

## The demeanour of the "terroir viticole" concerning the behaviour of white grapevine varieties growing in the Iasi vineyard

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**Abstract** Appropriate management in the vineyard must take account of the fact that achieving a desired quality is influenced by various factors, and choosing appropriate methods and techniques that can ensure the success of such an advanced viticulture. Obtain of wines with high and typical originality can only be achieved in certain areas under vines available resources heliothermal (ecoclimate), soil (soil, litology) and microrelief which stimulates oenological potential of the vine varieties cultivated. There were concerns for determining areas with designation of origin from a vineyard that will produce quality wines, but the purpose of this study is to delimit some microareas that can ensure the achievement of a certain type of wine, a quality required by consumers. Research has shown that grape production and quality are influenced by different factors such as: genetic, environmental and technological complex in acting. This is the first study attempting to characterize the concept of "terroir viticole" in vineyard Iasi applied and provides information on the behavior of two white wine grapes varieties grown in the vineyard: Fetească albă and Sauvignon. Depending on the purpose, observations and calculations have found the influence of soil characteristics on several biochemical parameters and agroproducts varieties taken from the study (soluble carbohydrate content, total acidity, the average production of grapes) for the purpose of more detailed knowledge of these vineyards in Romania northern. The results of this study can be used to determine with precision microareas crop, level parcel that will produce quality wines.

### Key words

Iasi, terroir, grapevine varieties, behaviour, Fetească albă, Sauvignon.

## New creations vinifera for table grapes intended for the restrictive conditions of culture of the North-Eastern zone of Romania

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**Abstract** In the North-East of Romania, characterised by restrictive climatic conditions (cold winters and very dry summers), the cultivation of table grapes vines is less favourable, the only ones that are being cultivated being the Chasselas sort. Therefore, the Romanian research units are trying to obtain new table grapes genotypes with a greater adaptability for restrictive factors and with a shorter vegetation period. Among Romanian creations which achieved a favourable status in viticulture were: Gelu and Paula (SCDVV Iasi), Timpuriu de Cluj, Cetățuia, Napoca (SCH Cluj), Milcov (SCDVV Odobesti), Xenia and Tamina (SCDVV Greaca). This study presents the behaviour of these vine sorts in the climatic conditions of the Iasi vineyard: frost resistance, the phenology of vine sorts, fertility and productivity, the quantity and quality of grape production.

### Key words

Iași vineyard, table grapevine varieties, climatic conditions, fertility, productivity

# ***In vitro* regeneration capacity of the ornamental varieties related to the cultural media**

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**Abstract** The species and varieties of *Acer*, *Cotinus* and *Clematis* genera are very important for the ornamental design. The interest for the deciduous ornamental plants growing as ornamental plants has been rather high lately. The propagation of these species is difficult and therefore a technology for a rapid propagation is needed will be focused on the propagation by in vitro culture of the following ornamental varieties *Acer*, *Cotinus* and *Clematis*. Investigations regarding behavior to in vitro culture propagation as ornamental varieties were carried out in the in vitro culture laboratories at the Research Institute for Fruit Growing Pitesti-Maracineni, district Arges. The studied species had a different behavior in their evolution on the aseptic media. Because of their genetic specificity, the species differently responded to the 3 cultural media: M&S, Lepoivre and Lee Fossard. The same cultural medium and the hormonal balance gave various values, ranging thus: IBA = 0.1-0.2 mg/l, GA<sub>3</sub> = 0.1-0.3 mg/l and BAP = 0.5-1-1.5 mg/l.

## **Key words**

cultural media, ornamental varieties, regeneration in vitro

# **Behaviour of some ornamental deciduous species in the vegetative propagation process**

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**Abstract** The ornamental species and varieties of *Magnolia*, *Lagestroemia* and *Clematis* genera are of great decorative interest being utilized in landscape arrangements as simple samples or together with others (1, 2). The propagation of these ornamental varieties is usually difficult due to their specific biological features. The studies carried out at the Research Institute for Fruit Growing have had in view the response of two *Magnolia*, one *Lagestroemia* and one *Clematis* ornamental varieties to propagation by softwood cuttings, employing Radistim2, using two rooting substrates, under artificial mist.

## **Key words**

Magnolia, Clematis, cutting, rooting substrates

# Researches regarding the ecological parking used in the arrangement of the public grass plots from Timisoara Municipality

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**Abstract** The car parks are integrated part of the landscape of the constructions from towns. The parking places are considered essential for the market success of commercial buildings. The municipal officials must balance the need of parking spaces with other desires of the community, like: urban design oriented towards the pedestrians and the endurance of the circumambience. The car parks with a large surface highlight the problems related to pollution, water outflow, increase the urban heat islands and trouble the eye.

If we analyze these failures, the most efficient alternative from the point of view of the quality requirements regarding the landscaping, water and pollution is the „ecological parking” or „green parking”.

## Key words

ecological parking, grass plots, landscape, paving blocks, lawn

# Researches related to street alignments in Timisoara Municipality

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**Abstract** The road plantations are an essential element of the road landscape. After the placement manner and place, they fulfill optic comfort functions, traffic safety, consolidation of the roadbed and of slopes, improvement of microclimatic and biological conditions, and esthetic and economical functions. Seeing these functions, the road plantations must be regarded as one of the basic elements of roads.

Road plantations mean all the arrangements with trees, shrubs, lianas, flowers or becoming overgrown with grass, performed in the safety area of roads, in the shelter belts against road snow-drift, in the shockproof shelter belts, in antiphon partitions, in plantations for avalanche damming and sand hindering, for slopes, on roads with traffic directions separated by central bands, in the traffic directing islands, in the parking lots and for wells, inside the forest ranges and at the registered offices of road units, other arrangements with the role of framing the art works or masking unaesthetic aspects in the area of the roads.

The term "road plantation" can be assimilated to "road vegetation".

## Key words

alignment, road plantation, landscape, tree

# Study regarding the landscape design of an agrotouristic pension in Carani locality, Timis County

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**Abstract** This work aims at fulfilling a landscape design proposal of an agrotouristic pension placed in Carani Locality, Timis County, on a surface of 16,600 m<sup>2</sup>.

The sheet plan shows that the land is disposed on the SE-NW direction and has the following neighbors: on the South side: arable land, on the West side: agricultural mechanization station, on the North side: DC (Commune Road) 692 and on the East side: DC 692 and Carani mill.

This land is currently used for agriculture, and is to be introduced in the records as within the limits of the locality. The beneficiary wants to change the destination of this land and to arrange an agrotouristic pension on its entire surface, with the following endowments:

- pool for adults and children;
- terrace;
- car parking lots;
- wood kiosk;
- artesian well;
- pergola with roses.

The car access will be asphalt, and the parking lots and alleys will be made of concrete slabs.

## Key words

pension, arrangement, alley, terrace, pool, grass.

# Study regarding the creation of urbane furniture for parks and gardens in the ArchiCAD program

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**Abstract** The designing and emplacement of the urbane furniture is related to the urban activity, understood as a sum of the objects that adorn and make possible the full use of the town spaces: wells, tribunes, monuments, arbors, lighting objects and many others. There is not yet a consensus on the definition and nomenclature.

ArchiCAD is not conceived as being a program used for designing green spaces, but due to the increasing requirements of the beneficiary to have a view as clear as possible on the space which follows to be designed, once with the appearance of the new versions of the program, Garden Works libraries have come up.

## Key words

urbane furniture, designing, bench, green space

# Presentation methods of landscape projects using classical and modern techniques

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**Abstract** This work has the purpose to assess the currently available solutions for presenting a landscape project. For a better analysis of the currently used techniques, the techniques used in the past will be analyzed, without neglecting the influence art and architecture have always had on this field.

## Key words

presentation, landscape, graphics, rendering, sketch

In order to identify the most important elements in our final discussion with the beneficiary, the landscape project structure will be presented, with the analysis of the substantial parts for the final presentation.

The beneficiary's need to better understand the project and to perceive the arrangement before its execution must be accepted. The landscaper supplies a service to his/her customer in change for a cost; everything begins with planning the landscape design and ends with the arrangement. The designer may be involved in the arrangement and it is not preferable, but it does not always happen as such. Thus, the design must be as explicit as possible in his project, both technically speaking, in order to make sure that the people executing the design can do it correctly and exactly, but also for persons not understanding the technical language. But everybody may read a plan or understand a section. The customer is very rarely a specialist, thus we have to address him as explicit and comprehensive as possible.

