

Diversity of endophytic fungi isolated from cherry (*Prunus avium*)

Haddadrafshi Neda¹, Halász K.¹, Pósa T.¹, Péter G.², Hrotkó K.³, Gáspár L.¹, Lukács N.^{1*}

¹Corvinus University of Budapest, Faculty of Horticultural Science, Dept. of Plant Physiology and Plant Biochemistry; Budapest; ²Corvinus University of Budapest, Faculty of Food Science, National Collection of Agricultural and Industrial Microorganisms; Budapest; ³Corvinus University of Budapest, Faculty of Horticultural Science, Dept. of Floriculture and Dendrology; Budapest

*Corresponding author. Email: noemi.lukacs@uni-corvinus.hu

Abstract Endophytic fungi are currently considered as symbionts which can colonize a wide range of hosts and do not induce any pathological signs. The main aim of this study was to identify the endophytic fungi colonizing different organs (root, twig and leaf) of cherry (*Prunus avium*). Samples were collected from eight-year-old trees of the Hungarian cultivar 'Péter' grafted on 11 different rootstocks. After surface sterilization samples were put on potato dextrose agar and outgrowing fungal colonies were visually classified after 1 and 2 weeks. Then monosporation and monohyphation technique was applied to generate single colonies of each individual fungus, and the isolated colonies were classified morphologically. Molecular identification at genus or species level was performed by applying the polymerase chain reaction (PCR) to amplify a nuclear ribosomal internal transcribed spacer region (ITS) and by sequence comparison of the PCR products. A total of 150 endophyte strains were isolated from 4500 tissue segments. About 25 species were identified as belonging to the genera *Acremonium*, *Alternaria*, *Botryotinia*, *Aspergillus*, *Chaetomium*, *Cladosporium*, *Embellisia*, *Epicoccum*, *Fusarium*, *Glomerella*, *Macrophoma*, *Neonectria*, *Phoma*, *Diaporthe/Phomopsis*, *Pyronema*, *Rhizoctonia*, *Rhizopycnis*, *Rosellinia* and *Xylaria*. Endomycota showed the highest diversity in roots, while in twigs and leaves we predominantly found *Alternaria*. Further analyses are being carried out to verify which endophytes can be used to improve the physiological functions and tolerance threshold of the grafted trees against environmental stresses.

Key words

Diversity, endophytic fungi, symbiosis, *Prunus avium*

Research concerning the composition and organoleptic features of some wines from Buziaș-Silagiu (Timiș county, Romania)

Ghiță Alina^{1*}, Dobrei A.¹, Mălăescu Mihaela¹, Poiană Mariana², Drăgunescu Anca¹

¹USAMVB Timisoara, Faculty of Horticulture and Sylviculture; ²USAMVB Timisoara, Faculty of Technology of Food Products

*Corresponding author. Email: ghitaalina@yahoo.com

Abstract Research was carried out in 2009 and 2010 on some wines from some red and white grape cultivars from a private vineyard located on the Silagiului Hills. The grape cultivars we studied were Mustoasă de Măderat, Fetească regală, Riesling italian, Sauvignon, Pinot gris, Muscat

Key words

organoleptic features, quality, white and red wines

Ottonel, Pinot noir, and Cabernet Sauvignon.

The quality of the wines depends first on the quality of the raw material and then on the preparation and conditioning technology. To establish correlations between production and wine quality and with climate conditions, we made measurements concerning the grapes' degree of health, sugar content, and acidity upon harvesting. We also measured the main components of the wines and their organoleptic features. Measuring alcohol content allowed the ranging of the studied wines in a certain category: superior or current consumption.

As a result of our research on wine composition and organoleptic features, we recommend the use of some red and white grape cultivars with superior yields in the conditions of the studied area.

Research concerning the impact of sulphurous anhydride on demisec and demisweet wine maturation

Ghiță Alina^{1*}, Dobrei A.¹, Iordănescu Olimpia¹, Mălăescu Mihaela¹, Drăgulescu Anca¹, Cristea T.¹

¹USAMVB Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: ghitaalina@yahoo.com

Abstract We have made observations and measurements in a private winery from Buziaș (Timis County) on the wines from the grape cultivars Fetească albă, Sauvignon, and Pinot gris aiming at identifying the optimal dosage of sulphurous anhydride that ensures the reducing evolution during maturation in the barrel of demisec and demisweet wines.

The condition for a wine to become valuable, with particular organoleptic features, is to go through several stages: formation, maturation, and ageing; during maturation and ageing, there are a lot of changes that give the wine the features and qualities specific to the grape cultivar.

Since preserving primary aroma, colour, and fructuosity is the main element of reducing wines, it is compulsory to maintain oxidation as low as possible in the maturation recipients: in this process, using sulphurous anhydride is important. It also contributes to the formation of the bouquet in the bottle and of the sulphitic bouquet.

Research focused on several moments of wine technology of reducing demise and demisweet wines meant to improve as much as possible the quality features of these types of wine.

Research results showed that using higher rates of sulphurous anhydride in initial sulphitation we eliminate the necessity of sulphitation during barrel maturation and maintaining a constant ratio between total and free SO₂ is possible only through re-sulphitation.

Key words

wine maturation, wine sulphitation, demisec and demisweet wines

The behavior of some new chrysanthemum cultivars (*Chrysanthemum indicum* L.) cultivated in pots, in greenhouse conditions

Băla Maria^{1*}, Berecici D.N.¹

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

*Corresponding author. Email: mariabalamonicabala@yahoo.com

Abstract Being one of the most important species cultivated for autumn decoration, chrysanthemums are grown for cut flowers, gardens decoration and as pot plants. They can be grown by applying different technologies, depending of the cultivar, season, purpose and many more. Recently, as the needs of the market for chrysanthemums cultivated in pots has increased, we considered necessary to do the present research in order to observe the behavior of some cultivars destined for pot cultivation. The results have shown great differences between them regarding the phenology aspects, plant height, sprouting capacity and diameter of the flowers. It remains to the future to promote the cultivation of chrysanthemums as pot plants more often as the market needs are increasing and the number of cultivars created for this purpose grows continuously.

Keywords:

chrysanthemum, pots, technology, phenology

The influence of the planting material quality on the quantity and quality of the flowers of *Freesia hybrida*

Berecici D.N.*¹, Băla Maria¹

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

*Corresponding author. Email: dan84i@yahoo.com

Abstract *Freesia hybrida* is one of the most important species cultivated for cut flowers. One of the biggest problems in cultivating *Freesia* is the degeneration of the planting material in few years so that the bulbs have to be renewed. The degeneration of the bulbs has many causes of which the essential ones are the presence of the viruses in the culture as well as *Fusarium* and unfollowing the cultivation needs of the cultivars used. In the present paper the aim was to determine if there is a strong influence of the planting material quality on the quantity and quality of the flowers of *Freesia hybrida*. The results have revealed that the bulbs quality influence the quantity and quality of the flowers but also the temperature does. Even though there were clear differences between the cultivars, we recommend taking them all into culture as all of them have great qualities that might not be presented in this paper or related to this paper subject.

