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UNIVERSITATEA DE ȘTIINȚE AGRONOMICE ȘI
MEDICINĂ VETERINARĂ
BUCUREȘTI

LUCRĂRI ȘTIINȚIFICE

Seria A

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AGRONOMIE



BUCUREȘTI 2007

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**EFICIENȚA BIOLOGICĂ A ERBICIDELOR
ÎN SEMĂNĂTURILE CULTURII DE FLOAREA-SOARELUI
ÎN CONDIȚIILE ZONEI DE CENTRU A REPUBLICII MOLDOVA**

**BIOLOGICAL EFFICIENCY OF HERBICIDES
IN SUNFLOWER SEEDLINGS IN THE CONDITIONS
OF CENTRAL ZONE OF THE REPUBLIC OF MOLDOVA**

M. RURAC, GH. BUCUR

Cuvinte cheie: combaterea chimica a buruienilor, acetoclor, pometrin, trifluralin, floarea-soarelui

Key words: chemical weed control, acetochlor, prometryn, trifluralin, sunflower

SUMMARY

The scientific paper presents the results of the scientific research concerning testing of biological efficiency of herbicides in sunflower seedlings. Each test included: a variant without herbicides (untreated), a variant with a well known herbicide as a standard and two variants of tested herbicide. It was tested Acetogan 900 EC (acetochlor as active ingredient), Barrier 500 SC (prometryn as active ingredient) and Triflusan 480 EC (trifluralin as active ingredient). All herbicides are soil-incorporated. The research program included three evidence of weed species that infested sunflower and the evaluation of yield. The research has shown that sunflower was infested by 9 weed species. After 24-36 days herbicides have controlled weeds at the level of 73.2-90.9% (acetochlor), 72.5-85.3% (prometryn) and 92.4-96.1% (trifluralin). *Panicum capillare* was not controlled by prometryn. Not all herbicides provided a significant increasing of yield comparing with untreated variant.

**POSSIBILITĂȚI DE REFACERE A HUMUSULUI
ÎN SOLURILE ARATE ALE REPUBLICII MOLDOVA**

**POSSIBILITIES OF VEGETABLE SOIL RESTORATION
IN THE PLOUGHED SOILS OF THE REPUBLIC OF MOLDOVA**

AL. RUSU

Cuvinte cheie: structura suprafețelor însămânțate, bilanțul humusului, resturi vegetale, ierburi perene, gunoi de grajd

Key words: the structure of the sowed surfaces, humus balance, crop residues, perennial herbs, manures

SUMMARY

It is brought in the present structure of the crops of the Republic of Moldova which is occupied with weeding areas in the amount of 62% and where as a matter of fact no perennial herbs are tilled. On this account the humus balance is totally negative and is characterized by annual losses of 0,86t per hectare. It is demonstrated the possibility of balancing the humus assessment by modifying the crops structure and by administering the whole quantity of manure which was accumulated each year. This desideratum can be implemented by (1) reducing the surface of weeding areas to 46%, by enlarging the lands tilled with perennial herb to 20% and by laying that kind of quantity that each hectare amounts to 5t per year or (2) by reducing the cultivators to 50%, by extending the areas of herbs to 15% and by increasing the balanced quantity of remnants to 6t per hectare each year.

**CERCETĂRI PRIVIND RELAȚIA DINTRE RĂDĂCINILE
PLANTEI DE CĂȚINĂ (*HIPPOPHAE RHAMNOIDES*)
ȘI REȚINEREA SOLULUI PE PANTELE DIN BREBU – PRAHOVA**

**RESEARCH ON THE RELATIONSHIP BETWEEN THE ROOTS
OF THE PLANT UNDERBRUSH (*HIPPOPHAE RHAMNOIDES*)
AND THE FIXING OF THE SOIL ON THE SLOPES OF BREBU –
PRAHOVA**

M. BERCA, D. ENE, CRISTINA STURZU

Cuvinte cheie: reconstrucție ecologică, modelare, relații plante-sol, eroziune, cătină

Key words: ecological restauration, modelling, plant-soil relationship, erosion, underbrush plant

SUMMARY

The agro-ecological research done along the Brebu plateau, on the hills and steeps colateral to Doftana river and Lupa brook, made evident an advanced degree of erosion and landslips, which endanger the existance of the plateau itself and of Brebu village, situated on this plateau. The ecological restauration of the areals, destroyed by forest and bush cutting in order to get wood and pastures is extremely necessary and urgent. Investigations in the area demonstrated that the underbrush species (*Hippophae rhamnoides*) is locally well acclimatized and the surfaces with this plant are not affected by erosion and landslips. By using a dinamyc method of investigation, the research presented in this study came to the following results:

1) Loss of soil through erosion and landslips on unprotected surfaces is correlated with the land slope. A significant loss of soil begins at a slope of a land of 5-10% (60-100 t/ha) and become a real calamity at over 32-33% (over 10.000 t/ha) i.e. wide-spreading landslips which threaten the security of the plateau.

2) The radicular architecture analysis of the species *Hippophae rhamnoides* set up that this plant is developing a very strong radicular system which, depending on the depth of the soil, can reach 100 cm. The mother plant initially develops a pivoting root and from this root other very strong sucker roots start laterally which, in their turn, form a net of little roots which fix the soil like in a screw vice. The plants resulting from the sucker roots don't have pivotant roots but they form, at their turn, especially in the layer of 30-50 cm, strong lateral roots with the same size of diameter like the external trunk.

3) Due to the nutrient nitrogen „N” let in soil by the underbrush plant in an average quantity of 150 kg/ha, following a symbiosis with actinomicetae species of Frankia gender, the new protection ecosystem is diversifying very fast with species like cornel tree, hazelnut tree, hip rose, greyish-white and numerous perennial and annual herbaceous plants, consolidating in maximum 6 years an extremely stable biocenosis which offers a long-term protection to the affected areal.

4) The mathematical model created demonstrates that in 6 years the underbrush plant and the other plants populating the new ecosystem can fix at least 7 m³ of soil for each plant of underbrush planted.

5) As a conclusion, in six years we can get the sustainable protection of the affected surface by planting and well taking care of about 1400 underbrush plants.

6) Research will continue by creating the mathematical complex model of extension of the ecological and biological restauration, and using the ecosystems based on underbrush also in other areas.

**STUDIUL UNOR HIBRIZI STRĂINI DE FLOAREA-SOARELUI
ÎN CONDIȚIILE SOLULUI BRUN-ROȘCAT (PRELUVOSOL-ROȘCAT)
DE LA MOARA DOMNEASCĂ**

**STUDY REGARDING THE FOREIGN SUNFLOWER HYBRIDS
ON THE REDYSH-BROWN SOIL (HAPLIC LUVISOL) CONDITIONS
FROM MOARA DOMNEASCĂ**

V. ȘTEFAN, V. ION, NICOLETA ION, M. DUMBRAVĂ, MARIA TOADER

Cuvinte cheie: hibrizi, floarea-soarelui

Key words: hybrids, sunflower

SUMMARY

Sunflower is one of the most important field crops in Romania, taking into account the cultivated surface; it ranks third after maize and wheat. At the same time with the increase of the cultivated surface with sunflower in the last years, the hybrid offer has become very much diversified with Romanian hybrids as well as with hybrids from abroad (118 hybrids registered in the Official Catalogue of crop varieties grown in Romania for the year 2006, out of which 58 are foreign hybrids). Thus, the farmer cultivating sunflower have to know these hybrids from a morphological and biological point of view, but especially from a productive point of view, in order to have a right choice of the hybrid or hybrids that mostly correspond to the specific growing conditions. The present paper presents the results of the research carried out on twenty foreign sunflower hybrids in southern Romania (15 km northeastern faraway from Bucharest), under the 2006 climatic conditions. The studied hybrids were the following: Huracan, Kasol, Lindor, Masai, Mateol, Podium, Saxo, Sunko, Fly, Rigasol, Rigasol OR, Fleuret OR, Arena, Melody, NK Armoni, Alexandra, NK Dolbi, NK Ferti, Opera PR, Sanay.

**COEXISTENȚA A DOUĂ SISTEME DE AGRICULTURĂ -
AGRICULTURA CONVENȚIONALĂ ȘI AGRICULTURA ECOLOGICĂ**

**CO-EXISTENCE OF TWO AGRICULTURE PRODUCTION SYSTEMS –
CONVENTIONAL AGRICULTURE AND ECOLOGICAL
AGRICULTURE**

GH.V. ROMAN, MARIA TOADER, LENUȚA IULIANA EPURE,
ELENA NISTOR

Cuvinte cheie: agricultură ecologică, siguranță și securitate alimentară, protecția ecosistemelor, biodiversitate

Key words: ecological agriculture, food safety and security, protection of the ecosystems, biodiversity

SUMMARY

In exploiting the various forms of land and natural resources, including in agriculture, our responsibility towards the future generations must be taken into account, as an ethical component pertaining to the future. Technologies must diminish their impact on the environment, natural ecosystems must be less influenced by agricultural activities, and biological diversity must be preserved and developed by: rational agricultural production, diversified biological agricultural technologies, economic efficiency, adequate agricultural production and processing techniques, efficient food quality management, sensible and trustworthy decision-making worldwide.

Modern technology of food production and processing raises a wide ranging debate about the sources, users, and purpose of food and its unique role in the society, as global commodity, and core part of local human societies. In the efforts to change the food type, place and production mode, organic agriculture will provide one means that enables humankind to start cleaning up and improving the environment, as well as preserving biodiversity – a finite world resource of economic and ethical value for humankind, whose reserves are being eroded or lost for perpetuity by unsustainable practices. Therefore, one of today's critical challenges is the conservation of biological diversity, and the sustainable use of biodiversity components for the benefit of humankind

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**CERCETĂRI PRIVIND MANIFESTAREA ANDROSTERILITĂȚII
CITOPLASMATICE (CMS) DE TIP CMSC ȘI CMST
LA UNII HIBRIZI DE PORUMB**

**RESEARCH CONCERNING THE EXPRESSION
OF CMS C AND CMS T CYTOPLASMIC MALE STERILITY
IN SOME MAIZE HIBRYDS**

GEORGETA OROIAN, G. MORAR, I. HAȘ, VOICHIȚA HAȘ

Cuvinte cheie: porumb, androsterilitate citoplasmatica, gene, restaurarea fertilitatii

Key words: maize, cytoplasmic male-sterility, genes, fertility restauration

SUMMARY

The use of cytoplasmic male-sterility in maize hybrids production contributes to the increase of economic efficiency and the obtaining of genetical seeds.

Therefore, the aim of the paper is the behavior of eighteen maize hybrids, given the expression of cytoplasmic male-sterility, in climating conditions from Turda, in two experimentals years: 2005 and 2006. We regard in principle the influence of different climatic conditions about the hybrid reaction in two cytoplasm (cms C and cmsT), regarding flower biology.