# Crisana, a wheat variety with high yielding potential and good backing qualities

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**Abstract** In this paper are presented some results regarding the yielding potential of a new own wheat variety, Crisana comparative to another 18 Romanian wheat varieties in last three years, 2007 and 2009 being very drought years in western part of country. Also, we present some results regarding the backing qualities of this new variety comparative to another ones, in last years. The results confirm that our new variety, Crisana, registered in 2005, is one of the best wheat varieties, regarding the yielding potential and backing qualities, with or without nitrogen fertilization.

## Key words

wheat, variety, backing quality, yields potential

This paper presents the qualities indicators and yields potentials of the cultivars in two comparative variants, fertilized and unfertilized with nitrogen. The results demonstrate that it is possible to create wheat varieties that have in the same time, good yielding potential and very good qualities, like wet gluten, protein, falling number, Zeleny index, etc.

The results demonstrate that Crisana has a good yielding potential in the years with very drought spring and summer (like 2007 and 2009). In the same time, its quality indicators are stable from a year to another and it is competitive to another Romanian and foreign cultivars.

# Study of leaves structures that determine the resistance to dryness at succulent plants

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**Abstract** Succulent plants present some morpho-anatomical characteristics, that represent an indication concerning their biological behaviour (these being less pretentious concerning the water regime). The present work aims to highlight the biometrical values of anatomical structures that store the water (the mesophyll cells) or reduce the water losses (the cuticle thickness, the reduced number of stomata) and establish the connection between these and the water loss percentage on a determined period of time.

The determinations were made on 8 species of succulent flower plants that belong to *Sedum* and *Senecio* genres.

## Key words

succulents, mesophyll cells, cuticle, stomata, dryness

# Characterization of new apricot and peach selection released from Research Station Baneasa

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**Abstract** Apricot and peach germplasm provides wide choice of parental material for crossing which could offer excellent opportunities for breeding. Breeding perspectives includes environmental adaptability, resistance to diseases and fruit quality.

The aim of this study has been enrichment the assortment in the two species with an early maturity apricot selection (82.6.62 BIV), tardive maturity (83.25.23 BI) and a flat nectarine selection with yellow flash (01.6.31). Agronomic and fruit quality traits were evaluated and compared for two consecutive years, at two selection of apricot and one flat nectarine selection grown under a temperate climate. Relationship between qualitative pomology and these agronomic traits and fruit quality parameters were also found. The Research Station for Pomiculture Baneasa have an important role both implementation and extending valuable varieties from world collection but through breeding of new apricot and peach cultivars there is concern in this respect since 1949.

Apricot selections studied were revealed from checks through increased productivity and fruit ripening period. It was noted especially 82.6.62 BIV selection for suitability through processing in different forms jam, nectar. Nectarine selection differs mainly by the shape and high productivity, low level of acidity making it suitable for industrialization.

## Key words

breeding, quality, ripening period, agronomic traits

# The Irrigation Influence on Water Use Efficiency in Autumn Cabbage from Crişurilor Plain

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**Abstract** The papers presents the researches carried out in Oradea on the preluvo soil from Agricultural Research and Development Station during 2000-2007:

Soil moisture determination (15 to 15 days) emphasized the decrease of the soil water on 0-50 cm (watering depth) bellow easily available water content every year in unirrigated cabbage crop;

Maintaining the soil water reserve between easily available water content and field capacity on 0 -50 cm depth determined to use an irrigation rate of 2378 m<sup>3</sup>/ha, variation interval 1330 – 4660 m<sup>3</sup>/ha;

The irrigation improved the microclimate conditions; the report water / temperature + light (Domuța climate index) in the irrigation season increased with 60%. Daily water consumption increased as result, total water consumption increased with 67,4% (5097 m<sup>3</sup>/ha vs. 3045 m<sup>3</sup>/ha), variation interval 19-872%;

Irrigation determined the increase of the yield with 117.6% (50,49 q/ha vs. 23.2% q/ha), variation interval 30-1485%; water use efficiency (kg/m<sup>3</sup>) increased with 30.2% and the coefficient of the water use efficiency (m<sup>3</sup>/kg) decreased with 23.1%;

The correlations quantified in the soil-water-plant system (number of days with hydric stress- yield, respectively yield gain; Domuța climate index-yield; water consumption-yield) sustain too the opportunity of the irrigation in autumn cabbage crop from the Crişurilor Plain.

## Key words

pedological drought, water consumption, yield gain, Domuța climate index, water use efficiency, cabbage

# Researches regarding the vegetative propagation at *Ficus elastica* Roxb.

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**Abstract** The paper presents the results obtained regarding the propagation by cuttings and aerial layering in *Ficus elastica* var. *Rubra*. We made cuttings from the apical area of the shoots.

The influence of two harvesting of the shoots periods (May and September) and of three rooting substrata: sand; peat and sand (1:1); water, over the rooting of the cuttings was researched.

The best results were obtained on the cuttings harvested in September and rooted in sand. At the aerial layering propagation, the highest percentage of rooted layers was obtained in spring, in May.

The evolution of the plants after the planting in pots until the stage of marketable plant was observed.

## Key words

cuttings, aerial layering, rooting substrate, *Ficus elastica* var. *Rubra*

# Drought Influence on Water Use Efficiency in Potato from Crișurilor Plaine

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**Abstract** The paper is based on the researches carried out in Agricultural Research and Development Station Oradea during 1976-2009 in a research for study of the soil water balance.

The soil moisture determinations on watering depth (0 – 75 cm) emphasize the decrease of the soil water reserve bellow easily available water content every year of the period 1976-2009 and in 21% from year bellow wilting point, too.

Irrigation determined the increase of the water/temperature + light report (Domuța climate index); the climate index characterized the potato vegetation period like „wet I” (13.2) vs. „median drought” (8.2). A direct link, very significant statistically was quantified between Domuța climate index and yields.

Irrigation determined the increase of the daily water consumption and finally of the total water consumption. The participation of the irrigation in the optimum water consumption was of 7.1 – 61.1%. A direct link statistically very significant too, was quantified between water consumption and yields.

The yield gains determined by the irrigation were between 6% and 464%. The yield stability increased with 41.9% and the marketable potato improved with 11.6%.

Irrigation determined the improve of the water use efficiency, the potato quantity obtained for 1 m<sup>3</sup> water increases with 15.8% and the water quantity used for 1 kilo decreased with 12.8%.

## Key words

drought, Domuța climate index, yield, soil water reserve, correlations

# Distrust in private forests – main gap in Sustainable Forest Management of Moldova

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**Abstract** Because afforestation challenge fixed in the 70<sup>th</sup> of last century still remains an important issue during last strategies we conclude that distrust in private forests is the main gap for the sustainable forest management of Moldova. Forests, that all belong to the state, cover only 9.6 per cent from the country's territory. Because of water deficit, soil erosion, low biodiversity, pasturing and illegal logging, state attempts to extend forest area more than 15 per cent. But plantation of 2 thousand ha every year form the required 130 thousand ha maintain forest cover without big changes. We suppose that overuse of land for pasture, turning out of seedlings, and illegal logging are effect of wood insufficiency and bad pastures, both rooted in inadequate forest ownership. In the same time we are conscious that after entire land expropriation in the middle of last century rural people lost the confidence in the land property rights and state representatives. The actions,

## Key words

distrust, ownership, afforestation, people, pasturing

which created this breach were: expropriations, chronic changing of the states, governments, moneys, with no compensation for the society. Fragmentation of agricultural lands by small patches of private forests would be the main bridge between the past and future, poverty and economical stability. Continuous promotion of private forests through the laws, state subsidies, assistance, credits, financial facilities, training and other actions could implement SFM in practice.

## The remanent effect of Merlin Duo and Gardoprime Plus Gold 500 sc herbicides applied to garden peas

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**Abstract** The remanent effect of herbicides was studied by many foreign researchers: Hurlle 1980, Hime and coll. 1991, Wuerzer 1985.

In Romania, the largest number of experiments regarding the remanent effect of herbicides based on atrazin and simazin upon various crops have been made by dr. Şarpe and his collaborators. During the past 10 years, studies have been also made regarding the remanent effect of dicamba and 2,4-D herbicides upon various crops, namely maize, sunflower, sugar beet and flax and hemp, as well as upon genetically-modified peas and winter wheat.