Key words

Freesia, flowers, quality, quantity

Forestry habitats from Siriu Mountains (Romania)

Neblea Monica^{1*}, Alexiu V.¹

¹University of Pitești

*Corresponding author. Email: monica_neb@yahoo.com

Abstract In this paper are presented the main types of forestry habitats that can be found in Siriu Mountains. A number of six habitats according to Natura 2000 Network have been described: 9130 *Asperulo-Fagetum* beech forests, 91V0 Dacian Beech forests (*Symphyto-Fagion*), 9110 *Luzulo-Fagetum* beech forests, 9410 Acidophilous *Picea* forests of the montane to alpine levels (*Vaccinio-Piceetea*), 9180* *Tilio-Acerion* forests of slopes, screes and ravines, 91E0* Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*).

Key words

habitat, forest, Siriu Mountains, Romania

Research in soil drench application of insecticides to protect tomatoes and cucumbers crops in solarium

Hoza Gheorghiu¹, Buzatu Mihaela Alina²

¹University of Agronomical Science and Veterinary Medicine Bucharest; ²ICDLF Vidra

*Corresponding author. Email: hozagh@yahoo.com

Abstract The research was conducted in a solarium grown tomatoes, Prek variety, cucumber, Mirabelle F1 hybrid, in the testing group from ICDLF Vidra, Giurgiu County.

In the cultures under study there were drenched Nudrin Actar 200 and SC 25 WG into the soil, 100 ml / plant each, after 10-15 days from the final planting in the solarium. The concentration of each solution was of 0.008%. Both insecticides were aimed to reduce populations of greenhouse white flies (*Trialeurodes vaporariorum* - Westw) and of cucumber green louse (*Cerosipha gossypii* – Glove). Their effect on plants was studied at each 3, 7, 14, 21 and 28 days, throughout counting the number of pests remaining on the plants. From the obtained results, it can be shown that the two products are highly effective on tracking and destroying the pests.

Regarding the effect of these pesticides on the greenhouse white fly, both at tomato and cucumber cultures, it was observed that the maximum reduction of L1-L2 adult and larvae populations occurs after 21 days and of L3-L5 larvae after 14 days. In what regards the cucumber green louse both products showed a swift, reducing 90% of the population after only three days.. Actar reduced the population at its maximum after 14 days, but Nudrin showed a longer period of time.

Key words

tomatoes, cucumber, plant protection

Research regarding the behavior of some apple tree varieties in high density plantations in Campia Romana

Hoza D.^{1*}, Ion Ligia¹, Diaconescu M.¹, Iosif F.,¹

¹University of Agriculture Science and Veterinary Medicine Bucharest, Faculty of Horticulture

*Corresponding author: hozadorel@yahoo.com

Abstract The extension of the culture area of the apple tree can represent a solution for a higher capitalization of the field, where the pedo-climatic conditions are favorable. The comparative study of nine apple tree varieties grafted on M9, in superintensive orchard, in the climatic conditions of Campia Romana, showed that the area is favorable for the apple. The growth of the trees was consistent with the biological characteristics and was slightly influenced by the climatic year. The analyzed varieties showed had a good behavior, from the fourth year of culture the production was good and very good, reaching values of 25 t/ha. The average of three years of study showed a high fructification capacity (29-30 t/ha) for the varieties Florina, Idared, Sir prise and Generos.

Key words

apple, superintensive plantation, production

Studies regarding the morphological variability of some orchid species from Anina Mountains

Bîtea Nicoleta - Daniela^{1*}, Madoşa, E¹, Ciulcă, S.¹, Popescu Sorina¹, Lazăr A.¹, Avădanei, C.¹, Velicevici, Giancarla¹

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

* Corresponding author: Email: nicobitea@yahoo.com

Abstract The Anina Mountains is one of the areas where field literature indicates a whole variety of orchid species. Studies have focused on the general morphological features variability and morphological features of flower variability in species *Epipactis helleborine* (L.) Crantz, *Orchis mascula* (L.) L. and *Cephalanthera damasonium* (Mill.) Druce. These species have been identified in the forest where the dominant species were *Fagus sylvatica* L. Variability of features was assessed by biometric measurements made during the flowering season of species. For each feature was calculated the average, the deviation from the average and coefficient of variation. Species analyzed have decorative potential for both flower and leaves.

Key words

orchids, Anina Mountains, morphological features, variability

Some aspects of surveying the park from Săvârşin, Arad County

Băbucă N. I.^{1*}, Ciolac Valeria², Nistor Eleonora², Ciolac L.³, Colţan O.²

¹ S.C. Blacklight S.R.L., Virtutii, no. 1, Timișoara, Romania; ² Banat University of Agriculture Sciences and Veterinary Medicine, Timișoara; ³No. 30 School, Timișoara

*Corresponding author. Email: cristian.babuca@blacklight.ro

Abstract Topographic measurements were aimed to surveying the contours of buildings located on the property of Her Majesty, King Michael. Alleys, trees and outdoor facilities also have been subject to surveying. On the basis of the absolute rectangular coordinates of those 62 points determined, was drawn the situation to 1:2000 scale plan that will serve for the beneficiary's subsequent works of facilities.

Key words

survey, coordinates, scale

Using 3D scan architecture

Băbucă N.I.^{1*}, Ciolac Valeria², Toma C.D.¹, Nistor Eleonora², Colțan O.²

¹S.C. Blacklight S.R.L., Virtutii, no. 1, Timisoara, Romania; Banat University of Agriculture Sciences and Veterinary Medicine, Calea Aradului 119, Timisoara 300645, Romania

*Corresponding author. Email: cristian.babuca@blacklight.ro

Abstract Recent developments in differential GPS (DGPS) services have concentrated mainly on the reduction of the number of permanent reference stations required to cover a certain area and the extension of the possible ranges between reference and rover stations. Surveying with GPS has become popular due to the advantages of accuracy, speed, versatility and economy. The techniques employed are completely different however, from those of classical surveying. Provided that certain basic rules are followed GPS surveying is relatively straight forward and will produce good results. From a practical point of view it is probably more important to understand the basic rules for planning, observing and computing GPS surveys rather than to have a detailed theoretical knowledge of the Global Positioning System. A GPS receiver measures the incoming phase of the satellite signals to millimeter precision. However, as the satellite signals propagate through space to earth they pass through and are affected by the atmosphere. The atmosphere consists of the ionosphere and the troposphere. Disturbances in the atmosphere cause degradation in the accuracy of observations. Starting from networked DGPS stations where all stations are linked to a central control station for data correction and modeling, the most advanced technique nowadays is based on the virtual reference station (VRS) network concept. In this case, observation data for a non-existing "virtual" station are generated at the control center and transmitted to the rover. This leads to a significant improvement in positioning accuracy over longer distances compared to conventional DGPS networks.

