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HORTICULTURĂ

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VEGETABLE GROWING

THE INFLUENCE OF THE CULTIVAR AND DENSITY ON THE SIMULTANEOUS FRUCTIFICATION AT CUCUMBER CORNICHON TYPE FOR MECANICAL HARVEST REASONS

ATANASIU N.

Key words: cucumber cornichon type, high density, mechanical harvest

INTRODUCTION

The mechanical harvest of the cucumbers Cornichon type for industry purposes is a reality in countries with high agricultural technology, where the quality standardizes of the fruits, the tools and the organization of the production are in favor of this system.

The mechanical harvest is successful only when the number of the industrialized fruits is high enough to assure a yield of 12/18 t/ha. Hence, to concentrate the fructification process is absolutely necessary and it can be carry out due to the action of some technological factors:

- selecting the right cultivar in order to have predominant gynoecious or gynoecious plants, with or without parthenocarpic fruits.
- assuring a high density of the plants in correlation with the vigor and the flowering particularities.
- preparing a very good quality germination bed.
- sowing the seeds with machines for a constant depth.
- applying the maintenance works for a uniform rise of plants.
- conducting the pollination.

In the present study, we followed the influence of the cultivar, the plant densities and the harvest moment.

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SEEDS POSITION AND SEEDS TEGUMENT PARTICULARITIES INFLUENCES ON EMERGENCE OF MELONS

ATANASIU N., MIHAELA GEORGESCU, VIORICA LUCHIAN,
CREŢU GEANINA, ELENA DELIAN

Key words: seeds, melon, water melon, emergence

ABSTRACT

In the last years, a ligning to the traditional practices of the farmers from countries where horticole exploatations with small and middle areas prevail, many romanian cultivators, have been opted to found the melon cultures – including water melons – by seedling planting.

This technologies variant contributes to improve production and to reduce significantly the seeds consume, as compared with the similar parameters of the cultures founded by direct sowing.

In the case of hybrid seeds, very expensive, the sowing technologies to produce seedling, more exactly, their position in the nutritive mixture into pots, included states regarding this aspect, states elaborates following some researches performed even by the producer firms.

This pepper presents the effects of the melons and water melons seeds position, on seedlings emergence dynamic.

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RESEARCH CONCERNING SOME CABBAGE VARIETIES BEHAVIOR IN GREEN HOUSE IN THE WEST PLAIN CONDITIONS

BERAR V., POŞTA GH.

Key words: early cabbage, variety, scheme planting

ABSTRACT

The biological material for the research was represented by a collection of four varieties of early cabbage as: Golden Acre, Gloria Di Enkhuizen 2, Mercado De Copenhague and Dittmark.
The average head weight and the average production per surface unit, the variety Mercado De Copenhague (68,5 t/ha) is taking advance with its' 10% extra production compared to the average;
Utilization of some planting scheme properly to assure the needed nutrition space for plants growing and developing is the main factor to realize higher sustainable productions;
Is to be mentioned that Gloria Di Enkhuizen 2 variety needs larger nutrition spaces compared to the other varieties analyzed.

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A PEDOLOGICAL AND HYDROLOGICAL STUDY ON THE AREA OF THE R. I. V. F. G. – VIDRA (ROMANIA)

MARIA CENUŞĂ

Key words: forest steppe, brown-reddish, phreatic water, irrigation system.

ABSTRACT

The Research Institute for Vegetable and Flower Growing VIDRA was set up by a governmental decree in the year 1967, being establised as hedquarters in the VIDRA village, Ilfov District, in the South – West part of the Capital of Romania, Bucharest at 20 km apart. From the geomorphological point of view, the territory of the R.I.V.F.G. – Vidra belongs to the plain of Vlăsia in the area of forest steppe. The formation and successive localization, from the North to South, of the series of types of chernozem soils is closely linked by the presence and the intensity of influence of the phreatic waters on the soils. This influence decreases in intensity in paralel with the increase of the distance from the Valea Salciei brook. The territorial development of the vegetable growing area of Vidra imposed the connection of chat area in 1976 to the irrigation system Arges – Vidra – Frumusani that included a water accumulation on the Salcia brook.

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A STUDY CONCERNING THE CLIMATIC TRAITS SPECIFIC TO THE R. I. V. F. G. – VIDRA (ROMANIA)

MARIA CENUŞĂ

Key words: air and soil temperature, air humidity, sum of the rainfalls, speed of the wind

ABSTRACT

The region covered by the Research Institute for Vegetable and Flower Growing VIDRA has the geographical coordinates of 26^0 11' 05" Eastem longitudes and 44^0 16' 08" Northern latitude. In order to characterize the local climate, the author used data and observations recorded by the meteorological station Vidra during the 1989-1997 period.

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TECHNOLOGICAL LINK TO IMPROVE THE PHYSICAL CHARACTERISTICS OF THE NUTRITIVE CUBES USED TO TRANSPLANT VEGETABLES SEDLING

CHIVULETE S., VIORICA LUCHIAN, MORĂRESCU V.,
RUXANDRA CIOFU, GAPSA FL., MARIA CURTESCU, ATANASIU N

Key words: copolymer, physical characteristics, transplant

ABSTRACT

Obtaining agroalimentary foods is preponderant based on agricultural and horticultural species, cultivated on agricultural soils. The yield level depends in a very high measure of the pedological, climatical and technological factors. There fore, from the pedological viewpoint a special rol has the air water regim. The major objective of researches consists especially to achieve high amount of vegetable yield, as a consequence of the high quality of seedling transplanted in nutritive cubes, with improved physical feature. Using a vernacular polyacrylamide the purpose was to increase the disponible water reserves for plants, to improve the cubes pressing state, diminution of the seeming density values, respectively, as well as to improve the porosity, that in turn positively influences the nutrition regime, too.

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SOME ASPECTS OF THE SCIENTIFIC STUDIES CARRIED OUT AT THE DEPARTMENT OF VAGETABLE CROPS FLORICULTURE AND LANDSCAPE ARCHITECTURE

RUXANDRA CIOFU

During the last period of time, in our department, the scientific studies (which have an old tradition here) were carried on in progression, due to some research programs with financial support of CNCSIS, AMCSIT and Banca Mondiala and some doctorates activities, which included all the didactical team, PhD students and students.

The main objective of the whole research activity was to set up in a scientific way the new cultivation technologies, based on species and varieties with high biological potential, resistance to pathogens and to the adversities of the environment, high quality, and also to establish some environmental-friendly technologies corresponding with the sustainable agriculture concept.

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THE INFLUENCE OF ARTIFICIAL AERO-IONIZATION UPON CUCUMBER SEED GERMINATION AND TRANSPLANT GROWTH

CIOFU RUXANDRA, PETRA O., ENACHE L., DOBRIN ELENA

Key words: artificial aero-ionization, pickling cucumbers, seed germination, transplant growth

ABSTRACT

Natural aero-ionization is an important biophysical environmental factor influencing organisms and plants. Our research was aimed at pointing out the effects of artificial aero-ionization on seed germination and the growth of pickling cucumber transplants.

The paper presents the results of the influence of the artificially – produced positive and negative aero-ions applied to the pickling cucumbers seeds and transplants. Compared to natural aero-ionization, the artificial aero-ionization was administered in rates of 17,000 – 20,000 ions/cm^3 for 3, 6, 24 hours.

The negative ions had higher influence, but statistically – insignificant differences, compared to the positive ions. The best results in seed emergence were obtained from the seed exposure to negative ions for 3 hours which increase the emergence rate by 30% compared with the control. The most vigorous transplants were obtained from the seed treatment with negative ions for 6 hours.

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BY DRIPPING IRRIGATION EFFECT ON YIELD AND MANAGEMENT WATER AT CUCUMBERS IN SOLARIUM

CAMELIA CURCAFA, N. ATANASIU, V. POPESCU,
VIORICA LUCHIAN

ABSTRACT

Key words: dripping irrigation, cucumber

The vegetable culture in Romania can be achieved at European qualitative and quantitative standards only under proper irrigation conditions. The actual costs of the irrigation water and flow of certain local sources require a strict management of their use without diminishing its positive effect on the production.