The experiments regarding the remanent effect of Merlin Duo and Gardoprime Plus Gold 500 SC are the **first ones of this type and unique** in Romania being carried out in the Flood Plain of the Danube river.

In the years 2007-2008, experiments were performed at the Agrofam-Holding Agricultural Company from Fetesti, Ialomita County, situated in an area with alluvial soil specific to the aforementioned Flood Plain, the aim being to study the remanent effect of the herbicides **Merlin Duo**, which contains 37,5 g/litre isoxaflutol + 375 g/litre terbuthylazin, **Gardoprime Plus Gold 500 SC**, which contains 312,5 g/litre S – metalochlor + 187,5 g /litre terbuthylazin.

The Merlin Duo herbicide was applied in doses of 3 and 6 liters per hectare, and the Gardoprime Plus Gold 500 SC was applied in doses of 5 and 10 litres per hectare. Both herbicides were applied in July, after the wheat was harvested. After application, the herbicides were incorporated by disking 15-18 cm deep into the ground. In the spring of 2008, before the garden peas were sowed, the land was laboured 10 cm deep by the disk and the combinator.

Based on the observations made every month during the vegetation stage and on the yield obtained, the authors have reached the conclusion that the Merlin Duo and Gardoprime Plus Gold 500 SC did not present any remanent effects on the alluvial soil from the Flood Plain of the Danube river.

### Key words

Merlin Duo, Gardoprime Plus Gold 500 SC, garden peas, remanent effect

# Chemical control of weeds from Acacia (*Robinia pseudoacacia*) tree nurseries

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**Abstract** In Romania, forests cover an area of approximately 4 million hectares, especially in the mountain region. There are forests clumps in the hill and plain regions. Pursuant to forest exploitation and wood processing, forest nurseries are necessary to produce the seedlings meant to recover the surfaces cut down for timber. A recent task of the Ministry of Environment and Forests is to create, in the following 10 years, **Protection Curtains** in plain areas, especially in Bărăgan.

In Romania, chemical control of weeds from silvical nurseries was achieved by Vadim Leandru for some species (*Salix viminalis*, *Quercus borealis*, *Fraxinus angustifolia*). In 2000, Elena Mihăilă elaborated the paper entitled "Technical guidance regarding the utilization of herbicides for weed control in tree-nurseries". However, the aforementioned paper does not deal with acacia nurseries. We can therefore assert that in Romania, the only experiment with herbicides applied to acacia tree-nursery is the one carried out at the Interagro Agricultural Company from Teleorman County.

## Key words

*Robinia pseudoacacia*, Stamp, Divot, Merlin Dynam

# Research regarding the influence of soil tillage and care work Sun-flower production on the chernozem from Băilești-Dolj

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**Abstract** On a typical chernozem, in non irrigated conditions from Băilești-Dolj, with 3.1 % humus, 0.156 % Nt, 78.5 ppm P, 132 ppm K, pH<sub>(H2O)</sub> = 7.6, V = 100 %, with clay texture, has performed a bifactorial experience, after the divided plat of land method, with 4 repetitions. The used factors and their graduated were: the A factor with different tillage systems and the B factor with three combinations between hoeing (manuals and mechanicals) and herbicides. The herbicides have been manual applied ppi, preem and postem.

The herbicides application has reduced gravimetrical the weeding level with 50.2 – 59.4 %.

The most valuable production of 3.186 kg/ha, has obtained in the combination deep plough, mechanical hoeing twice and applying the Pantera herbicide in dose of 0.75 l/ha after the plant's rise.

In the same case has obtained the best values of the productivity elements and biometric measurement (the mass of a thousand grains, hectolitre weight, oil content, plant size, capitula diameter etc.).

## Key words

sun-flower, herbicides, chernozem, to plough, hoeing

# Determination of the biotic factors involved in the degradation of the sweet chestnut-tree in Maramures County

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**Abstract** Various biotic factors with harmful impact on the edible chestnut have been presented. The species of harmful fungi identified in the Maramures chestnut tree stands belong to the *Phytophthora*, *Mycosphaerella*, *Phomopsis* genera

**Key words**

*Castanea sativa*, fungi, insects

# Biological control of the *Cryphonectria parasitica* fungus which decimates edible chestnuts in Maramures County

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**Abstract** In the first year of research, the estimation of the fitosanitary state of sweet chestnut forests from Maramureş (NV of Romania) was recorded in 57 forests from the Forest Districts of Baia Mare, Baia Sprie, and Tăuţi Măgherauş. More than 75 % of these chestnut stands were infected with *C. parasitica*. The frequency of the infections is high to very high in a third of the forests.

**Key words**

*Castanea sativa*, *Cryphonectria parasitica*, biological control, vc-types

The frequency of the canker was correlated with the proportion of chestnut in the forest ( $r = 0,426^{**}$ ), stand age ( $r = 0,336^*$ ), distance to the place where first identification took place ( $r = - 0,480^{**}$ ), and distance to the main pollution (sulphur and other metals) sources ( $r = - 0,410^*$ ). The last three characteristics are mutual inter-conditioning.

The first investigations have recorded the stains of *C. parasitica* belonging to EU 12 vc-type.

# On the efficacy of post-emergent herbicides on turf weed control

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**Abstract** Research carried out over two experimental years (2008-2009) on a turf area shows that the best results in weed control were when using herbicides containing two active substances. In the first research year, when annual dicot weeds predominated, we obtained maximum control (89,75%) using the herbicide Buctril universal 1 l/ha and, in the second year, when perennial dicot weeds appeared, maximum weed control (88,35%) was obtained using the systemic herbicide Icedin super (1 l/ha).

**Key words**

turf, herbicides, weeds, weed control degree

# On the impact of maintenance works and of herbicide application on the cultural state and yield in field-cultivated cabbage

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**Abstract** To ensure a good cultural state and, therefore, high yields we monitored, in field-cultivated cabbage, some technologies based on manual weeding and on pre-emergent herbicides with high degree of weed control. Research carried out during the period 2008-2009 showed that the variants in which we applied 4 and 3 manual weeding works respectively result in very high weed control shares – 98% and 94% respectively. Yields can be correlated with the degree of weed control: in the variants in which weed control shares were the highest (4 and 3 manual weeding works) yield reached 40 t/ha.

## Key words

cabbage, manual weeding, herbicides, weeds, weed control degree, yields

# Determining the soluble dry substance, acidity, sugar contents directly and totally reduced from the Sea buckthorn (*Hippophae rhamnoides* L.) juice

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**Abstract** Cropping the sea buckthorn fruits is a difficult operation due to the compact bushes, long and rigid thorns, small and crowded fruits on the branch, loss of branches, all of these burdening very difficult the work. Establishing the right moment of cropping is made in accordance to the way of valuating the fruits (1). In order to realise a high economic efficiency and an increased output per hectare, the cropping must be executed when the fruits had reached the maximum weight and when almost all the accumulated active chemical substances achieve high levels (2). All of these are realised at the end of September and the beginning of October, late cropping leading to an inconvenient related to the fruits depreciation, diminution the content in C vitamin and decreasing the elasticity of the fruits skin that breaks very easily when cropping and manipulating.

## Key words

Sea buckthorn juice, soluble dry substance, acidity, sugars

# Determining vitamin C quantity from Sea buckthorn fruits (*Hippophae rhamnoides* L.) during harvest and cold storage

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**Abstract** One of the most valuable product made out of sea buckthorn fruit (*Hippophae rhamnoides* L.) is freshly pressed juice (1). The quality of sea buckthorn juice and other products derived from it, is given by the amount of vitamins and other active components of the juice obtained. The purpose of this study is to investigate the possibilities of harvesting and storage of sea buckthorn fruits without significantly lowering the amount of vitamin C from the fruit.

## Key words

Sea buckthorn, storage, freezing, vitamin

# Seed production and productivity elements variability of *Lolium perenne* L., for new varieties to produce seed for grass mixtures

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**Abstract** Improving *Lolium perene* L. species for use in lawn mixtures presents some peculiarities arising from its heterozygous character and the fact that the ultimate goal is not the seed but the plant itself. In this case the breeders are facing particular difficulties, as the selection process needs to be directed not only to the green mass but also to the seed production.