Key words

3D scanning, scanner, modeling, church

Researches concerning the report of foliar surface-quantity-quality of some red wine vine varieties cultivated in different ecosystems

Mălăescu Mihaela^{1*}, Drăgunescu Aneta Anca¹, Dobrei A.¹, Ghiță Alina¹

¹U.S.A.M.V.B.Timișoara, Faculty of Horticulture and Silviculture

*Corresponding author. Email: malaescuioanamihaela@yahoo.com

Abstract The goals of this research aimed the behaviour of some red wine vines: Cadarcă, Pinot noir, Merlot, Burgund, Cabernet Sauvignon in different ecosystems (Minis vinery, Recas vinery and the Didactic Station Timisoara) in order to establish the best direct correlations between their foliar surface and grape production, quantitative, but also qualitative, starting from the premise that foliar surface is essential in obtaining vegetative biomass, respectively the production. A large foliar surface can be useless and can even diminish the production. Deepening our knowledge of these relationships allows the correct application of green works and operations of the rational culture technologies, coupled

Key words

red wine vines, foliar surface, production, quality, quantity

with the biological characteristics of vine varieties and harmonized with the wine potential of climatic and technological capabilities of each vineyard holding (2).

Researches on the adoption of cheap solutions to produce the own rooted vines for small family plantations

Mălăescu Mihaela^{1*}, Dobrei A.¹, Drăgunescu Anca¹, Ghiță Alina¹, Velicevici Giancarla¹

¹U.S.A.M.V.B.Timișoara, Faculty of Horticulture and Silviculture

*Corresponding author. Email: malaescuioanamihaela@yahoo.com

Abstract Establishment of a vineyard requires significant financial resources and therefore is not available to anyone willing. Given the high cost of grafted vines, we propose a simple and inexpensive alternative for obtaining the vines on own roots.

In this paper, to obtain vines on their roots we taken to experience six varieties of vine: Fetească Regală, Muscat Ottonel, Moldova, Victoria, Muscat de Hamburg and Chasselas dore, that we have pursued during the forcing, rooting and in field in the first year after planting.

The results obtained showed that the method is effective and can be achieved with minimal costs, consequently, suited very well the family plantation.

Key words

vines on own roots, inexpensive technology

On the behaviour of some table grape cultivars cultivated on family vineyards

Dobrei A.^{1*}, Mălăescu Mihaela¹, Ghiță Alina¹, Drăgunescu Anca¹, Ciucur A.¹

¹U.S.A.M.V.B.Timișoara, Faculty of Horticulture and Silviculture

*Corresponding author. Email: alin1969tmro@yahoo.com

Abstract Research was carried out on two private vineyards located in Paulian (Arad County) and Buzias (Timis County). They focused on the variety of conveyers on the two vineyards, on the period grapes are supposed to be eaten fresh, as well as on the aspects concerning frost-resistance, bud viability, and quantitative and qualitative production.

The research areas ensure favourable conditions for the grape cultivars in the varietal conveyers meant to cover one's own consumption over a period of about 100 days in Paulian and 80 days in Buzias.

Key words

table grape cultivars, conveyers, family vineyards

The efficiency of vineyard exploitation by increasing mechanical works with the establishment and maintenance of vine plantation

Dobrei A.^{1*}, Ghiță Alina¹, Mălăescu Mihaela¹, Drăgunescu Anca¹, Cristea T.¹

¹U.S.A.M.V.B.Timișoara, Faculty of Horticulture and Silviculture

*Corresponding author. Email: alin1969tmro@yahoo.com

Abstract Research has been conducted in several vine plantations of various sizes in Buzias Silagiu and Recaș.

Works have been pursued to establish new plantations and provide maintenance of bearing vineyards, carried out both by conventional technologies with a high degree of manual work and modern technology after a series of works (planting, harvesting, soil maintenance, operations in green) were made automatic.

By comparing the two technologies, it has been more than obvious the advantage of modern technologies in terms of both cost and duration of lower enforcement which has allowed a better framing of works during the best execution period.

Technology variants with high degree of mechanization can be adapted to plantations with different climatic conditions and largely removes the shallowness of performing work under a less skilled, less conscious or less involved workforce.

Key words

modern technology, classic technology, vine plantations

Studies concerning winter resistance of some autumn oat cultivars

Madoșă E.^{1*}, Vasilescu Nora², Ciulca S.¹, Velicevici Giancarla¹, Avadanei C.¹, Bîtea Nicoleta¹, Ciulca Adriana¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine, Faculty of Horticulture and Sylviculture, ²CR Buziaș

*Corresponding author: Email: madosae@yahoo.com

Abstract Oats is a plant that gives a very valuable production in terms of quality, however, is grown on small areas because of sensibility to winter conditions. A collection of 73 varieties and lines of winter oats originated from North America or West Europe, were studied. Behavior of evaluated collection material was different depending of year's specific conditions. Within the collection there are stable genotypes, which lies on the same position compared to the control variety. For the breeding process the following varieties can be recommended as initial material: Norline, Blamouth, CI 1908, Emperor. The romanian variety Florina has a wick winter resistance, in years of the harshest winter, the risk of compromising culture appears.

Key words

autumn oats, winter resistance

Influence of different climatic conditions on phenotype observations regarding some yield elements in some barley genotypes

Velicevic Giancarla^{1*}, Madosa E.¹, Ciulca S.¹, Ciulca Adriana¹, Petolescu Cerasela¹, Bitea Nicoleta¹, Cretescu Iuliana¹, Ropciuc Sorina²

¹Banat University of Agricultural Sciences and Veterinary Medicine, Faculty of Horticulture and Forestry, Calea Aradului, 119, 300645, Timisoara, Romania; ²University Stefan cel Mare, Street University, 13, 720229, Suceava, Romania

*Corresponding author. Email: giancarlavelly2000@yahoo.com

Abstract Drought considered as the combination of water stress plus high irradiance and temperature stresses, is the main abiotic factor limiting yield. The improvement of the yields under drought conditions therefore must combine the high yield potential and specific factors which are able to protect the crop against reduction due to this stress conditions. The objective of this study was to evaluate influence of different climatic conditions on phenotype observations regarding some yield elements of 25 genotypes of winter barley. The genotype were tested in non stressed and stressed conditions.