In the past years, in the vegetable basin Matca, in the vicinity of Galati, it was noted a major increases of the vegetable production both on the field and in the greenhouses, by the introduction of some modern technological factors:

- plant assortment;
- fertilizing irrigation through dripping;
- protection of the early cultures with multistrat folia;
- use of certain ecologic methods for the prevention of the diseases and pests.

Reduction of water consume is very attentive controlled, both for its rational using and for irrigation cost reduction.

The extended paper presents the behavior of some new cornichon cucumbers hybrids (Crispina and Topaz), in polyethylene covered solar, with by dripping irrigation.

There are presented data which emphasis a yield level over 40 t/ha for the best variants, realized with an economical irrigation norms. Also, there are presented results concerning soil physical characteristics dynamic for the variants with by dripping irrigation and by water administration on gutters.

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RESEARCH REGARDING THE *IN VITRO* GERMINATION OF SOME CICHORY HYBRIDS (*CICHORIUM INTYBUS L.*)

DIACONESCU OANA, PETRESCU C.

Key words: *witloof chicory*, genotypes, seeds, *in vitro* culture media, germination rate.

ABSTRACT

Traditionally, witloof chicory (*Cichorium intybus* L) multiplies by seeds sown in open field. The aim of the present work was to preserve the heterozis effect of witloof chicory hybrids by *in vitro* vegetative multiplication. It is thus possible, to combine the advantages of hybridisation with those of the clonal propagation. In this sense, we proceeded at the *in vitro* initiation of five chicory hybrids: 'Turbo', 'Bea', 'Zoom', 'Totem' and 'Fiero' and one common variety by sowing them on sterile culture media. The seeds were sterilized with a mercuric chloride solution (0.05%) and inoculated for germination on two culture media: Murashige&Skoog (1962) and respectively, Quoirin&Lepoivre (1977). The result showed that the best culture medium for the chicory seeds *in vitro* germination was Quoirin&Lepoivre. Low concentration of macroelements and high content of B_1 vitamin influenced positively the germination rate. 'Turbo', 'Bea' and 'Totem' hybrids had the best germination rate (100%). In the same time, 'Turbo' presented the fastest and the most uniform germination, 100% - registered in the first 8-9 days from inoculation, on both used media. The common variety tested had the lowest germination rate (30% onto MS medium) even the percentage was doubled on QL medium. After germination, plantlets started to grow and were used for *in vitro* vegetative multiplication, using the axillary shoots method.

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RESEARCHES CONCERNING THE USE OF THE AXILLARY SHOOTS TO OBTAIN TOMATO TRANSPLANTS

DRAGHICI ELENA, STROE ELENA

Key words: tomato, axillary shoots, transplants

ABSTRACT

Starting from the tomato plant property of forming adventitious roots on axillary shoots, the present paper aims of studying the possibility of benefit from the plant parts removed from the valuable hybrids cultivated on greenhouse, and using them to establish either tomato crops in solarium, or even on early field cultures. The material is represented by Marissa hybrid, characterized by good diseases resistance and highly productivity, used preferentially in greenhouse culture. The axillary shoots removed from the plants have been placed in five different substrates to form roots, in order to be used as transplants. The variants of substrates have been: V1: Perlite 100% (P); V2: Sand 100% (S); V3: Manure 100% (M); V4: Peat 100% (P); V5: Perlite 25% + Sand 25% + Manure 25% + Peat 25%. The transplants phenotypic characteristics were analyzed 30 and 45 days after placing them in rooting substrates.

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THE INFLUENCE OF SUBSTRATUM COMPOSITION AND VOLUME ON GREENHOUSE TOMATOES GROWN ON ORGANIC SUBSTRATA

RODICA GANEA, INDREA D., APAHIDEAN AL. S.,
MARIA APAHIDEAN, MANIUTIU D.

Key words: tomatoes, greenhouse, organic substratum

ABSTRACT

Greenhouse tomatoes grown on organic substratum allows to increase early and total yield given the conventional cropping in soil (1,2,3). The main advantages of peat bags culture refer to a high decrease of substratum volume (about 4-5%), of water requirement (8-10%) and nutrients used (3-8%) given the soil culture requirements. Also for soilless culture, steam soil desinfection, which is very expensive, is eliminated (1). Besides a better nutrition with nutritive solutions and using electronic means can be provided.

The experiment was developed between 1999-2000 years in USAMV Cluj-Napoca greenhouse. The best results concerning early yield were obtained at variants with 8 l substratum for a plant indifferently of substratum type used: new mixture, old mixture, new + old mixture or new mixture + perlite.

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THE BEHAVIOR OF SOME GARDEN BEAN VARIETIES IN BĂRĂGAN FIELD

GLĂMAN G-H., MARGINE A., TUDOR Z

For correct and updated information, with regard to the production potential, of technologic and agronomic features, as well as on the possibilities of adaptation at different environmental conditions, of some of the newest creations of garden bean varieties in the country and abroad, UNISEM S.A. organize during 2000-2002 rigorous tests.

The tests have been conducted at SC UNISEM Ialomiţa branch, farm No. 1 Scânteia, abode in Câmpia Bărăgan (Bărăgan field) at km 15 on the highway Slobozia-Brăila, on a soil chocolate cernoziom with humus contents of 4,5% in irrigation conditions.

The respective tests have been made both in the system of basic cultures, as well as successive cultures, for production of green pods as well as seeds.

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ON THE INFLUENCE OF KEMIRA-TYOE FERTILISING ON THE QUANTITATIVE AND QUALITATIVE LEVELS OF TOMATO YIELDS IN UNHEATED SOLARIA

HORGOŞ, A., DOINA OGLEJAN, KONDOR, F., ALEXANDRA BECHERESCU

Key words: fertilising, irrigation systems, forced and protected cultures, technology, chemical fertilisers, and economic efficiency**.**

ABSTRACT

Fertilising, in general, in vegetables culture, constitutes one of the basic technological elements which, together with cultivar (precocity, determined/undetermined growth, etc.), leading in vegetation (the structure of the axial growth and development system – one, two or more stems), time of planting, irrigation system (classical – with drains, sprinklers or modern – by dripping) etc. influence tomato yield level both quantitatively and qualitatively. In forced and protected cultures fertilising has new dimensions due to plant growth rhythm, as a result of optimising microclimate factors, among which temperature is very important. Correlating fertilising and needs resulted from technology has a determining role in yielding. This paper presents a comparison between both quantitative and qualitative yield levels in different irrigation systems, using different chemical fertilisers, and their economic efficiency.

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THE WATER PI INFLUENCE ON CUCUMBER NURSERY TRANSPLANT GROWING

GHEORGHIŢA HOZA

Key words: water PI, cucumber, nursery transplant

ABSTRACT

For nursery transplant producing were used many substrata prescriptions, but the irrigation was effectueted with normal water comparatively with PI water.

The results obtained showed that PI water had a positive influecne on the plant grown in nursery transplant phasys. This aspect manifests itself by a good vigor, big deseases resistance, the reduction of the producing period, etc. This type of researches is at beginning and it must continue in the next years to verify the effects of PI water at cucumber and another vegetable plants.

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EFFECT OF SEEDS TREATMENT WITH ANTIFUNGIC VEGETALE EXTRACTS ON TOMATO SEEDLING

VIORICA LUCHIAN, IRINA PETRE, STELICA CRISTEA, ŞTEFANA JURCOANE, ANDREEA BARLOGEANU, N. ATANASIU, ELENA BOCA, RODICA MATEESCU

Key words: vegetable extracts, tomato, *Alternaria pori*, *Fusarium oxysporum*

ABSTRACT

The biological control of different phytopatogenical fungus began in the same time with the discovery of micromycete Trichoderma sp. antagonistic capacity, obtaining many encouraging experimental results in vitro and in vivo.