To increase production capacity and to expand ecological plasticity of perennial ryegrass varieties is required study, characterization and assessment of populations as a source of initial material [3].

Knowing the genetic variability of the original material will allow diversification of improvement targets and also to shorten the length of creating new synthetic varieties which meet the current requirements (round = distinct, uniform and stable) [5].

In this paper, are presented researches on the calculation of the variability coefficients of the productivity obtained in an experiment that simulates increased drought soil conditions, in different genotypes of *Lolium perene* L. Species. This represents an ideal partner for simple and complex lawn mixtures.

Calculating the variability coefficients among the main elements of productivity, show to the breeder, in the selection work, choice of valuable genotypes consistent with the objectives of his program [5].

## Key words

grass seed, drought resistance, improvement, variation coefficient, diploid and tetraploid genotypes

# Influence phenotypic performance achieved by sowing period in *Dahlia variabilis*

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**Abstract** During years, human interest for a form of Dahl or another, varied greatly. At first, the most popular one were dahlias with high port, but after selection and hybridization were obtained varieties with dwarf port, beautiful, which can frequently be used in green spaces. It is very important that through the technologies offered, florists, both amateur and professional, can obtain a great variety of seedling material [3].

In this article, we present researches showing experiments for determining the sowing period for dwarf dahlias produced in early summer flowering pot. These are used for green spaces decoration. In this experiment were taken to study characters like plant height, average surface of a flower, seeds mass from a plant.

All these studies are justified by the need for compatibility between species flower size. This is an advantage in choosing the range of species used in a green space. Dwarf port dahlias value lies in the fact that they have a high capacity of the soil cover, can be used in exceptional scenery both rustic gardens and the classic style.

**Key words**

Mignon *Dahlia variabilis*, start through sowing, waist, variance analysis

# Possibilities of reducing damages caused by the Colorado beetle (*Leptinotarsa decemlineata*) in potato crops

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**Abstract** The study presents some results regarding the fighting of the Colorado beetle (*Leptinotarsa decemlineata*) by using biological and chemical products that inhibit the formation of chitin, these products having different active substances, as well as mixtures of various substances. During years that are favorable to the attack, this pest can lead to substantial production losses (19000-21000 kg/ha), but the degree of attack can be reduced from 41.6% to 1.3% after using various treatment methods. Furthermore, the number of larvae after the application of a single treatment can decrease from 463 to 0-20 larvae per potato plant. The employed products ensured a high mortality of over 80% among larvae of different ages. Moreover, the study also reports on the results regarding the importance of respecting the optimal moment for applying the treatment, alternating the employed products and combining them in order to prevent the formation of resistant breeds. It is important, however, to respect all the other technological steps that help in preventing the attack by creating the favorable conditions for the growth of the plants, thus making them more resistant and unfavorable to the pest's development.

**Key words**

pest, species, variant, chemical products, experiment

# Micropropagation of *Robinia pseudoacacia* var. *oltenica* selected stress resistant clones on media with deuterium depleted water

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**Abstract** Micropropagation in *Robinia pseudoacacia* var. *oltenica* is one of the methods, besides grafting that assure the propagation of this valuable variety. In order to improve the resistance to severe ecological conditions that were established in the last decade in South Romania two successive stress factors [high intensity electromagnetic field (EMF) and X-irradiation (XR)] treatments were performed. The best plantlets, selected after the first treatment and four subcultures, were used for the second treatment. Shoot tips and stem microcuttings, irradiated or not, were subcultured on culture medium MS basal supplied with 0.5 mg l<sup>-1</sup> BAP, prepared with distilled water, or 75-90 % deuterium-depleted water (DDW). The micropropagation process was observed during two subculture cycles. The explants exposed both to EMF and XR (control medium) presented a significant inhibition in the growth rate, the cell divisions and growth being reduced. In the variants cultivated on medium prepared with DDW, the inhibition effect was compensated, these ones presenting significant positive differences comparing with the control. The caulogenesis process is amplified, the analysis of variance (Fisher test) indicated a significant protective effect of DDW, which induced tissue rejuvenation and stimulated the differentiation process.

## Key words

*Robinia pseudoacacia* var. *oltenica*, micropropagation, electromagnetic field, X-rays, deuterium-depleted water, organogenesis

# Infection rate of potato seed tubers with *Phytophthora infestans* (Mont.) de Bary

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**Abstract** From 2007 to 2009 17 batches of certified potato seed tubers were tested for latent infections with tuber blight (*Phytophthora infestans*). Using PCR diagnosis it was possible to show that latent infestation is a common problem. Infection rates from 2% up to 38% were found while only 3 out of the 17 batches were free of *P. infestans*. The given data show no significant difference of infestation rates between seed tubers produced organically or conventionally.

## Key words

Late blight, PCR-test, *Solanum tuberosum*, stem blight, tuber blight

# The microbiological analysis of Victoria salami and the improvement of its nutritive value through the adding of Na caseinate 1% and 2%

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**Abstract** In this paper we studied the presence of micro organisms in Victoria salami through adding Na caseinate 1% and 2%. The microbiological analysis made to this product where: the determination of the number of staphylococci, the detecting and counting of the *Listeria monocytogenes* bacterium, the determination of the cereus bacillus, the determination of sulphite-reducing clostridium, the determination of coli-form and *Escherichia Coli* bacterium. After all these analyses we conclude that there are no micro organisms in Victoria salami.

## Key words

micro organisms, bacterium, germs

## RAPD variation in alfalfa plantlets

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**Abstract** The main purpose of this study was to evaluate the genetic variation of the in vitro regenerated plantlets of F105-90 alfalfa line using five RAPD primers. In order to fully exploit RAPD results for studies of the genetic structures of regenerants of F105-90 line, it is necessary to use a method of data analysis that permits identification of variations within population. Genetic identity between the explant-donors and the in vitro derived plantlets was performed using simple matching coefficient. The variance analysis was used to estimate the polymorphism among the RAPD patterns. The results indicated that was significant genetic diversity among regenerated plantlets ranged from 19,53% to 51,09%. A high level of genetic diversity was found between explant-donors and the in vitro derived plantlets ranged from 27% to 52%.

## Key words

genetic diversity, alfalfa, RAPD markers

# Researches regarding quality maintenance of nectarines during storage, depending on fertilization system

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**Abstract** This paper presents the results obtained by storage of the nectarines in different conditions of temperature, humidity and gaseous composition of the air to determine the most suitable fertilization systems and methods for storage of nectarines, in order to maintain fruits quality longer period of time after harvest.

It was experienced two nectarines varieties from SCDP Constanta (Cora and Delta), which were fertilized with organic fertilizer and chemical fertilizer applied to soil and foliar.

The nectarines were stored at ICDIMPB-Bucharest in three variants: the ambient temperature (26-28°C) in cold conditions (T = 2-4°C) and cold + modified atmosphere conditions. The determinations were made in the dynamic of the quantitative and qualitative losses during preservation nectarines. The results show that between variants of fertilization, the chemical fertilization variant – in soil + foliar feeding, induces the best storage capacity for both varieties of nectarines. In the second place regarding this aspect stands the variant of organic fertilization.

The results indicate the superiority of preserving fruits in modified atmosphere, which recorded the lowest losses during storage. Simple cold preservation gave also very good results and can be successfully used in case there is no possibility of changing the gaseous composition of the air in the storage space.

## Key words

Cora, Delta, organic fertilizer, chemical fertilization in soil + foliar feeding, cold storage, modified atmosphere, quantitative and qualitative losses

# The use of organic products at culture of carrot in succession

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**Abstract** This study was performed on carrot crop in succession, in order to find ways to improve the assortment and culture technology, by supervening time within technological sequences using some organic products in both seed germination and in culture on its establishment.

The goal of research was to watch the simply or combination action of products Humusil and Pennasoil on morphological changes and particularly on the production of variety Chantenai a Coeur Rouge 2.

Following researches and based on the obtained results we can establish the following elements that represent conclusions on how to influence the products used. Of concentrations used for Humusil, best results were obtained with 1.0% solution applied to seeds, total seed wetting duration was 24 hours, the greatest increased of production occurred in graduations a1b4 and a2b4; graduation a2 exceeded graduation a1 with 4.2 t / ha (14.5%).

