

Research regarding the effects of foliar compositions over production and over the quality of the tomato fruit in protected spaces cultures (solar greenhouse)

Ardelean Alina Grigorita ¹ *

¹University of Oradea, Faculty of Environmental Protection, 26 Gen. Magheru St., 410048 Oradea, Romania.

*Corresponding author. Email: alina_popa_alina@yahoo.com

Abstract The foliar fertilizers are complex liquid solutions, having macro- and microelements, used extraradicular, ensuring that nutritional ions penetrate into the leaves, simulating absorption, translocation and assimilation of the nutrients into the soil, with positive effects over the quantity and quality level of horticultural farming. (5, 7, 8).

In our experience, the foliar fertilizer types applied to the solar greenhouse cultivated tomatoes, had different effects over the quality and quantity of production.

The best production and quality results were obtained on those fertilized with foliar types having a complex and balanced chemical content, the foliar fertilizers type: Fortifert 231, Folifert Ca, Fortifert 411, Folifert K.

Key words

foliar fertilization, mineral fertilizer, balanced nutrition, production, quality, tomatoes

The essential agrochemical changes of the soil cultivated with tomatoes under the influence of the fertilization methods applied to the field cultures

Ardelean Alina Grigorita ¹ *

¹University of Oradea, Faculty of Environmental Protection, 26 Gen. Magheru St., 410048 Oradea, Romania;

*Corresponding author. Email: alina_popa_alina@yahoo.com

Abstract The native agrochemical properties of the argic faeozem soils allow the growing of vegetables, and by respecting the culture technology, a suitable way of fertilization inclusively, we have in view the maintenance of these characteristics within the limits of the optimum culture agrochemical and the avoiding of risk domains.

The argic faeozem soil, intended for the tomato culture, initially presented a good fertilization, which, after multiple annual cultures and systematic fertilization with organic-mineral fertilizers, improved its agrochemical characteristics (6,7).

Key words

sol argic faeozem soil, agrochemical characteristics, fertilization, tomatoes

Molecular and serological differentiation of Plum pox strains in Transylvanian fruit central area - Mures plum-growing area

Briciu Al^{1*}, Pamfil D^{1.}, Briciu Daniela¹, Petricel Ioana¹

¹University of Agricultural Sciences and Veterinary Medicine, 3-5, Manastur Street, Cluj-Napoca, Romania

*Corresponding author. Email: ciprianbriciu@yahoo.com

Abstract Plum pox virus (PPV) is the causal agent of sharka disease, which causes severe damage and important economic losses in the stone fruit industry. The disease mainly affects apricot, plum and peach. Sharka is originated from Eastern Europe and was described for the first time around 1915 in Bulgaria [1]. In this study we collected thirty PPV isolates from two plum commercial orchards from Mures plum-growing area. Molecular strain differentiation was done by RT-PCR analyzed three genomic regions of the virus (Cter)CP, (Cter)Nib-(Nter)CP and CI. With RFLP analysis we could distinguish the two major strains, D and M based on Rsa I polymorphism located in (Cter)CP. Serological analysis were performed using DASI-ELISA technique with PPV-D and PPV-M specific monoclonal antibodies. All PPV isolates typed as PPV-M by molecular and serological analysis in the (C-ter)CP genomic region proved to be recombinants (PPV-REC) between D and M when we make the analysis in (Cter) Nib – (Nter)CP region.

Key words

PPV strains, RT-PCR, DASI-ELISA, Sharka

Fertilization optimization in the case of the *Nemere* variety through the refinement of the romanian chemical fertilizer in the Targu Secuiesc depression

Baciu Anca^{1*}, Goncz E.², Nemes Zsuzsanna¹

¹Potato Research and Development Station – Târgu Secuiesc, Romania, ²University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Faculty of Agriculture

*Corresponding author. Email: anca.mihab@gmail.com

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

The experiments took place at the Potato Research and Development Station Targu Secuiesc in the period 2008-2010.

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

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

The objectives of this research were:

- ↳ study of indigenous potato varieties for industrial processing
- ↳ the influence of the dose and rate of chemical fertilizers on production, dry matter and starch content.

Key words

potato, variety, fertilization, nitrogen doses

The influence of the dose and rate of chemical fertilizers on culinary quality to *Milenium*, *gared* and *Nemere* potato varieties

Baciu Anca^{1*}, Goncz E.²

¹Potato Research and Development Station – Târgu Secuiesc, Romania, ²University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Faculty of Agriculture

*Corresponding author. Email: anca.mihab@gmail.com

Abstract Characteristics and quality play an important role in the production of flakes, chips, french fries both from the point of view of physical and organoleptic characteristics and economic efficiency of the production. To meet these requirements, potato should have a high dry matter content, the breaking-resistant cell walls should prevent the blackening and after boiling it should have a pleasant taste and aroma. The acceptance of potato for industrial processing in form of flakes is determined by two factors, mainly by dry matter and starch content. The experiments took place at the Potato Research and Development Station Targu Secuiesc in the 2010 year.

Our research proposed this approach to the aspects of the influence of the dose and rate of chemical fertilizers on culinary quality to three potato varieties suitable for processing, created at the Potato Research and Development Station Targu Secuiesc.

Key words

potato, variety, fertilization, culinary quality

Comparative study of aerobic microorganisms in compost

Doncean Ancuța^{1*}, Șumălan Renata¹, Șumălan R.¹

¹Banat University of Agricultural Sciences and Veterinary Medicine Timisoara, Faculty of Horticulture and Forestry, 119 Calea Aradului, 300645 Timisoara, Romania

*Corresponding author: E-mail: donceanancuta@yahoo.com

Abstract Composting is the degradation of organic materials through the activities of diverse microorganisms. This research examined microbial community dynamics, population levels and identification of bacteria, fungi and actinomycetes through the mature compost and immature compost. Incubating the microbial media at 24 °C we determine the number of microbial colonies with actinomycetes, bacteria and fungi and the frequency of occurrence for each sample of compost.

In this study we observe the differences between mature compost and immature compost, that we need a highest number of actinomycetes in immature compost to reach the maturity then bacteria.

Key words

microorganisms, compost, microbial colonies, bacteria, fungi, actinomycetes

The effect of minimum strip-tillage cover crop system on a few vegetable crops

Muresan Alina Olga^{1*}, Indrea D.¹, Maniutiu D.¹, Sima Rodica¹

¹University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Horticulture Faculty

*Corresponding author. Email: olgutaana@yahoo.com

Abstract In comparative stationary field experiments performed in Apahida, Cluj County, during four years (2005-2008), cabbage, sweet corn, carrot and garden bean crops have been followed on two different tillage systems: a conventional system – 5-6 tillage works including deep ploughing (25-28 cm deep) and 2-3 weeding, and the minimum tillage system: the strip-tillage cover crop system (spring fodder = oat + vetch) that was treated with Glyphosat herbicide (2l/ha) and remained on the ground as mulch on which 10-15 cm wide sowing strips were split open. With the minimum tillage a 3-5 day delay in plant sprouting was noticed and vegetation was prolonged for few days in sweet corn, carrot and bean. Yield decreases by the minimum tillage vary between 7.7% and 16.7% in carrot and 5.0% and 10.9% in garden bean. In cabbage and sweet corn yield decrease was stated only during the first 2 years, while during the last 2 years the crop would balance on the two tillage methods. There was some product quality decrease with the minimum tillage, especially in carrots and beans.