As concern the vegetal extracts using as biocontrol agents against phytopatogenical fungus, there are yet less results.

Using these vegetale extracts presents advantages as compared with the chemical control, because there aren't the risk of water, soil and finite products pollution.

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RESEARCH CONCERNING THE POSSIBILITIES TO INCREASE CUCUMBER YIELD BY USING SOME ECOLOGICAL BIOSTIMULATORS

VIORICA LUCHIAN, V. POPESCU, MARIA PAMFIL, ŞTEFANA JURCOANE, BARLOGEANU ANDREEA, N. ATANASIU, ELENA DELIAN

Key words: *Bacillus subtilis, Trichoderma sp*., cucumbers, biostimulators

Bioproducts with antagonistic function used to preventing and controlling pathogenic fungus, were obtained with *Bacillus subtilis* and *Trichoderma sp*. For instance, a *Trichoderma viride* was used as microbial fertilizer, as well as fungicide.

Using *Trichoderma viride* as microbial fertilizer in greenhouses significantly reduces the diseases in cucumbers seedlings, thus reducing the number of applied phytosanitary treatments.

Microbial antagonists obtained with bacteria or fungi are used to preventing controlling some fungi from the *Verticillium*, *Cladosporium*, *Fusarium*, *Sclerotinia* genus.

To apply the active substances directly on seed has a destructive effect on pathogens which thus are transmitted, and it assures a protection of roots against the pathogen attack, too.

Microbial products present some advantages compared with the chemical products: less risk residues in soil, water and foods; less risk of freatic water contamination; high capacity to control plant diseases, alone or in combination with chemical products, when their capacity increases.

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MANAGEMENT OF INTEGRATED CONTROL OF THE WEEDS IN ONION DIRECT SEED

MIRON V

Key words: Herbicides, onion, direct seed

Grădina este un laborator de farmacie!
L. Binet
Din care ar trebui să ne servim mai des!
M.V

ABSTRACT

Utilization in a more complex way, by efficient technologies of the high potential yielding ability of the new cultivars represents the fundamental problem of any agriculture system which aims to a high productivity. The modern technologies of growing give a great importance to identification and control of the diseases, pests and weeds in order to reduce the losses caused by these factors. The concept of integrated control appeared in the beginning of ’70 and implies drawing up of some technologies which joint together all the methods of prevention and control in order to obtain the best results from economical point of view. This concept does not exclude utilization of chemical products, but their use in a rational way, in minimum doses but efficiently and their replacement in some technological links with other methods which can assure at least effectiveness in the weed control.

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RESEARCHES REGARDING THE USE OF FERTILIZATION SYSTEM AND DIFFERENT SUBSTRAT ON EGGPLANTS CULTURE ON SACKS

POPESCU V., GABRIELA NEAȚĂ, ELENA DRĂGHICI

Key words: substratum, fertilization, eggplant

ABSTRACT

The glasshouse culture presents some problems abort the intensive soil use. In the research were used two culture substrata formed from 1 part of peat: 1,5 parts of fallow soil for substratum (V1), 2 parts perlit, 2 parts manure and 1 part peat for substratum 2 (V2), and control (V3) was considered soil from glasshouse . Biological material used in research was Rima hybrid eggplant Holland provenience. On the vegetation period, the culture was weekly fertilized after classical scheme Fertilization process was made in a uniform way at all variants by fertirigation. There were made agrochemical analyses at eggplant fruits in dynamics the results show the superiority of variant 1 in comparison with control. Nitrates analyses shows a high crop quality without any problem of toxicity.[1, 2, 3]

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THE STUDY OF VARIETY AND SOWING PERIOD INFLUENCE ON THE PRODUCTION OF GREEN (RAW) PODS AT GARDEN BEANS

ZOIA TUDOR, A. MARGINĂ

Due to the very special specificity of the pedoclimatic conditions from Bărăgan Field, aiming with priority the temperature and humidity, taking into consideration the agrobiologic features of first rank of garden beans, it imposed itself the necessity of research (during 2000-2002 at the experimental Center belonging to UNISEM S.A., Ialomiţa branch, situated in Scânteia commune) on two main chains of the technology of culture of garden beans, represented by the **variety** cultivated in different **periods of sowing**, according to a certain level of soil temperatures (almost stable) at the sowing depth (5-10 cm) and not according to a certain data, that can be changeble(years with early or late spring).

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FLORICULTURE AND DENDROLOGY

FORMATION AND ANATOMY OF ADVENTIOUS ROOTS IN KOLKWITZIA AMABILIS CUTTINGS

DUMITRAŞCU MONICA.

Key words: Kolkwitzia amabilis, cuttings, adventitious roots, callus

ABSTRACT

The adventitious roots can be pre-formed or induced. *Kolkwitzia amabilis* cuttings were cut transversely and longitudinally, manually and xylotom along the internodes and in the callus area generatet at the cutting basis. In all the variants, two types of induced adventitious roots were observed: "normal"roots formed on the internode, and atypical roots differentiated in the callus situated at the cuttings base. A partial explanation of the weak rooting in the *Kolkwitzia amabilis* cuttings may be the secondary wood of the shoots consisting mainly of fibers and narrow beams disposed in one series. Nevertheless, even though the shoot cambium produces few main medullar beams, functional adventitious roots are formed at the same place. Also, not only callus is formed at the cutting base. If the callus is cut or broken down, roots may be observed within it. A significant part of these roots may not relate directly to the vessel system of the cutting, due to the structural differences between the vascular elements of the cutting and the roots differentiated in the callus.

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SOME RESEARCHES CONCERNING THE INFLUENCE OF pH TO FLOWERING ON SPECIE *LISIANTHUS RUSSELIANUS* HOOK.

PETRA SORINA., ZAHARESCU MIHAELA, DAVIDESCU VELICICA

Key words: Lisianthus, substrate, pH, growing, flowering

ABSTRACT

Lisianthus is new introduced specie in international crops, for its suitability as cut flower and pot plant. It has been introduced in Romania in 1988 and now researches are in course for its conduct in our country's climatic conditions.

The crop culture presents a few particularities because of the plant needs and its characteristic morphology especially the root system. This is very sensitive at the substrate quality modifications (loose degree etc) especially of the pH. Scientifically literature situates its limits between 5.7 and 7.5.

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STUDIES CONCERNING THE EFICIENCY OF THE IN VITRO MICROPROPAGATION UPON THE PRODUCTION OF THE POLYANTHES TUBEROSA L. BULBS

TOMA FL.

Key words: tuberose, bulbs production, eficiency

ABSTRACT

The tuberose is one of the most beatiful and appreciated bulbous flower. But the production of the flower bulbs is a long and difficult process. Our researches show a very important shortage of this process if the production of the bulbs is realised by "in vitro" tissue culture. We was reduced the duration of the production of the flower bulbs to only one year comparatively with two-three years by classical methods. Also, we increasing very much the number of the flower bulbs through the "in vitro" production of the planting.

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STUDIES CONCERNING THE CORRELATION BETWEEN THE ECOLOGICAL FACTORS AND THE GROWING AND THE DEVELOPPMENT OF THE POLYANTHES TUBEROSA L. PLANTS

TOMA FL., ELENA SELARU, SORINA PETRA, DIANA VASCA

Key words: tuberose, temperature, humidity, growing and development

ABSTRACT

Polyanthes tuberosa L. is a bulbous flower with very high needs concerning the ecological factors, especially the temperature and humidity. The aim of our studies was to establish the level of these two factors for all the phenological phases of the plants. In the air the temperature of 20-22 ° C is the inferior critical level for the start of the bulbs vegetation and the optimal level for the storage of the bulbs in the rest period. In the soil, the start of the bulbs vegetation is possible at the temperature 12-15 ° C but the optimal level is 25-30 ° C. The relative humidity must be 70-80 % both in the vegetative period and in the rest period. The growing and the flowering of the plants are optimal at the temperature of 30-35 ° C and at the high humidity conditions.