**EFICACITATEA NOILOR ERBICIDE MERLIN DUO
ȘI GARDOPRIM PLUS GOLD COMPARATIV CU ERBICIDELE
CLASICE APLICATE LA VIȚA DE VIE DIN STAȚIUNEA DĂBULENI
ȘI AGROFARM HOLDING FETEȘTI**

**THE EFFICACY OF THE NEW HERBICIDES MERLIN DUO
AND GARDOPRIM PLUS GOLD COMPARATIVELY
WITH THE CLASSIC HERBICIDES APPLIED TO VINE CULTURE
OF THE STATION DĂBULENI AND AGROFARM HOLDING FETEȘTI**

ȘT. POIENARU, N. ȘARPE, MARIA IANCU

Cuvinte cheie: erbicide, Merlin Duo, Gardoprim Plus Gold, viță de vie

Key words: Merlin Duo, Gardoprim Plus Gold – herbicides for herb control from the vineyards in bearing

SUMMARY

After the entry in the European Union on January 1st 2007, in Romania is forbidden the use of the simazin and atrazine herbicides to the vine culture. These two herbicides, especially the simazin with its commercial denomination Gesatop and Simanex, were experimented for 40 years in Romania, inclusively on the sand from Dăbuleni, obtaining the best results in the annual herbs control belonging to the group of monocotyledons and dycotyledons.

In order to contribute mainly to the replacement of herbicides based on simazin the two herbicides Merlin Duo and Gardoprim Plus Gold were experienced for the first time in Romania – both herbicides being approved in Romania and in the countries from the European Union only for maize culture.

The experiments with Merlin Duo and Gardoprim Plus Gold were applied to the vine culture in the autumn of 2005 and 2006, having as reference witness the herbicide Simanex 50 SC based on simazin.

The experimental results obtained to Agrofam Holding Fetești confirm that the herbicides Merlin Duo and Gardoprim Plus Gold have great perspective for the conditions from Romania – the control of the species of annual herbs being similar with that of the herbicides Simanex 50 SC.

**SELECTIVITATEA SI EFICACITATEA NOILOR ERBICIDE
MERLIN DUO SI GARDOPRIM PLUS GOLD COMPARATIV
CU ERBICIDELE CLASICE APLICATE ÎN LIVADA DE CAIS
LA STAȚIUNEA DĂBULENI ȘI AGROFARM HOLDING FETEȘTI**

**THE SELECTIVITY AND EFFICACY OF THE NEW HERBICIDES
MERLIN DUO AND GARDOPRIM PLUS GOLD BY COMPARISON
WITH THE CLASSIC HERBICIDES APPLIED IN THE APRICOT TREE
ORCHARD AT DĂBULENI STATION AND AGROFARM HOLDING
FETEȘTI**

ȘT. POIENARU, N. ȘARPE, MARIA IANCU

Cuvinte cheie: erbicide, Merlin Duo, Gardoprim Plus Gold, buruieni, cais

Key words: Merlin Duo, Gardoprim Plus Gold – herbicides for fighting against herbs in the apricot tree orchard

SUMMARY

In many European countries, as well as in Romania, the best results in the process of controlling the species of annual herbs from the dycotyledons and monocotyledons group were obtained using the herbicides based on simazin (Gesatop 50 WP, Simanex 50 SC, Simadon 50 WP etc.). Considering the fact that, beginning with January 1st 2007 the herbicides based on Simazin are forbidden in Romania, naturally arises the question what herbicides shall replace them?

In order to contribute to the replacement of the herbicides based on Simazin, for the first time in Romania were experienced the herbicides Merlin Duo and Gardoprim Plus Gold – both herbicides being approved in Romania and in the countries from the European Union only for maize culture.

In the apricot tree orchard from Agrofam Holding Fetești were applied in different doses the herbicides Merlin Duo and Gardoprim Plus Gold. The respective herbicides were applied in the autumn of the year 2005 and 2006, having as reference witness the herbicide Simanex 50 SC.

On the basis of the experimental results obtained from Agrofam Holding Fetești it may be stated that the two herbicides Merlin Duo and Gardoprim Plus Gold have great perspectives for the apricot tree orchard in Romania and for other countries in Europe where, up to the present, were not experienced the herbicides Merlin Duo and Gardoprim Plus Gold.

Specification: The idea of experiencing the herbicides Merlin Duo and Gardoprim Plus Gold to the apricot tree belongs to Dr. Nicolae Șarpe.

**CERCETĂRI PRIVIND INFLUENȚA STRESULUI HIDRIC ASUPRA
PRODUȚIEI ȘI CALITĂȚII RECOLTEI LA CULTURILE IRIGATE DIN
CÂMPIA ROMÂNĂ ȘI CÂMPIA TECUCIULUI**

**RESEARCH REGARDING INFLUENCE OF HYDRIC STRESS ON
YIELD AND ITS QUALITY OF IRRIGATED CROPS UNDER
ROMANIAN AND TECUCI PLAINS**

OANA ALINA MARDARE (NIȚU), I. JINGA, D. S. NIȚU

Cuvinte cheie: normă de udare, subasigurare cu apă, normă de irigare, modificări climatice

Key words: irrigation norm, limited water supplying, watering norm, climatic modifications

SUMMARY

The current problem of irrigation in Romania is very complex, having in view two main aspects.

A first aspect is the current technical state of equipments, very old, fact that imposes their rehabilitation and renewal.

The second aspect refers to the climatic modifications occurred on global earth scale, modifications which could become more severe according to scenarios performed as follows of significant researches.

**PROBLEME ALE POLUĂRII FONICE LA FOLOSIREA UTILAJELOR
DE MECANIZARE DIN AGRICULTURĂ**

**PHONIC POLLUTION PROBLEMS REGARDING THE USE
OF AGRICULTURAL MECHANIZATION EQUIPMENT**

A. MITROI, D.-G. EPURE

Cuvinte cheie: utilaje, mecanizarea agriculturii, surse de poluare

Key words: equipment, agricultural engineering, noise sources

SUMMARY

The local phonic pollution generated by outdoor equipment affects the human health and comfort. Regarding tractors and other agricultural machinery, noise disturbs not only the workers that are directly involved in maneuvering the vehicles but everyone in the nearness of the equipment, involved or not in the production process. Beside the agricultural machinery, phonic pollution is emitted also by stationary equipment. We must consider the conditioning and storage machinery for agricultural products, the processing and distribution equipment for animal fodders, the ventilation and heating equipment. The objectives of this paper are: to determine the level of phonic emissions for outdoor equipment, not only for maximal values in standard conditions but also for different distances from this equipment; to determine the level of phonic emissions for agricultural machinery functioning inside the buildings. Based on the results, some proposals were also elaborated regarding the decreasing of the phonic emissions produced by the agricultural machinery.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol.L., 2007

**FACTORII CARE INFLUENȚEAZĂ PROPRIETĂȚILE FIZICO-
CHIMICE ALE SOLURILOR ȘI METODELE DE DIMINUARE A
ACESTORA**
**FACTORS WHICH INFLUENCED PHYSIC AND CHEMICAL SOIL
PROPERTIES AND METHODS FOR THASE DECREASE**

I. SĂRĂCIN, GH. MARIN, OLIMPIA PANDIA

Cuvinte cheie: compactarea solului, cauze, efecte, diminuarea efectelor

Key words: soil compaction, causes, effects, avoid methods

SUMMARY

In the paper is presented the influence of the different parameters of work and building parameters of the tractors and agricultural machines on wheels upon the mechanics and physics properties of the agricultural soils.

**POTENȚIALUL DE PRODUCȚIE AL UNOR HIBRIZI DE PORUMB,
ÎN REGIM IRIGAT ÎN CONDIȚIILE DIN SUD-ESTUL
CÂMPIEI ROMÂNE**

**THE YEILD POTENȚIAL OF CORN HYBRIDS UNDER IRRIGATED
CONDIȚIONS OF THE SOUTH – EASTERN ROMANIAN PLAINS**

M. URECHE

Cuvinte cheie: hibrizi de porumb, densități, interacțiunea hibrizi x densitate
Key words: corn hybrids, plant populațion, hybrids x plant populațion

SUMMARY

This study refers to the behavior of certain corn hybrids, sown at 4 different densities: 30000, 45000, 60000, 75000 plt/ha, in two different sowing periods: optimum and late, in two repetitions.

The hybrids used in this poly-factorial experimental study have been created by Fundulea Agricultural Research and Development Institute: F 322, Opal, Danubiu, F376, Olt, Rapsodia, Campion and by Pioneer company: PR 38 A 24; PR 37 M 34; PR 36 R 10; PR 35 P 12 and Florenția.

The study using these 12 hybrids was carried out under irrigated conditions, in two different locations: C.T.S (Centre for Variety Testing) Mircea Vodă, Brăila county and C.T.S Cogealac, Constanța county.

The sowing periods did not significantly influence hybrid grain yield. Under irrigated conditions at higher density levels the yields obtained were higher compared to lower yields obtained for lower densities. Under the same agronomic conditions, Pioneer hybrids have generated higher yields compared to the hybrids created I.C.D.A. Fundulea.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**IDENTIFICAREA SPECIILOR CHEIE ÎN CADRUL STUDIULUI
BIODIVERSITĂȚII DIN ECOSISTEMUL CULTURII DE SOIA**

**IDENTIFICATION OF KEY SPECIES IN STUDY REFERRING
BIODIVERSITY FROM SOYBEAN CULTURES**

GÎDEA SIMONA, ISTRATE RADA, I. ROȘCA, N. CHIRCIU

Cuvinte cheie: biodiversitate, specii cheie, agroecosistemul culturii de soia

Key words: Biodiversity, key species, soybean agro ecosystem

SUMMARY

Study is referring to actual interest regarding maintaining of biodiversity in an agro ecosystem less affected by pesticides treatments, as it is the case of soybean cultures, in which rarely are applied pesticides treatments for control of weeds, diseases and pests. Experiments which were done were in frame of researches on epigeic fauna in soybean cultures. Initial objective of our researches was to evaluate potential impact of soybean RR cultivation on useful fauna on soybean plants.

**MONITORIZAREA MICROLEPIDOPTERELOR DIN
AGROBIOCENOZELE PLANTAȚIEI DE MĂR ȘI PIERSIC DE LA
USAMV-BUCUREȘTI**

**MONITORING MICROLEPIDOPTEROUS FROM APPLE AND PEACH
AGRO ECOSYSTEMS AT UNIVERSITY OF AGRICULTURAL
SCIENCES AND VETERINARY MEDICINE OF BUCHAREST**

RADA ISTRATE, I. ROȘCA

Cuvinte cheie: monitorizare, microlepidoptere dăunătoare, măr, piersic

Key words: monitoring, microlepidopteous pest, apple, peach

SUMMARY

Sexual pheromones, recently included in the systems of biological control of insect pests, are useful for warning of chemical treatments, establishing of real pest spreading area and determining the level of microlepidopterous pest from orchards. Even if at the Research Institute of Chemical Researches Raluca Ripan – Cluj Napoca 35 types of synthetic sexual pheromones were registered for warning, determining the level and control of pest population from orchards, grape vine plantations, field crops, forestry and storage place, the implementation of using these products in practice is very slow. The importance of using pheromones was demonstrated in numerous scientific papers elaborated by authors from research institutes in Romania: [3, 4], [7], [2], [1], [6], [5], but we consider that we have to maintain in actuality the interest of using pheromones in integrated control programs, especially in orchards.