Key words

barley, yield elements, drought stress

Effects of osmotic stress in the germination stage of some barley (*Hordeum vulgare*) genotypes

Velicevici Giancarla^{1*}, Sumalan R.¹, Madosa E.¹, Ciulca S.¹, Ciulca Adriana¹, Bitea Nicoleta¹

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

*Corresponding author: giancarlavelly2000@yahoo.com

Abstract Osmotic stress caused by drought (water stress) or salinity is a major problem facing agriculturæ and the wildlife allow the world and especially in the developing countries. These environmental factor affect plants at various stages of growth and the development from germination, seedling stage, vegetative growth and productivity. In this study were investigated 19 romanian and foreign genotypes of barley (*Hordeum vulgare*) regarding our germinative capacity in stress conditions. The osmotic stress were induced by PEG 6000 solution with the osmotic potential (-2.72 Bars, -4.48 Bars -7.35 Bars) using method suggested by (10) and replicated three time, at a temperature of 20 °C.

Key words

barley, germination., drought

Therefore, drought induced by using physiological germination solutions with a different osmotic pressure levels directly influence the germination of the seeding material. From this parameters stand point the superior genotypes were: Andrei, Dina, DH 261-22.

Research on identification and behavior of local vine cultivation areas Seliste - Prunisor, Arad County

Ciucur A.^{1*}, Dobrei A.¹

¹U.S.A.M.V.B.Timișoara, Faculty of Horticulture and Silviculture

*Corresponding author. Email: alin_ciucur@yahoo.com

Abstract Were carried out research in Arad County, in 2009 and 2010, which referred to the identification and analysis of local varieties and biotypes mainly vines planted in yards and gardens and Prunisor Seliste rural population.

The purpose of this research was to highlight the biological and technological characteristics of grape varieties in the western part of Romania, who, although they have good or very good qualities, both in terms of quantity and quality of production not expanded their vineyard in practice.

To characterize cultivars ampelography references were made to the most important descriptors ampelography: leaf, grape and grain. To establish the name of local varieties and cultivars has appealed to many criteria (name of local folk if any, communities in which the initials were discovered, the initials that were discovered street, house number of householders, features and Technology ampelografice predominant, etc..).

Key words

local varieties, biological and technological characteristics

Rapid leaf Area Estimation of *Cyrtorchis monteiroae*

Olosunde, M.A¹. and Dauda, T.O².

¹Department of Horticulture, University of Agriculture, Abeokuta, Nigeria; ²Institute of Agricultural Research and Training, Obafemi Awolowo University, PMB 5029, Moor Plantation, Ibadan, Nigeria

*Corresponding author. Email: taofikdaud@yahoo.com

Abstract Leaf area measurement of *Cyrtorchis monteiroae* was carried out at the University of Agriculture, Abeokuta, Nigeria in 2008. The objective of this study was to assess rapid leaf area estimation from both destructive and nondestructive sampling methods for *Cyrtorchis monteiroae*. Leaf samples were randomly selected from lower, middle and upper parts of the plant. Leaf length, leaf width, product of leaf length and width, leaf dry weight and leaf area from the graphical method were determined. The results showed that leaf width has the minimum variance (2.083) while leaf length \times leaf width had the maximum variance (428.497). Also, all the considered growth indices were directly and significantly correlated. Of the entire investigated model, cubic model of the relationships between leaf area and the leaf length \times leaf width gave the best result in term of minimum residual variance and highest coefficient of determination.

Key words

exponential model, cubic model, residual variance, monopodial

Effects of some bioactive foliar products that stimulate flower set and of some irrigation methods upon capsicum production cultivated in different fertirrigation systems

Horgoş A.^{1*}, Becherescu Alexandra¹, Popa D.¹, Ienciu Anișoara¹, Drăgunescu Anca¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine Timișoara

*Corresponding author. Email: horgos_a@yahoo.com

Abstract The cultivar as technological factor with large share in obtaining large and sustained crop due to its qualities as genetic expression, can't display at maximum its available productive and qualitative potential unless we don't apply a cultivation technology as its possibilities for expression, both in field crops and ultimately forced or protected system (in solarium or in greenhouses heated or unheated).

Technological factors such as the irrigation method applied, fertilization system or methods used to stimulate the binding of flowers, which is lacking in this species in some phases of vegetation of this culture, etc, have a major impact on quantitative and qualitative level of production that may be achieved.

Research has been done in comparative culture of competition in greenhouses covered with polyethylene film, in this regard have been initiated by the method experience of subdivided polifactorial parcels located in three repetitions. The experiment had in mind the manifestation way of quality and productive potential of hybrid F1 Ofanto interactions under the influence of three technological factors (factor A - method of irrigation, factor B - fertilization system used, factor C - products applied by foliar spraying to stimulate binding to plant flowers and speeding up the metabolism).

The paper highlights the influence of unilateral experimental technological factors and interactions on the level of production quality and quantity of pepper is obtained and recommendation on the economic efficiency of this crop.

Key words

cultivar, potential, production, species, factor, technology

Light intensity in the culture place and mycelium "reincubation", technological factors with major impact upon the production level of *Pleurotus ostreatus* HK-35, P-80 and K-12 hybrids

Horgoş A.^{1*}, Becherescu Alexandra¹, Popa D.¹, Negrea C.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine Timișoara

*Corresponding author. Email: horgos_a@yahoo.com

Abstract The exigencies of *Pleurotus ostreatus* to a minimum luminous intensity to the optimum are well known and vary depending on the species (*P. florida* and *P. cornucopiae*, *P. sajor-caju*, *P. pulmonarius* etc.). The manifestation of carpophores to the influence of light intensity fluctuations of *P. ostreatus* fruit bodies (cap and stalk) as their shape and size or only a part of it (either the cap or the stalk), is actually a departure to the formalized quality standards of quality norms.

Key words

mushroom, intensity, light, technology, mycelium, incubation, production

In this paper we present the results of an experimental approach on the response of some hybrids of *P. ostreatus* (HK-35, P-80 and K-12) to variations of light intensity (dark → 500 lux) in conditions of modern technological links application on incubating the mycelium, namely the "reincubation" applying to the 1st flush of production after harvest.

Study of the impact of plant's support and fertilisation systems upon the productive and quality potential manifestation of some tomato hybrids cultivated in solariums

Becherescu Alexandra^{1*}, Horgoş A.^{1*}, Drăgunescu Anca¹, Ienciu Anișoara¹, Popa D.¹, Bătrân Marinela²

¹Banat's University of Agricultural Sciences and Veterinary Medicine Timișoara; ²Family association

*Corresponding author. Email: alexandra_becherescu@yahoo.com

Abstract Due to continued growth of fuel prices and heating and electricity mainly, it was impossible the vegetable cultivation in greenhouses heated by private growers. But generally, to increase the profitability in vegetable crop in case of tomatoes removing the heating costs is not enough, but also improving those technology links to offset the influence of heating lack, which led to a decrease in almost all early production, but also its quality during the first part of the harvest period.