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STUDIES ON PROPAGATION CAPACITY AND AFTER PLANTING EVOLUTION OF *PASSIFLORA CAERULEA* PLANTS

DIANA ZAMFIR VÂŞCĂ, MĂDĂLINA GORAŞ

Key words: cuttings, growth, Passyflora, propagation,

ABSTRACT

During these studies were made observations on the cuttings propagation capacity of Passiflora caerulea plants, placed on different rooting medium. The aim was to obtain high quality plants in a short period.

There can be concluded that the cutting method, using stem cuttings, with two or three nodes, placed on perlit as substrate, gave the best results. There were made biometrics observations such as: roots number and length, offshoot length and leaves number.

After planting, the best evolution was observed in the substrate made of: 45 % leaf compost, 22,5 % well- rotten manure, 22,5 % sod land and 10 % sand, placed in 12 cm diameter pots. There were followed: offshoots number and length, leaves number.

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FRUIT GROWING

HIGHBUSH BLUEBERRY CULTURE A SOLUTION TO ENHACE THE VALUE OF THE LAND WITH ACID SOILS AND LOWER PRODUCTIVITY IN THE HIGH HILLS AREA NEAR THE MOUNTAINS

C. BĂDESCU

Key words: highbush blueberry

ABSTRACT

The high bush blueberry has been introduced in Romania in 1968, when the first field was planted at Bilcesti located in Arges at 840m altitude. At Bilcesti the main research work concerned varieties and suitability for our climatic and soil condition.

The studies made in the last 20 years have confirmed the exquisite capacity of production for the most varieties in study. For Coville and Pemberton we have got a 20 years average production of 6-7 tons although the suitability of the soil was not the best.

Coville proves to be the most valuable bot for the productivity and for the quality of the berries. The exquisite productivity of this variety was confirmed by the average production of 12-14 kg/bush obtained for many selection.

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35 YEARS OF RESEARCH IN THE FIELD OF THE HORTICULTURAL PRODUCTS MARKETING

BOGOESCU, M., BIBICU, MIRUNA, POPESCU, I., CATANĂ, LUMINIŢA

Key words: marketing, conditioning, storage, postharvest, research, project

ABSTRACT

The paper presents the main of the research, design and experimental production in the field of fruit and vegetables marketing, undertook by ICDIMPH – HORTING in its 35 years existence in the period of centralized economy as well as after 1989, in the transition towards the market economy stage. Now, a re-launching of research and design is necessary, by approaching aspects that correspond to the necessities of the strategies elaborated by the decision-making bodies and also aspects that correspond to those of the small and middle economic agents, involved in the marketing of the horticultural products. The authors believe that it's very important that the institute to become a research, design and production unit, one that could ensure the control and autentification of the quality of the horticultural products destined to large consume, the bringing up-to-date of the technologies, the achievement of new competitive products, the granting of consultance and the training of private economic agents.

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THE BEHAVIOR OF SAME COLUMNAR APPLE HIBRIDS, GENETIC RESISTANT AND ENGRAFTING ON THE LIBERTY ROOTSTOCK

CEPOIU N., PĂUN C., ATUDOSIEI NICOL, IONESCU N., APOSTOL DRAGOŞ

Key words: columnar apple, rootstock Liberty

In the orchard with high density the columnar apple it's a economical alternative. Her dressed status it's represented by axis with same short fruits branches, there are same productivity particularities and that recommended this apple for family garden and commercial garden with short space.

The research proposing creation of the new columnar apple varieties, resistant genetic at the main apple deaseas (*Venturia inequalis*, *Podosphera leucotricha*). This proposing was partial solving obtained in present the Macexel variety and a lot of hybrids with genetic resistance.

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PRUNUS TOMENTOSA, A SWEET CHERRY SPECIES FOR THE ORCHARD WITH HIGHT DENSITY

CEPOIU N., PĂUN C., CEPOIU ANDREEA-LORETA, VÎLCU ROXANA

Key words: shweet cherry, hight density

ABSTRACT

Prunus tomentosa had the chance to be research in Romania in the Fruits Growth Department from Horticulture Faculty.

The first information's concerning the Prunus tomentosa had been obtained from old chinoise men and chinoises rechercheur from Changli Institute province Hebei – China. In the first time the chinoise sweet cherry was used in the decorations green space, but in this moment the Prunus tomentosa is a very appreciated fruits species for his rouge and blank fruits. The Prunus tomentosa may be using with successful for engrafting. It's a very good rootstock for the peach and is using in the improvement the vigor of the sweet cherry.

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THE HIBRIDS SWEET CHERRY X CHERRY, POTENTIANLI ROOTSTOCK

CEPOIU N., STĂNICĂ FL., PĂUN C., SULTAN MIHAELA,
STANCIU IULIANA, MĂMULARU DANIELA

Key words: hybrids, sweet cherry, rootstock

ABSTRACT

In the last year the researches was conducted in reducing the vigour of the trees for increasing the number of the trees in the orchards. Until this moment for accompli the project was using the traditional methods technologic, biological and chemical. For break the vegetative increase was using new modality to conduct the trees.

In this moment using the rootstock with vigor very small it's a possibility too cheep. For the sweet cherry the researches used rootstock as: Camil, Edabriz, P-Hl 6, Weiroot 53 and F8, Gisela 5 and 10 for reducing the vigor with 40-65 % from F12/1.

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VALUABLE APPLE TREE VARIETIES – PRINCIPAL SURSE OF GERMOPLASMA

G. GRADINARIU, M. ISTRATE, M. DASCALU

INTRODUCTION

In Romania the apple germoplasma material consists in more than 1100 genotypes. More than 700 varieties and local selections are genetically disease resistant. The collection from University of Agronomic Sciences and Veterinary Medicine Iasi contains over 200 varieties. Among these, there are 65 local varieties and biotypes which are disease resistant. This genetic material is mainly used in the breeding program of our University.

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RESEARCHES REGARDING THE MULCHING MATERIAL INFLUENCE ON THE PRODUCTION AND QUALITY AT STRAWBERRY

D. HOZA

Key words: strawberry, mulch, straws, plastics

ABSTRACT

The obtained of the fruits with quality at strawberry in not possible without soil mulching for avoid the contact of the fruits with the soil. In the current practice are used many materials, each of them with advantage and unadvantage, regarding early fruit production, material cost, etc.

At the comparatively use of the straws mulch, transparent plastics, black plastics with the nude soil we constated that the strawberry fruits became mature earlier on black transparent mulch. 39,2% from the total production was earlier for black transparent mulch, comparatively with 11,2% at straws mulch and 17,4% at transparent plastics mulch. The numbers of the fruits extra and first quality was of 92,1% for black plastics mulch, 86,6% for straws mulch and 81,7% for transparent plastics mulch, comparatively with 71,3% at control.

The black plastics use gives a good protection of the strawberry fruits and assures a good quality, comparatively with the other materials.

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THE EFFECT OF LOW SPRING TEMPERATURE ON APRICOT AND PEACH TREES IN BUCHAREST ZONE

D. HOZA, DANIELA CIOLACU, A. ASĂNICĂ

Key words: apricot-tree, peach-tree, frost spring

ABSTRACT

The spring of 2002 year was very unfavorable for termophile fruit growing species, thanks to the low temperatures which came before and through the blossom time at apricot and peach tree. 5 days before the apricot blossom the temperature was of -9°C, and in the blossom time it was of -7°C, and this aspect determined very much lost of flowering buds and flowers. In these conditions, the fruits production was very small, in a way lost of flowering buds and flowers, and in a other way the low percent of fruits tied.

At apricot tree were analyzed 6 varieties (Dacia, Excelsior, Comandor, Sulmona, Mamaia and Favorit) and the production obtained was under 11 kg/tree.

