCDCPN Dăbuleni highlights the concrete data of this phenomenon with direct implications for potato production. There were considered for the study seven potato varieties in the period 2008-2015.

The highest yields were determined at the varieties Tresor (45.76t / ha), Evolution (46.63t / ha) Carrera (50.38t / ha) and Riviera (47.70t / ha). All varieties presented production indices of very good quality. Were observed the varieties: Magic, Astral, Tresor with a total dry matter content greater than 20%. The starch content of tubers were on average 14.68% and C vitamin 16,25mg / 100g fresh substance. Production of tubers in the period studied has influenced in a different way accumulation of total dry matter in tubers and the highest stability, presented the varieties Magic, Tresor and Redsec. Total dry matter accumulation was influenced by temperature and the amount of precipitation. The varieties the more stable they were Evolution and Redsec.

The C vitamin content in potato tubers were influenced by climatic conditions, differentially depending on the variety. The larger variations were observed in years with extreme conditions (very dry (2009 and 2012) or high rainfall (2014)).

Key words

potato, climate change, sands, quality

Some aspects for obtaining natural fruit juices based on carrots

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Abstract Cocktails based on carrot juice is an alternative for eating fruits and vegetables especially if microbiological stability is ensured without antiseptic substances. The life time of natural juices obtained from concentrated orange is restricted by the microbial alteration and the chemical reactions. All these modify the nutritional value, the colour and the flavour of a natural juice. The physico-chemical parameters (dry substance, acidity, ascorbic acid amount, and the microbiological analysis) allow the efficiency estimation. The lowest acidity of natural fruit juices varieties obtained in this study ranged between 0.52 and 0.86 and required the thermal treatment of longer duration. It this know that, in general, the increased acidity of the products contribute to their conservation, reducing pair temperature-time values for thermal penetration.

Key words

C vitamin, fruit juice, orange, carrot, dry substance

Producing potato microtubers under the effect of food colorant

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Abstract Three Romanian potato genotypes (Solanum tuberosum L.) Roclas, Rustic and Zamolxis were induced to form microtubers under the influence of six food colorants red; yellow; blue; violet; green; colourless (control medium). The objective of this study was to investigate whether an adition of food colorant in Murashige & Skoog medium would improve microtuberization. It was analyzed two parameters: number of microtubers/plant and weight of a microtuber. Green food colorant registered good results regarding the second element had studied (wieght) for Rustic and Zamolxis varieties (0,6266 and 0,6129 g).

Key words

plantlets, varieties, microtubers, colorant food

Research on tolerance to main diseases of grape vines for white wines of 2014 year under vineyards from southern Oltenia

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Abstract Optimal conditions for the manifesting of Plasmopara viticola and Uncinula necator were in the whole period of vegetation of the year 2014. Of the 183 days, how many summed up from April to September, in 74 days (40.4%) were recorded precipitation. The 9 phytosanitary treatments, with both agents acting contact and systemic action, failed to prevent and to combat the two diseases entirely.

Grasă de Cotnari variety, in which the values of the degree of attack were 87% on leaves and 100% on bunches, was the most affected. The most tolerant noble varieties was a Columna, variety with increase in erect, with hubs at fresh well, that the degree of attack was 17% on leaves and 22% on bunches.

The Brumăriu variety, which belongs to the category of resistant varieties or modern hybrids, the attack was very low on the leaves (6%) and were not manifested on bunches. However, the Brumăriu variety, the production of grapes in 2014 (10603 Kg/ha), was not at the level of the potential of the variety or the year 2013 (34849 Kg/ha).

The most sensitive varieties in relation to the two diseases were Pinot gris, Neuburger, Chasselas d'oré and Sauvgnon blanc, with a degree of attack leaves between 84% and 92%, and the bunches, 90-100%.

Key words

Sandy soils, vineyard, diseases

Importance of grape phenols in the human diet

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Abstract Polyphenols are secondary metabolites of plants and are generally involved in defense against ultraviolet radiation or aggression by pathogens. The phenolic compounds, present in vegetables and fruits and their juices possess antioxidant activity that may have beneficial effects on human health. Moreover, they are responsible for certain organoleptic properties intimately related to wine quality, particularly color, astringency and bitterness. Proanthocyanidins and flavanols are located in the skin and seeds of grapes, and are transferred to the must/wine during the maceration step of winemaking. Numerous studies have shown that long term consumption of diets rich in plant polyphenols offer protection against development of cancers, cardiovascular diseases, osteoporosis, neurodegenerative diseases and diabetes. Red wine is a very rich source of flavonoids, particularly the class called flavanols. Flavonoids represent a large group of low molecular weight compounds with high antioxidant properties.