In this paper we present the results of research performed during the year 2006 in the orchard of experimental field of orchard department from USAMV-Bucharest, and in which we try to prove the importance of sexual synthesis pheromones in supervising of microlepidopterous pest from apple and peach orchards, and recommendation for applying treatments at the proper time regarding the pest population level.

**IERBURILE PERENE CA MIJLOC DE STOPARE A EROZIUNII DE
SUPRAFAȚĂ ȘI PĂSTRAREA FERTILITĂȚII, PE CERNOZIOM
CARBONATIC MEDIU ERODAT**

**PERENNIAL HERBS AS MEANS OF REDUCTION OF SUPERFICIAL
EROSION AND PRESERVATION OF FERTILITY, ON CERNOZIOM
MEDIUM ERODATE**

L. POPOV

Cuvinte cheie: eroziune de suprafață, fertilitatea solului, ierburi perene
Key word: superficial erosion, preservation of soil fertility, perennial herbs

SUMMARY

Destruction of the soil by water erosion is the big problem for the Republic of Moldova. The area of erodate soil makes 731917 hectares i.e 21.6% from the total area of the country (3 mil 376000 hectares). The most effectively way of minimization of erosion is cultivation of perennial herbs which with other cultures represent the greatest protective ability to comparison, for soil (86 %). At the same time, cultivation of perennial herbs as is independent, and together with the application of organic fertilizers render positive influence on the preservation of fertility soil.

The experiment was performed in the southern part of Republic of Moldova, on an experimental station of Institute of Soil Science and Agrochemistry "Nicolae Dimo" on chernozem carbonated medium erodate.

**CERCETĂRI PRIVIND INFLUENȚA SUBASIGURĂRII CU APĂ
ȘI A GENOTIPULUI CULTIVAT ÎN CONDIȚII DIFERITE DE
TEHNOLOGIE, ASUPRA PRODUCȚIEI DE SOIA, ÎN ZONA DE SUD A
ȚĂRII**

**INFLUENCE OF BOTH LIMITED WATER SUPPLYING
AND GENOTYPE CULTIVATED UNDER DIFFERENT
TECHNOLOGICAL CONDITIONS ON SOYBEAN YIELD, IN THE
SOUTH OF ROMANIA**

D. S. NIȚU, ALINA MARDARE (NIȚU), S. CÎMPEANU

Cuvinte cheie: normă de irigație, normă de udare, genotip cultivat, subasigurare cu apă

Key words: irrigation norm, watering rate, genotype limited water supplying

SUMMARY

The performed experiments had as aim the optimization of crop technology, water supplying and establishment of the most suitable genotype to achieve maximum maize yields in the South of Romania under conditions of economic efficiency and environmental protection.

Under the conditions of Romania joining to European Union, the obtaining of economically efficient yields and protection of environment is an urgent need.

**EFICACITATEA ERBICIDELOR SELECTIVE APLICATE
POSTEMERGENT, ÎN COMBATEREA COSTREIULUI DIN RIZOMI
(*SORGHUM HALEPENSE*) DIN CULTURA PORUMBULUI DIN INCINTA
ÎNDIGUITĂ GIURGIU – DAIA**

**THE EFFICIENCY OF SELECTIVE HERBICIDES APPLIED FOR THE
CONTROL OF *SORGHUM HALEPENSE* FROM RHYZOMES OF MAIZE
CROP IN GIURGIU-DAIA INDYKE PRECINCTS**

I. OANCEA, T. STOICESCU, IOANA AMALIA SIMION

Cuvinte cheie: selectivitatea, eficacitatea erbicidelor, porumb

Key words: selectivity, efficacy of herbicides, maize

SUMMARY

The weed control from maize crop, especially *Sorghum halepense* on the first phase of vegetation is still a very big problem for farmers. Whether the dicotyledonous weeds are controlled by herbicides with a very high efficacy for the monocotyledonous weeds, the perennial ones-like *Sorghum halepense*, are still under research for an efficient solution.

The aim of the paper was to find the most efficient herbicides for the *Sorghum halepense* control. Thus, there were studied 4 variants with herbicides, including the combinations between them. The experiment was located in the experimental field of the farmer, in Daia-Giurgiu, in indyke precincts. The treatments were applied depending on herbicides, namely before seeding by incorporation (ppi) and over the period of vegetation (postemergent) on different phase of leaves. The weed control, in this case, *Sorghum halepense* control established an important growth of the maize yield and from here we can see the negative influence of *Sorghum halepense*.

EMISIILE DE CO₂ LA MECANIZAREA LUCRĂRILOR LA CULTURI DE CÂMP ÎN CONDIȚIILE DIN ZONA MAVRODIN, JUD. TELEORMAN

CO₂ EMISSIONS RESULTED FROM WORKS MECHANIZATION IN THE MAIN CROP IN MAVRODIN AREA CONDITIONS, TELEORMAN COUNTY

GEANINA GHIOCEL, A. MITROI, D.G. EPURE

Cuvinte cheie: emisii, dioxid de carbon, combustibil, lucrări agricole mecanizate
Key words: emissions, carbon dioxide, fuel, agricultural machine working

SUMMARY

The CO₂ emissions resulted from energy consumption processes involving fossil fuels cause the aggravation of the greenhouse effect, affecting the global environment. The main way to reduce the CO₂ emissions is to reduce the fossil fuel consumption. The actual knowing of the phenomenon could lead to efficient actions. In our country, very small steps were made in this direction, for example the specifications for automobile emissions and electrical energy furnishing. The CO₂ emissions resulted from the use of diesel fuel for agricultural mechanization works were determined in recent research, but the problems are mostly unknown. The objectives of this paper are to determine the specific fossil fuel consumption for mechanization works regarding the soil cultures in agricultural farms and to determine the afferent CO₂ emissions, pointing out the possibilities for decreasing the emissions. The soil works lead to the highest diesel fuel consumption involving a high rate of emissions. The main way to reduce the CO₂ emissions is to reduce the fuel consumption. The specific diesel fuel consumption can be reduced through the correct choice of technologies, the recalculation of some parameters and the correct maintenance and adjustment of the tractor engines and of the other agricultural machinery. We also calculated the specific CO₂ emission for product unit in equivalent CO₂ in g/t product.

**DISCRIMINAREA RECOMANDĂRILOR
PRIVIND LUCRĂRILE DE BAZĂ ALE SOLULUI LA PORUMB
ÎN FUNCȚIE DE PARAMETRII FIZICI AI SOLULUI**

**DISCRIMINATION OF RECOMENDATION CONCERNING
THE MAIN SOIL TILLAGE IN MAIZE CROP IN RELATION
WITH THE PHYSICAL PARAMETERS OF THE SOIL**

MIHAELA OBRÎȘCĂ

Cuvinte cheie: densitate aparentă, porozitate totală, porozitate capilară, lucrările solului, agricultură durabilă

Key words: bulk density, total porosity, capillary porosity, soil tillage, sustainable agriculture

SUMMARY

The physical indicators of the soil, such as texture, bulk density, total porosity, aeration porosity, hydraulic conductivity, represent components of the soil fertility which determine the framework for the evolution of soil chemistry and its biological properties.

The requirements of maize concerning the soil physical characteristics are well known, having in view the term-hydric environment in which the plant evolves, and the reserve of the soil to release the nutrients.

The research conducted on the reddish preluvosoil, by Săndoiu and colab. (2006, 2007), showed a deficit in the 10-30 cm area, which is correctable by using soil tillage.

The aim of this reasearch is to evaluate the changes in the soil physical characteristics of the soil in the 0-25 cm area, after the harvesting of the maize, by the use of indicators (bulk density, toatl porosity, capilar porosity), as a means for improving the system of the main soil tillage.

**GRADUL DE IERNARE, PRODUCȚIA ȘI CALITATEA BOABELOR DE
GRÂU DURUM DE TOAMNĂ ÎN FUNCȚIE DE UNELE ELEMENTE
TEHNOLOGICE DE CULTIVARE**

**DEGREE OF WINTERING, YIELD AND QUALITY OF DURUM
WINTER WHEAT SEEDS DEPENDING ON SOME ELEMENTS OF
CULTIVATION TECHNOLOGY**

MARIANA IZBAȘ, N. PALADE

Cuvinte cheie: grâul durum de toamnă, epoca de semănat - timpurie, optimă, acceptabilă, gradul de iernare, producția și calitatea boabelor

Key words: durum winter wheat, seeding epoch – early, optimum, acceptable, degree of wintering, yield and quality of seeds

SUMMARY

Durum winter as a biological type is relatively new. It has a low degree of wintering and some problems concerning level of yield and quality of seeds need to be addressed.

The research that was carried out under acceptable methodology at the Crop Science Department within the Agrarian State University of Moldova has demonstrated the positive role of commercial fertilizers of application as basic ($N_{30}P_{90}K_{90}$) and of foliar application of N_{40} , acceptable epoch of seeding (10.X) on degree of wintering, on yield and quality of seeds of different varieties of durum winter wheat. The maximum rate of capitalization (113 %) was registered in the variety Hordeiforme 333, that was sown in the acceptable epoch.

**ECOLOGIA DIFERITOR SISTEME DE LUCRARE DE BAZĂ A
SOLULUI ÎN REPUBLICA MOLDOVA**

**ECOLOGY OF DIFFERENT SYSTEMS OF BASIC SOIL TILLAGE
FROM MOLDOVA**

GH. ȘUȘU, V. RUSU

Cuvinte cheie: sisteme de lucrare de bază a solului, minimalizarea lucrării solului, schimbările particularităților fizice a solului, gradul de îmburuienare, ecologia

Key words: systems of basic soil tillage, diminution of soil tillage, ecology, change of physical peculiarities of the soil, soil degree of weed growing

SUMMARY

At the experimental-didactic station „Chetrosu” during permanent experiences of long duration the possibility of diminution of soil tillage is being studied in the crop rotation. The current research includes the studying of agro-physical and biological indicators of soil fertility. This paper presents the data concerning the influence of the systems of basic soil tillage upon the weedy crops, bulk density, water reserves in the soil.