For peach tree were analyzed also 6 varieties (Redhaven, Catherine, NJC-89, Florin, Filip and Costin) and the production obtained was between 4,9 and 8,3 kg/tree, which is less for the varieties productive potential.

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PRELIMINARY RESEARCHES REGARDING PARAMETERS CROWN REDUSE AFTER SUMMER PRUNING AT APRICOT TREES

HOZA D., DANIELA CIOLACU, A. ASĂNICĂ

Key words: apricot-tree, pruning, crown parameters

ABSTRACT

The summer pruning at apricot tree, made after fruit tied or after fruit harvesting makes a possibility for reducing of negative effects of spring frost. Thus, this mode of pruning determined small parameters crown reducing.

From this point of view, the researches effectuated by 6 apricot varieties (Dacia, Excelsior, Comandor, Sulmona, Mamaia and Favorit) shows that it eliminates a smaller quantity of biomass at winter pruning 4,2-6,9 kg/tree, comparatively with green pruning 4,2-9,4 kg/tree, effectuated after fruits tied and 4,3-8,6 kg/tree effectuated after fruits harvesting respectively.

The trees growing are little diminuated for trunk diameter and for yearly branches. The trunk diameter is smaller with 3,56% at pruning after fruits tied and with 4,27 at pruning after fruits harvesting.

The total growing soma was also little reducing, with 6,48% for the first pruning and with 5,44% for the second pruning.

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SOME ACHIEVEMENTS IN CROP TECHNOLOGIES FOR THE FRUIT TREES OF ROMANIA

IANCU M., ISAC I.

Key words: tree spacing, pruning systems, erosion control

ABSTRACT

The paper presents a synthesis of the results on investigations concerning the main technological measures in the Romanian fruit growing during the last 30-35 years. Based on a large number of indicators and parameters 5 important cropping systems were described and characterized as representative for Romania. Data reported emphasized the superiority of the intensive and super-intensive systems versus the classical systems that was replaced starting with years 1974 – 76 by the other two mentioned above. Among the main elements belonging to these cropping systems, the results of investigations on tree spacing crown shapes and pruning systems were presented shortly. Research data on the erosion control systems for sloped lands, the improvement the soil – air – water regime, the groundcover management and fertilizer application systems, the soil compaction state and measures of its remediation for the soils in orchards were also highlighted in this paper. Finally, some general and specific objectives for a perspective research were proposed in order to modernize Romanian fruit growing.

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METHODS AND TECHNIQUES FROM MANAGEMENT OF THE HORTICOLS COMPANYS

VICTORIA MANEA, ELENA STOIAN, ALINA MĂRCUȚĂ

Key words: instruments, assessment, working capital, liquidity, the debt ratio, the output of the capital, financial results, company.

ABSTRACT

Decision making inside a company involve the improvement of the previously financial results, to be used in planning for future activities.

The instruments that a company can use are the accounting documents (the assessment, the income statement) and the budgets.

The assessment gives a situation of the company to a given date: it is a photograph of the company on this date and the income statement measures flows of the company during a given period. All these instruments help the manager for finds the best solutions for their firm.

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MODALITIES OF FINANCING AGRICULTURE ENTERPRISE

VICTORIA MANEA, ELENA STOIAN, ALINA MĂRCUŢĂ LIVIU MĂRCUŢĂ

Key words: business, company, resources, horticulture, leasing, the stockholders' equity, the financial result, credit.

ABSTRACT

The successful business developing of the company with horticulture profile involves the existence of financial resources. If, at the beginning of a business, the basic resource for finance are brought in by the investor, later during the production process the necessity for new resources appears, which will contribute to achieve economical growth, financial balance and also the growth of liquidity of the company. The financial sources can be private or from outside sources.

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BUSINESS PLAN OF THE FIRM

VICTORIA MANEA, ELENA STOIAN, ALINA MĂRCUŢĂ, LIVIU MĂRCUŢĂ

Key words: business plan, company, financial data, supporting documents, product, service, management, marketing

ABSTRACT

The business plan is a written document that clearly defines the goals of a business and outlines the methods for achieving them. It serves as your company's roadmap. The role a business plan is: acts as the management and financial blueprint for a business start-up and profitable operation of a business venture; explains specifically how a business will function and details how a business will be capitalized, managed, and marketed.

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SCIENTIFIC RESEARCH RESULTS IN FRUIT GROWING AND VITICULTURE IN WESTERN ROMANIA

NEDELEA G., DRĂGĂNESCU E., DOBREI A., MIHUŢ E.

Western Romania in general, and the region of Banat in particular, is characterized by a softer thermal regime and by a satisfactory rainfall regime that ensure very favorable conditions for growing and fruiting in most species, including thermo-philous ones (fig-tree, almond-tree, peach-tree, apricot-tree, sweet chestnut-tree, etc.), which made people call it 'the Romanian California'. Western Romania people developed a prosperous, profitable agriculture on average family-private exploitations. Between the wars, Banat's agriculture (the most prosperous region in Western Romania), as Professor Ionescu-Siseşti said after a visit there, equaled German or France agriculture:

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THE DIVERSIFICATION OF THE SORTS RANGE OF PROCESSED HORTICULTURAL PRODUCTS WITH SPECIAL DESTINATION

MIOARA NEGOITA, LUMINIA CATANA, MONICA DINCA, MIRUNA BIBICU

Key words: fortifying products, products for diabetes

ABSTRACT

The current paper presents the result of research in the field of fruit and vegetables processing in order to obtain new products, with special destinations: products for diabetic patients, fortifying products.

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THE WALNUT CNPC-02 THE VALUE BIOTIP FOR THE SEMIINTENSIVE ORCHARD

PĂUN C., CEPOIU N., APOSTOL DRAGOŞ, CEPOIU ANDREEA LORETA

Key words: orchard, walnut,

ABSTRACT

In the countries with old tradition in fruits growth the walnut is a very important, concerning the surface and the varieties. The walnut is one from the little species with a great hybrid diversities obtained from natural selection.

The great surface with walnut are meeting in China, S.U.A., France, Italy, Germany etc. where was created the special system for mechanization the technology. Its one from the growth with the higher mechanization degree and the low consume of the work force. The mains works of the soil, the protection, the irrigation, the harvesting and fruits conditioning are effectuated mechanic in totality.

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THE BEHAVIOR IN NURSERY OF THE APPLE VARIETIES WITH AND WITHOUTH GENETIC RESISTANCE ENGRAFTING ON THE CHINOISE ROOTSTOCK

PĂUN C., CEPOIU N., SULTAN MIHAELA, STANCIU IULIANA, MĂMULARU DANIELA, VOICU FLORENTINA

Key words: genetic resistant, franc rootstock, Hebei province from China

ABSTRACT

In our country researches concerning the apple franc rootstock using was effectuated by Banatean (1940), Bordeianu (1960), Tudosescu (1969), Bodi (1962), Parnia (1966), Modoran (1962).

In the time of the visite in China at Academy of Agricol Sciences Hebei-China (1999) Prof. dr Nicolae Cepoiu from UŞAMV Bucureşti selected 4 apple populations with small vigueur, genetic resistent and very high production.

This pupulation was named: P.F.Hebei-1, P.F. Hebei-2, P.F. Hebei-3 and P.F. Hebei-4.

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SYNTHESIS OF RESEARCHES REGARDING THE KIWI FRUIT (*ACTINIDIA SP.*) PROPAGATION

STĂNICĂ FL., CEPOIU N., PETICILĂ A.

Key words: varieties, hybrids, cuttings, basal heating, rooting substrates, bark grafting, *in vitro* micropropagation, culture media.