Key words

minimum tillage, cabbage, sweet corn, carrot, garden bean

The agrobiological and technological value for Paula table grapevine variety in vineyard area of Iasi

Rotaru Liliana^{1*}, Mustea M.¹

¹University of Agricultural Sciences and Veterinary Medicine of Iasi

*Corresponding author. Email: lirrotaru@uaiasi.ro

Abstract In this paper, the authors present the behaviour of table grape Paula in area ecoclimatic condition of Copou vineyard, where it constitute one of most valuable variety, which allows obtain great and best quality productions in NE of Moldavia area. In the zone of the North-East of Romania, characterizes by the restrictive climatic conditions (the winters cold and be torrid for it and drynesses), the type of vines for the grapes of table have the less favorability, being cultivates especially the Chasselas type of vine gilds. For at the time the units of research wine in Romania centered their research of improvement of vine for obtain new genotypes which have the best adaptability with the these restrictive factors and the shorter growing period. The table grape variety Paula, constitute one of the most valuable Romanian creation. It was obtain at SCDVV Iasi by Gh. Calistru and Doina Damian (1997) intraspecific hybridization of the type of vines Bicane x Aromat de Iași.

Key words

Paula, grapevine variety, Iași, fertility, productivity

The evolution of the maturation process of grapes for quality white wines in the Copou viticultural centre from the Iași vineyard

Rotaru Liliana^{1*}, Mustea M.¹, Petrea Gabriela²

¹University of Agricultural Sciences and Veterinary Medicine of Iași; ²Research and Development Station for Viticulture and Winemaking of Iași

*Corresponding author. Email: lirotaru@uaiasi.ro

Abstract The authors monitored the evolution of the maturation of grapes for quality white wines (Fetească regală, Fetească albă, Aligoté) grown in the Copou viticultural centre from the Iași vineyard, from 2007 to 2010. The evolution of the grape maturation was studied in the main viticultural areas: Copou, Șorogari, Breazu. The gluco-acidimetric index, which measures the quality of grapes upon harvesting (full maturation), was determined. The research evidenced the higher quality of grapes from the viticultural areas Copou and Șorogari, as compared with those from the Breazu area.

Key words

vineyard, Iași, maturation, white wines, gluco-acidimetric index

Hornbeam trees in the parks of Timisoara

Dragomir P.^{1*}, Szekely G.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Horticulture and Forestry

*Corresponding author. Email: dragomir_petru.ioan@yahoo.com

Abstract Hornbeam is a frequent tree species that can be found in the streets and green spaces of Timisoara. There are many parks in the town where you can find this species in greater or smaller numbers. Thought it is not used for rows on the sides of the streets, you can still find it in many places. *Carpinus* trees can be found mainly in parks and private domains, generally isolated, rarely in groups.

Key words

Park, trees, Hornbeam, *Carpinus betulus*, Timisoara

Elm trees in the parks of Timisoara

Dragomir P.^{1*}, Szekely G.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Horticulture and Forestry

*Corresponding author. Email: dragomir_petru.ioan@yahoo.com

Abstract Elm is a quite frequent tree species that can be found in the streets or green spaces of Timisoara. There are some parks in the town where you can find this species, generally in smaller numbers. Elm trees existed in the area of today Timisoara for a long time. Though it is rarely used for rows on the sides of the streets, you can still find it in many places. *Ulmus* can be found mainly in parks and private domains, generally isolated, sometimes in small groups.

Key words

Park, trees, Elm, *Ulmus*, Timisoara

Impact of mineral and organic fertilisers on water table quality at Birda, Pădureni and Gătaia farms

Popoviciu Gheorghina-Lenuța ^{1*}, Lăzureanu A. ¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Horticulture and Forestry

*Corresponding author. Email: lazureanuaurel@yahoo.com

Abstract The environment consists of all natural factors and those created by human activities, which in close interaction, affecting the ecological balance determine the life conditions for humans, of the development of society.

Ecological balance represents the report relatively stable created during the time between different groups of plants, animals and microorganisms, and their interaction with environmental conditions in which they live. Water samples from wells in the territory of Farms Birda, Gataia and Padureni. Methods of analysis used to determine the qualitative indicators of water samples from wells were: pH - ISO 10523-97, oxidisability - SR EN ISO 8467-01, Ammonium - SR ISO 7150/1-01, Nitrates - ISO 7890/1-98; Nitrites - ISO 6777-96, Total phosphorus - SR EN ISO 6878-05, Total nitrogen - ISO 10048-01, Phenol index - ISO 6439-01. Maximum permissible values for drinking water quality parameters according to Law 458/2002 on drinking water quality as amended by Law 311/2004 are: pH - 6.5 to 9.5 pH units; oxidisability: 5.0 mg O₂ / l Ammonium: 0.50 mg / L, phosphate 50 mg / L, nitrate 0.50 mg/l. Water samples from the perimeter Farm Birda were taken in June and October 2009. PH values range between 7.1 and 7.8 units and falls within the parameters established by Law 458/2002. Nitrate content determined in samples taken in February 2009 was below the maximum admitted limit (50 mg/l), while the samples taken in October 2009, reached much higher values up to 20 mg/l. From the wells on the *Padureni farm* were taken water samples in February and May 2009. Water samples taken in February of wells P18 and P19, had a pH content of 6.9 pH units, framing in the maximum admitted limit according to legislation (6.5 to 9.5 pH units) Ammonium nitrate and nitrites content were within the limits and did not create negative effects on soil and crop plants. As regards nitrate in wells monitored in the range of Gataia Farm, values ranged between 0.25 - 5 mg/l, well below the MAL of 50 mg/L adopted by the Law 458/2002 on drinking water quality. Nitrites values for all the samples were below the maximum value of 0.50 mg/l.

Key words

quality parameters, nitrates, nitrites, ammonium, water samples

The efficiency of spraying with insecticide against the invasive moth *Cameraria ohridella*

Fora, C.G. ^{1*}, Lauer, K.F. ², Ștefan, Carolina ¹, Moatăr, Mihaela ¹

¹Faculty of Horticulture and Forestry Timișoara; ²University of Applied Sciences Weihenstephan-Triesdorf

*Corresponding author. Email: foraciprian@yahoo.com

Abstract One of the most efficient methods, of maintaining at a low population level *Cameraria ohridella*, is to destroy the majority of wintering pupae from litter. According to Fora *et al.* (2010), in 100 g of litter there are wintering more than 400 copies, and mortality at this stage is between 4.1 to 12.9%. However, the mechanical control by collecting and destruction of litter,

Key words

Cameraria ohridella, insecticides, spraying efficiency

in the autumn, must be supplemented by other measures during all growing seasons. One of these methods is chemical control, especially in forest stands, parks with large areas, where the mechanical method is inefficient [3], or difficult to be applied.