The purpose of this study was to evaluate the skins and seeds phenolic composition of three native Romanian wine grape varieties (Fetească regală, Fetească albă and Fetească neagră). The grapes were collected at technological maturity from three different growing zones of Transylvania (Romania) in 2011. Spectrophotometric methods were used to measure the absorbance at 280 nm (A_{280}), the flavanols reactive to vanillin and the proanthocyanidin indices in the skin and seed extracts. Among white varieties, the proanthocyanidins and flavanols concentrations in the skins were significantly higher in the Fetească regală variety. Furthermore, we assessed the distinct characteristics of Fetească neagră variety linked to their phenolic composition, and compared these characteristics with those of Pinot noir grapes. According to A_{280}, the red varieties contained more total skin polyphenols.

Fetească neagră was identified as a promising variety to be exploited in the future for its particular phenolic characteristics.

Key words

phenolic composition, proanthocyanidins, Romanian wine grape varieties, flavanols

Light microscopy of apple powdery mildew (*Podosphaera leucotricha*) and influence of climatic conditions on primary infections in nursery and orchard

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Abstract Apple powdery mildew (APM) is a very destructive pathogen, it produces damages in fruit orchards but also severe attacks are recorded in nursery also when climatic conditions ar favorable for the development of the

Key words

apple powdery mildew,

disease. Apple powdery mildew infects young tissues in the plant, starting from buds,blossoms leaves until twigs and even branches causing specific symptoms. The environmental conditions have a major role in the disease epidemics but also the biological reserve, susceptibility of cultivars. In the present paper we investigated the microscopy of the early spring conidial infection and the meteorological factors affecting some susceptible cultivars. Results showed that the environmental conditions, the rapid increasing of temperatures in early spring favored the development of the fungi. The climate changes observed in recent years during winter, the warmer spring temperatures which occurred in the present year 2016 favored the appearance of the disease. The asexual conidia measures 2,5-2,6 µm in length, 1,4 µm in width , surface area 3,16 μm^2. The shape of the conidia in most cases is oval (Figs.8-9), sometimes rounded, thus revealed the miscoscopy images. A medium number of conidia were present in microscopy slides, in early disease development we observed 450-500 conidia.

infection, environment, conidia

The influence of harvesting time on the expression of kernel anthocyanin coloration in maize haploid production

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Abstract Accelerating the development of homozygous lines and consequently hybrids is an important aspect of the maize breeding programs. DH technology offers undoubtedly great ways to modernize maize programs by simplifying the protocol for obtaining homozygous lines (DH) over a period of 2 years and particularly reducing the costs involved in this process (4, 5, 13). Double haploid lines greatly contribute to create genotypes that correspond to the current needs in the context and under the pressure of climate changes. Replacing the classic method of obtaining homozygous lines with the DH technology, was possible due to progress regarding the induction rate and improved methods for recognition of haploid forms from diploid forms. Other important aspect is to understand the manifestation of anthocyanin coloration based on *R1-nj* marker gene which is involved in the synthesis of anthocyanin (1, 3, 8, 9, 13). In 2015, at NARDI Fundulea, researches regarding the influence of grain moisture at harvest on the expression of anthocyanin coloration in aleurone and embryo were carried out. The results showed that intensity of anthocyanin coloration express better in early genotypes.

Key words

doubled haploid lines, grain moisture, intensity of anthocyanin coloration

Aspects regarding the usage of ground augers in the forestry sector

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Abstract This paper presents the results of our research regarding the usage of ground augers in the forestry sector for drilling holes in order to plant saplings.
In order to carry out the research, we settled in two forest divisions in the plains of the West of Romania so that we could have four different types of soils which are representative for that specific area.
All our trials were conducted on previously unprepared (non-processed) soils. We started by measuring the particle size distribution and the main physical properties of the soil (moisture, bulk density and total porosity) and then, we determined the duration of drilling holes, split times (duration of movement from one hole to the other) and the fuel consumption when using a Stihl BT 121 auger equipped with a 200mm-diameter drill.

The average values for the duration of digging and the fuel consumption for each type of soil was as follows: 1st type of soil – timing 11.7±3.09 sec. and average consumption 4.31±1.14 ml; 2nd type of soil – timing 12.0±3.76 sec. and average consumption 5.75±1.80 ml; 3rd type of soil – timing 12.06±1.99 sec. and average consumption 4.76±0.79 ml; 4th type of soil – timing 9.83±2.52 sec. and average consumption 3.49±0.89 ml (mean±SD).