ABSTRACT

After the plantation in Romania of the first kiwi orchards in Ostrov and Bucureşti, in 1993 with imported plants from Italy, several researches to establish the proper propagation technology were done. Cutting was one of the principal propagation methods. Using the basal heating techniques, the semi-hardwood and hardwood cuttings of *Actinidia deliciosa* and *Actinidia arguta* varieties and selections were treated with alpha naphtyl acetic acid (2,000-3,000 ppm). Composed rooting substrates, double layers and mixed, with: wood flour + perlite; wood compost + perlite and cotton waste + perlite were used. The rooting percentage and the quality of formed roots were strongly influenced by specie, variety, cutting moment, substrate type used and basal and atmospheric temperature. Grafting of non-interesting kiwifruit male plants was realized in Ostrovit plantation, Ostrov, Constanţa using the bark method with waxed scions from 'AD 20', 'Hayward' and 'Katiuscia' female cultivars. Success percentage varied between 75.70% and 98.50% for the grafting points. In the second year after grafting, the total number of shoots formed per plant was 37.00 for 'AD 20', 31.67 for 'Katiuscia' and only 15.33, for 'Hayward'. 'AD 20' produced the largest number of fruits with an average of 92.76 fruits/plant. Viewing the possibilities of large-scale introduction in culture, studies for establish the micropropagation methodology was done. Starting material was represented by Hayward, Tomuri, Katiuscia and AD 20 varieties (*Actinidia deliciosa*), AA2, AA5, AA6 and ARM (*Actinidia arguta*) and the hybrid Z (*Actinidia deliciosa*x*Actinidia arguta*). Five culture media with different compositions and hormonal balances depending on micropropagation phase: initiation, multiplication, rooting and acclimatization, were tested. Spring was the best period for *in vitro* culture initiation when shoots had 5-10 cm length. The CO_2 Laser for micro cuttings preparation and sterilization for 15 minutes in mercuric chloride ($HgCl_2$) 0.1%, were used. S 2,5 culture medium was the best for the multiplication phase with 4 weeks subculture duration. Shoots rooting with 0.5-1.0 mg/l IBA or IAA and cytochinines elimination were obtained during the last multiplication subculture. Acclimatization in tap water or on peat+perlite gave the best results. Between the studied methods, micropropagation is the one that presented most advantages and has to be extended for kiwi plant multiplication.

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ECONOMIC EFFICIENCY OF APPLE FRUIT VALORISATION ACCORDING TO QUALITY

ELENA STOIAN, CHIRA A., PAŞCA I., LENUŢA CHIRA, POPESCU GH.,

Key words: genetically – resistant varieties, quality variation index, average quality

ABSTRACT

Very often, the fruit tree-growing exploitations sell their gross production directly from the unit immediately after harvesting, without storing it. The present paper aims at printing out the economic differences in apple within the fruit tree-growing area of Voineşti, Dâmbovița, comparing the gross selling for a unique price per kilogram with the retail selling of the quality – classified harvest.

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VITICULTURE AND OENOLOGY

STUDY ON THE EFFECT OF THE EXTRACTION ENZYME QUANTITY ON THE COLOR OF MERLOT MUST AND WINES I. CHROMATIC PARAMETERS EVOLUTION DURING MACERATION-FERMENTATION PROCESS

ANTOCE OANA ARINA

Key words: chromatic parameters, Merlot, extraction enzymes, CIELab method

ABSTRACT

The paper describes the differences in the chromatic parameters measured according to the CIELab method of five Merlot wines treated with various doses of enzyme for color extraction. The evolution of color during the maceration-fermentation process is followed by measuring the parameters *a*, *b* and L. The location of color in the chromatic space is described in the *ab* diagram. The evolution of the dry content is also shown.

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STUDY ON THE EFFECT OF THE EXTRACTION ENZYME QUANTITY ON THE COLOR OF MERLOT MUST AND WINES II. CHROMATIC PARAMETERS EVOLUTION IN THE FIRST DAYS AFTER FERMENTATION

ANTOCE OANA ARINA

Key words: chromatic parameters, Merlot, extraction enzymes CIELab method

ABSTRACT

The effects of a commercial extraction enzyme on chromatic parameters were assessed by using the CIELab method. The samples were compared to substantiate the evolution of the chromatic parameters during the first days after the completion of fermentation, and also by calculating the extraction rate, in order to establish the optimum amount of enzyme to be added for Merlot wines. The highest values of the chromatic parameters were obtained for the highest enzyme quantity used in the study, while the lower quantities gave mixed results, not directly proportional to the employed dose. After one year of maturation, the color parameter were relatively uniform for all the samples, irrespective of the enzyme quantity applied, except for the color intensity, which was higher for all the samples prepared with enzymes, compared to controls.

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DETERMINATION OF THE MICROBIOLOGICAL HYGIENE LEVEL IN A WINE PRODUCTION FACILITY DURING WINEMAKING CAMPAIGN

ANTOCE OANA ARINA, LAURA DORINA DINU

Key words: hygiene, microorganisms, winemaking

ABSTRACT

In order to assess the hygiene conformity in a winemaking facility, microbiological tests were performed for the air, water and some surfaces in the production area, as well as for the determination of the microorganism number in the final wine. In spite of some non-compliances found, the overall process hygiene was satisfactory, and the non-conformities can be easily remedied.

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STUDY REGARDING THE PREFERENCES IN WINE OF THE ROMANIAN WINE SPECIALISTS

ANTOCE ARINA, GÎȚOI MARIUS, GRIGORICĂ LIVIU, NAMOLOSANU IOAN

Key words: wine types, consumer preferences, A.D.A.R.

ABSTRACT

The preferences in wine of the Romanian wine tasters and winemakers were analyzed, as a starting point for a larger study involving consumers of alcoholic beverages. The results of this study revealed that the specialists consume alcoholic beverages in moderate quantities and always select wines with low sugar content, with fruity flavor, equally for white and red wines. The grape varieties of choice were Italian Riesling and Sauvignon Blanc for whites and Cabernet Sauvignon and Merlot for red wines.

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CHARACTERISTICS OF VINE CULTURE ON THE TERRACED VERSANTS

CHEREGI V.

Key words: sloping land, soil erosion, sloping canal, terrace, versant, and gradient

ABSTRACT

The culture of vine found on the terraced lands presents some characteristics regarding the climatic, edaphic and orographic conditions. More favourable conditions of humidity are found on the terraces on the foot of the slope and more reduced on the terraces on the central and superior part of the versant. Higher temperatures and more intensive light are recorded on the superior third of the slope and more reduced ones on the inferior part. The natural fertility of the soil is higher on the inferior third of the versant and decreases by passing to the central and superior third of the versant. The fertility differs on the same terrace, being higher upstream and lower downstream the platform.

By chamfering, a certain surface of the reclaimed land is lost, according to the land slope.

Taking into account the sensibility of the Riparia gloire father plant to drought, lime, soil fertility, it is not reccommended to be used on the terraces.

The varieties of the table grapes will cover the terraces with the most fertile soils, those of high quality red wines will cover the superior third and the varieties of white wines will cover the rest of terraces on the versant.

For facilitating the mechanization, the upstream interval will be of 1.5m and the downstream one will be of 1.7m.

Due to the fact that the slope of a platform is reduced at ½ in time, the vines in the upstream part of the platform are planted with 5cm lower in comparison with the soil level, and in the downstream part of the platform with about 5cm above the soil level.

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THE ORGANIC FERTILIZATION OF VITICULTURAL PLANTATIONS

CHEREGI V.

Key words: humus, soil erosion, manure, mulch, green fodder.

ABSTRACT

The necessity of the organic fertilization of the viticultural plantations appears as a consequence of the high productions given by these plantations and also as the result of the intensive consume of humus. Humus by its action causes the soil improvement, improves the water, air and heat regime, feeds the microflora which is useful in the soil, favours the crumb structure, improves the action of mineral fertilizers, favours the availability of nutritive substances for roots, diminuishes the soil erosion, neutralizes some substances, such as pesticides. On the viticultural soils, there are some losses of humus, of about 2%; thus, it has to be constantly renewed by new shares of organic matter.