Great importance is paid to the study of crop production of the studied link and the productivity of the crop rotation. in this paper the recommendations on the production concerning the diminution of soil tillage in agricultural crop rotation are clearly formulated

REZULTATE EXPERIMENTALE PRIVIND INTEGRAREA PAJIȘTILOR ÎN SISTEMUL DE AGRICULTURĂ DURABILĂ ÎN CÂMPIA ROMÂNĂ

EXPERIMENTAL RESULTS CONCERNING MEADOWLANDS INTEGRATION IN THE SUSTAINABLE AGRICULTURE SYSTEM IN THE ROMANIAN PLAIN

GH. MOTCĂ, G.D. IONESCU

Cuvinte cheie: specii, amestecuri, fertilizare, randament, componente de producție

Key words: species, mixtures, fertilization, yield, production components

SUMMARY

The permanent meadowlands existent in the Romanian Plain are insignificant in terms of extension, benefit and quality. In order to provide feed to herbivorous animals, especially during vegetation period, the best solution is represented by creating temporary meadowlands.

In comparison with the technologies applied for other agricultural crops, by means of adequate technologies in the evergreen vegetal cover, there can be achieved the fastest and most complex ecological balance on the trophic chain soil-plant-animal, characteristic to sustainable agriculture.

Within the Didactic Farm Moara Domneasca, belonging to USAMV-Bucharest, during 2005-2006 there have been studied 3 variants of mixture among the species which have proved the best adaptability to the climate conditions in this area (*Dactylis glomerata* and *Medicago sativa*) as well as 3 variants of restrictive mineral fertilization with azote (N 0, N50, N100) together with P₂O₅ -50, in order to study the elaboration of a crop sustainable system of temporary meadowlands in Romanian Plain based on the harmonization of production performances with ecological demands and requests of rational use for the regenerable soil resources.

On account of the production results, we can estimate that the mixtures with a percent of 40-60% of *Medicago sativa*, with a mixed use or only by mowing, are recommended in the unirrigated culture, in a fertilization system with only 50 kg/ha P₂O₅, then without azote fertilization, taking into account the high level of production (>7 t/ha DM) but especially the economic and ecological efficiency which is achieved in the system of using feed by grazing.

**CERCETĂRI PARȚIALE PRIVIND MORFO-ANATOMIA ȘI
FITOCHIMISMUL FRUNZEI LA SPECIA *PICEA PUNGENS*
ENGLEM ‘*ARGENTEA*’ (*PINACEAE*)**

**PARTIAL STUDIES REGARDING THE MORPHO-ANATOMY AND
PHYTOCHEMISTRY OF LEAF IN *PICEA PUNGENS* ENGLEM.
‘*ARGENTEA*’ (*PINACEAE*)**

MARIA DANIELA PLETEA, IOANA MARCELA PĂDURE, LILIANA
BĂDULESCU

Cuvinte cheie: *Picea pungens* ‘*Argentea*’, *Pinaceae*, morfo-anatomie, fitochimie, frunză

Key words: *Picea pungens* ‘*Argentea*’, *Pinaceae*, morpho-anatomy, phytochemistry, leaf

SUMMARY

The paper presents the morphological, anatomical, and phytochemical aspects regarding *Picea pungens* Engelm. ‘*Argentea*’ (*Pinaceae*) in Romania. The morpho-anatomical characteristics of Colorado spruce needles were analyzed. Partial aspects about its phytochemistry – the essential oil composition are presented and original photos and chromatogram are shown. The investigated characteristics of leaves have been analysed regarding the main structural features of the genus *Picea* and them ecotypes: U ecotype (U.S.A.M.V. Bucharest) and G ecotype (collected from Giurgiu).

**FOLOSIREA PRODUSELOR DIN GRUPA IMIZADOLINONE LA
HIBRIZII IMI DE FLOAREA-SOARELUI ÎN CONDIȚIILE
PRELUVOSOLULUI ROȘCAT DIN CÂMPIA ROMÂNĂ**

**USE OF PRODUCTS FROM IMIZADOLINONE GROUP
TO IMI SUNFLOWER HYBRIDS IN OF REDDISH PRELUVOSOL
CONDITIONS FROM ROMANIAN PLAIN**

I. DRĂGULEASA, D.I. SĂNDOIU, A. NICOLAE, A. BOLCHIȘ,
ANTONELA CIOCAN, MIHAELA OBRIȘCĂ, M. MARINESCU

Cuvinte cheie: selectivitatea, eficacitatea erbicidelor, imazamox, floarea-soarelui,
Key words: selectivity, efficacy of herbicides, imazamox, sunflower

SUMMARY

Sunflower is considered a plant which fights the weeds well, but two problems occur frequently in this crop:

- the first periods of vegetation the crop can be easy invaded of which weeds have a higher speed of growth and choke the plants of the crop; that is why for a successful crop this has to rise into a soil clean of weed;
- some species of dicotyledonous weeds cannot be controled efficiently by the traditional herbicides, for example the species of *Cirsium arvense* and *Xanthium italicum*, weeds with high frequency in all areas cultivated with sunflower.

Until non, sunflower has been a crop that lacked efficient products for dicotyledonous weed control. The generalization of weed perennial species and also *Xanthium italicum*, which appears echeloned from sunflower emergence up to 15 August, enforces the prolongation of intervention in the crop, firstly by application of some herbicides to 8-10 leaves and secondly by associated of these products with mechanical weeding up to 10-12 leaves.

**EVALUAREA CALITATIVĂ A SOLURILOR
DIN INCINTA ÎNDIGUITĂ BALTA BORCEA**

SOIL EVALUATION IN BALTA BORCEA AREA

CLAUDIA STAN, LARISA RÂPĂ, AL. NEGOIȚĂ, M. MIHALACHE, L. ILIE

Cuvinte cheie: clasificarea solurilor, evaluare, fertilitate

Key words: soil clasification, evaluation, fertilization

SUMMARY

The aim of the research was to characterize the soils from the Balta Borcea dammed area and their classification according to the Soil Taxonomy System, as well as to assess of the productive potential for the main crops in the studied area. The main physical and chemical indicators have a wide range of variation owing to the very different texture of those soils (from sandy texture to clayey texture), and thus influencing the productive potential of the soils and application of some differentiate agropedological measures.

There were established the quality classes according to the assessment that was realized by using the bonitation indicators, these quality classes being placed in the 3rd and 4th class due to the induced penalties by the gleization indicator, low humus content and soil texture.

**FOLOSIREA SOIURILOR DE SOIA CONVENȚIONALĂ ȘI
NECONVENȚIONALĂ ÎN CONDIȚIILE PRELUVOSOLULUI ROȘCAT
DIN CÂMPIA ROMÂNĂ**

**USE OF CONVENTIONAL AND ROUNDUP READY SOYBEAN
VARIETY IN THE CONDITIONS OF REDDISH PRELUVOSOL FROM
THE ROMANIAN PLAIN**

ANTOANELA CIOCAN, D.I. SĂNDOIU, MIHAELA OBRIȘCĂ,
I. DRĂGULEASA, M. MARINESCU

Cuvinte cheie: soia, roundup ready, imazamox, bacterizare, distanțe între rânduri, soia

Key words: soybean imazamox, roundup ready, imazamox, bacterization, distances between rows, sunflower

SUMMARY

The improvement of soybean cultivation technology involves the solving of certain problem which depends on major energetic inputs like the ones which concern the soil tillage system and fertilization but also inputs which generate lower cost such as variety, herbicide, bacterization or distance between rows selection.

The aim of this paper is to approach problems concerning the yield value potential of new soybean variety through solution of certain problems regarding normal and Roundup Ready variety, bacterization inocul, distance between rows.

**PROGRAM PENTRU ADUCEREA AGRICULTURII ROMÂNEȘTI LA
NIVELUL EUROPEAN PE CARE ÎL MERITĂ**

**PROGRAMME FOR BRINGING ROMANIAN AGRICULTURE TO THE
EUROPEAN LEVEL THAT IT DESERVES**

M. SAVA, B. A. SAVA

Cuvinte cheie: integrarea agriculturii, agricultură ecologică, tradiții agricole românești, rentabilizare, nivel de trai, specialiști români

Key words: agriculture integration, ecological agriculture, Romanian agriculture traditions, profitability, living standards, Romanian specialists

SUMMARY

The integration of Romania in the EU requires that the agriculture in our country line up to the European models and level for agriculture.

Agricultural strategy has to minimize the difference between the Romanian and European Union agricultural level, and to increase the low level of productivity that characterises Romanian agriculture. The compatibility between Romanian agriculture and the European Union one involves the accomplishment of several factors that can bring a significant contribution: in the agricultural productivity, quality for the agro-alimentary products, and the investments for agriculture.

The European model of agriculture asks also the promotion of ecological agriculture, meaning healthy food and environmental protection.

CONTRIBUȚII LA MORFOLOGIA SPECIEI *BREVICORYNE BRASSICAE* L. (PĂDUCELE CENUȘIU AL VERZEI)

CONTRIBUTION TO *BREVICORYNE BRASSICAE* L. (CABBAGE APHID) MORPHOLOGY

G. CUC

Cuvinte cheie: *Brevicoryne brassicae*, morfologie, varză
Key words: *Brevicoryne brassicae*, morphology, cabbage

SUMMARY

Brevicoryne brassicae L. is one of the most important pest in cabbage fields. In order to control this pest, it is primarily important to know the morphology and the bio-ecological cycle of the cabbage aphid. One of the most important objectives of my PhD thesis is to find considerable amount of information about *Brevicoryne brassicae* L morphology. The present paper is the first step in this manner.

The research on the cabbage aphid morphology started in the personal experimental field where the material (insects) was collected and continued in the laboratory where the material (insects) was selected for electronic microscopic photos.

The photos from this paper are original and were taken by an electronic scanning microscope at the Biology Faculty, Babes Bolyai University, Cluj-Napoca.

**ASPECTE CROMOZOMIALE INDUSE DE TRATAMENTUL CU ACID
CITRIC LA INDIVIZI AI SPECIEI *LARIX DECIDUA* L.**

**CHROMOSOMIAL ASPECTS INDUCED BY TREATMENT WITH
CITRIC ACID ON *LARIX DECIDUA* L.**

ANA-MARIA POPA

Cuvinte cheie: cromozomi, aberații cromozomiale, mutații

Key words: chromosomes, chromosomal aberrations, mutations

SUMMARY

The strange compounds gaining insight into the living organism ways bring about changes or structural and functional deterioration, could be considered the toxically substances, having the mutagen effect on the organism.

Making part from the additives utilized in alimentary industry, citric acid have numerous negative effects. In function with the dose in witch is consumed can be more or little toxically.

In consequently, we proposed to evidence the cytogenetically effects of this product, managed in different doses and at different times at *Larix decidua* L.