Key words

ground auger, physical properties, timing of drilling holles, fuel consumption

Characterisation of drought stress tolerance of some tomatoes ecotypes based on foliar physiological parameters

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Abstract Amid climate change the importance of tomatoes amongst vegetables and various technologies, drought stress tolerance is a current topic for this species. This study evaluated the draught tolerance, of three tomatoes ecotypes (Periam 48 - ecotype A, Lovrin 189 - ecotype B and Dudestii Vechi - ecotype C) under controlled sub-irrigation. Experiments were organized in plant pots with flower, peat and sand soil substrate layers, (2:1:1) temperature being maintained at 24/20ºC and photoperiod at 14:10. Plant nutrition was supplemented with Cropmax and Agroleaf foliar fertilizers. Through differentiated plants watering - the quantity and the interval of watering - were established under control drought stress conditions (experimental code H): control (H1A / B / C - normal hydration, 1 litre water /

Key words

coefficient of variation, ecotypes, drought stress, tolerance, tomatoes

pot / 2 days); sub-hydration (H2A / B / C - 0.5 l of water / pot / 2 days) and drought (H3A / B / C - 0.5 l water / pot / 6 days). In these circumstances, foliar parameters evaluated showed different behavior of the three tomatoes ecotypes under controlled drought stress. Clusters analysis has facilitated experimental variants grouping, based on Euclidean distances statistically significant (cophenetic correlation coefficient = 0.857) related to fresh and dry mass accumulation parameters. It was recorded the independent positioning of H3CF1 variant that reveals the best adaptation of the ecotype 3 (Dudesti Vechi 883) to controlled drought stress amid Cropmax fertilization. A second cluster included other variants grouped into three sub-clusters, as compared to the affinity of the fresh and dry mass physiological parameters values generated under controlled water stress.

Production characteristics of a watermelon variety grown under the pedoclimatic conditions of Southern Oltenia

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Abstract The present study aims at highlighting the production and qualitative characteristics of a variety of watermelon genotypes, as part of a comprehensive study conducted in order to improve some technological sequences. The research was conducted at the Research - Development Center For Field Crops On Sandy Soils Dăbuleni-Romania, on an open field culture. 12 genotypes were studied of which 3 are national ones: De Dăbuleni, Dulce de Dăbuleni, Oltenia and 9 are imported: 62-269 F1, Huelva F1, Oneida F1, Baronesa F1, Fantasy F1,Tarzan F1, Grand Baby F1, LF-6720 F1, Susy F1. The study aimed at establishing new cultivars with a high productivity and quality of the fruit compared to those cultivated at present. Of the 12 studied cultivars, 9 were tested for the first time on the sandy soils. There was found that the biochemical characteristics and the obtained yields vary from one cultivar to another.

Key words

sandy soils, watermelons, production, biochemical composition

The influence of climatic change of the past years on peach species grown in the southern Region of Oltenia

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Abstract Studies on the impact of environmental factors on the phenology of tree species allow decision making on the choice of product suitable for different growing areas, depending on environmental conditions.

This paper aims to analyze the climate changes occurred in the south of Oltenia and their influence on the peach crops on psalmosoils in southern

Key words

enzyme activity, conductivity, climate change.

Romania. Assessing the impact of climate variability on the southern Oltenia peach tree species involves the use of agro-climatic indices that can quantify the major thermal risks in the producing species of fruit tree in the spring season, when the risk of temperature fluctuations is a major factor for the species fruit production.

Determining enzymatic activity in peach species on a period of vegetative latency, obtained during November to February, allowed us to gather information related to how the temperatures in autumn-winter alter the species metabolism.

The decrease in temperature below 0 ° C leads in most cases to the extracellular freezing. Stress generated by the dehydration-induced cell freezing is very severe and plant cells may lose most of the water that is active osmotically, a rapid identification of plant genotypes with high a high stability of plasma membranes at low temperatures being important for the growth of peach.

On climate change in recent years with temperatures amplitude from month to month, as well as the autumn-winter temperatures, put the south of Oltenia area, formerly considered one of Romania's major fruit-growing zones, in the area with a small fruit species suitability.