The most advantageous method of applying manure is that in deep ditches, of 35-45cm, made at the middle of an interval of 2m between rows, which partially replaces the subsoiling work.

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PHYTOSANITARY TREATMENT PROGRAMME AT VINE FOR THE YEAR 2003

V. CHEREGI

Key words: phytosanitary protection, phenological phases, Ridomil MZ, Vectra Talstar 10 EC, Folicur E50

ABSTRACT

The phytosanitary protection has an important place in vine disease and pest control. As the phytosanitary protection to be efficient, it has to be well known vine's... where treatments are applied as well as the disease and pest that has to be controlled.

The quantity and quality of vine production depends upon the phytosanitary treatments.

When applying the treatments, we have to take into account the concept of „biological viticulture”

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RESEARCH CONCERNING THE RELATIONSHIP BETWEEN THE YIELD QUANTITY AND QUALITY OF GRAPEVINE

L.DEJEU, MIHAELA SAVU, MIHAELA COMŞA, MARIANA ANDREI

Key words: grapevine pruning, bud load, yield, quantity, quality

ABSTRACT

This study presents the effect of five types of pruning (multiple Guyot; Guyot with periodically renewed arms; Guyot on demi-high stem; Cazenave cordon; spur-pruned cordon) and three bud load (10; 15 and 20 buds/m^2) on the yield and on the sugar concentration in the must at Feteasca regala cultivar.

The yield value varied between 3.35 kg/vine at multiple Guyot and 4.37 kg/vine at Guyot on demi-high stem. The yield value, function of the bud load was comprised between 3.19 kg/vine at 10 buds/m^2 and 4.58 kg/vine at 20 buds/m^2.

The highest values of sugar concentration in the must were registered at Guyot with periodically renewed arms (171.9 g/l) and the lowest at Cazenave cordon (155.0 g/l). There has been noticed the existence of a quantity-quality antagonism, in the sense that, while increasing the yield value, we register a diminution of the sugar concentration in the must and the alcoholic potential of the wine with a 1.5 – 2 % volume.

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MODERN TECHNOLOGIES FOR AN ECOLOGICAL VITICULTURE

DUMITRIU I.C., BEJAN C.

Key words: minimum tillage, bio-ecological fertiliser, residue vine distilation, residue grapes press.

ABSTRACT

The present study was carried out in order to emphasise the impact of ecological fertilizer applications using viticulture by products (residue vine distillation, residue grape press) on the main soil physical properties like: bulk density, soil compaction degree, total porosity, as well as on the fungi and bacteria micro flora activity in soil, as well as on vineyard parameters like: viability and grape yield from both a qualitative and quantitative view point.

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THE INCIDENCE OF PRE-FERMENTATIVE TECHNIQUES ON FLAVOR COMPONENTS OF THE MUSCAT OTTONEL SORT

HEROIU ELENA, SAVULESCU GEORGETA

Key words: terpenoid compounds, the pressing, the maceration, the hyperoxigenetion.

ABSTRACT

The performed researches evidenced that membrane all kinds contain the same elements of de flavor are locating in special in the membrane of the berries, the difference between the intensity of the flavor and the quality are reflect in the proportion of this components. The typicality of a wine is given by the ensemble of different flavors where flavor characteristic of every variety of grapes has the principal role and then the flavors producing in the fermentative phase.

The continuous accumulations of the free and bound terpenes in precursors in the time of growing up the grapes, represents an important fact in the settle of the optimum moment for the harvest and for the technological practices in the elaboration of the wines.

The maceration and the pressing is accompanied by the growing rich of the must from grapes in the components by the flavor like in phenolic compounds-support of the oxidation of the grape musts, that confirms the rich of the membranes in the terpenols.

The hiperoxigenation can be used at juices grapes of the flavor sorts.

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AGROBIOLOGICAL AND TECHNOLOGICAL CHARACTERISTICS OF SOME NEW ROMANIAN GRAPE VARIETIES FOR SUPERIOR RED WINES

ADRIANA INDREAŞ, FLORENTINA RĂDOI, ELENA HEROIU

Key word: new Romanian grape varieties, red wines

ABSTRACT

Obtaining new wine grape varieties with superior characteristics comparing with the existing varieties adapted to the production and exportations it's one of the main goal of the improvement and selection work in Romania.

In the last past years one of the main work it was focused on the enlargement of the varieties range for red wines and the extension of their cultivation area.

As a result of the improvement and selection work in Romania they have been homologate two new wine grape varieties at S.C.V. Drăgăsăni: Novac and Negru of Drăgăşani. This study contains the analysis of the behavior of these varieties in the vineyard and the physiochemical characteristics of the obtained wines.

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PERSONALITIES OF THE VITICULTURE AND OENOLOGY DEPARTMENT, SCHOOL BUILDERS

NĂMOLOŞANU I., OŞLOBEANU M., POMOHACI N., DEJEU L.

ABSTRACT

The paper presents the personalities of the Viticulture and Enology Department, University of Agricultural Sciences and Veterinary Medicine, Bucharest.

It points out I.C. Teodorescu and G. Constantinescu's contributions to the development of viticulture in our country, to the organization of the viticulture research station and to the orientation of the scientific research in the domain. Their contribution was recognized at an international level, by O.I.V.

There are also presented many personalities who gave their contribution to the development of university education and to the main research directions.

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THE MICROZONATION OF THE GRAPE VINE IN THE VINEYARD CRAIOVA HILLS DEPENDING OF THE CLIMATE AND GEOPEDOLOGIC CONDITIONS

OLTEANU I., GIUGEA N

Key words: macrozonation and microzonation, climate and geopedologic conditions

ABSTRACT

The cartografiation at a great scale of the wine-growing zones offers to the wine-grower an important level of reference for the geographic zone of production. The adaptation of the variety at the regional climate has an importance for the macroclimate level.

The special variability of the local climate and of the geopedologic conditions determined by: the topography and the geographic position of the land represents the important information in the carrying of the grape vine microzone

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RESEARCHES ON THE CLONAL MULTIPLICATION OF THE *Vitis vinifera*

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Key words: culture "i*n vitro*", clonal multiplication, culture media, grape varieties

ABSTRACT

The main objective of this researches follows the caulinars growths for the "in vitro" culture; they have been used two culture media (A factor with the graduations a_1 – Murashige-Skoog and a_2 – modified MS) and four grape varieties (B factor with the following graduations: b_1 – Victoria, b_2 – Ozana, b_3 – SO_4 greffing plant, b_4 – Ruggeri 140). The experimental plan it was arranged on subdivided parcels.

As a result of the calculation of the variance analysis and of the limited differences the modified MS medium is more efficient than the simple MS medium. The biggest rate growth was found for the Victoria variety (b_1), following by Ozana (b_2), and the smallest were the greffing plant SO_4 (b_3) and Ruggeri (b_4).

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STUDY OF SOME DECISIVE STIMULATIVE FACTORS OF THE YEASTS ACTIVITY

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Key words: must fermentation, yeasts activity

ABSTRACT

The research results obtained for a long period of time (1995-2002) pointed out the fact that the temperature of the fermentation's medium, the concentration in sugars and the internal surface of the must are the most important factors of the yeasts activity's stimulation.