The combined effects of CO₂ and O₃ on the physiology of the grapevine (*Vitis Vinifera* L. cv. *Merlot*)

Popescu Simona Mariana^{1*}

¹ University of Craiova, Faculty of Horticulture

PhD scholarship through POSDRU/6/1.5/S/14 Project "Increasing the attractiveness, quality and efficiency of university doctoral studies by doctoral scholarships",

*Corresponding author. Email: popescu_simona83@yahoo.com

Abstract In recent years, global climate has undergone significant changes, mainly due to increased atmospheric concentration of carbon dioxide and other greenhouse gases, for example tropospheric ozone, considered the main factors causing climate change, all resulting in changes within ecosystems around the globe. The study aimed to identify the effects of the current concentration of carbon dioxide in the atmosphere, ≈ 380 ppm and ozone ≈ 120 mg/m³, individually and in combination, on some physiological parameters of the grapevine, cv. *Merlot*, in a controlled environment. The study results suggest that the current atmospheric concentrations of CO₂ and O₃ do not cause major changes in the physiology of the grapevine and that ambient CO₂ levels may exacerbate the harmful effects of ambient O₃. Plants grown under ambient CO₂ were protected against O₃-induced injury, but further studies of the physiological responses of grapevine are needed to elucidate possible increases in the atmosphere of both CO₂ and O₃.

Key words

grapevine, ozone, carbon dioxide, physiology, controlled environment

Evaluation of the climatic conditions of Banu Mărcine Viticultural Centre

Popescu Simona Mariana^{1*}

¹ University of Craiova, Faculty of Horticulture

PhD scholarship through POSDRU/6/1.5/S/14 Project "Increasing the attractiveness, quality and efficiency of university doctoral studies by doctoral scholarships",

*Corresponding author. Email: popescu_simona83@yahoo.com

Abstract Vineyard microclimates vary greatly from one to another over the years according to geographical position, the climatic changes that are happening in recent years, causing changes in the zoning and delimitation of the grapevine growing areas. The purpose of this study is the evaluation of Banu Mărcine Viticultural Centre climate, for the period of 2008-2010. In this regard, there were processed climatic data obtained from Meteorological Station nearby Banu Mărcine Viticultural Centre, being determined a series of bioclimatic synthetical indices of the grapevine, namely: heliothermic index, hydrothermic index, grapevine bioclimatic index and oenoclimatic capacity index, climogram also being made for the three years studied. In terms of rainfall and temperatures of the vegetation period of grapevine, 2009 stands out as the most hot and dry, followed by 2008 and 2010. The results revealed that the heliothermic index recorded values between 2326.27 and 2497.30,

Key words

climatic conditions, agroecosystem, viticulture, climatologic indexes

which do not restrict the grape ripening, hydrothermic index showed lower values (0.7) in 2008 and 2009, suggesting the necessity of irrigation, so that in 2010, it recorded a higher value, respectively 0.9, while grapevine bioclimatic index and oenoclimatic capacity index ranged within normal limits, making Banu Mărăciine Viticultural Centre to be suitable for obtaining red and white wines of superior quality.

Lilac shrubs in the parks of Timisoara

Szekely G.^{1*}, Vişoiu Dagmar¹

¹Banat's University of Agriculture Sciences and Veterinary Medicine Timisoara, Faculty of Horticulture and Forestry

Corresponding author. Email: gabi.szekely@gmail.com

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

Key words

Park, trees, *Syringa vulgaris*, Lilac, Timisoara

Willow trees in the parks of Timisoara

Szekely G.^{1*}, Visoiu Dagmar¹

¹Banat's University of Agriculture Sciences and Veterinary Medicine Timisoara, Faculty of Horticulture and Forestry

Corresponding author. Email: gabi.szekely@gmail.com

Abstract *Salix species* is one of the frequent tree species which can be found in the streets and green spaces of Timisoara. There is nearly no park in the town where you cannot find this species in greater or smaller numbers, especially on the river banks, near the Bega river. It was always very common on the streets of the town, probably because it grows quickly and seedling are not very expensive. It is never used for rows on the sides of the streets, but can still be found in many streets and yards. Generally speaking willows are a usual presence in the green spaces of Central Europe, especially because of their specific outlook.

Key words

Park, trees, *Salix* sp. Willow, Timisoara

Birch trees in the parks of Timisoara

Constantinescu Alina^{1*}, Szekely G.¹

Banat's University of Agriculture Sciences and Veterinary Medicine Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: consta.alina@gmail.com

Abstract The species of *Betula genus* are relatively frequent in the streets and green areas of Timisoara. There are many parks in the town where you cannot find this species in greater or smaller numbers. It was quite common on the streets of the town in the past too, probably because it was one of the nice decorative trees. Though it is never used for rows on the sides of the streets, you can still find it in many places. Generally speaking birch is a usual presence in the green spaces of Central Europe, though replaced nowadays in many places with other, sometimes more expensive species.

Key words

Park, trees, *Betula pendula*, Timisoara, Birch

Forsythia shrubs in the parks of Timisoara

Constantinescu Alina^{1*}, Szekely G.¹

Banat's University of Agriculture Sciences and Veterinary Medicine Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: consta.alina@gmail.com

Abstract *Forsythia* is one of the most beautiful shrub species that can be found in the parks and green spaces of the town of Timisoara. Forsythia shrubs were present in Timisoara at least since the XIX'th century, and there are still beautiful plants belonging to these species today. The species is considered valuable, and in small numbers it exists in parks, lanes, streets, yards. You can find *Forsythia* shrubs in many parts of the town. They attract the attention especially in the spring, as yellow spots in the town. The present study tries to locate the most important regions where the species can be found, in central parts of the town in main urban green areas.

Key words

Park, Shrubs, Forsythia, Timisoara,

Research regarding the fertilization system depending on the period of culture of carrots

Gocan Tincuța Marta^{1*}, Măniuțiu D.N.¹

University of Agricultural Sciences and Veterinary Medicine, 3-5 Mănăștur Street, Cluj-Napoca 400372, Romania;

*Corresponding author. Email: gocantincuza@yahoo.com

Abstract The experience was done in 2010, in Garbau area, Cluj county. In this study were used two varieties of carrot Flakker 5 and Nantes 3, seed on two time periods and fertilized organic and chemical. Analyzing the influence of all three factors studied on the production of carrots, it was observed that Flakker 5 variety, seeded in March and chemical fertilized, recorded the highest production (36.57 t / ha) achieving an yield increase of 6.63%, a very significantly results compared with Nantes 3 variety.

Key words

carrot, cultivar, fertilization, seeding period

Pine trees in the parks of Timisoara

Vişoiu Dagmar^{1*}, Szekely G.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine Timisoara Horticulture and Forestry Faculty Timișoara

*Corresponding author. Email: d_visoiu@yahoo.com

Abstract *Pine* is one of the important and rare tree species that can be found in the parks and green spaces of the town of Timisoara. *Pinus* trees were present in Timisoara at least since the XIX'th century in different parks and green spaces, and there are still beautiful trees belonging to these species today. The species is considered valuable, and in small numbers it exists in parks, lanes, streets, yards. You can find *Pine* trees in many parts of the town. They attract the attention especially in the winter, as green spots in the town. The present study tries to locate the most important trees situated in central parks of the town in main urban green areas.