This paper presents results regarding the influence of the interplay between experimental factors, correspondents of major technological links of production and its quality and hence on economic efficiency of the culture.

Key words

solarium, culture, vegetables, fertilizers, hybrid, production, tomato

The period of founding culture and leading system in vegetation, determinant technological factors of tomato culture profitableness in industrial greenhouses with unconventional energetic consume

Becherescu Alexandra^{1*}, Horgoş A.¹, Popa D.¹, Drăgunescu Anca¹, Jurj R.¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine Timișoara

*Corresponding author. Email: alexandra_becherescu@yahoo.com

Abstract Tomato crop production provides an easy and efficient market capitalization, with the lowest energy consumption compared to other vegetable crops such as thermophilic peppers, eggplants and cucumbers, the dominant species in greenhouse and solarium cultures. The existing situation in terms of opportunities for growers of allocating energy balance, which will not affect the profitableness of tomato culture, required choosing an assortment of tomato hybrids to correspond to the current needs, the supply of seed on the market of specialised firms being extremely rich.

New hybrids in recent years have arisen in terms of production levels achieved and their quality, but they must be studied under various aspects. The behaviour of different densities in culture is essential given that because of lower energy available due to a low price/Gcal always growing, planting is

Key words

cultivation, production, hybrid, energy consumption, assortment, profitableness

done late, one of which was the beginning of March.

Similarly important is the aspect of leading mode in growth period, hence deriving conclusions on the profitability of culture, profit is strongly influenced by the costs incurred, these varying according to culture density.[2]

This paper presents the behaviour of two of the newest hybrids of tomato semidetermined growth, grown in industrial greenhouses with unconventional heating in terms of culture profitableness under the influence of the culture period founding and vegetation leading system.

Mechanical models of the mixture layer from the cleaning system of harvesting combines

Ilea R.^{1*}, Tonea Cornelia¹, Popa D.¹, Drăgoi Gh.¹

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

*Corresponding author. Email: ileaupc@yahoo.com

Abstract The operation of separation of seeds is realized due to the vibration of flat sieve. The operation of separation is analyzed with the help of the layer of mixture model which executes vibration motions on a plane with friction. This paper analyzed the following models of layer material: Fajbušević model, Wacker model and most exact model. The paper have a real interdisciplinary character because requires large knowledge of mechanics, agricultural machines, mathematics and computer programming.

Key words

mixture layer, dynamic model, flat sieve, vibro-transport, sliding regimes

Research on the relation-tillage-fuel production from maize in terms of Didactic Station Timisoara

Popa D.^{1*}, Tonea Cornelia¹, Ilea R.¹, Drăgoi Gh.¹, Becherescu Alexandra¹

¹Banat's University of Agricultural Sciences and Veterinary Medicine Timișoara

*Corresponding author. Email: popadaniel67@yahoo.com

Abstract Mechanized soil tillage though classical methods becomes more and more doubtful due to a high energy intake and to a continuous soil degradation because of the excessive setting.

It is well known that the classical system of processing the soil (tillage with an earth board plough) has, besides its extraordinary contributions to social progress, seriously prejudiced the environment and its vital resource – soil – leading to a steady diminution of its fertility.

The disadvantages attributed to the classical soil work system, an intensive system that includes compulsory earth board plough tillage, resulted in the appearance and rapid spread of the concept of soil conservation. Romanian literature shows that in the conventional system, soil works need 35-60% of the fuel necessary to set and maintain a crop. Research and the expansion of minimum tillage systems have become important since the necessity to reduce production costs and the risks of soil degradation, setting, and erosion.

Research data show the fact that in order to obtain an increase of agricultural production of 1% we need a fuel consumption of 2.5%.

In this paper we present a synthesis of the results obtained experimentally concerning fuel consumption in different minimum tillage

Key words

tillage, direct drill, fuel consumption, production, maize

variants compared to the classical system.

Study on fungal load of pome fruits, hazardous factor for quality maintaining and ensuring the consumer safety

Șumălan Renata Maria*¹, Doncean Ancuța¹, Șimonea Luciana¹, Șumălan R.¹, Camen D¹., Beinsan Carmen¹

USAMVB Timisoara , Faculty of Horticulture and Silviculture

*Corresponding author: srenata_maria@yahoo.com; 4soilmicrobiology@gmail.com

Abstract Three varieties of apples and pears from indigenous and external sources have been studied, in regards the mesophilic and psychrophilic fungal load. Czapek medium isolation method based on the principle of dilution allowed us to determine the number of fungi after 5 days of incubation. The biggest load of mesophilic fungi we determined for Idared apples from Romania. After the macroscopic and microscopic examination of isolated fungi we were identified six species of filamentous fungi *Botrytis cinerea*, *Penicillium expansum*, *Aspergillus restrictus*, *Penicillium chrysogenum*, *Penicillium solitum*, and *Fusarium equiseti*. In the category of strict mesophilic fungi we have *Aspergillus restrictus*, *Penicillium chrysogenum* and *Fusarium equiseti*. The *Penicillium expansum*, *Botrytis cinerea* and *Penicillium solitum* , we find in both classes of mesophilic and psychrophilic fungi. Calculation of frequency of occurrences on the plates for each fungal species showed that the most bigger frequency was determined for *P. solitum* (100%) for the Golden apples from Romania and *B. cinerea* (80%) for the Cure pears from Romania. Application of postharvest measures of conditioning and storage has results in reducing and limiting the spread of fungi, their importance was established on the William pears from Chile.

Key words

fungi spoilage, mesophilic and psychrophilic fungus, apples, pears

The environmental factors and their influences on main physiological processes on apple trees

Gruia M.^{1*}, Baciu A. ¹, Cosmulescu Sina¹

¹University of Craiova, Faculty of Horticulture

*Corresponding author. Email:gruiamarius@gmail.com

Abstract The influences of environmental factors on the cultivars are very important in the orchard. In order to obtain good quality crops it is necessary to know the interaction between plants and environmental factors (light, temperature, CO₂ concentration in the air, soil humidity, soil fertility, etc.)

Key words

apple cultivars, environmental factors, physiological processes

This paper's aim is to study the physiologic reaction (photosynthesis rate, transpiration rate, stomatal conductance of CO₂) of few apple cultivars to environmental factors (temperature, light). Unfavorable environmental conditions (temperature, light, too much or too little) cause the change in the development of physiologic processes.

Fuji and Pinova are the most adapted cultivars for the studied area.