## Key words

carrot, organic products, Humusil, Pennasoil

# The maintenance of bread made from wheat and rye flour in a fresh state by adding potato pasta, yeast and acid leaven

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**Abstract** The adding of a certain amount of old bread grows the capacity to maintain the bread in a fresh state. The use of boiled potatoes presents advantages for maintaining the bread fresh.

**Key words**

flour, bread, potatoes

# The study of three factors that influence the onion production

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**Abstract** The main limiting factors in onion production are: cultivar, water, food, weeds, germs and pest. The present work is presenting the influence of cultivar, water and weeds upon the onion production. There have been studied, under the conditions of the most favorable area for onion production (in the south part of the country), 15 onion cultivars with brown bulb, 5 cultivars of red onions and 5 onions cultivars that are planted on autumn.

**Key words**

water, cultivar, efficiency, onion, herbicide

As regard the first group of cultivars, big differences in production have been recorded (9.4-28 t/ha). Among the early hybrids group the biggest production has been recorded by Musica F1 and from the mid-late cultivars: Legend F1, Cortland F1, Vaquero F1. As regards the red onion cultivars, there have not been recorded important differences in production, the hybrids being more productive than the varieties, having a better capacity of storage. Among the onion varieties planted since autumn, the Swift and Radar varieties have been distinguished themselves.

For the study of water effect on the production two variants have been established: nonirrigation and dripping irrigation for two breeding systems (seeded in autumn and spring), the IUA being maintained at the 80% value on the entire vegetation period. The productions have been convincing: for the nonirrigation variant there have been obtained, in the climatic conditions of 2009, a production of 8t/ha and for the dripping irrigation variant; the production has surpassed 80t/ha.

From the three variants studied in order to establish the weed influence on the production, the most efficient variant has obtained the production of 74,8t/ha. The variant where the preemergent herbicides and postemergent herbicides have been applied, have obtained a very low production and at the variant without using herbicides, the production has been compromised (there has been no production).

# Effect of pruning timing on yield safety of sweet cherry cultivars

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**Abstract** The fact that the degree of the cherry tree can tolerate cold depends on several factors: features of cultivars, pruning, durability of cold, conditions of the tree, and which dormant stage received the frost damage.

In our country, especially late spring frosts cause varying degrees of damage. However, the effect of changing weather conditions such as fluctuating temperatures in the winter causes the loss of frost resistance of the trees. Thus, larger cooling periods at the end of winter can cause serious damage. This is somewhat affected by the condition of trees, proper nutrition-content as well.

The study was done at University of Debrecen, Farm and Regional Research Institute, Pallag Research Station. Fruit bearing production and frost damage are demonstrated on nine-year-old sweet cherry trees ('Rita', 'Germersdorfi3', 'Axel', 'Anita', 'Linda', 'Bigarreau Burlat') with string and free spindle crown form. Sensitivity of the functional value of fruit set – the generative parts – (pistil and stamen) to frost damage was studied depending on timing of pruning (summer and winter), variability of cultivars and production technology. The productivity of various sweet cherry cultivars was determined by numbers of different fruit bearing parts with different ages.

According to this increasement of intensity through application of novel technological elements (timing, manner and severity of pruning) and selection of the proper cultivar is implement able

Important differences are experienced between sweet cherry cultivars in their growth attributes, light demand and dynamics of fall back in regenerative potential of different aged wood parts. From this point knowledge of the abow detailed is very important in order to maintain rentability of already established plantations.

Our study showed that special attention has to be paid to determination and combination of timing pruning with taking into consideration the specific fruit bearing properties of cultivars.

## Key words

frost damage, sweet cherry cultivars, pruning time, bud cluster

# Research on assurance of viticultural biodiversity, by using local varieties and biotypes of Buziaş-Silagiu area

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**Abstract** The local varieties and biotypes represent an important source of biodiversity allowing the obtaining of typical products that are authentic and specific to a certain area. The area of Buziaş-Silagiu is a traditional viticultural region of western Romania, defined by an abundance of local varieties and biotypes, which can be found especially in the small domestic households.

## Keywords

Biotypes, local varieties, Buzias Silagiu, biodiversity.

# Overwintering pupae of *Cameraria ohridella* in fallen leaves

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**Abstract** This paper aim is to see that the number of exemplars of *Cameraria ohridella* that winters in the pupa stage in fallen leaves consists of host plant *Aesculus hippocastanum*. The results of analyzing of samples collected in early spring (09.03.) conduct us to conclude that a large number of exemplars are present in very small amount of fallen leaves, although the mortality rate is between 4.1 and 12.9%. Abiotic and biotic factors which contribute to reducing hibernated pupa can not to reduce the mass attack because of the particularity of the species and the low number of predators and parasitoids.

## Key words

*Cameraria ohridella*,  
wintering, fallen leaves

# The flight of the *Cameraria ohridella* population in the city of Timisoara, Romania

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**Abstract** The aim of this paper is to follow the flight dynamics of horse chestnut leaf-miner *Cameraria ohridella* in the parks of Timisoara city. Following the observations made by using of the sticky tetra-trap baited with synthetic pheromone Atracam, it can be concluded that the harmful insect has three flights over all growing season, since middle of April (with ornamental chestnut flowering *Aesculus hippocastanum*) to the end of September. Maximum numbers of captured adults from one flight to another have an exponentially growing. During the research it is observed the preference of insect for solar heat in terms of flight and as the place chosen by the females to laying eggs. Thus, the preference for a part of the tree crown exposed to heat are obvious, especially at the first flight (over 83% of "mines" is on exhibition southern, western and eastern). At next flights due the increasing of air temperature the differences are not significant.

## Key words

*Cameraria ohridella*, flight,  
Timisoara, parks

# Researches concerning the behavior of an radish assortment (*Raphanus sativus* L. *Brassicaceae*) for greenhouses

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**Abstract** Having the aim to increase the efficiency of the protected area before setting up of the vegetable crops (tomatoes, green/mild pepper, egg-plant, cucumber), is laying down, usually, anticipated, secondary crops, with reduced exigencies toward heat and short vegetation period.

By cultivating an assortment of radish in greenhouse, anticipated crop, to Banu Maracine Research Station it have in the view the next objectives:

- the establishment of the kind of the behavior of an radish assortment under the precocity, productivity and commercially quality;
- the determination of the biochemical composition, including the accumulation of nitrates in the thickened root of the radish.

Biological material was represented by five radish cultivars: Sora, Helox F<sub>1</sub>, Alttox F<sub>1</sub>, Rudolf and Mirabeau.

From the yield capacity point of view, Mirabeau variety subscribes with the best yield, of 37.1 t/ha, outrunning very significant the average of the variants with 7.4 t/ha, respectively 24.92 %. As concern the biochemical composition of the thickened radish root, the TDS content was of 3.51 %–5.83 %, in SDS of 3.27 % –5.72 %, in sugar of 2.09 %– 5.30 %, in C vitamin of 17.96 mg – 24.33 mg.

Speaking about the accumulation of nitrates, to Rudolf, Sora and Helox genotypes, it was placed under the maximum admitted limit of the OMS norms (600 ppm), being of 293 ppm NO<sub>3</sub>, 326 ppm NO<sub>3</sub>, respectively 407 ppm NO<sub>3</sub> and to Alttox and Mirabeau cultivars, the nitrates were registered in quantity of 614 ppm, respectively 689 ppm.

## Key words

secondary crops, genotypes, nitrates

# Research on surface and depth water quality in the area of interference between the plains and hills in SE of Timis County

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**Abstract** This paper work aim is a study regarding the monitoring of surface and deep water in SE of Timis County. Samples were taken in autumn 2009 and spring 2010, from public and private wells, in Jamu Mare, Clopodia, Latunas, near Caras-Severin County border. Studies that were made have concerned the determination of nitrogen compounds: nitrate, nitrite in waters from these wells. The analyses were made calorimetrically, with SQ 118 Spectrophotometer in the Residues Determinations Laboratory from the Faculty of Horticulture and Forestry, USAMVB Timisoara. The experimental results indicate that nitrate levels in surface groundwater (depth 5-10 m) of rural localities from Timis County exceeds the maximum admitted limit of 50 mg / l and is determined by un-protection of water sources, intensive livestock system characterized by the absence of waste collection stations and water treatment stations, and injudicious use of nitrogen fertilizers.