Key words

Park, tree, Pine, *Pinus*, Timisoara

Oak trees in the parks of Timisoara

Vişoiu Dagmar^{1*}, Szekely G.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine Timisoara Horticulture and Forestry Faculty Timișoara

*Corresponding author. Email: d_visoiu@yahoo.com

Abstract Oak is a frequent tree species that can be found in the streets and green spaces of Timisoara. There are many parks in the town where you can find this species in greater or smaller numbers. Oak trees existed in the area of today Timisoara, before any green space was created here, because oaks formed a great part of the woods that existed here centuries ago. It is possible that some of the oldest oaks in the parks of Timisoara are remnants from those times. Though it is not used for rows on the sides of the streets, you can still find it in many places. Oak trees can be found mainly in parks and private domains, generally isolated, rarely in groups.

Key words

Park, trees, *Quercus*, Oak, Timisoara

Physiological modifications in *Zinnia elegans* jacq. As a result of the attack produced by *Erysiphe cichoracearum* dc.

Nicolae I.^{1*}, Camen D.²

¹ University of Craiova, ² Banat University of Agriculture Sciences and Veterinary Medicine Timisoara

*Corresponding author. Email: ionnicolaebio@yahoo.com

Abstract The research regarding physiological modifications produced by *Erysiphe cichoracearum* DC. was made at *Zinnia elegans* Jacq. cultivated in Botanical Garden "Al. Buia" of Craiova.

As a result of the action pathogen on the attacked leaves observe that the diurnal dynamics of the photosynthesis and of transpiration presents a minimum in the morning, a maximum at lunch and a minimum toward the evening, with specific variations in the attacked leaves. The diurnal dynamics of the photosynthesis and transpiration in the attacked leaves by pathogen is similar to that in healthy leaves, but the recorded values are lower as a result of the reduction of the assimilation surface, the coverage of the stomata by the mycelium of the fungus and the malfunctioning of the stomatic apparatus.

The leaves attacked by the pathogen present a decrease of chlorophyll content as a result of the blockage of its biosynthesis and the deterioration of the chlorophyll and the decrease of the total water content which is manifested by the withering and premature drying of the plants.

Key words

attacked leaves, healthy leaves, pathogen, photosynthesis, transpiration

Physiological modifications in *Cerasus avium* (L.) Moench as a result of the attack produced by *Blumeriella jaapii* (Rehm) Arx.

Nicolae I.^{1*}, Camen D.²

¹ University of Craiova, ² Banat University of Agriculture Sciences and Veterinary Medicine Timisoara

*Corresponding author. Email: ionnicolaebio@yahoo.com

Abstract The research regarding physiological modifications produced by *Blumeriella jaapii* (Rehm) Arx. was made at *Cerasus avium* (L.) Moench cultivated in the climatic conditions in Oltenia region (Banu Mărăcine, Dolj).

In the attacked leaves one can also observe that the diurnal dynamics of the photosynthesis and of transpiration presents a minimum in the morning, a maximum at lunch and a minimum toward the evening, with specific variations in the attacked leaves by the pathogen. The diurnal dynamics of the photosynthesis and transpiration in the attacked leaves is similar to that in healthy leaves, but the recorded values are lower as a result of the reduction of the assimilation surface, but also by malfunctioning of stomata closing and opening mechanisms.

In the leaves attacked by the pathogen observe a decrease of chlorophyll content as a result of the blockage of its biosynthesis and the deterioration of the chlorophyll and the decrease of the total water content which is manifested by the withering and drying of the leaves.

Key words

attacked leaves, healthy leaves, pathogen, photosynthesis, transpiration

The no-tillage system applied to hybrid grape vine

Şarpe N.^{1*}

¹Academy of Agricultural and Forestry Sciences, Bucharest – Romania

*Corresponding author. Email: calin_bacali@yahoo.com

Abstract The no-tillage system is applied worldwide to maize, soybean, wheat, barley and other crops, on a surface that back in 2006 exceeded over 162 million hectares – the record being held by the United States of America. Brazil comes second, followed by Argentina. Many authors, especially from France, studied the no-tillage system for vine and they obtained results similar to those obtained by using the classical technology as regards the grapes yield. As a consequence, the largest vineyard surfaces on which the no-tillage system is applied are in France. In our country, the no-tillage system for noble vine was studied less, such experiments being carried out at the Stefanesti-Arges Station, at the Bistrita Station and at the Fundulea Institute. The first results recorded in the experiments with the hybrid vine are presented in the report.

Key words

no-tillage system, hybrid vine, Stomp 330 EC, Simadon -50WP, Merlin Duo

Research on the influence of the sampling periods on the propagation to cuttings at some succulent plants

Cristescu Mihaela^{1*}, Anton Doina¹, Nicu Carmen¹, Manda Manuela¹

¹University of Craiova, Faculty of Horticulture

*Corresponding author. Email: cristescu_miha@yahoo.com

*PhD scholarship through POSDRU/6/1.5/S/14 Project "Increasing the attractiveness, quality and efficiency of university doctoral studies by doctoral scholarships"

Abstract In this paper are presented the results of the observations on the influence of the sampling period (of the shoots cuttings) on the propagation at six succulent flower species, belonging to different genera. The observations and measurements were made in three different periods (November, April, August) followed on both the process of rooting and the growth evolution of the rooted cuttings after planting, until the age of an year, to determine the necessary time to obtain marketable plants. By analyzing the data collected, it was found that the influence of the periods of cuttings sampling occurs in dependence on the specie and it affects in different ways the time of rooting, the percent of rooting but less the further evolution of plants.

Key words

succulents, cuttings, propagation, periods

Researches on some fundamental physiological processes at several species of the genus *Prunus*, in depending of limiting factors action

Ştefan Floriana Maria^{1*}, Gruia M.², Giorgota Andreea Oana¹

¹University of Craiova SCDP Valcea; ²University of Craiova Faculty of Horticulture

*Corresponding author. Email: floriana_visanu@yahoo.com

Abstract Researches were made at the University of Craiova SCDP Valcea in August 2010 at certain varieties of the species *P.domestica* L.,

Key words

P.persica L. and *P.armeniaca* L. and focused on the differences within species and between species regarding the photosynthetic activity of studied plants.

photosynthesis, transpiration, limiting factors species,

Were studied the photosynthesis intensity and the rate of photosynthesis and transpiration, depending on the limiting factors of their performance.

Also, we determined the temperature existing outside leaves, the atmospheric pressure and light intensity and the amount of total chlorophyll in leaves, these parameters being the limiting factors of the photosynthetic activity.

The observations were made using LCpro + portable photosynthesis system in 3 repetitions, at 3 different hours, each repetition being stored in the system database with 10 values.

Thus, it was established that the most intense photosynthetic activity and transpiration rate is performed at *P.persica* L. species, followed by *P.armeniaca* L. and *P.domestica* L..

Transmission electron microscopy of *Plum pox virus*, *Prunus necrotic ringspot virus*, *Prune dwarf virus* in plum (*Prunus domestica*, L.)