In idea of study the chromosomal frequency aberration in ana-telophases it can be observed the frequency of division cell and was counted the ana-telophases witch presents the chromosomal aberrations. After the examination of preparations it was observed the appearances of chromosomal aberrations in ana-telophases, like: expelled chromosomes, retardate's chromosomes, tripolars ana – telophases, bridges, fragments.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**ASPECTE ETICE PRIVIND PRODUCȚIA AGRICOLĂ ȘI INDUSTRIA
AGRO-ALIMENTARĂ**

**ETHICAL ASPECTS OF AGRICULTURAL PRODUCTION
AND AGRO-FOOD INDUSTRY**

A. GH. BĂȘA, ELENA MIRELA POPESCU, ALINA MARIA TRUȚA,
AGATA PACEK, MAGDALENA DYDUCH

Cuvinte cheie: etică, producție agricolă, industrie agro-alimentară

Key words: ethics, agricultural production, agro-food industry

SUMMARY

The development of ethics in the past century was characterized by a tendency to revalue and overthrow the moral conventions that guided the interaction between the sexes, between human beings and animals, and between human beings and their environment. A more recent task of ethics is to resist those tendencies of globalization, marketization and technologization that erode both biodiversity and valuable aspects of cultural identity - and may even have effects that threaten human rights. Although these tendencies are often presented as value-neutral, they carry with them hidden assumptions that are potential sources of inequity and abuse.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

CÂTEVA ASPECTE PRIVIND FERTILIZAREA CULTURII DE RAPIȚĂ
SOME ASPECTS OF CROP FERTILISATION IN OILSEED RAPE

H.V. HĂLMĂJAN, GINA VASILE, GH. CIUBOATĂ, A. IONESCU

Cuvinte cheie: rapiță, fertilizare, componente de producție, producție

Key words: oilseed rape, fertilization, yield, yield components

SUMMARY

Oilseed rape is a fast developing crop in Romania. For the time being there is a lack of information about crop production. In these conditions, many technological sequences are not yet optimized in the technologies that are applied in Romania in oilseed rape. The aim of our paper is to contribute to a database regarding fertilization for this crop. The experiments were carried out in two farms in Călărași and Giurgiu counties. Our results suggest that sulphur has to be applied together with nitrogen in order to increase the yield.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

FAVORABILITATEA PRINCIPALELOR SOLURI DIN VARIAȘ (FERMA NR. 1) JUDEȚUL TIMIȘ PENTRU PRINCIPALELE CULTURI AGRICOLE

MAIN CROPS SUITABILITY OF THE MAIN SOILS ON FARM NO. 1 AT VARIS (TIMIS COUNTY)

ANIȘOARA DUMA COPCEA, CASIANA MIHUȚ, S. COPCEA

Cuvinte cheie: sol, profil, caracteristici, clase de fertilitate

Key words: soil, profil, characteristics, favorability, culture, fertility class

SUMMARY

The assessing operation and ranking land within favourability classes for the main crops cultivated in the area under study revealed a series of limiting factors that act on the lands' yielding capacity, such as: soil reaction, low porosity (i.e. strong setting degree), moisture excess (phreatic, rainfall), etc.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**PRETABILITATEA PSAMOSOLULUI TIPIC ȘI PRELUVOSOLULUI
DIN JUDEȚUL MEHEDIŢI PENTRU DIFERITE CULTURI AGRICOLE**

**ON THE SUITABILITY OF PSAMOSOIL TYPIC AND PRELUVOSOIL
IN THE DISTRICT OF MEHEDIŢI FOR DIFFERENT CROPS**

ANIȘOARA DUMA COPCEA, CASIANA MIHUȚ, M.S. STROIA

Cuvinte cheie: sol, profil, caracteristici, favorabilitate, culturi, clase de fertilitate
Key words: soil, profil, characteristics, favorability, culture, fertility class

SUMMARY

Knowing in detail yielding and technological features, favouring and restricting factors of agricultural production on each land portion both from the point of view of the present response and of real possibilities of turning them into better ones can be, for the decision-maker, a precious tool in achieving the most suited practical measures of producing plant biomass in a dynamics well correlated with the environmental ecological requirements.

This is why, in this paper, after presenting in detail the physical and geographical conditions (relief, lithology, hydrology, climate, vegetation, anthropic influences) we have acknowledged the above-mentioned components allowing to explain both phenomena in the soil and the way they can be influenced by man, that could become a wise partner of nature.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**PROPRIETĂȚILE FIZICE ȘI CHIMICE ALE FAEOZIOMULUI ȘI
GLEIOSOLULUI CERNIC DE LA STAȚIUNEA DIDACTICĂ
TIMIȘOARA**

**CHEMICAL AND PHYSICAL PROPERTIES OF HAPLIC PHAEOZEMS
AND MOLLIC GLEYSOLS FROM DIDACTIC STATION TIMIȘOARA**

CASIANA MIHUȚ, L. NIȚĂ, ANIȘOARA DUMA-COPCEA, M. STROIA

Cuvinte cheie: studii, sol, câmp, reacția solului

Key words: study, soil, field, reaction soil

SUMMARY

The area of the Didactic Station Timișoara is part of Criș-Banat Plain, formed by a slow silting process, with alluvial deposits that came from south-east and last piedmont and mountain area.

Parent materials are: loess, loess deposits remained, loams, altitude is between 85 and 93 m.

Based on the studies that were made, in the research area there were found and limited 25 soil units grouped at type, subtype and variety level, and will present only the properties of Phaeozems and Mollic gleyosols.

The surface of Didactic Station Timișoara occupied by phaeozems is 10,60 ha (0,65%) and the surface of mollic gleyosols is 4.45 ha (0.27%).

**ASPECTE PRIVIND MODIFICĂRILE MORFOLOGICE LA SOLURILE
DOMINANTE DIN TREIMEA MIJLOCIE A SLĂNICULUI DE BUZĂU**

**ASPECTS REGARDING MORPHOLOGICAL MODIFICATIONS
IN DOMINANT SOILS IN THE MIDDLE THIRD OF SLĂNIC OF
BUZĂU**

M. MUȘAT, ALEXANDRA TEODORA RADU, CLARA ȘTIRBU

Cuvinte cheie: intervenție antropică, neoformații, solificare

Key words: anthropic intervention, neoformations, solification

SUMMARY

Chernozems are the dominant soils in the middle third of Slănic of Buzău. The variation of pedogenetical factors influenced the solification processes, triggering morphological modifications to soil profiles.

Human intervention accelerated the modification processes of soil properties, mostly by degrading them.

The carried out research highlighted the types of morphological modifications and their intensity in soil profiles.

Among the morphological properties, the following were chosen: colour, structure, texture and neoformations, with the help of which soil fertility degree can be assessed.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**PRETABILITATEA SOLURILOR DIN PERIMETRUL COMUNEI
MAȘLOC JUDEȚUL TIMIȘ, PENTRU DIFERITE CULTURI AGRICOLE**

**THE PRETABILITY OF SOILS AROUND MASLOC LOCALITY, TIMIȘ
COUNTY, FOR DIFFERENT CROPS**

M.S. STROIA, ANIȘOARA DUMA COPCEA, CASIANA MIHUȚ

Cuvinte cheie: sol, profil, caracatersitici, favorabilitate, culturi, clase de fertilitate
Key words: soil, profil, characteristics, favorability, culture, fertility class

SUMMARY

The solification processes in this area developed under the predominant influence of bioclimatics, natural factors to which were added some particulars, local characteristics.

After the pedogenesis process in studied area developed luvisoil types, preluvisoil and vertosoil, which occupy the largest area of the village agricultural territory.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol L., 2007

**CARACTERIZAREA MORFOLOGICĂ, FIZICĂ ȘI CHIMICĂ A
SOLURILOR DIN PERIMETRUL LOCALITĂȚII VOITEG, JUDEȚUL
TIMIȘ**

**MORPHOLOGICAL, PHYSICAL AND CHEMICAL
CHARACTERIZATION OF SOILS OF VOITEG LOCALITY AREA, TIMIS
DEPARTMENT**

K. LAȚO, I. RUSU

Cuvinte cheie: cernoziom gleic slab, cernoziom argic, preluvosol

Key words: gleyic chernozems, luvic chernozems, haplic luvisols

SUMMARY

This paper presents the morphological, physical and chemical characteristics of the main soil types around Voiteg locality, Timis country. Research was performed between 2003-2005 and the analyses were done in O.J.S.P.A laboratories in Timisoara. The purpose of the researches is to identify the main soil types and to establish the soil favorability for each utilization and each crop separately.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**DEGRADAREA TERENURILOR AGRICOLE PRIN EXCES DE
UMIDITATE FREATIC ȘI STAGNANT ÎN ZONA DEALURILE
FĂGETULUI, JUDEȚUL TIMIȘ**

**AGRICULTURAL LAND DEGRADATION BY STAGNANT AND
PHREATIC HUMIDITY EXCESS IN THE AREA OF FĂGET HILLS,
TIMIS COUNTRY**

V. MAZĂRE, K. LAȚO

Cuvinte cheie: exces de umiditate freatic, pânza freatică
Key words: phreatic humidity excess, underground water

SUMMARY

Phreatic humidity excess is found in the areas of down plain, in valleys and erosion valleys, with underground water at small depth.

Phreatic humidity excess can be permanent, because of the underground water on the surface, with constant or seasonal debits, especially in spring and at the beginning of summer, when the underground water level is high due to rainfalls, by flowing from the neiglour relief forms or underground sources.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

DEGRADAREA TERENURILOR AGRICOLE PRIN EROZIUNE DE SUPRAFAȚĂ ȘI DE ADÂNCIME (STUDIU DE CAZ DEALURILE FĂGETULUI)

AGRICULTURAL LAND DEGRADATION BY DEPTH AND SURFACE EROSION (CASE STUDY FĂGET HILLS)

V. MAZĂRE, K. LAȚO

Cuvinte cheie: eroziune de suprafață, degradarea solurilor
Key words: surface erosion, soil degradation

SUMMARY

Surface erosion is the main type found in all hilly areas of the country. For Romania, the erosion process begins in April and ends in September. The dynamic element of erosion process is the water from the rainfalls as torrents. From the statistical data, the strongest erosion is in May because on the majority of lands the crops are not harvest or are in the first phases of growing and they cannot resist to the impact of rain drops.

**CUNOAȘTEREA RESURSELOR DE SOL
DIN BĂRĂGANUL NORDIC LA EST DE VALEA IENCII
ÎN VEDEREA PRACTICĂRII UNEI AGRICULTURI DURABILE**

**KNOWLEDGE OF SOIL RESOURCES
FROM NORTH BĂRĂGAN AT EAST FROM IENCII VALLEY
CONCERNING SUSTAINABLE AGRICULTURE**

NICOLETA BALABAN, L. GUȚĂ, E. GEORGESCU, N. OANEA

Cuvinte cheie: resurse de sol, agricultură durabilă

Key words: soil resources, sustainable agriculture

SUMMARY

The Romanian integration in European Community may be seen as an opportunity for the agricultural sector. Thus, the development of this sector and sustainable agriculture practices depends very much by exact knowledge of soil resources.

In this paper the authors have carried out research in North Bărăgan plane at East from Iencii Valley concerning knowledge of the soil resources. North Bărăgan plane at East from Iencii Valley, situated in eastern Romanian extremity, as integrated part of Romanian Plain presents one complex soils cover, composed from Protisoils, Cernisoils and Salsodisoils.