## Key words

nitrate, nitrite, ammonium, underground waters

# The influence of the soil maintaining systems upon the maturing evolution of the Burgund grapes

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**Abstract** The soil maintaining systems represent an important technological sequence through which important savings can be accomplished if the pollution in the environment reduces and the vineyard and wine products reduce.

In the past couple of years, different attempts to find an alternative to the classical method of soil maintaining, the method of (energofarasi) which presents with a high rate of pollution, emerged.

The research took place in 2009 and was based of the Burgund variety; and they aim at the following experimental variables: grassing with Ryegrass (*Lolium* sp.), grassing with Fescue (*Festuca* sp.), grassing with Ryegrass and Fescue, grassing with Vicia.

The interpretations were compared to the classical soil maintaining method: black fallow soil.

The alternative soil maintaining systems have had a positive influence on the quality and quantity of the production. The exception was the Vicia (Borceag). All the other alternative variables recorded that the must had high sugar content.

## Key words

soit matenance systems, grassing, quantity, quality, corp

# A study on the relationship of some risk factors during pre harvesting and quality parameters of strawberry fruits

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**Abstract** The strawberry culture in the South of Romania presents a great economic interest due to the very profitable valorization of the fruits both fresh and preserved. The pedoclimatic conditions in this area allow the development oh this type of culture in a successful way. In order to obtain high results in terms of production and quality, the breeders and agrotehnologist show a permanent concern for the improvement of the structure of varieties and of the applied technologies. The interaction between variety and applied technology has at times negative results upon the quality of fruits which results into an unprofitable exploitation of the yield. Thus, it becomes compulsory to understand and design a correlation between the risk factors and the quality of fruits (influences of main applied technologies – fertilization, irrigation, prevention and control of pathogenic agents) upon the cumulative quality factors of strawberry fruits in the pre harvest period.

## Key words

strawberry, correlation, risk factors, quality, pre harvest

# Evolution of soil compaction state in a high density apple orchard under the influence of technological traffic

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**Abstract** To quantify the effects achieved by the maintenance the mowed sod strips system between tree rows in a high density apple orchard, located on a sloping land, in the period 1978 – 2004, some studies were carried out. It was organized an experience with the following three factors: Factor A = soil type, with 3 graduations, Factor B = the year since trees planting where, the investigations were made with two graduations and Factor C = technological traffic with three graduations.

On average, on the three soil types and the two periods of time since trees planting, except the depth of 5-10 cm, in the other three soil depths analyzed,  $CI_1$  and  $CI_3$ , versus  $CI_2$ , related to BD and RP, generally showed significantly higher values. Under the same conditions, the above indices related to  $K_{sat}$  generally showed significantly lower values. On average, on the three soil types over 4 year period since trees planting compared to 20 year period since their planting, on depth of 5-10 cm, value of the three compaction indices related to BD was significantly higher by 10%, and those related to RP, by 74%. Instead, under the same conditions, on the depth of 55-60 cm, the value of the three compaction indices related to BD was significantly reduced by 9%, and those linked to RP, by 71%. In line with the above presented, on average on the three soil types, in 20 years period since trees planting compared to 4 year period since their planting, at 15-20 cm depth, the value of the three compaction indices related to  $K_{sat}$  was significantly greater with 326%.

**Key words**

soil erosion, technological traffic, high density apple orchard

# Influence of position within the terraces platform on some physical properties in case of three soil types in a high density apple orchard

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**Abstract** Knowing the soil physical condition and its changes by terracing works has a great importance for achieving profitable plantations on hilly terrains. To this purpose, in two time periods 4 years and 20 years after tree planting, it was determined the effects of the following experimental factors: A factor – soil type, with three graduations; B factor - position within the terrace platform with three graduations. The investigations were conducted in a high density apple orchard located on a hillside with an initial slope between 8-18%, arranged by mechanical works in terraces with a width of about 25 m.

On slightly eroded eutricombosol versus the typical one or with coluvial structure, less favorable values of the three physical soil properties for tree growth and fructification have been registered. In case of position located upstream of the terrace platform compared to the positions located downstream or the middle of terrace platform, values of the three physical properties were less appropriate for the trees behavior. Influence of the three soil types and the 3 positions of platform terraces, on the physical properties analyzed was much higher, obviously in the 20 year period versus 4 year period after tree planting.

**Key words**

terraces platform, soil physical properties, apple orchard

# Species of trees and shrubs planted in Timișoara – Fabric Quarter in the year 2009

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**Abstract** Timisoara is a town with many green spaces, has nice parks which form an urban system which has a very important ecological role. Though in the last forty years trees have been planted all over the town the green surfaces of Timisoara still do not match the requirements of the European Union. In order to achieve the necessary standards the town-hall of Timisoara decided to invest every year great sums of money in the green spaces. Streets and parks where hasn't been vegetation at all in the past, and others where it is necessary to change or complete the vegetation get attention now. An important problem is the creation of diversity, because in Romania in the past few species of trees were produced by the the local companies. Even today a great part of the material that is used is imported from Hungary and western countries which offer diversity and high quality.

## Key words

Park, trees, Timisoara, Fabric, green space

## A new park in Bihor Square Timișoara

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**Abstract** In the last years ecology is becoming more and more important as a subject of research. The European Union created new standards which assure the proper green surface that is necessary for towns and villages in accordance with the number of population. The town of Timisoara needs in the near future new parks and green squares in order to satisfy these demands. This is the reason why the town hall created a new park in Bihor Square on a piece of land situated between the streets 1 Decembrie and Rontgen. Besides its ecological importance the project assures higher life standards for the population of the region.

## Key words

Park, trees, Bihor Square, Timisoara

# A destroyed summer resort in the town Arad

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**Abstract** In the last years ecology is becoming more and more important as a subject of research. The European Union created new standards which require more and more green space for each town or village. Arad is a town build in the XVIII –XIX'th century, with compact rows of houses, as it was usual in Central Europe in that period of time. Urban regulations wanted in those days to create well ordered settlements, without empty spaces. This is why green space are so scarce in the centre of old Arad. The first little parks appeared on the banks of the river Mures, only a hundred years ago. The only great green space of Arad used to be the summer resort situated on the other bank of the river, on the island created two centuries ago for the Vauban fortress of the town.

## **Key words**

Park, trees, vegetation, Mures River, Arad

# Bucovina Park Timișoara

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**Abstract** The town-hall of Timisoara is making efforts in the last years to satisfy European Standards concerning parks and green spaces. The quality of these is getting nearer each year to the usual european level. If in the past mainly central spaces of the town received more serious attention, today the new green spaces that are created are located in different parts of the town, and often in the suburbs. The town-hall has created last year a new park in Bucovina Square, in the north-vest of Timisoara on a piece of land situated between the following streets: Incullet Ion on the north, Soroca on the south-vest, and Stere Constantin to the east. Besides its ecological importance the project assures higher life standards for the population of the region.

## **Key words**

Park, trees, Bucovina Square, Timisoara

# Research on grape production, the variety Italian Riesling, fertilization in soil from Didactic Station Timișoara

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**Abstract** Grapes are the fruit sought by consumers of all ages. Grapes are so high energy levels, food and medicines. Research has been conducted in years (2002 - 2004), and had the object of study, the influence of organic fertilizers and chemical production, white wine grape variety 'Italian Riesling' from planting vines to Didactic Station Timișoara. The purpose of this study was to prosecution organic fertilizers and chemical influence on grape production, resulting from the variety of their applications' Italian Riesling. Organic and chemical fertilizers are used in viticulture to supplement food needs and improving the physical, chemical and biological characteristics of soil. These fertilizers in addition to enrichment of soil nutrients and humus, they enhance the activity of soil microorganisms' useful and stimulating more effective use of chemical fertilizers.

Categories are organic fertilizers: manure, slurry semi green manure, compost.