Jakab-Ilyefalvi, Zs.¹, Pamfil D.,¹ Craciun C.²

¹University Of Agricultural Sciences And Veterinary Medicine, Department Of Biotechnology, Cluj-Napoca; ²Babes-Bolyai University, Department Of Biology, Cluj-Napoca

*Corresponding author. Email: zsolt.jakab@yahoo.com

Abstract Transmission electron microscopy (TEM) was used in order to detect the presence of Plum pox virus, Prunus necrotic ringspot virus and Prune dwarf virus particles in plum (*Prunus domestica*, L.) shoots and leaves. The presence of virus particles was confirmed by DAS-ELISA serological technique. Filamentous particles approximately 750 nm long were found in ultrathin sections of leaves, shoots in plum morphological analysis of the viral particles confirmed the presence of the studied virus particles. Spheric-concentric particles were found in 'Renclode Althan' cultivars infected with *Prunus necrotic ringspot virus*. DAS-ELISA serological confirmed the presence of the virus and morphological analysis carried out with the help of TEM microscopy confirmed that the viral particles had the characteristics reviewed by other researchers. Also spheric-concentric particles were found in leaves and shoots of 'Renclode Althan' plum cultivar. The TEM aided morphological analysis and measurements together with DAS ELISA serological technique confirmed the presence of *Prunus necrotic ringspot virus* and *Plum dwarf virus*. No virus particles were found in ultrathin sections of growth tips in the analyzed plum cultivars of 0.2-0.4 mm diameter. Meristematic tissues does not contained the three viruses, confirming the fact that due to the high division rates at the apical dome, the multiplication of the virus is suppressed and do not reaches the central zone of the meristem (CZ). Embryonic cells of growth tips of plum up to 0.1 mm in diameter are PPV, PNRSV, PDV free in the analyzed blocks. Therefore it highly recommended that the meristem diameter for virus elimination should be 0.1-0.2 mm in order to achieve potential virus free plants.

Key words

transmission electron microscopy, virus, PPV, PNRSV, PDV, cultivar, meristem

Considerable Bee Extinction in the Upper Rhine Valley in 2008

Thomas G. Nagel^{1*}

¹The Center for Agricultural Technology Augustenberg, Department 21 - Organic Analysis, Nesslerstrasse 23 - 31, 76227 Karlsruhe, Germany

*Corresponding author. Email: thomas.nagel@ltz.bwl.de

Abstract After the discovery of the Western corn rootworm (*Diabrotica virgifera*, pest) in 2007 the southwest of Germany was infested by another tragedy in spring 2008 - a considerable bee extinction. An extensive investigation of the reason for the extinction was carried out. Hundreds of analyses and experiments were done. In this report determinations, reasons, results and consequences will be presented.

Key words

Bee extinction, Upper Rhine Valley, maize seed, abrasion, drift, pesticide, Clothianidin, Methiocarb

Crown gall (*Agrobacterium* spp.) and grapevine

Vizitiu (Bălășoiu) Diana ^{1*}, Dejeu L. ¹

¹University of Agricultural Sciences and Veterinary Medicine Bucharest

*Corresponding author. Email: vizitiud@yahoo.com

Abstract The production of crown gall tumors in plants caused by *Agrobacterium tumefaciens* and *Agrobacterium vitis* represents a unique disease involving the transfer of DNA from the bacterium to the nucleus of the plant. These species may systemically infest nursery propagating material, which remains asymptomatic until conditions conducive for tumor induction are met. Main strains of the genus *Agrobacterium* are classified into species (*Agrobacterium tumefaciens*, *Agrobacterium vitis*, *Agrobacterium rubi*, *Agrobacterium rhizogenes*) according to their virulence properties or into biotypes (biovars) on the basis of their biochemical and physiological properties. Use of pathogen-free propagation material is a key factor to reduce the spread of crown gall disease in vineyards. The cold, dry weather from winter increase crown gall infections in vineyards. The pathogen lives in soil, and is systemic in the grapevine. It may form galls in vine tissues subjected to mechanical damage, especially freeze damage. Galls on roots, trunks and cordons can disrupt the vine's vascular tissues, and severe infections may result in yield reductions or vine death. The unusually low temperatures, which occurred in the absence of precipitation, provided optimal conditions for crown gall. Many young grapevines were killed, whereas older vines lost canes, spurs, cordons or trunks. Permanent structures that were not killed outright displayed poor growth and galls.

Key words

Agrobacterium, crown gall, *Vitis* spp., nursery, rootstock, scion, vineyard, frost

Promotion of Romanian potato varieties by the help of agriculture marketing

Mike Gabriella^{1*}

¹Potato Research and Development Station, 55 Ady Endre, Str., zip code: 525400, Targu-Secuiesc, Romania, tel: 004026363755, fax: 0040267361770

*Corresponding author. Email: scdc@clicknet.ro

Abstract Through strategy of promotion on the market of the product "Romanian potato variety", the following promotion mean have been decided: demonstrative plats for the potato farmers from Brasov, Covasna, Suceava, Neamt, Bihor and Bacau counties. The demonstrative plats have been set up at the Potato Research Units and at farmers with help of County Office for Agricultural Consulting. The results have been introduced oneself to the farmers and other people, in the frame of scientifically communication organized by the Research Units, at the meetings organized by County Office for Agricultural Consulting in the each county and at the annually National Symposium "Green Day of Potato". The analysis of cost price-profit for Romanian varieties in comparison with foreign potato varieties highlighted the importance of planted variety.

Key words

promotion, potato variety, demonstrative plat, marketing

Partial results concerning the resistance of new potato varieties and potato lines to the fungus *Phytophthora infestans*

Motica R.^{1*}, Nemes Zsuzsanna, Mike Luiza

¹Research and Development Station for Potato Tg. Secuiesc, Ady Endre Street, nr. 55, postal code 525400 Targu Secuiesc, Romania

*Corresponding author. Email: scdc@clicknet.ro

Abstract The authors of this paper analyze the behavior of some new potato varieties and potato lines against the fungus *Phytophthora infestans* under the climate condition in 2010; 2010 being a very favorable year for the development of the fungus. According to the fact that many potato growers had great problems with the *Phytophthora infestans* attack in the case of the imported varieties, some varieties and lines created at SCDC Tg. Secuiesc, that were taken for the study, have behaved very well. The indigenous varieties and lines created in the climate conditions in our country have been proved to be superior to the foreign varieties concerning their resistance to the fungus *Phytophthora infestans*.

Key words

phytophthora infestans, fungus, variety, imported

Improvement the growing technology of table potato by optimization the nutrition space

Nemes Zsuzsanna^{1*}, Baciu Anca¹, Motica R.¹, Mike Luiza¹

¹Potato Research and Development Station, 55 Ady Endre Str., zip code: 525400, Targu Secuiesc, Romania, tel.: 0040267363755, fax: 0040267361770

*Corresponding author. Email: scdc@clicknet.ro

Abstract It is hard to appreciate the optimal density because the potato is that plant which can easily adapt to different forms and shapes of nutrition areas and assimilation. It can be even stated that there is no generally valid optimal planting density as there are no varieties of equally tubers in the nest or equal shapes of the bushes formed of different tubers. Planting the unsized tubers (30-55mm) is a wrong practice which will lead to the inequality of the culture (as density, line distribution and springing moment), to the growth of blankness in the culture, increasing the planting norms and the expenses. To contribute to the improvement of technology to cultivate consumption potato we have proposed some highly topical objectives. To achieve the proposed research objectives it was conceived this experience in the conditions of experiencing field between 2006-2008. These objectives have considered factors and graduations which target the elements of perfecting the cultivation technology of the consumption potato in the conditions of the Targu Secuiesc basin. These elements of technology refer to biological factors represented by the created soil or adapted to the pedoclimatical conditions of the area which are represented by density and size of the planting material.