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POLLEN SIZE VARIABILITY WITHIN SOME TABLE GENOTYPES OF *VITIS VINIFERA*

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Key words: grapevine, pollen grains, unreduced pollen, heterozygosity

ABSTRACT

Pollen size was investigated in 10 table cultivars and 3 valuable clones of grapevine. The measurements carried out on samples of pollen stained with acetocarmine by using light microscopy revealed a relatively large variation in pollen size, not only intervarietal, but also intravarietal in several genotypes. Thus, the measured diameter of pollen grains ranged between 16.2 and 21.2 μm in cv. Napoca and between 22.5 and 35.0 μm in cv. Afuz Ali, respectively. As expected, the degree of variation and differences between the investigated genotypes were even higher when the calculated volume of pollen grains was compared. For instance, the volume of pollen grains ranged between 2,225 and 8,177 μm^3 in clone 1-48-25, and between 5,961 and 22,438 μm^3 in cv. Afuz Ali, respectively. The largest variation in pollen size was found in cvs. Muscat of Alexandria, Afuz Ali, Coarna neagra, Calina, and clone 1-48-25. It is likely that the presence of giant pollen grains in several grapevine cvs. is a consequence of irregular meiosis, and the frequency of such pollen grains, which can be considered unreduced gametes, would be of interest in breeding for triploid or tetraploid cultivars. Even more interesting is the case of the grapevine cultivars in which the graphical distribution of pollen size showed two distinct peaks, revealing either their complex hybrid origin, or a high frequency of unreduced pollen.

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CONTRIBUTIONS TO THE MACROCLIMATE STUDY FROM VITICULTURAL CENTRES OF THE MOLDAVIAN HILLS REGION

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Key words: grapevine, enological climate, zoning

The enoclimate determines the area in which the grapevine is spread worldwide, the differences in the cultivated varieties, in the quality of wines and their typicality. For this reason, the quantitative analysis of the favorability degree of different regions and viticulture centre became indispensable. The discrimination is done in accordance with the heliothermal and hydric resources, as well as some temperature limitations during the cold season, on the basis of some synthetic indexes such as: hydrothermal index (Seleaninov, 1936), heliothermal index (Branas, 1946), bioclimatic index (Constantinescu et al., 1964).

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ACHIEVEMENT WITH *IN VITRO* PROPAGATION BIOTECHNOLOGIES FOR VINE AND OTHER HORTICULTURAL SPECIES AND THEIR COMMERCIAL MARKETING

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BUCIUMEANU ELENA, VĂRZARU IULIANA, POPESCU AGATHA

Key words: *in vitro* culture, grapevine, horticultural species, efficiency

ABSTRACT

Biotechnological potential of Phytotronic Center of S.C.D.V.V. Ştefăneşti – Argeş gives the possibility of obtaining of grapevine planting material of high biological value and also industrial multiplication of other horticultural species. This paper shows some aspects on profit evaluation which is possible to be realized by emplementation of results obtained by virus elimination technology in Romanian viticulture in the next years.The technique of *in vitro* multiplication of some horticultural species has been established and, also, in the laboratory studies are carried on the try to behaviour to the *in vitro* micropropagation of other species. This paper shows some aspects on profit evaluation which is possible to be realized by emplementation of results obtained by virus elimination technology in Romanian viticulture in the next years.

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CRITERIA AND VARIABLES FOR THE CHARACTERIZATION OF THE INITIAL AND FUNCTIONING STATE OF A VITICULTURAL PLOT

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Key words: microzoning, ecological potential, viticulture, plot characterization

ABSTRACT

The paper presents a methodology for the evaluation of the quality of viticultural plots performed on the basis of three elements: the initial state of the plot, the functional state of the plot and quality of the obtained wine. Each of the mentioned components is assessed by using specific variables and criteria. The variables selected for the evaluation of a plot are ranked in classes of quality and the range varies between 0 and 100 points.

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BOTANY AND PHISIOLOGY

SOME ASPECTS REGARDING THE INFLUENCE OF THE TYPE OF PRUNING AND BUD LOAD ON PHOTOSYNTHESIS, TRANSPIRATIONAND RESPIRATION RATES AT GRAPEVINE

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Key words: grapevine; pruning; photosynthesis; transpiration; respiration

ABSTRACT

The aim of this study is to investigate the variation of photosynthesis, transpiration and respiration of Fetească regală cultivar leaves, clone 21 Bl, on Kober 5 BB rootstock at four types of pruning (multiple Guyot; Guyot on demi-high stem; Cazenave cordon; spur-pruned cordon) and three bud loads (10; 15; 20 buds/m²). The photosynthesis rate varied between 2.39 and 10.29 µmol CO_2/m²/s,the transpiration between 0.89 and 6.63 mmol H_2O/m²/s and the respiration between 286.39 and 300.71 mg CO_2/kg/h, depending on the type of pruning, bud load and the phenological stage. The highest photosynthesis rate was registered for the multiple Guyot pruning (low training) and 15 buds/m². The highest transpiration rate raised the maximum values at the beginning of the flowering, at spur cordon pruning (3.54 mmol H_2O/m²). The intensity of the respiration process showed smaller variations between different types of pruning and bud load.

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HYPOHIDRIC STRESS IMPACT ON SOYBEAN [GLYCINE MAX (L.) MERR.] DURING SEEDS GERMINATION AND SEEDLING GROWTH PERIOD

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Key words: soybean, seeds germination, seedling growth, hypohidric stress

ABSTRACT

Seeds of Victoria cv. of soybean *[Glycine max (L.) Merr.]* were allowed to germinate and growth in Petri ditches on paper wetted with distilled water and simulating hypohidric stress conditions using mannitol solutions of different osmotic potentials, with a view to evaluate water stress impact on some physiological and biochemical parameters. Between the analyzed parameters, significantly differences have been obtained between studied variants for some of them. Therefore, the α - amylase activity reduced in the case of water stress conditions, interrelated with a reduction of the respiration rate at the seedling level, the peroxidase activity decreased at the hypocotyls level, as well the increase of the osmotic pressure at the same organ, in hypohidric stress conditions, can be considered as possible indicators to characterized the soybean seed tolerance to water stress, during seed germination and seedling growth.

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THE INFFLUENCE OF THE CULTIVAR TYPE ON THE DYNAMICS OF THE ACTIVITY OF SOME OXYDATIVE ENZYMES DURING THE VEGETATION PERIODE IN THE APPLE TREE LEAVES

AURA DOBRESCU, DANIELA BĂLAN

ABSTRACT

This paper is a comparative study concerning the evolution of the activity of some oxidoreductases during the phenological phases on the leaves of six apple tree cultivars with different harvest time in order to reveal some metabolically particularities. The results showed that the enzymatic activity is a specific feature of the cultivars and it doesn't depend on the harvest time of fruits.

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RESEARCH RESPECTING INFRARED FT-IR MICROSCOPY OF VEGETAL TISSUE

D. MIHAIESCU, I. BURZO

Key words: Microscopy, FT-IR.

ABSTRACT

Microscopy using a Centaurus FT-IR instrument is used to analyze a number of plant tissue samples. The analyses include different plant tissues from some species analyzed by reflection, ATR and transmission techniques. Using the mapping facility, a large area of the sample can be characterized by infrared spectra, point to point and also the distribution of some specific organic compounds.

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AGRICULTURE

THE INFLUENCE OF THE FORERUNNER PLANT, FERTILISATION LEVEL AND CLIMATIC CONDITIONS ON THE TOTAL WET AND DRY GLUTEN CONTENT OF WINTER WHEAT SEEDS CULTIVATED ON BROWN LUVIC SOILS IN THE WESTERN PLAIN OF ROMANIA

BANDICI GH., DOMUŢA C., ARDELEAN ILEANA

Key words: rotation plant, created agrofund, brown luvic soils

ABSTRACT

The quality of the cultivated plants depends on the employed cultivar and hybrid, climatic characteristics during the cultivation year and not in the last order, on the applied technology.

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RELATIONSHIP BETWEEN VEGETAL REMAINS (ROOTS + STUB) AND AGROFUND – CROP ROTATION PLANT

BANDICI GH., DOMUŢA C., ARDELEAN ILEANA

Key words: rotation plant, created agrofund, brown luvic soils, root, stub, vegetal mass, wheat, seeds,

ABSTRACT

An important problem refers to soil weeds seed bank with special reference to brown luvic soils and relationship between vegetal remains (roots + stub) and agrofund – crop rotation plant. A great number of seeds can be found in first 20 centimeters of soil (plowing layer). This fact causes a high weeds density which has a negative effect on the cultivated plants leading to partial or total crop loss.