Soil quality in the Gurahont depression

Balașcău D.^{1*}, Borza I.¹

¹USAMVB Timisoara, Faculty of Agriculture

*Corresponding author. Email: gelu_balascau@yahoo.com

Abstract Soil reaction in the Gurahont Depression is as follows: of the 8,938 ha of arable land, 1,609 (18%) are acid, 5,810 ha (65%) are less acid, 536 ha (6%) have a neuter reaction and 983 ha (11%) have an alkaline reaction.

In this paper, the authors present the eco-pedologic features of two types of soil representative for the agricultural area of the Gurahont Depression: typical luvosoil, moderate stagno-gleyed, medium clay/loamy-clayish on altered disaggregated materials in situ very fine not carbonated and entic-gleyic aluvisoil, strongly gleyed, sandy/clayish/clay-sandy, on coarse not carbonated fluvial materials.

Key words

soil, features, types, profile, content

Researches concerning the impact of some soil maintenance systems upon fruits' quality of Generos apple tree variety

Micu Roxana Elena^{1*}, Iordănescu Olimpia¹

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

*Corresponding author. Email: roxanna_micu@yahoo.com

Abstract Modern and durable fruit culture is based on improved technologies, for this purpose aiming at rational and systematic human intervention in the life of fruit species, during their entire period of growth and individual development.

In trees and shrubs culture technology, the choice of soil maintenance is an important operation because it must be done considering: the climatic conditions of the area of culture, the culture system, and biological peculiarities of the species, variety and rootstock, technical equipment. By choosing the best system maintenance, trees will not compete with weeds for nutrients absorption and thus will get constant fruit production and quality.

In this purpose, we established 10 variants of soil maintenance, in which we used both agrotechnical and chemical methods for controlling weeds, such as: mechanical and manual hoes on the tree rows and on the interval, manual hoes on the tree row combined with herbicides, while the interval was either seeded with grass mixture, either just mowed.

The best results concerning apples' quality were obtained in variant 9, where the interval was seeded with *Trifolium repens* and on the tree rows we applied herbicide Roundup 360 SL (3 l/ha).

Key words

Generos, apples, quality, soil maintaining systems

Study of the impact of some soil maintenance systems upon the weeding degree and weed control degree in Jonathan apple tree variety culture

Micu Roxana Elena^{1*}, Iordănescu Olimpia¹

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

*Corresponding author. Email: roxanna_micu@yahoo.com

Abstract Reducing pollution in the orchard ecosystem, by treatments with chemicals made at the optimum time, taking into account the forecast and warning programs and using, of course, suitable substances, in the recommended dose, using a technology as organic growing, with positive effects upon the soil and cultivated fruit species, as well as effective soil maintenance systems: grass alleys on the intervals, mulching the tree rows and use a low number of herbicides, or even its reduction by weed control through mechanical or agro-technical works, are only a few of improved technological links done over time in order to increase production and its quality.

Rational human intervention in the fruit species culture is consciously directing their growth and development through a series of actions, implemented on time, both upon the environment (soil tillage, irrigation, fertilizer application, improved conditions of temperature, light etc.), or directly on fruit species (pruning, treatments, normalization of the fruit load).

By choosing the best soil maintenance system, trees will not compete with weeds for nutrients and water absorption and thus will get constant fruit production.

In this purpose, we established 10 variants of soil maintenance, in which we used both agrotechnical and chemical methods for controlling weeds, such as: mechanical and manual hoes on the tree rows and on the interval, manual hoes on the tree row combined with herbicides, while the interval was either seeded with grass mixture, either just mowed.

In terms of the degree of weed control compared with the control variant, best results were obtained in variants where chemical control methods have been associated with the agrotechnical methods, such as variant 6 (herbicide Roundup 360 SL (3 l/ha) + 2 manual hoes), variant 7 (herbicide Basta 14 SL (5 l/ha) + 2 manual hoes) and variant 8 (herbicide Gallant Super (1 l/ha) + 2 manual hoes), because those weeds that could not be controlled by herbicides, were destroyed by hand hoeing. The percentages of control in these variants were very high, of over 90.00%.

Key words

Jonathan, apples, soil maintaining systems, weeds, control

Evaluation of relative water content in winter wheat

Lugojan C.^{1*}, Ciulca S.¹

USAMVB Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: alexcrstn@yahoo.com

Abstract Drought stress is a major limiting factor to crop production worldwide. An improved understanding of drought related characters and genetics thereof may lead to the use of these characters as selection criteria in breeding for drought resistance. Leaf relative water content (RWC) has been proposed as more important indicator of water status than other water potential parameters under drought stress conditions. The objective of the present study was to evaluate the RWC for characterization of drought tolerance as an early stage screening criterion. The studied biological material consisted of seven wheat varieties with different genetic and ecologic origin, along with their 21 one-way crosses. Combined analysis of variance indicated considerable variation for studied genotypes, parents and crosses. Hybrid combinations: Turda 2000 x Apullum, GK Kapos x Apache si Xenon x Turda 2000, showed the highest values of "trans" heterosis for this character. In comparison with the experience mean is observed that approximately 24% of the hybrids (Turda 2000 x Apullum; Alex x Apache; Turda 2000 x Alex; Xenon x Turda 2000; GK Kapos x Apache) have recorded a minimum 10% increase of relative water content of leaves. Xenon variety transmit with great fidelity at descendants' high value of this character.

Key words

winter wheat, relative water content, drought tolerance

Analysis of excised leaves water loss in winter wheat

Lugojan C.^{1*}, Ciulca S.¹

USAMVB Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: alexcrstn@yahoo.com

Abstract Genetic improvements of crops involve selection of suitable plants in segregating populations from a cross. Selecting wheat genotypes with better adaptation to water stress should increase the productivity of wheat. Rate of water loss from excised leaf bestowed drought resistance in wheat by a mechanism of low water loss rate through leaf cuticles. This trait is moderately heritable, and can be easily determined.

The objective of the present study was to evaluate the RWC for characterization of drought tolerance as an early stage screening criterion. The studied biological material consisted of seven wheat varieties with different genetic and ecologic origin, along with their 21 one-way crosses.

The effects of parents and crosses were significant for leaf water loss, this indicated the presence of variability among hybrids and their parents, for this trait. Also, the effects of environment were significant, because water losses from excised leaves are influenced by their initial water content. This suggested that the magnitude of differences in genotypes was sufficient to provide some scope for selecting traits for improvement in drought tolerance of wheat genotypes.

The lowest values of heterosis for this character have been observed in hybrids: Turda 2000 x Apache; Alex x Apullum; GK Kapos x Alex; Turda 2000 x Alex; Xenon x Alex, which proves a high drought tolerance compared to parental forms, and can be considered for drought tolerance improvement

Key words

winter wheat, leaf water loss, drought tolerance

in winter wheat.