Key words

potato, density,
optimization, soil,
technology

Partial results concerning the virotic degeneration of foreign varieties under the climate conditions in the area of Targu Secuiesc

Motica R.^{1*}, Nemes Zsuzsanna¹, Mike Luiza¹

¹Research and Development Station for Potato Tg. Secuiesc Ady Endre Street, nr. 55, postal code 525 400 Targu Secuiesc, Romania

*Corresponding author. Email: scdc@clicknet.ro

Abstract The potato virotic degeneration is now widely accepted throughout the world, and the knowledge of this phenomenon constitutes the basis of the seed potato production and multiplication systems. The plant viruses are pathogens that multiply inside the plant cells and migrate with similar substances in the plant and in the tuber as well. The viruses are transmitted from plant to plant by aphids, cicada, fungi, and nematodes or by contact between plants. Virus diseases are not visible on the tubers without the use of special equipment and in order to keep the seed potato virus free, fields should be cultivated by applying special technologies for seed potato. On the Romanian market are currently over 400 potato varieties, of which over 80% are varieties imported from Europe. Most of these imported potato

Key words

virotic degeneration, potato,
disease, variety

varieties are not adapted to the climatic conditions in our country, which leads to a higher virotic degeneration compared to the varieties produced by local researchers. At SCDC Tg. Secuiesc the Plant Protection Department keeps under observation the imported varieties regarding the virotic degeneration since 2009, using the *Gared* variety as experimental subject, which was created at SCDC Tg. Secuiesc.

Increases the yield and quality of table potato by improving the intensive protection technology of potato crop

Nemes Zsuzsanna^{1*}, Baciuc Anca¹, Motica R.¹, Mike Luiza¹

¹Potato Research and Development Station, 55 Ady Endre Str., zip code: 525400, Targu-Secuiesc, Romania, tel.: 0040267363755, fax: 0040267361770, e-mail:

*Corresponding author. Email: scdc@clicknet.ro

Abstract To achieve the proposal objectives of research in the field of improving the technologies of table potato, a rigorous experiment was set up at SCDC Tg. Secuiesc during the period of 2006-2008.

The technological elements are referring to biological factors represented by varieties adapted to soil and climatic conditions of one zone, as well as technological factors of potato crop.

Key words

technology, potato variety, phytosanitary, treatments

Influence of the *Angelica archangelica* L. seeds harvesting area on germinative faculty

Pop M.^{1*}, Sand Camelia¹, Bobiț Dana², Antofie Mihaela¹, Spânu Simona¹, Barbu H.¹, Blaj R.¹, Ciorțea Gligor¹, Leon Muntean³, Mircea Savatti³

¹ - "Lucian Blaga" University of Sibiu, Faculty of Faculty of Agricultural Sciences, Food Industry and Environmental Protection; ²National Institute of Research and Development for Potato and Sugar Beet Brasov, Brașov; ³University of Agricultural Sciences and Veterinary Medicine, Cluj

*Corresponding author. Email: mihaiipop76@yahoo.com

Abstract Numerous studies write about the essential oil obtained from the plant *Angelica archangelica* L., like having carminative, stimulant, diaphoretic, stomach, tonic and expectorant properties. One problem we face in recent years is the raw material derived from this species, which is quite few compared with the requirements. A cause for this situation is the germinative faculty, which *Angelica archangelica* L. seeds quickly lose. This is in contradiction with the fact that when establishing any crop by direct sowing, the quality of material used for seeding has a high importance. So, we consider important at this stage any study action taken for identifying problems that generate this phenomenon. This article examines the influence which umbel type and its period of occurrence, of which we harvest the seeds, has on the process of germination. Also, the study highlights the correct storage mode and the time interval which need to be applied to seeds for nurturing high crop value.

Key words

Angelica archangelica L., branching inflorescence, seed germination

The correlation created between some morphological characters of the *Angelica archangelica* L. inflorescences and the seeds size

Pop M.R.^{1*}

¹“Lucian Blaga” University of Sibiu

*Corresponding author. Email: mihaipop76@yahoo.com

Abstract *Angelica archangelica* L. is an important medicinal species with carminative, stimulant, diaphoretic, stomach, tonic and expectorant properties. The plants find use in other industry sectors such as cosmetics, apiculture and even dendro floral. In recent years the amounts of raw material derived from this species are relatively small compared with the requirements. The cultivated areas are very small and the number of copies from spontaneous flora collapsed in the past 40 years, being included on the red list of protected species. So, we consider important at this stage any action to study and enrich the collection of genetic resources to broaden them. For these reasons this paper examines ways of establishing correlations between the values of the main components of the inflorescence. Through this we hope to help improve the species, in order to select forms with high performance in terms of seed production.

Key words

Angelica archangelica, correlation index, umbel, MMS, MMB

The influence of arbuscular mycorrhizal fungi on ornamental characters of *Tagetes patula* L.

Schmidt Brigitta^{1,*}, Şumălan R.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine of Timișoara, Faculty of Horticulture and Forestry

*Corresponding author. Email: brigischmidt@yahoo.com

Abstract Arbuscular mycorrhizal fungi form with the host plants' root system one of the most wide-spread symbiotic relationships on Earth. The hyphal network surrounding the root system explores a great amount of soil and absorbs water, organic and inorganic compounds, and makes them accessible to the host plant. The fungus is an obligate symbiont and can't synthesize sugars so the host plant gives in exchange glucose. The mycorrhizal fungi are more and more used as biofertilizers for their beneficial effects for the agriculture: enhanced plant nutrition and thus plant development, protection against pathogens or drought.

We conducted a pot experiment with controlled environmental conditions to observe the effects of a biofertilizer with arbuscular mycorrhizal fungi on the development of ornamental characters of French marigold (*Tagetes patula* L.). The plants were grown in hydroponic culture watered with normal or modified (poor in phosphates) Hoagland's solution and in soil system and for every variant, inoculated and non-inoculated variants were compared.

The investigated characters were: total leaf area, number of side shoots, number of flower buds and of fully developed flowers. We found significant

Key words

arbuscular mycorrhiza, *Tagetes patula* L., ornamental characters

differences between the nutritional treatments. Also between inoculated and non-inoculated plants there were highly significant differences at every investigated character, the mycorrhized marigold plants having enhanced ornamental features.

The study shows that arbuscular mycorrhizal fungi can be successfully used in plant production, especially for ornamental species, where is a need for a better nutrition with phosphates to develop the ornamental characters of plants (a higher number of flowers and total leaf area per plant).

Researches regarding the epicormic increments at the Turkey oak trees (*Quercus cerris*) on the Turkey oak stands from Bobostea forest (Bihor)

Bartha Sz.^{1*}, Dorog L.S.², Cărădan Adina Mioara³

¹University of Oradea, Faculty for environmental Protection, 26 General Magheru Street, 4100848, Oradea, Romania; ²University of Oradea, Faculty for environmental Protection, 26 General Magheru Street, 4100848, Oradea, Romania; ³Școala pentru educație incluzivă nr. 3 Oradea

*Corresponding author. Email: szilardbartha@yahoo.com

Abstract The work presents the results of the observations effected on Turkey oak trees in the sample plots placed on Bobostea forest (Bihor county) which offered certain conclusions regarding the localization and appearance frequency of the epicormic branches.