Those are generally high fertile soils and, if they are effectively exploited with adequate technologies, they will create the basis of a sustainable and effective agriculture.

**„AGROIND” PIATRA-OLT,
CARACTERIZAREA RESURSELOR DE SOLURI ȘI BONITAREA**

**„AGROIND” PIATRA-OLT,
SOIL RESOURCES CHARACTERISATION AND LAND EVALUATION**

N. ANDREIAȘI, CLAUDIA ANREIAȘI, A. BASARABĂ, Ș. PURDOIU

Cuvinte cheie: resurse de soluri, bonitare

Key words: soil resources, land evaluation

SUMMARY

The reserach we have done on the AGROIND lands from Olt county have brought to our attention the soil resources, their quality on the crop usings.

The total unit total surface is 4451 hectars, grouping in a five number of lands and 13 farms.

Located on the terraces of Olt and Olteț river meadows, agricultural surfaces have some conditions like the area, respectively: Clay parent material on alluvial terraces and alluvial river deposits. Soil cover includes: Haplic chernozems, Luvic Chernozems, Haplic Luvisols and alluvial soils.

Pedological limitation refers to soil texture, porosity, permeability, pH, humus storage, skelett. Environmental limitation includes climate, hydrology and ground water.

The land evaluation, based on 17 indicators of soils and field, has established, for „Agroind” SA, a VI th class general favorability (between 41-50 points), with some differences depending on nature and the quality of land resource for body lands and farms.

**DOMENIUL PEDOLOGIC DE BONITARE ȘI EVALUARE
AGROECONOMICĂ LA CEAMURLIA DE JOS, JUDEȚUL TULCEA**

**ECONOMIC LAND EVALUATION AGRICULTURAL OF PEDOLOGIC
DOMAIN FROM CEAMURLIA DE JOS, TULCEA COUNTY**

N. ANDREIAȘI, CLAUDIA ANDREIAȘI, A. BASARABĂ,
IRINA MOISE, Ș. PURDOIU

Cuvinte cheie: domeniu pedologic, bonitare și evaluare

Key words: pedological domain, land evaluation

SUMMARY

The Kastanozems soils which have been assimilated in SRTS/2003 are located in Dobrogea. The Ceamurlia area from Glovita lake neighbourhood is extremely large due to the low arid and xeric climate.

Near the these soils, there are also the proxicalcic chernozems and in the lakes neighbourhood, hydrosols and halomorphic soils.

The land evaluation was based on coefficients both for the main features of soils and environmental factors; it was made for 6 crops as follows: (Wheat, barley, maize, sun flower, soybean and lucern.). The lands are included IV-V Classes with 53-64 points.

From the agrochemical point of view, the soils have a high susceptibility to the crust phenomenon. The organic matter mineralisation is extremely fast and the settling and sinking are the most characteristic processes.

**ANUMITE CONSIDERAȚII PEDOLOGICE ȘI AGRONOMICE
DIN ZONA LOCALITĂȚII LUMINA-TAȘAUL**

**SOME PEDOLOGICAL AND AGRONOMIC CONSIDERATIONS
FROM LUMINA-TASAUL CITY AREA**

CLAUDIA ANDREIAȘI, N. ANDREIAȘI, A. BASARABĂ,
LILIANA PANAITESCU, Ș. PURDOIU

Cuvinte cheie: detritus calcaros, VEU (Volum Edafic Util), litosol rendzinic

Key words: limestone detritus, VEU, (Useful Edaphic Volume), rendzina litosol

SUMMARY

This paper has as scientific base, the research of a perimeter located in Lumina-Tasaul area, taking into consideration the edaphic conditions, in order to take a number of 3.3 hectares of unproductive lands and pasture from agricultural use.

Research was requested by LAFARGE firm in 2000 and its purpose was the pedologic foundation for an impact project regarding the limestone exploitation from Luminita quarry and the fitting out of an access road.

This paper includes the analytical data tables of two soils: kastanozems and humus calcarous soils.

Also, based on land evaluation, 3.3 hectares were evaluated at the 2000-2002 level.

**PROPRIETĂȚI ALE SOLULUI
CARE INFLUENȚEAZĂ FORMAREA TALPEI BRAZDEI**

**SOIL PROPERTIES WHICH INFLUENCE THE PLOUGH PAN
FORMATION**

GH. GÂȚĂ, S. UDRESCU, M. MIHALACHE, L. ILIE

Cuvinte cheie: talpa brazdei, proprietățile solului, strate de la suprafață

Key words: plough pan, soil properties, surface strata

SUMMARY

In order to investigate the soil properties which influence the plough pan formation the was selected a group of pair samples from the surface A1 and immediately subjacent A2 strata.

The clay content, fine sand/silt ratio, apparent density, the concentration in clay and the mean size of smectite particles from A1 high correlated with the corresponding properties of A2. These relations show that at the both strata take place the same soil processes take place with small intensity differences in both strata.

The dispersion of representative points in a graph of apparent density of A2 versus A1 increase in the same time with their values. These emphasized that apparent density shows the plough pan development more visibly. The distribution curves of apparent density in both strata confirm the use of this property to investigate the plough pan eluviation owing to their different maxima.

The agricultural works break up the soil and produce a good nutrition of the plants as shows the decreasing of bacteria number with the depth. This diminution is greater for the soils with plough pan. But the increase of atmospheric oxygen into the soil intensifies the mineralisation of organic and mineral colloids, and the alteration products form argillo-humic-sesquioxide plasma and decrease the mobility of some cations as iron which is smaller in the soils with a plough pan.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**CERCETĂRI PRIVIND CONDIȚIILE DE SOL ȘI MODIFICĂRILE
ACESTORA SUB IMPACTUL IRIGAȚIILOR ÎN JUDEȚUL
TELEORMAN**

**RESEARCH REGARDING SOIL CONDITIONS AND THEIR
MODIFICATIONS UNDER THE IMPACT OF IRRIGATIONS IN
TELEORMAN DISTRICT**

ADINA BURCEA, MARIANA BURCEA, A. VRÎNCEANU, M. MUȘAT

Cuvinte cheie: irigații, modificări fizico-chimice, fertilitate, cernoziom argic

Key words: irrigation, physico-chemical modification, fertility, argic chernozem

SUMMARY

In order to increase the efficiency of the whole system of hydroameliorative, agropedoameliorative and agrophytotechnical works, it is important to know the soil types specific to each area and their physical, chemical and biological properties, as well as the various problems that occur after the application of technological works and the improvement types so as to increase their fertility. Soil, as a means of production used in agriculture, is physically and morally worn out even if it is rationally used; soil has the property of not wearing out when it is used well and to steadily improve so as its production capacity can grow (V. Pană and colab., 1994).

**PRINCIPALELE TRASEE DE DEGRADARE SI TEHNOLOGII
PEDOAMELIORATIVE ALE SOLURILOR POLUATE CU METALE
GRELE**

**MAIN WAYS OF SOIL DEGRADATION AND PEDOAMELIORATIVE
TECHNOLOGIES OF SOIL POLLUTED WITH HEAVY METALS**

LAURA PAULETTE, I. OROIAN, M. RUSU, A TODORAN

Cuvinte cheie: poluare, metale grele, acidifiere, eroziune, tehnologii pedoameliorative

Key words: pollution, heavy metals, acidification, erosion, ameliorative technologies

SUMMARY

Among all the types of pollution, heavy metal pollution (Pb, Cu, Zn și Cd) is the most frequent and with very aggressive effects general upon the environment and especially upon the soil.

Due to the fact that pollution with heavy metals is a complex phenomenon, the monitoring criteria are also different. As a result of our study in the Zlatna area, we have followed the pedogeochemical distribution of the pollutants (on profile and spatial distribution), the modifications of the soils upon the impact of pollution with heavy metals and sulphur compounds, establishing: some scientific strategies and programs of control, the relation cause – effect in the qualitative evaluation of the soils, some measures of preventing and controlling pollution and also measures of ecological reconstruction of the polluted soils.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**INDICATORI HIDROLOGICI
PRIVIND EVALUAREA ȘI MANAGEMENTUL RESURSELOR DE APĂ**

**HYDROLOGIC INDICATORS
FOR EVALUATION AND MANAGEMENT WATER RESOURCE**

ELENA LUMINIȚA GRIGORE, S. UDRESCU, C. SIMOTA

Cuvinte cheie: indicatori, resurse

Key words: indicators, resource

SUMMARY

Water is an indispensable natural resource, fundamental to life, the environment, food production, hygiene and sanitation, industry and power generation. The state of water is determined by natural factors such as geology and climate and also by the pressures exerted by human activities.

Water is one case where the management of a resource is still sectoral. Water resources play a vital role in the lives of all people and in the functions of ecosystems. At the same time, they may appear as one of the most endangered natural resources in the world. The present document is a technical note that introduces a framework that can be used in the development and use of water indicators. Two different indicator approaches are presented: a project-based approach and the Pressure-State-Impact-Response (P-S-I-R) approach.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**RECONSTRUCȚIA ECOLOGICĂ FORESTIERĂ A TERENURILOR
DEGRADATE PRIN EROZIUNE DIN COMUNA AVRAMENI, JUDEȚUL
BOTOȘANI**

**FORESTRY ECOLOGICAL RECONSTRUCTION
OF EROSION DEGRADED LANDS OF AVRAMENI, BOTOSANI
COUNTY**

IRINA MOISE, DANIELA JITARIU, CLAUDIA ANDREIAȘI, M. POPESCU

Cuvinte cheie: degradare, eroziune, reconstrucție

Key words: degradation, erosion, reconstruction

SUMMARY

The main reconstruction objective is a social and ecological one, because this kind of activities are focused on environmental protection, landscape rehabilitation and integration of an area, through the remaking of the ecologic balance, soil stabilization and progressive and constant improvement of lands, using forest protecting crops. Botosani county is included in those specific areas where surface erosion and land slides are highly manifested. In this county, some perimeters which require antierosion ecological recontruction measures were indicated. The studied perimeters were characterized from the environmental factors point of view. Thus both pedologic and forestry charting was made, which allowed the limitation of those units organized for antierosion. For each experimental unit, the best working and specific forestry composition was established.

**EFECTELE UTILIZĂRII NĂMOLULUI ORĂȘENESC ÎN
AGRICULTURĂ ASUPRA PROPRIETĂȚILOR CHIMICE ALE
SOLULUI**

**AGRICULTURAL USE OF URBAN SLUDGE
AND ITS EFFECTS UPON THE SOIL CHEMICAL FEATURES**

L. ILIE, M. DUMITRU, M. MIHALACHE, NICOLETA VRÂNCEANU,
D. M. MOTELICĂ

Cuvinte cheie: nămol orășenesc, metale grele, proprietățile solului, protecția mediului

Key words: urban sludge, heavy metals, soil properties, environmental protection

SUMMARY

The experiments were performed in the greenhouse of ICPA Bucharest, using soil sampled from the Ao horizon of a luvisol, and were aimed at pointing to the effects of urban sludge fertilization upon the chemical features of the soil.