Protein content and TKW stability in a set of DH mutated/recombinant wheat lines

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Abstract This study presents the evaluation of 85 mutant/recombinant DH lines for high protein content and thousand kernel weight (TKW) for selecting the superior and stable lines to be used in advanced breeding programs. The material was produced at National Agricultural Research and Development (NARDI) Fundulea by using a specific mutagenic protocol including two genotypes, two irradiation cycles (200 Gy and 100 Gy/200 Gy), hybridization and DH technology (*Zea* system), resulting in the releasing of over 500 mutant and mutant/recombinant DH lines. The analyzed lines presented a large variability for TKW, between 21.46g – 41.80g in 2014 and 42.29g – 58.94g in 2015. In protein content analysis shows a variation between 10.4% - 15.5% in 2014 and 11.6% - 17.4% in 2015. Following the analysis, a number of lines were selected for both high and constant thousand kernel weight (TKW) and protein content.

Key words

protein content, TKW, mutant/recombinant, DH lines

Study regarding the relationship between genotypes, diseases attack, yield and quality in winter wheat

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Abstract In the agricultural year 2014-2015, the yield and quality of wheat grains were influenced negatively strong by the diseases attack. To quantify these relationships between the studied factors, it were conducted one experiment with 25 varieties in an experimental field at Oradea (Bihor county), in north-west of Romania. The diseases manifested with high intensity were: powdery mildew (*Erisiphe graminis*), speckled leaf blotch (*Septoria tritici*), leaf rust (*Puccinia recondita*) and yellow rust (*Puccinia striiformis*). It was studied the relations between diseases attack, yield and quality indicators (protein, wet gluten, hardness and starch). All diseases affected with different intensities the yield and quality. However, some breeding lines (5X 1633111 and P14-S135), realized good yields and good quality, too.

Key words

wheat disease, genotype, quality, yield, correlation

Researches regarding the relationship between yield, variety, diseases attack and quality in winter wheat in north-west of Romania

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Abstract In the agricultural year 2014-2015, the diseases attack influenced negatively strong the quality and grains yield of wheat. To quantify these relationships between factors, it were conducted two experiments with 50 varieties in an experimental field at Oradea (Bihor county), in north-west of Romania. The diseases manifested with high intensity were: powdery mildew (*Erisiphe graminis*), leaf rust (*Puccinia recondita*), speckled leaf blotch (*Septoria tritici)* and yellow rust (*Puccinia striiformis*). We studied the relations between yield, diseases attack and some quality indicators (protein, wet gluten, hardness and starch). All diseases affected (with different intensities) the yield and quality. However, some cultivars (like Izvor and Pajura), realized good yields and good quality, too.

Key words

yield, wheat variety, disease, quality, correlation

Allergic rhinitis and the weeds pollen sensitization – clinical case presentation

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Abstract Allergic diseases and among them the allergic rhinitis have become a major healthcare concern due to their increasing prevalence. We present the case of a young woman with moderate/severe allergic rhinitis with moderate sensitization to cat dander and intense sensitization to weeds pollen. We discuss the diagnostic features for allergic rhinitis, the general conditions leading to the pollen sensitization, especially from weeds with emphasis on ragweed (Ambrosia sp.) pollen, as well as the impact on human health and economic aspects. Therapeutic measures are also presented.

Key words

allergy, rhinitis, pollen, Ambrosia

Dynamic of the *Agaricus blazei* Murrill mushroom mycelium growth

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Abstract The aim of this research was to establish the influence of carbon and nitrogen sources on the Agaricus blazeiMurrill mushroom mycelium growth. The culture medium influences the growth of mycelium by the nutrients existing in its composition. The carbon is an essential element for all biological systems and is the source of energy for aerobic organisms. The nitrogen has a structural and functional role. The mushroom mycelium has a content of 6.4% in nitrogenous substances, and of these proteins form the basic material of protoplasm.

Key words

medicinal mushroom, mycelium,spawn, Agaricus blazei, carbon, nitrogen

Research on the biology of the *Agaricus blazei* Murrill mushroom mycelium

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Abstract For the successful cultivation of any mushroom on a small scale or commercial scale, one of the most important requirements is the mycelium of that species or variety. The spawn is a pure culture of the mycelium grown on a special medium. The main purpose of this paper was to determine the optimal physico-chemical conditions for Agaricus blazei Murill mushroom

Key words

medicinal mushroom, mycelium,spawn, Agaricus blazei, pH, temperature

mycelium growth. We studied the influence of the temperature and the influence of pH on the Agaricus blazei Murill mycelium growth.