Research on the viability of buds and resistance to wintering of some varieties and biotypes from Buziaş-Silagiu area

Moş Victoria^{1*}, Dobrei Alin¹

¹USAMVB Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: avborca@yahoo.com

Abstract The climatic conditions are very important for successful cultivation of vines in certain areas. To browse in good condition during the cold winter, it is absolutely necessary appropriate technology culture which promotes a proper maturation of tissues and organs of the vine. Vine frost resistance is different depending on the variety, degree of maturation of tissues, the repose phase occurs, how are installed the frost, etc. Resistance of different organs of the vine is also different, so the buds frost resistance is influenced by culture technology, production levels, climatic conditions of the current year, but also the genotype. In recent years, oscillating climatic conditions have been influencing both the quality and quantity of production as well as mode of vines wintering. In this paper we presented resistance to cold and the viability's buds of some varieties and biotypes from Buziaş-Silagiu area.

Key words

genotype, viability, climatic conditions, Buziaş-Silagiu

Research concerning the grapes quality of some local varieties and biotypes, suitable for a sustainable viticulture

Moş Victoria^{1*}, Dobrei Alin¹

¹USAMVB Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: avborca@yahoo.com

Abstract Buziaş-Silagiu area has a long tradition in vine culture, as wine is an occupation for the inhabitants of this area since ancient times. In this area exists an abundance of local varieties and biotypes, which are less known. Some of these varieties have valuables agrobiological and technological features both for growers and consumers, but also for breeders: high production, high quality, drought resistance, frost resistance, tolerance to some diseases and pests. These qualities recommend them for a sustainable viticulture.

Key words

biotypes, local varieties, Buziaş-Silagiu, sustainable viticulture

Impact of technological parameters on yield in spring oat

Cârciu Gh¹., Lăzureanu A¹., Alda S¹., Manea D²., Băluță Daniela¹, Ștefan Carolina¹, Cîrciu Lenuța Gheorghina¹, Cristea T¹.

¹USAMVB Timișoara, ¹Faculty of Horticulture and Silviculture, ²Faculty of Agriculture

*Corresponding author. Email: carciu_gheorghe@yahoo.com

Abstract Research was carried out between 2009 and 2010 and focused on the following: impact of sowing density on yield, impact of chemical fertiliser rates, interactions between sowing density and fertilisation level, impact of climate conditions on the studied factors.

The trials were bi-factorial of the 3x5 type with 4 replicas. We studied 2 factors: Factor A – sowing density and Factor B – fertilisation level. Yield in the two experimental years was influenced by both sowing density and fertilisation level. In 2009, oat production oscillated between 18.33 q/ha (500 g.g./m²) and 22.17 q/ha (400 g.g./m²), while in 2010 it yielded between 21.89 q/ha (500 g.g./m²) and 27.00 q/ha (400 g.g./m²). The highest yield was when fertilised with N₉₀P₆₀K₆₀, i.e. 32.32 q/ha. Analysing the interaction of the two factors, we see that in the interaction 400 g.g./m² – N₁₂₀P₆₀K₆₀ we obtained the highest yield, i.e. 35.46 q/ha in the year 2010.

Key words

spring oat, sowing density, fertilisation level, production, interaction

Studies regarding powdery mildew resistance (*Erysiphe Graminis F.Sp. Hordei*) in winter barley

Ciulca S.^{1*}, Madoșă E.¹, Ciulca Adriana¹, Velicevici Giancarla¹, Chis S.¹

¹USAMVB Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: c_i_sorin@yahoo.com

Abstract Development of resistant varieties is the most economical and environmentally safe method by reducing the application of fungicides to combat this disease. Efforts to identify new and diverse sources of resistance are important in relation to disease resistance management, in this regard is require comparing a large number of new sources and standards. The objective of this study was to determine powdery mildew (*Erysiphe graminis* f.sp. *hordei*) resistance estimated by the attack intensity levels, of 23 winter barley varieties during 2006-2008. Taking into account the fact that there were no significant differences in attack intensity from one year to another, given the results of the entire experimental period it is noted that the best resistance to powdery mildew, were showed by varieties: Regal, Ulla, Compact, Hauter. The highest values of the attack, intensity during the experiment, were highlighted by the varieties: Lyric, Gerbel, Riniker, Pfyner, amid considerably longer growing periods than all other varieties.

Key words

winter barley, powdery mildew, resistance

Studies concerning the genetic analysis of grain number/spike in winter wheat

Ciulca S.^{1*}, Madosa E.¹, Ciulca Adriana¹, Velicevici Giancarla¹, Chis S.¹

USAMVB Timisoara, Faculty of Horticulture and Sylviculture

*Corresponding author. Email: c_i_sorin@yahoo.com

Abstract Grain yield is a complex trait made up of the interaction between different yield components and environmental effects. Because of that, it is necessary to know the genetic architecture of yield components. The aim of this study was to estimate the gene effects and heritability in six wheat crosses between four cultivars, using generation mean analysis (P1, P2, F1, F2, B1 and B2). In all hybrid combinations high and significant values of bigenic effects have been obtained and especially for additive x dominant interaction. In case of combinations Flamura 85 x Romulus and Flamura 85 x Greiff, it appears that the dominance effects are significant and have the largest contributor to the genetic determinism of this trait. In contrast, the dominance has small and insignificant values in Romulus x GKGobe and are virtually missing, in the case of combination Greiff x G.K.Gobe. To increase the possibility of favorable genes accumulation for the number of grains/spike and thus raise the selection efficiency is necessary to select and cross the best segregates from each hybrid combinations. For this goal especially the combinations: Flamura 85 x Greiff and Flamura 85 x Romulus will be used.

Key words

winter wheat, genetic analysis, grain number/spike

Quality evaluation of some maize hybrids cultivated under pedoclimatic conditions of Banat area (West of Romania)

Alda S.¹, Lăzureanu A.¹, Cârciu G.¹, Niță L.², Alda Liana³, Cristea T.¹, Danci M.¹

¹USAMVB Timisoara, Faculty of Horticulture and Forestry, ²USAMVB Timisoara, Faculty of Agriculture, ³USAMVB Timisoara, Faculty of Agro-Food Processing Technologies

*Corresponding author. Email: aldasimion@yahoo.com

Abstract The purpose of the research is to follow the influence of the biological factor on quality of eight maize hybrids of various maturity groups Florencia(FAO 500), ZP 409(FAO 500), Fundulea 376(FAO 500), Olt(FAO 430), TC 377(FAO 390), Stira (FAO 390), Garbure(FAO 370) and LG 3395(FAO 370). An experiment was set up on a *cambic chernozem* at Timisoara(west of Romania) in 2010, in a randomised block design with four replications, the level of fertilization being N₁₃₀P₆₀K₆₀. Quality parameters that were monitored to determine the quality of maize cultivars are moisture, hectoliter mass, protein, oil, and starch content. We can conclude that influence of genetic background of various types has been different for yield and quality parameters. Regarding the correlations between quality parameters of maize hybrids our researches led us to the conclusion that between protein content and oils content there was a positive correlation but between hectoliter mass and starch content the correlation was negative.