## Key words

Grapes, fertilizers, Riesling Italian, soil fertility, production

# Biological efficacy of some herbicides in control of weeds species in apple orchards

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**Abstract** The paper present an analysis of the biological efficacy of some new herbicides tested in 2008. Fours variants with herbicides, active ingredients, and doses were tested in order to control both monocots and experimental apple bearing orchard. At the end of the experiment, the best results in weeds control were obtained with the variant V3 - Sanglypho (glyphosate 300 g a.i/l) 2.0 l/ha + Pledge 50 WP (flumioxazin 500 g a.i./kg) 0.2 kg/ha, the weed destruction percentage according being 100%, or "note 1" according EWRS scale, the product Pledge 50 WP being a good alternative among the herbicides designated to dicots weeds control. Very good results in weeds control were obtained with the variant V2 - Sanglypho (glyphosate 300 g a.i/l) 2.0 l/ha + Hornet XC 1.0 l/ha, where only two dicots species (*Atriplex patula* and *Polygonum lapathifolium*) and one monocot species (*Echinochloa cruss-gali*) were encountered.

## Key words

apple, weed control, herbicide, biological efficacy

# Biological efficacy of some new insecticides in control of San Jose scales, red mites and aphids in apple and plum orchards

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**Abstract** This paper present an analysis of the biological efficacy of some new insecticides tested in 2009, in order to control San José scales - *Quadraspidiotus perniciosus*, red mite - *Panonychus ulmi* and aphids species as well, in apples and plums bearing orchards in the variants treated with Mospilan 20 SG + adjuvant (vegetal oil) [0.450kg/ha + 0.5% adjuvant] were obtained the best results. Also very good result in control of San José scales (summer generations) were obtained using Trebon 30 EC at a rate of 0.45 l/ha on apples and 0.3l/ha on plums and Reldan 40 EC at a rate of 2.25 l/ha on apples and 1.5l/ha on plums in apple and plum orchards.

## Key words

apple, plum, pests, insecticides, biological efficacy

# Research regarding the effect of foliar fertilization on tomato growth and fructification

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**Abstract** The research regarding the influence of foliar fertilization over production capacity of tomatoes was conducted on a period of two years, in the solar of the Faculty of Horticulture of Bucharest.

During the experiment, the Cristal hybrid was used, with undetermined growth, with fruits of 120-130 g, firms, uniformly colored and resistant to transport and storage. For the foliar fertilization, two products were used, Agroleaf Total 0.5%, that can be applied in all the physiological phases, and Cropmax 15%, the two being applied both combined and separately.

The culture was conducted by the classic technology.

The determinations that were made were the evolution of the number of flowers, number of formed fruits, plant production capacity, appreciating quality through the size of the fruits and their biochemical composition.

After applying foliar fertilization, it could be noticed that the number of fruits on a plant increased, being 29,4 at V2 and 21,2 at V1.

The average fruit weight was higher at the foliar fertilized variants compared to the control variant, which also led to obtaining different production increases. The largest production was recorded after applying the two products combined.

Also, larger fruits were obtained from the foliar fertilized variants and with a higher level of vitamin C, acidity, dry matter etc.

## Key words

tomatoes, foliar fertilization

# Pomegranate, a fruit growing species of major interest in Greece

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**Abstract** Pomegranate is a fruit growing species that may represent an alternative of the specimen in Greece and other Mediterranean countries, but also in Romania, in areas with microclimate of Mediterranean influence. The rusticity of the species, the low requirements regarding environmental conditions and the continuous increase in the demand of fruits for consumption and industrialization are strong points in favor of expanding the culture. Easy multiplication possibilities contribute to the formation of nursery and by capitalizing the fields that are uncharacteristic for other species, areas large enough to expand this culture can be found.

## Key words

pomegranate, new varieties

# Preliminary research regarding the behavior of several new apricot varieties in Bucharest area

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**Abstract** The research conducted with several new apricot varieties led to the conclusion that all of them had good results regarding the vegetative growth. There were no large differences between the seven varieties regarding the phenological phases.

Regarding the trunk growth, two varieties were more vigorous, Bela and Early Orange, and the Sweet Cot and Early Orange varieties had the longest annual branches.

The capacity to form anticipates was higher at the Sweet Cot, San Castrese and Early Orange varieties.

The fruit production was low, under 7 t/ha, because the fruit were at the beginning of the fructification period; conclusion regarding this aspect can be drawn during next years.

## Key words

apricot, new varieties

# Studies Regarding Physiological and Biochemical Changes during the Ripening Process in *Cucumis melo*

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**Abstract** Maturity and quality in melon are usually evaluated from different point of views by consumers, farmers and traders. Usually, consumers recognise good fruits regarding their corresponding shape, colour and weight and appreciate them for their sweetness, flavour and flash texture. Other features like skin resistance, some components biosynthesis and biodegradation and pest resistance are of major interest for traders, but for the farmers the quantitative and qualitative efficiency, precocity and pest resistance are also important. In this research paper we discuss the physiological and biochemical changes during the last days of maturation and the increasing or decreasing manner of the content in total dry matter, water, soluble dry matter,  $\beta$  carotene, ascorbic acid and respiration intensity.

## Key words

melon, respiration, carotene, soluble solids

# The study of tomatoes hybrids ability for cultivations in tunnels in ecological agriculture conditions

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**Abstract** The experimentations were accomplished at S.C.D.L. Bacau during 2007 – 2009.

The hybrids: Bersola F1, Winona F1 and Venezia F1 yielded more than 100 t/ha, the hybrids: Aegen F1, Arbason F1 and Buran F1 between 90-100 t/ha and the hybrids: Elpida F1, Mokito F1 and Sampei F1 between 80-90 t/ha.

Between the experimented hybrids, the biggest fruits were obtained as it follows: more than 100 g/fruit – hybrids Aegen F1, Arbason F1 Charlotte F1 and Francisca F1; between 90 – 100 g/fruit – the hybrids Bersola F1, Baldwin F1, Gironde F1 and Venezia F1.

In the experimental comparative culture from 2008, we remarked the hybrid Bersola F1 through the quality of fruits, an improved ability for cultivation in biologic agriculture as well as through the obtained production – 100 t/ha – 121.3 t/ha (the highest production realised in the present experimentation). All the experimented hybrids were „long shelf life” type.

## Key words

hybrids, tomatoes, tunnel, ecologic agriculture

# Measurements of chromosome aberration at tomato plants (*Lycopersicon esculentum* mill.) regenerated from “in vitro” tissue culture

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**Abstract** Tissue culture “in vitro” have a key role for the development of breeding activities at tomatoes plants. Currently, the modern breeding techniques based on genetic engineering, employ in a certain stage of new varietal creation, the utilization of tissue culture for the regeneration of plants. But, during the “in vitro” culture, due to the composition of medium culture, alteration of chromosomes morphology may occur. Depending on the final objective of tissue culture, the abnormalities of chromosomes that may appear at “in vitro” regenerated plants have to be avoided (cultures designed for clonal multiplication) or to be amplified (cultures designed for somaclonal variability). According with the literature, chromosome aberrations have been used as a measure of reproductive success in plants for many years and have been correlated with morphological changes, fertility-sterility relationships, mutations, etc.

Subsequent studies at different plant species have shown that plant chromosomes exhibit many different types of aberration, as a result of different types of chemicals used for the preparation of “in vitro” culture medium.

The main objective of the present paper is screening of some aspects regarding the type and frequency of chromosomes aberrations that appeared at tomatoes plants regenerated from “in vitro” culture are discussed. The main types of aberrations identified at regenerated plants are: chromosome clumping, contraction, stickiness, paling, fragmentation, dissolution, chromosome and chromatid bridges, C-mitosis and endoploidy.

The early detection of the chromosomal aberrations allows the selection of the growth conditions that better suit the final goal of investigations (clone multiplication or by contrary the induction of somaclonal variability).

## Key words

genetic, chromosomes,  
stickiness, anaphase,  
tomatoes

# Research into the population-dynamics, the host-plant specificity and the influence of insecticide treatments and soil preparation on the population-development of the Western Corn Rootworm *Diabrotica virgifera virgifera* LeConte (Col.: Chrysomelidae)

## - A project presentation -

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**Abstract** The Western Corn Rootworm *Diabrotica virgifera virgifera* LeConte (*D. virgifera*) is classified as a quarantine pest in Germany. Officially required measures have to be applied, to avoid further spread and to eradicate the population. As shown in other countries it is nearly impractical to stop the invasion of *D. virgifera* completely. So locally adapted control measures have to be developed.

In an international scientific investigation, funded by the Federal State of Bavaria and coordinated by the Plant Protection Institute of the Bavarian State Research Center for Agriculture, strategies for an integrated control of *D. virgifera*, adapted to the local Bavarian situation, are to be developed.