The urban sludge used in this experiment was provided by the filtration station of Pitești, and had a high content in nutrients resulting in high fertility potential. The content in heavy metals was also low, which allowed its application to agricultural lands.

The application of sludge as a fertilizer determined a statistically significant increase in the organic carbon and macroelement content in the soil. At the same time, sludge fertilization had no statistically significant change in the heavy metal content, and there was no danger of pollutant accumulation in the soil.

FITOEXTRACȚIA SOLURILOR POLUATE CU METALE GRELE

PHYTOEXTRACTION OF SOILS POLLUTED WITH HEAVY METALS

GEORGIANA OLĂNESCU, EUGENIA GAMENTȚ, M. DUMITRU

Cuvinte cheie: fitoremediere, fitoextractie, metale grele

Key words: phytoremediation, phytoextraction, heavy metals

SUMMARY

Phytoremediation is a method that uses plants to clean-up, to decontaminate the polluted soil and groundwater, having the natural ability advantage of plants to take off, to accumulate and/or to degrade some constituents of those soils and waters.

From the methods used for the remediation of heavy metal polluted soils, only phytoextraction and phytostabilization can be applied.

Phytoextraction involves the cultivation of one or more species by hyperaccumulating plants, in the best developing conditions to assure a high vegetable weight, to extract, accumulate and remove a higher quantity of heavy metals.

The systems based on plants represents a method with lower costs and in accordance with environment for the restoration of affected areas, comparatively with the physico-chemical engineering methods.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**INFLUENȚA FERTILIZĂRII ASUPRA CONȚINUTULUI ÎN HUMUS
AL SOLULUI DIN PLANTAȚIA STAȚIUNII DIDACTICE TIMIȘOARA
ÎN SISTEM SUPERINTENSIV**

**FERTILIZERS INFLUENCE UPON SOIL HUMUS CONTENT
IN THE DIDACTIC STATION TIMIȘOARA TREE-PLANTATION
IN SUPERINTENSIVE SYSTEM**

CASIANA MIHUȚ, ANIȘOARA DUMA-COPCEA,
OLIMPIA-ALINA IORDĂNESCU, M. STROIA

Cuvinte cheie: studii, sol, conținut în humus, sistem superintensiv

Key words: study, soil, content humus, superintensive system

SUMMARY

The research performed in tree years (2003, 2004, 2005) in the apple orchards of Timisoara Didactic Station was aimed at measuring the modification of soil humus content that result from applied of mineral land organic fertilizer in intensive culture system.

The results obtained show a different humus content of cambic cernosiom function by fertilizer types and applied doses.

**UTILIZAREA PRODUSULUI KELPAK – STIMULATOR DE CREȘTERE
LA UNELE CULTURI AGRICOLE PE DIFERITE TIPURI DE SOL**

**USE OF KELPAK PRODUCT – DEVELOPMENT ENHANCER
IN SOME CROPS ON DIFFERENT SOIL TYPES**

M. MUȘAT, A. DORNEANU, C. URZICĂ

Cuvinte cheie: stimulator de creștere, agrofond, fertilizări foliare

Key words: development enhancer, agrofund, leaf fertilization

SUMMARY

The Kelpak product is a development enhancer, made by Kelp Products PTY South Africa, pure organic concentrated product, extracted from marine algae, used for leaf fertilization in agricultural crops and it can also be applied to the root, to stimulate the rooting of the seeding material.

This product was applied to the leaf in 2 to 5 treatments as diluted solutions with the concentration of 0.2% in some agricultural crops (potato, sugar beet, tomatoes, cucumbers, onion, carrots, grape vine).

The experiments were carried out on unfertilized and basically fertilized (N P and N P K) agrofonds on different soil types. The soil types on which the soil types were located were: cambic chernozem (USAMV Iași); psamosol (SCDCPN – Dăbuleni); antrosol (Cluj-Napoca); cambic chernozem (Greaca-Giurgiu).

The analysis of product efficacy was carried out in all experiments having an unfertilized control in the leaf or soil.

Analysing the production output, it can be seen that in all experimental fields and in all tested crops, this product ensures a good plant development and important output growth.

**INFLUENȚA ÎNGRĂȘĂMINTELOR CHIMICE, ERBICIDELOR
ȘI PRAȘILELOR MECANICE ASUPRA ELEMENTELOR
MORFOLOGICE ALE PLANTELOR ÎN CULTURĂ LA SOIUL DE
TOMATE UNIREA**

**INFLUENCE OF CHEMICAL FERTILIZERS, HERBICIDES
AND MECHANICAL HOEINGS ON THE PLANT MORPHOLOGICAL
ELEMENTS IN THE UNIREA TOMATO VARIETY CROP**

REALTA VASIESCU, LAVINIA MICU

Cuvinte cheie: tomate, măsurători morfologice, fertilizare

Key words: tomato, morphological elements, fertilizers

SUMMARY

The paper refers to the establishing of morphological elements in the Unirea tomato variety concerning the fertilizing level and the weeds controlling method. The morphological measures were the stem diameter and height, the number of leaves concerning each plant, the shootlet_number, the inflorescence number and the number of fruit which are on the plants.

These elements are variety characters and presents the near values in the frame of the variety, being influenced by the technology applied in the frame of each experimental variant.

It was observed the variety behaviour in the weather conditions from the Banat's region through the application of one crop technology with a view to production increasing and also a reduction in the number of works applied during the plant crop period.

**CERCETĂRI PRIVIND EFECTUL FERTILIZĂRII ORGANICE
LA CULTURA DE *ALLIUM CEPA***

**RESEARCH REGARDING ORGANIC FERTILIZATION
ON *ALLIUM CEPA* CULTURE**

GABRIELA NEAȚĂ, ROXANA MADJAR, A., VELICICA DAVIDESCU,
N. ATANASIU, JANINA CAISÎN

Cuvinte cheie: agricultura ecologică, fertilizare organică, *Allium cepa*
Key words: ecological agriculture, organic fertilizers, *Allium cepa*

SUMMARY

Biological culture is made today in almost all developed countries, as result of a systematic ecological knowledge but also as a result of small developed industry which supplies tools, natural fertilizers and phytopharmaceutic products. After 1989, in our country were founded the first farms in which biological agriculture is practised. In the efforts of environmental protection and the quality of life, biological agriculture could have a significant contribution.

The paper aims to establish some characteristics regarding organic fertilization, the quality and quantity of crop obtained using biological agriculture. To realise that purpose the experiments were made in an ecological farm, plant test was onion. The results obtained encourage us because the quality and quantity of onion were in the limits of regulations for this type of agriculture.

CERCETĂRI PRELIMINARE PRIVIND EFECTUL FERTILIZĂRII CU DIFERITE DOZE DE AZOT ȘI INGRĂȘĂMINTE FOLIARE ASUPRA INTENSITĂȚII FOTOSINTEZEI ȘI CONȚINUTULUI DE PIGMENȚI CLOROFILIIENI LA PLANTELE DE FLOAREA-SOARELUI

PRELIMINARY STUDIES CONCERNING THE EFFECT OF DIFFERENT NITROGEN SOIL FERTILISATION LEVELS AND FOLIAR FERTILISATION ON PHOTOSYNTHESIS RATES AND CHLOROPHYLL PIGMENTS IN SUNFLOWER LEAVES

DANIELA DANA, IULIA ANTON, MARIA SOARE, IOANA OPRICĂ

Cuvinte cheie: fertilizarea cu azot, fertilizarea foliară, floarea-soarelui

Key words: nitrogen fertilisation, foliar fertilisation, sunflower

SUMMARY

The paper presents the results obtained on samples of albic luvisols in a greenhouse experiment carried out to see the effect of foliar fertilisers and different N fertilisation levels (0, 50, 100 mg N/kg soil) on photosynthesis rates and chlorophyll pigments in sunflower leaves.

The results obtained show that the photosynthesis rates were significantly reduced owing to N over fertilization (at the third-fourth pair of leaves stage).

The foliar fertilisers have determined a significant increase of chlorophyll contents in leaves and the highest chlorophyll increase was obtained with ICF 624 fertiliser.

Also, the contents of chlorophyll pigments were increased as the N fertilisation level increased.

**CERCETĂRI PRIVIND INFLUENȚA LUCRĂRILOR SOLULUI ASUPRA
ACTIVITĂȚILOR BIOTICE ȘI ENZIMATICE ALE PRELUVOSOLULUI
ROȘCAT DIN ZONA MOARA DOMNEASCĂ (ILFOV)**

**RESEARCH CONCERNING THE INFLUENCE OF SOIL TILLAGE ON
THE BIOTICAL AND ENZYMATICAL ACTIVITIES OF REDDISH
PRELUVOSOL FROM MOARA DOMNEASCA (ILFOV)**

NICULINA GHEORGHÎĂ, D. I. MARIN, GH. ȘTEFANIC,
NARCISA BĂBEANU, VIORICA BĂLAN, M. MIHALACHE

Cuvinte cheie: lucrările solului, activitate biotica, activitate enzimatica, preluvosol roscat

Key words: soil tillage, biotic activity, enzymatic activity, reddish preluvosol

SUMMARY

The aim of the research was to put in evidence the modifications brought by soil tillage on the biotic and enzymatic activities of reddish preluvosol. In all the experimental variants, the biological activity was reduced simultaneously with increasing of arable layer depth.

The soil tillage by disking determined increasing activities in soil, as follows: saccharase, catalase and urease. And the soil respiration was also stimulated by disking.

The phosphatase and celulase activities registered an increase only in the variant tilled by cizel 20 cm.

The biological characteristics the plant bring some influence in the frame of the same tillage. For example, the respiration activity in the first 10 cm of soil, in variant tilled by disking was 51.50 mg CO₂/100 g soil d.w. for soya bean and 36.04 mg CO₂/100 g soil d.w. for wheat.

**CERCETĂRI PRIVIND INFLUENȚA LUCRĂRII DE BAZĂ A SOLULUI
ASUPRA PRODUCȚIEI PRIMARE NETE A AGROFITOCENOZELOR
DE SOIA ȘI PORUMB DIN ZONA MOARA DOMNEASCĂ – ILFOV**

**RESEARCH ON THE INFLUENCE OF BASIC SOIL TILLAGE UPON
THE PRIMARY NET PRODUCTION OF SOYBEAN AND MAIZE
AGROPHYTOCENOSIS AT THE MOARA DOMNEASCĂ – ILFOV
AREA**

D.I. MARIN, NARCISA BĂBEANU, GH.ȘT. BUDOI,
S.G. MUREȘEANU, NICULINA GHEORGHITĂ

Cuvinte cheie: producție primară netă, agrofitecenoze, lucrările solului, biodiversitate

Key words: primary net production, agrophytocenoses, soil tillage, biodiversity

SUMMARY

The biomass production of agrophytocenoses is directly dependent upon the agrobiotype conditions and flora structure. The correct control of several parameters belonging to the agrobiotype components allows both higher valorisation of the natural resources and reduced technological inputs.