Key words

maize hybrid, yield, protein, hectoliter mass, oil, starch

The dynamic of pigments level in sunflower sprouts after zinc compounds supplementing in growth

Alda S.¹, Moldovan Camelia², Dogaru Diana², Alda Liana², Niță L.³

¹USAMVB Timisoara, Faculty of Horticulture and Forestry, ²USAMVB Timisoara, Faculty of Agro-Food Processing Technologies, ³USAMVB Timisoara, Faculty of Agriculture

*Corresponding author Email: aldasimion@yahoo.com

Abstract The purpose of this paper is to study the dynamic of pigments level in sunflower sprouts after zinc compounds supplementing in growth. Was evaluated as the content of total chlorophylls, chlorophylls a, chlorophylls b, carotenes and xanthophylls. Seedlings were obtained by germinating of sunflowers greens in the presence of Zn. For germination were used textile germination beds. There were six groups: Group 1 - distilled water; Group 2 - potable water; Group 3 - ZnSO₄ -50 ppm Zn; Group 4 - ZnSO₄ -100 ppm Zn; Group 5 - (CH₃COO)₂Zn -50 ppm Zn; Group 6 - (CH₃COO)₂Zn- 100 ppm Zn. We observed the increasing of chlorophylls a,b and total for the groups treated with zinc sulfat, comparative with control groups and the negative influence of zinc acetate solution on pigments synthesis, at 50 ppm dose as well as at 100 ppm dose. Application of zinc sulphate or zinc acetate solution had a negative influence on the carotenes and xanthophylls content in sunflower sprouts.

Key words

sunflower sprouts, zinc sulfat, zinc acetat, chlorophyll, carotenes and xanthophylls

Influence of soil fertilization on leaf surface at the Burgund mare grape variety for wine, in conditions of teaching Station Timisoara

Băluță Daniela¹, Ștefan Carolina¹, Cârciu Gh¹., Banu C¹., Moatăr Mihaela¹, Chisăliță I¹., 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. 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 'Burgund Mare' 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' Burgund Mare'.

Key words

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.

Studies on the influence of genotype and culture media composition on growing explants in the *in vitro* initiation phase

Tudor Radu C.M.^{1*}, Radomir Ana Maria¹

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

*Corresponding author. Email: mihai_radutudor@yahoo.co.uk

Abstract To initiate '*in vitro*' cultures there were sampled shoots from roses grown in soil and in the greenhouse and from blackberry grown in pots.

The used roses genotypes were Thea hybrid (Akito, Crimson Glory, Baccara) and climbing roses (New Dawn and Ilse Krohn Superior).

The meristemes used for '*in vitro*' culture initiation were sampled under the magnifying glass in laminar air flow.

For the meristemes growing it was assured a 22-24 °C temperature in the room and 16 hours of light with 2500 lux intensity.

Nutrient mediums used for the initiation phase of the cultures were different in composition. The rose varieties have performed well in the growth of explants, the differences being the result of interaction of genotype with the culture medium components.

Regarding the influence of culture medium, as abiotic factor, it was found that the highest values were obtained for explants grown on culture medium Murashige - Skoog, with 0,004 mg / l naftilacetic acid / 2 mg / l benzilaminopurine. Decreased concentration of cytokinine led to lower percentage of grown explants.

The growing of blackberry explants was influenced by the genotype and by the culture medium components.

Key words

in vitro culture, culture medium, Thea hybrids

Research concerning the content of cations and anions in the groundwater of the Timis river

Antoanela Cozma¹, A.Lazureanu², Alina Balint², Alexa Ersilia³

¹Banat's University of Agricultural Sciences and Veterinary Medicine, Department of Exact Sciences, Timisoara, Aradului Street no.119, RO-300645, Romania

²Faculty of Horticulture and Forestry, USAMVB Timisoara, Faculty of Agro-Food Processing Technologies Timisoara

*Corresponding author. Email: antanelacozma@yahoo.com

Abstract In this study the objectives is the monitorizing of the cations (iron and manganese) and anions (sulfates, phosphates, chlorides) content of groundwater in the five prelevation places situated on the Timis river way, during the 2004 year. The obtained results were compared to the limit values of the chemical indicators established in actual legislation. The obtained values showed exceeding of the maximum admitted limits at points located downstream from pollution sources. The poluted sources are caused by discharge wastewater stations appeared in the sewage channel of Lugoj city and also from Bega-Timis discharge channel.

Key words

anions, cations content, chemical parameters, pollution sources

Research on effective herbicides in combat weeds in the West country vineyards

Vior M.¹, Cârciu G.¹

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

*Corresponding author. Email: vior_marius@yahoo.com

Abstract The purpose of this study was to determine the composition of weed flora of orchards and their chemical combat effectiveness through the application of herbicides. The research was conducted during the years 2009 and 2010 and had as its object of study and combat the spread of weed species in vineyards located in three separate locations: Growing Plantation Recaș, Didactic Station Timișoara and Growing Plantation Buziaș. Flora was predominantly composed of perennial plants in particular monocotyledonous and *Agropyron repens*, *Cynodon dactylon* latter holding the majority. *Agropyron repens* is currently the highest weed spread in vineyards, followed by annual dicotyledonous species. Ensure the highest application rate of herbicides to combat weeds in particular by using high-spectrum herbicides such as Glyphogan, Roundup and Touchdown.

Key words

degree of weed, culture, vineyards, herbicides

Influence of fertilization and density on production of spring oats variety Jeremy

Rusu S.¹, Cârciu G.¹

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

*Corresponding author. Email: adirusnacu@yahoo.com

Abstract Research conducted in 2009 come to spring oats argue the importance of culture in the west of Romania. The results are in direct line with growing applied technology. Fertilization thus directly affect the level of production output varied between 23, 50 q / ha ($V_6 N_{120}P_{60}K_{60}$) and 11, 50 q / ha (V_1 -fertilization).

Key words

culture, variant, variety, fertilizer production

The importance lies in the fact that oats oat grains are a valuable feed horses being used in feeding, breeding, youth, dairy cows, poultry, legume and mixed with a mash made a spring of very good quality.

The investigations conducted so far shows that leverages Spring oats best nitrogen fertilizers.