In cooperation with Banat's University of Agricultural Sciences and Veterinary Medicine, Timisoara, basic research on population dynamics, host-plant specificity and the influence of different agricultural measures on the development of *D. virgifera* populations is carried out in semi-field and field tests.

Main target of the investigations is to generate information on the economic threshold of the pest and on the influence of crop rotation and different insecticidal control measures, on the population development.

Material and methods used in the study, first results and the further progressing of the work are described and discussed in the paper.

### Key words

*Diabrotica virgifera virgifera* LeConte; population development; crop rotation; soil preparation; integrated control

# Research on fertilization and weed control methods on production in potato Ostara

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**Abstract** Research conducted in 2005-2006 come to argue the importance of potato culture in our country. Results are obtained directly tie in applied technology culture. Fertilization affects different level of production, so in 2005 production fluctuates between 21.23 t / ha and 25.56 t / ha, while in 2006 fall between 18.30 t / ha respectively and 23.02 tons / ha. Weed control leads to productions ranging from 21.73 t / ha and 24.92 t / ha in 2005 and between 19.02 t / ha and that 22.61 t / ha in 2006.

### Key words

culture, fertilizers, herbicides, production

# Research concerning local valuable grape varieties and biotypes Timis County, Romania

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**Abstract** Research focused on different areas in the Timiș County in an attempt to identify local grape varieties and biotypes cultivated on private plantations or in family gardens that are not known and, therefore, cannot be properly valorised.

We made observations and measurements of the ampelographic, physical and chemical, and technological features of the local grape varieties and biotypes in several localities of the Timiș County (Buziaș, Silagiu, Ghiroda, Timișora, Șarlota, Izvin, Săcălaz, and Urseni). We analysed and identified 52 valuable local grape cultivars (16 local grape biotypes have features specific to table grapes, 17 for wine-making, and 19 have mixed features) that we compared with the best known and most representative varieties in the area.

For the 52 local grape varieties and biotypes we noted the locality in which they were found, the common name, the initial of the street on which the households are, the street number, and important ampelographic and technological features.

## Key words

local and biotypes grape varieties, ampelographic and technological features

# Research concerning the impact of the soil maintenance system through permanent grass-cover on growth and fructification in several grape vine varieties

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**Abstract** We carried out research on the impact of permanent grass-cover on growth and fructification in several table and wine grape vine varieties cultivated in the viticultural plantation of the Didactic Station in Timișoara, located on a relatively plane land. We made observations and measurements concerning the impact of permanent grass-cover on total annual growth, on mature annual growth, on foliar area, on the quantity and quality of grape yield.

We also analysed the impact of this system on yield expenses per ha and on the number of days of labour necessary per ha and per year.

Permanent grass cover led to a diminution of total annual growth, but it also led to an increase of the percentage of annual mature wood, which is a great advantage since it ensures an increase of wintering resistance. Wintering resistance is very important particularly in the climate changes of the last years and of the very low minimum temperatures during winter which affected bud viability and even wood viability, particularly in table grape varieties that are very sensitive.

At the same time, permanent grass-cover led to a decrease of annual expenses and of the number of labour days per ha; these economic benefits together with the limitation of pesticide and fuel consumption promote this maintenance system for use in viticultural practice.

## Key words

grass-cover, growth, fructification, grape vine varieties

# Research on performance herbicides orchards' in combating weeds in Western Romania

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**Abstract** The purpose of this paper is to determine the floristic composition of weeds in orchards and their effectiveness in combating chemical herbicide application. The researches was conducted in 2009 and had the object of study and combat the spread of weed species in orchards located in three separate locations: Didactic Station Timișoara, Plantation fruit growing from Lugoj, Plantation fruit growing from Buziaș. Most of the flora was composed of mainly perennial monocotyledonous plants *Agropyron repens* and *Cynodon dactylon*. *Agropyron repens* is currently the highest weed spread in orchards followed by annual dicotyledonous species. Applying herbicides ensure the highest rate of weed control especially using large spectrum herbicides such as Roundup control and Glyphogan.

## Key words

degree of covering plants with weeds, culture, orchards, herbicides

# Researches concerning the phenotypic diversity of some eggplant cultivars for different yield traits

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**Abstract** Selection of parental forms is a basic condition that can ensure a successful of any breeding program. Using phenotypical similarity as an measure of diversity may offer information concerning the predicting some hybrid combinations which manifest a high intensity of heterosis. The objective of this study was to evaluate the phenotypic diversity of nine eggplant cultivars for six quantitative yield traits, and the possibilities of using this cultivars in eggplant breeding. Referring to variance analysis for studied quantitative traits in respective varieties, we observe that the highest and significant values of variance were recorded in case of fruit weight. The Baluroi cultivar is the highest phenotypically differentiated according to other studied cultivars. Crossing this phenotypical differentiated cultivars like: Lucia x Baluroi; Niculina x Baluroi; Pana corbului x Baluroi; Rona x Baluroi, allows the obtaining of eggplant hybrids with a gene combinations useful for different yield components.

## Key words

phenotypic diversity, eggplant, yield traits

# Study concerning the variability of some yield traits in different eggplant cultivars

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**Abstract** Most important breeding objectives are complex traits consisting of multiple components. In that direction, in eggplant yield can be decomposed into several yield components as well as branches number/plant, fruit number/plant, fruit weight. The aim of this paper was to evaluate the variability and breeding potential of different eggplant cultivars for some yield traits.

A significantly bigger fruit comparing to the control was observed for the following varieties: Baluroi and Long purple, which may be successfully used in plant breeding programs to improve the fruit weight. Given the variability of fruit length and diameter, the choice of the genitors in the eggplant improvement programs the market requirements should be considered. The existing variability within the studied assortment allows the use of considered varieties within eggplant breeding programs taking in consideration the increased yield that is attainable for certain varieties on the ground of contrasting traits.

## Key words

variability, eggplant, yield traits

# Researches concerning the behaviour of some gladiolus cultivars in different variants of cultures for cut flowers

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**Abstract** The aim of our studies was to establish the effect of the date of corms planting and the distances between corms upon the growing and flowering of some gladiolus cultivars. We used corms of 4 cm diameter size from three gladiolus cultivars: Invitation, Jester and Oscar. We planted the corms at 10 and 2 cm distance, in 2 April and 2 May.

The results of our researches show a great importance of date of planting upon the starting of vegetation of corms and the growing and the flowering for each cultivar studied. And that because the temperatures for the two date of planting were enough different.

The distance between corms was a small influence upon the quality of growing and flowering for each cultivar.

## Key words

Gladiolus cultivars, date of corms plantation, temperature, vegetative growing, blossoming

# Development of new genetic stocks for alien introgressions in wheat

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**Abstract** A genetic stock of 46 synthetic hexa-amphiploids was recently generated at NARDI-Fundulea by crossing several Romanian *Triticum durum* winter wheat cultivars and breeding lines with *Aegilops tauschii* accessions of diverse geographical origins. Morphometric analysis on 23 derived synthetics evidenced several synthetics for their long ears, large grains, higher number of seed/spike and high grain weight.

## Key words

wide hybridization, hexa-amphiploids, germplasm enhancement, alien gene introgression

# Calculation of the principal indicators of economical efficiency to the wine grapes cultivars “Burgund Mare” and “Riesling Italian”

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**Abstract** No other culture plants has an older, well studied and more documented history as the grape species.

Grapes are the fruit sought by consumers of all ages. Grapes have high energetic, alimentary and medicinal values. Through the combination of diuretic and laxative action, grapes contribute to detoxifying the body. Grape cure or grape juice called ampelo-therapy has a very old origin, being valued by most doctors. It has therapeutic effects and is indicated for the treatment of liver, kidney, heart and anemia.

This study researches have been conducted in three years, and had as object of study, the influence of control measures taken against the weeding in the vineyards cultured with “Riesling Italian” and „Burgund Mare” in the Didactic Station Timisoara. To highlight the effectiveness of any technological measures is necessary to calculate the main indicators of economic efficiency such as: total production (t / ha), production value (thousands lei / ha), production costs (thousands lei / ha), cost of production (thousand lei / ton), total income (thousands lei / ha) rate of return (%). The main indicators of economic efficiency were calculated for each experience and each variety

## Key words

Riesling Italian, Burgund mare, grape, herbicide, weeding purification, weeding degree, total production, total benefit, profit rate