Key words

trees, Turkey oak, epicormic increments

Studies concerning food safety of vegetables existing on markets and hypermarkets from Timisoara

Negrea Monica^{1*}, Patrascoiu Mihaela¹, Lazureanu A.², Radulov Isidora³, Cocan Ileana⁴

¹Postdoctoral scholar of Banat's University of Agriculture Sciences and Veterinary Medicine and POSDRU/89/1.5/S/62371, co-financed by the European Social Fund; ²Faculty of Horticulture and Forestry, USAMVB Timisoara; ³Faculty of Agriculture, USAMVB Timisoara; ⁴Faculty of Agro-Food Processing Technologies, USAMVB Timisoara

*Corresponding author. Email: negrea_monica2000@yahoo.com

Abstract The purpose of this paper is to analyze food safety of vegetables (onion) existing food markets and hypermarkets in Timisoara. It has a special significance which is due to the diversified use in food, consumer opportunities throughout the year, and its use in food and pharmaceutical industries. In accordance with the ORDER No. 293/640/2001-1/2002 regarding security and quality conditions for vegetables and fresh fruits for human consumption maximum limit allowed (LMA) for nitrates in onions is 80 ppm [17]. Nitrite levels in vegetables and fruit are not established by any Law, but according to Dennis M.J. and Wilson L.A. [5] are usually below 2 ppm and according to another authors, Alexa E., [1-2] and Trif A. [13] nitrite level in vegetables should be between 1-5 ppm. In order to determine the incidence of nitrates and nitrites in imported onion, were sampled 11 red,

Key words

onion samples, nitrate, nitrite, statistic parameters

white and yellow onions, from Timisoara hypermarkets (Metro, Profi, Kaufland, Danevi, Auchan and Real) that are pursued from some U.E. countries, such as: Holland, Austria, Germany, Greece, Egypt and Bulgaria. Were also sampled onion samples from Timisoara food markets, which come from private producers in several regions of Timis County, in order to achieve correlation between the level of contamination with nitrogen compounds of imported and local vegetables. The nitrate and nitrite content determination in onions was done according to ISO 6635 [15] in the Laboratory for the Measurement of Residues of the Department of Agro-techniques of the U.S.A-V.M.B in Timisoara. The nitrogen compounds values were read to Spectrophotometer SQ 118 at wavelengths of 515 for nitrate and 525 nm nitrites. Most contaminated with nitrate was the onion sample imported from Egypt (162.5 ppm), and most secure in terms of food safety was a white onion sample coming from Germany (15.92 ppm) (table 1). Values of nitrite content determined in imported samples were according to literature studies, ranging between 1-5 ppm.

Research regarding the influence of storage conditions in quality of some apple varieties

Camen D.^{1*}, Beinșan Carmen¹, Nicolae I.², Șumălan Renata¹, Doncean Ancuta¹, Șumălan R.¹

¹Banat's University of Agriculture Sciences and Veterinary Medicine, Faculty of Horticulture and Forestry;

²University of Craiova

*Corresponding author. Email: plantphysiology.ro@gmail.com

Abstract The optimal time for harvest is determined by the output destination: fresh consumption, industrialization, etc. For fresh fruit consumption, harvest maturity is determined differently depending on the species, variety, storage conditions, away from the consumer, etc. In all cases, harvest is before maturity consumption by 1-2 days for cherries, cherry, strawberry, with 2-3 days for apricots, plums, peaches 5-7 days, 4-6 days for apples and Summer pears, with 15-30 days of autumn apples and pears, with 30-90 days for quince, apples and winter pears. Across the globe, in many countries the quality standards for fruits and vegetables are required by law. To be marketed in those countries, fruit and vegetables must meet these standards [2, 1]. Within the EU Marketing Standards (require suppliers to evaluate and sort apples based on a list of criteria, including: lack of damage, disease, scratches or physiological disorders, shape, color, aroma / taste [1, 3].

Key words

apple quality, storage, post-harvest

Considerations on forest crime in Romania

Stanciu S.M.^{1*}, Tabără Amânar C.G.¹.

¹Banat University of Agricultural Sciences and Veterinary Medicine Timișoara, Agricultural Management Faculty;

*Corresponding author. Email: sorinmstanciu@yahoo.com

Abstract Analysis of the dynamics of forest crime in the last two decades demonstrates the irresponsible attitude with which they were treated by environmental factors. Extensive exploitation of forests, intensive

Key words

erosion, effects, forestry

exploitation of land slope was accompanied by long-term destructive effects: landslides, erosion, salt lands, over-wet portions, creating true ecological imbalances. Currently timber thefts have increased Romania, like in the contemporary world, deeds that caused immense damage, both public property and private. Authorized state bodies are required to preserve and protect private and public property, using all methods and means at their disposal, including criminal offenses, to those who oppose these values.

legislation, destruction, law, ecological balance, public property

Comparative analysis of the offenses covered by forest legislation in Romania

Stanciu S.M.^{1*}, Tabără Amânar C.G.¹.

¹Banat University of Agricultural Sciences and Veterinary Medicine Timișoara, Agricultural Management Faculty;

*Corresponding author. Email: sorinmstanciu@yahoo.com

Abstract The multiple and complex social relations in the field of forestry led legislature to sanction a series of acts producing injury. The emergence of forestry legislation is related to the functions that have forests. Thus, ownership of forests to produce wood resulted, as one can imagine the massive deforestation on the one hand, and on the other hand increase the level of civilization, this trait has led to the establishment of a unitary management. Forest regime has always progressed in size and combative, so it's become commonly growing success. Stages formulation of laws of other countries know and Romania. After the Revolution of 1989, after it appeared that the rule of law, democratic and socially imposed the necessity to adopt a new forestry legal framework must be replaced almost entirely Law. 2/1987.

Key words

Government, forest, property, contravention, regulations, law.

Studies on Culture Behaviour of Some Sweet Pepper Varieties (*Capsicum Annum* L.)

Ambăruș Silvica^{1*}, Sansheng G.², Brezeanu P.M.¹, Brezeanu Creola¹, Calin Maria¹

¹Vegetable Research and Development Station Bacau; ²National Engineering Research Center for Vegetables Beijing Republik of China;

*Corresponding author. Email: silvia_ambarus@yahoo.com

Abstract Romania represents a peculiar case when comparing with other European and world countries concerning the market exigencies for the pepper fruit's colour, shape and taste. The most important difference about the pepper fruits consumed in Romania is the colour of the fruit that is yellow instead of dark green - as it is required by the consumers in other countries. This is the reason why the Romanian genotypes are somehow different from the other ones normally cultivated in other countries. Due to this peculiar requirement of Romanian market, the authors analysed the pepper germ-plasm that fit better to this expectations. The present paper focuses on the characterisation from morphologic and physiologic point of view of some cultivars of *Capsicum annum* L. var. *grossum* Sendt. (sweet pepper). The

Key words

analyze, biodiversity, germ-plasma

purpose of this study was a hierarchic differentiation of the best Romanian genotypes having as selection criteria their quantitative and qualitative characteristics.