Studies regarding the production of irrigated onion crop in Mihai Viteazu area, Cluj county

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Abstract Onion juice preparations have a repellent effect for some Lepidoptera *(Pieris rapae*- rape bee and *P. napi*) and warehouse pests (*Tribolium castaneum*- flour red beetle). Because onion has a shallow root system and a relatively low absorption, requirements for water are relatively high, needing moisture early in the growing season. Compared to the production obtained by basic fertilization (control), the production obtained by foliar fertilization is very significant positive and the one obtained by organic fertilization is significant negative.

Key words

onion, direct sowing, drip irrigation, fertilization, varieties

Morphological and physico-chemical aspects upon the onion crop, in Mihai Viteazu area, Cluj county, the average of the years 2014-2015

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Abstract The onion, regarding its consistence, provides health and longevity for the human body, improves the psyhycal system's activity, improves the blood quality, avoids hardening arteries , has an diuretic, vermifuge, and an anti-infective effect with a revitalising outcome. In the food industry, onion is conserved in a dehydrated form, USA and Italy being countries that harness over 60 % of production. After harvesting the onion crop in the Mihai Viteazu area, measurements regarding weight, diameter and heigt of the bulbs have been made. The analyzes of the physico-chemical qualities, made by the ICIA Cluj and TPH laboratoy, show that the studied varieties of onion contain 52,3-81,1 mg/kg N, 70,1-189,0 mg/kg K and 27,7-66,3 mg/kg P.

Key words

index form, diameter, azote, phosphorus, potassium, medium weight, drip strips

The behavior of some peach tree varieties belonging to the world collections concerning growing and fructification phenophases

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Abstract Peach represent one the most appreciated fruit tree specie of the temperate climate, which in the last time has benefited of a special attention, fact that has led to the expansion of cultivated areas with varieties and to diversification of the assortment (Iordănescu Olimpia, Costea Viorica Adriana, 2014).

Researches carried out in USA, Canada, France, Italy, even in our country had led to obtained a large number of varieties with remarkable agro-productive characteristics and good adaptability on soil and climatic conditions. In the present work were studied ten varieties of peach belonging to the Peach and Nectarine World Collections introduced and multiplied in Romania by Acad. Dr. Vasile Cociu. The varieties studied originating from all continents has been planted in Timișoara in 2007 year, with the purpose of being tested in culture and naturalizing in Romania of some new foreign varieties.

In this paper, we presented the results concerning growing and fructification phenophases in conditions of Timișoara area on 2012-2014 years, respectively: blooming, fruit related, fruit maturation, the length of vegetation. The varieties followed were: Poli, Sun Hun Hui, Yinquing, Piros Magdalena, Gold Dust, Eureka, Tebana, Giala di Roma Tardiva, Elbertina and that witness experiment was choice Springold variety.

Phenophases varieties behavior knowledge towards growth and fruiting represent a very import aspect, at least the following reasons:

- allow for earliness of flowering, thus can be chosen the peach varieties that might escape by spring frosts, phenomenon which in Banat occurs increasingly more often;
- allow for the ripening period of fruits and including them in appropriate groups;
- allow choice of varieties suitable for the establishment of an appropriate range and spread over a longer period of time.

Key words

peach, World Collections, blooming, fruit related, fruit maturation, the length of vegetation

The general methodology of developing technological solutions in forestry

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Abstract The most important stage works design activity logging is choosing the optimal collection. To do this, depending on the actual working conditions, the method for its operation and the operation is chosen technology, technology essentially consist in choosing the appropriate collection. Determining optimal technology is done so based on information

Key words

logging, forestry, treatment, optimal collection, technology

entered in the drawing flooring and information concerning elements that characterize working conditions in terms of forestry (treatment, thus cutting nature of the products, marked volume per hectare, average tree volume etc.) technical and economic (total volume extracted, prosecutor surface size, location and position flooring etc.).

Study regarding the forest community and the changes in the ecosystem

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Abstract The individual organism, whether it is a forest tree or something else, is the product of its genetic constitution as affected by the environment. The study of the individual organism in relation to its environment falls within the scope of autecology. The forest, however, is a complex of organisms, both plant and animal, mutually occupying a complex of environments. These organisms are in competition for the light, air, water, warmth, and nutrients necessary for life. Each, in its turn, creates part of the environment affecting the others. The study of the community and the interaction of the organisms which compose it fall within the province of synecology. Synecology, thus, is broader than autecology, and a more integrative phase of ecology, dealing with living communities rather than with individuals.

Key words

ecosystem, forest community, vegetation, phenotype, habitat