Studies Regarding Tomatoes Suitability for Ecological System Culture

Brezeanu P.M.^{1*}, Munteanu N.², Brezeanu Creola¹, Ambăruș Silvica¹

¹Vegetable Research and Development Station Bacău; ²University of Agricultural Sciences and Veterinary Medicine Iasi

*Corresponding author. Email: brezeanumarian@yahoo.com

Abstract In this research paper, we discuss aspects regarding type of growth, vigourity, production potential (t/ha), precocity, plant resistance to pathogens, some fruit characteristics: shape, color, weigh, lodge number, firmness, storage and split resistance. Our observations and determinations were made on a range variety of tomatoes cultivated in ecological system culture.

Key words

Lycopersicon esculentum, organic

Documentation and Conservation on Genetic Resources of *Phaseolus aureus*

Brezeanu Creola^{1*}, Robu T.², Brezeanu P.M.¹, Ambăruș Silvica¹, Sansheng G.³

¹Vegetable Research and Development Station Bacău; ²University of Agricultural Sciences and Veterinary Medicine Iasi; ³National Engineering Research Center for Vegetables Beijing Republic of China

*Corresponding author. Email: creola.brezeanu@yahoo.com

Abstract The practical importance of this plant growing and vegetable species is noted in the very few Romanian scientifically papers. Worldwide there is a literature devoted to this particular species because of importance as a source of germplasm in the genus *Phaseolus* due to high resistant to drought, pathogens, and high protein content. Because of the species' high degree of rusticity, this study showed high potential for cultivation in organic and conventional system in Romania's weather conditions. In Romania, growing of this species is almost exclusively in the farms gardens; the used types are reducing to the local populations, which are rooted in different backgrounds. Starting from this premise, the present study aims to outline key aspects of biodiversity research and some biological aspects.

Key words

suitability, rusticity, genetic resources

The influence of dose fertilizer on the qualitative corn hybrid Furio

Turc Alina^{1*}, Lăzureanu A.¹

¹Faculty of Horticulture and Forestry Timișoara

*Corresponding author. Email: doobra.alina@yahoo.com

Abstract Plant maize (*Zea mays*) is most surprising system that nature has for energy accumulation. From a seed weighs about one third of a gram, rises and develops in about nine weeks a two-three meters tall plants, and around eight weeks to come, it will produce grain 600-1000.

It has good use of the fertilization. Even small doses of fertilizer are recommended with high production increases.

Hybrid Furio has exceptional internal parameters. High starch and protein content makes it useful in starch and forage industry. The internal parameters are used to feed an excellent base for qualitative production of goose and duck liver.

Key words

doses of fertilizer, hybrid, production, herbicides

The influence of dose fertilizer on the qualitative corn hybrid PR35P12

Turc Alina^{1*}, Lăzureanu A.¹

¹Faculty of Horticulture and Forestry Timișoara

*Corresponding author. Email: doobra.alina@yahoo.com

Abstract Corn occupies third place in importance among the world's crop. Along with wheat and barley, is the food of most world population, directly or processed animal products.

Corn hybrids grown in Romania have been classified as the vegetation period of maturity in 9 groups (as-FAO), presenting six important groups. After we obtain simple hybrid model (HS), double (HD) and Trilinear (HT).

Key words

Fertilizer, corn hybrid, production, indices

Influence of soil fertilization on leaf surface at the variety Italian Riesling grape in conditions of teaching station Timișoara

Băluță Daniela^{1*}, Ștefan Carolina¹, Cârciu Gh.¹, Banu C.¹, Moatăr Mihaela¹, Chisăliță I.¹, Negrea Monica¹, Pătrășcoiu Mihaela¹

¹USAMVB Timisoara, Faculty of Horticulture and Silviculture

*Corresponding author. Email: dana_olaru78@yahoo.com

Abstract Grapes are the most popular fruit to consumers of all ages. **Key words**

Grapes have both high energy levels, food and medicines. Research has been conducted in the years (2002 - 2004), and had as its object of study, the influence of organic and chemical fertilizers on yield and quality, the variety of grapes for white wine 'Italian Riesling' vineyard planting in the Didactic Station Timisoara. The purpose of this study was to track the influence of organic and chemical fertilizers on the leaf surface, resulting from the variety of their applications' Italian Riesling.

leaf area, organic fertilizers, chemical fertilizers, vine variety, the vines

Organic and chemical fertilizers are used in viticulture to supplement food needs and improving physical and biological characteristics of soil. These fertilizers in addition to enriching the soil nutrients and humus, they enhance the activity of useful microorganisms in the soil and stimulate more efficient use of fertilizers.

The category of organic fertilizers are: manure, semi-liquid slurry, green manure, compost. Green manure is in organic viticulture conditions safe and clean way to bring large quantities of soil organic matter. Nitrogen from legume plant is easily accessible and is rapidly fermented organic matter in soil, enriching it in humus.

The evaluation of six *KNOX* genes expression evaluated for *in vitro* grown tetraploid *Medicago sativa* plants

Ioja-Boldura Oana-Maria^{1*}, Popescu Sorina¹, Petolescu Cerasela¹, Lazar A.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Horticulture and Forestry, Timisoara

*Corresponding author. Email: [oanaboldura@gmail.com](mailto: oanaboldura@gmail.com)

Abstract The main goal of this work was to evaluate the expression of genes involved in alfalfa leaf morphology as the plants are grown in *in vitro* conditions. For the tetraploid *Medicago sativa*L. six KNOX genes involved in leaf morphology were identified and their transcription level in different organs was evaluated. The expression of these genes is controlled by the genes that codes for transcription factors but other factors also have a conserved role in determining leaves primordia, they are phytohormones: auxines, gibberellines and cytokinines. Gene expression is expected to undergo changes due to cultivation *in vitro*, especially when it comes to genes with morphological role. Therefore, preliminary tests were necessary to confirm the existence of KNOX gene expression in tissues harvested from plants grown *in vitro*. For gene expression evaluation a semi-quantitative analysis RT-PCR was performed. From the present experiments turned out that the expression of six KNOX genes can also be detected in tetraploid alfalfa plants that are subjected to *in vitro* culture. However, as expected, compared to control gene the levels of expression for KNOX genes seems to be down-regulated.

Key words

alfalfa, leaf morphology, KNOX genes, RT-PCR

Preliminary results concerning the *in vitro* multiplication of *Ginkgo biloba* species

Radomir Ana – Maria^{1*}, Tudor Radu C. M.¹

¹National Research & Development Institute for Biotechnology in Horticulture Stefanesti, Sos. Bucuresti-Pitesti, no. 37, CP 117713, Arges, ROMANIA

*Corresponding author. Email: radomir.anamaria@yahoo.com

Abstract This article presents the realizations of the technology of producing biological material with rapidly clonal multiplication with reference at the phases of *in vitro* initiation and multiplication. The growth of *Ginkgo biloba* explants was influenced by the period of explants sampling and by the composition of culture medium. The explants sampled from the herbaceous shoots a year old cropping at the end of the summer have the best behavior. They have registered 80% explants growth on culture medium MS supplemented with 20 mg/l benzyladenine. As one goes along the concentration of benzyladenine decreased, has been found a diminution of the number of explants growth until 25% and a progressive growth of the length of the shoots obtained. For the *Ginkgo biloba* multiplication proved to be efficient the concentration of 1 mg/l kinetine. The length of the microshoots was influenced by the type of cytokinine and the dimensions achieved was directly proportional to multiplication rate.

Key words

Ginkgo biloba, *in vitro* initiation, explants, multiplication, culture media