The present paper includes the results obtained between 2004 and 2006 concerning the way in which basic soil tillages – classic and unconventional systems – influence plant evolution, phytocenosis composition and, consequently, the primary net production of the agricultural ecosystem.

**DISCRIMINAREA RECOMANDĂRILOR PRIVIND LUCRĂRILE DE
BAZĂ ALE SOLULUI LA MAZĂRE ÎN FUNCȚIE DE PARAMETRII
FIZICI AI SOLULUI**

**THE DISCRIMINATION OF THE RECOMANDATION CONCERNING
THE MAIN SOIL TILLAGE AT PEAS CROP IN RELATION WITH THE
PHYSICAL PARAMETERS OF THE SOIL**

MIHAELA OBRÎȘCĂ

Cuvinte cheie: densitatea aparentă, porozitate totală, porozitate capilară, lucrările solului, agricultura durabilă,

Key words: bulk density, total porosity, capillary porosity, soil tillage, sustainable agriculture,

SUMMARY

Soil physical indicators like texture, bulk density, total porosity, aeration porosity, soil structure, hydraulic conductivity, are soil fertility component part and determine the manifestation and evolution framework for soil chemistry and its biological properties.

Peas request for soil physical state are well known. Having in view that peas plants for a proper symbiosis with *Rhizobium leguminosarum* needs aerated soils with an suitable ratio between non capillary and capillary spaces. The short vegetation period from beginning of spring in april till the end of june - beginning of july determine that the main soil tillage successfully achieve peas needs in soil condition compared to crop harvested in autumn. Research made on reddish preluvosoil by Săndoiu and others (2006, 2007) shown in 10-30cm depth an corrective deficit through soil tillage.

The aim of these research is to evaluate soil physical state changes at 0-30 cm depth, after maize harvest through indicators like: bulk density, total porosity, capillary porosity in view to improve main soil tillage system.

**DISCRIMINAREA RECOMANDĂRILOR PRIVIND LUCRĂRILE DE
BAZĂ ALE SOLULUI LA GRÂU ÎN FUNCȚIE DE PARAMETRII FIZICI
AI SOLULUI**

**DISCRIMINATION OF MAIN SOIL TILLAGE RECOMMENDATIONS
FOR WHEAT CROP DEPENDING ON SOIL PHYSICAL INDICATORS**

MIHAELA OBRIȘCĂ, ANTOANELA CIOCAN, D.I. SĂNDOIU,
NICOLETA DUMITRESCU, ION DRĂGULEASA, M. MARINESCU

Cuvinte cheie: densitate aparentă, porozitate totală, porozitate capilară, lucrările solului, agricultura durabilă

Key words: bulk density, total porosity, capillary porosity, soil tillage, sustainable agriculture

SUMMARY

Soil physical indicators like texture, bulk density, total porosity, aeration porosity, soil structure, hydraulic conductivity, are soil fertility component parts and determine the manifestation and evolution framework for soil chemistry and soil biological properties.

Wheat demands for soil physical state are well known, having in view that thermo-hydric frame in which plant evolve and soil reserve to release nutritive substances. Research made on reddish preluvosol by [1, 2, 3] shows in 10-30 cm depth a corrective deficit through soil tillage.

The aim of the research is to evaluate the soil physical state changes at 0-30 cm depth, after wheat harvest through indicators like: bulk density, total porosity, capillary porosity to improve main soil tillage system.

**CERCETĂRI PRIVIND INFLUENȚA ROTĂȚIEI CULTURILOR
ASUPRA ÎNSUȘIRILOR FIZICE ALE PRELUVOSOLULUI ROȘCAT DE
LA MOARA DOMNEASCĂ**

**RESEARCH REGARDING THE INFLUENCE OF CROP ROTATION
UPON PHYSICAL PROPERTIES OF REDDISH PRELUVOSOL FROM
MOARA DOMNEASCĂ**

NICOLETA CLAUDIA DUMITRESCU, MIHAELA OBRIȘCĂ,
I. DRĂGULEASA, D.I. SĂNDOIU

Cuvinte cheie: rotația culturilor, densitate aparentă, porozitate totală

Key words: crop rotation, bulk density, total porosity

SUMMARY

In actual conception concerning agriculture, a great importance is given to therational conservation and utilization of natural resources, soil with its features, water purity, soil and surface biodiversity.

Therefore, applying different agrophytotechnical measures in crop technology tests the maintenance and improvement of soil fertility, evaluated through certain physical, chemical and biological indicators.

The present paper is aimet at analysing the influence of crop rotation and single-crop system concerning some physical properties on reddish preluvosol from Moara Domneasă.

Soil physical indicators which we observed are: bulk density, total porosity.

**ELEMENTE TEHNOLOGICE PRIVIND SISTEMELE DE LUCRARE
REDUSĂ, LA CULTURA PORUMBULUI, ÎN BĂRĂGANUL DE SUD**

**TECHNOLOGICAL COMPONENTS REGARDING MINIMUM
TILLAGE SISTEM, IN MAIZE CULTURE, IN SOUTH BARAGAN
REGION**

MARIANA BURCEA, ADINA BURCEA, VALENTINA TUDOR

Cuvinte cheie: cernoziom, experiență de lungă durată, humus, azot total
Key words: chernozem, humus, long term experiment, overall nitrogen

SUMMARY

Studies on the soil works have been made for a long time in our country and world wide, and have come in the center of the research in the last decades. By the concept and characteristics of the unconventional systems, the negative effects of crops growth are decreased by focusing on a more reduced disturbance of the natural systems and better integration in the nature.

The maintenance and introduction of new soil conservation systems, the cut in energy and a favorable environment for plant development become major concerns for practicians from different agriculture fields and researchers. In this context of sustainable agriculture, by constraining the research to the level of the soil physics, the choice of the technological components must be based also on the cognition of the physical characteristics of the soil; because they have a high degree of variability in a bidimensional environment, being accentuated by the antropic intervention. This diversity concurs to territorial separation of the technological systems, in order to encourage the different processes within the soil – machine – plant system.

**DATE EXPERIMENTALE PRIVIND REDUCEREA LUCRĂRILOR
SOLULUI ȘI INFLUENȚA ACESTORA ASUPRA UMIDITĂȚII SOLULUI
ȘI GRADULUI DE ÎMBURUIENARE**

**EXPERIMENTAL DATA REGARDING TILLAGE SOILS DIMINUTION
AND THE INFLUENCE UPON SOIL HUMIDITY AND WEEDING
LEVEL**

MARIANA BURCEA, ADINA BURCEA, M. GÎDEA

Cuvinte cheie: lucrări minime, umiditate, sol, producție

Key words: minimum tillage, humidity, soil, production

SUMMARY

Within the context of sustainable agriculture, the maintenance and the introduction of new technological systems, achieving a good environment for crops and soil protection, must be based on the knowledge of the physical, chemical and biological quality of the soil. In this project I propose to relive the efficiency of the minimum soil tillage for wheat and corn, by using the long term experience from S.C.D.A. Marculesti.

This requires embracing technological systems both for raising the soil fertility amelioration and conservation of the stability of structural aggregates, and reduction of the soil compaction according to soil characteristics and determinations of the soil. The observations and the determinations of this project will underline the conventional and unconventional systems characteristics, physical and chemical soil changes, and structural soil stability in different variants of soil conservation works.

**INFLUENȚA SISTEMULUI DE LUCRARE A SOLULUI ASUPRA
ÎMBURUIENĂRII ȘI PRODUCȚIEI LA CULTURILE DE GRÂU,
PORUMB ȘI SOIA**

**INFLUENCE OF SOIL TILLAGE SYSTEM ON WEEDS DEVELOPMENT
AND YIELD
IN WHEAT, CORN AND SOYBEAN CULTURES**

A. POP, PAULA MORARU, I. SUĂTEAN

Cuvinte cheie: lucrările solului, rotația culturilor, combaterea buruienilor

Key words: soil tillage, crop rotation, weed suppression

SUMMARY

The researches confirmed the positive influence of soil tillage system on weeds density and production. In case of wheat and corn higher yield was obtained when plough and harrow were used for soil preparation.

Tillage system had a positive effect on yield determinants and costs per ha.

When unconventional tillage systems were used, yield was lower compared to that obtained in classical wheat, corn and soybean cultures. Variants where tilled with paraplow and cizel and were best suited for corn culture. These unconventional systems promote sustainable agriculture by improving soil fertility. We found unconventional tillage systems to be more profitable even if yield is 1-5% lower compared to the classical systems. This is due to greater reduction of tillage costs and the improvement of soil characteristics.

**TIPURI DE MAȘINI PENTRU APLICAREA ERBICIDELOR ÎN
CULTURI DE CÂMP REALIZATE ÎN UNELE ȚĂRI DIN UNIUNEA
EUROPEANĂ**

**TYPES OF MACHINES USED FOR SPREADING HERBICIDES OVER
FIELD CROPS PRODUCED IN SOME EU COUNTRIES**

IRINA ADRIANA CHIURCIU

Cuvinte cheie: rezervor de soluție, rampe de pulverizare, parametri constructivi
Key words: solution tank, grade for pulverization, constructive parameters

SUMMARY

Machines for spreading herbicides over field crops produced in the UE by prestigious companies enable the implementation of modern technologies of plant growing in accordance with the agricultural community politics recommendations. In the construction of these machines the stress point is on the equipment, to enable them to preserve the prescribed dose of substance per hectare, the uniformity of solution spreading and of the toxic liquids over the whole period of tank emptying. The machines are provided with devices for preparing the toxic liquids and tanks of clean water for the primary depollution when spreading is finished.

For the range of machines specialized in spreading herbicides several constructive variants have been analyzed as following, produced by the companies: Hardi, Kuhn, Jacoby, Tecnomax and Amazone.

**REZULTATE EXPERIMENTALE
PRIVIND PRODUCȚIA ȘI CALITATEA CARTOFULUI TIMPURIU
ÎN TEHNOLOGIA DE CONVERSIE SPRE AGRICULTURA DURABILĂ**

**EXPERIMENTAL RESULTS CONCERNING THE EARLY POTATO
QUALITY AND PRODUCTION WITHIN THE CONVERSION
TECHNOLOGY TOWARDS SUSTAINABLE AGRICULTURE**

LIDIA GEAMĂNU, GH. MOTCĂ, N. DINCĂ

Cuvinte cheie: soiuri, rotație, fertilizare, protecție fitosanitară, calitate

Key words: species, rotation, fertilization, phytosanitary protection, quality

SUMMARY

The soil-climate conditions extremely favourable to producing early potatoes in specialized basins determine the maintenance of this crop in the future too, provided that it integrates itself in the sustainable agriculture system.

The research made during 2004-2006 in Brezoaiele experimental field, Dambovită County (in the area of Racari basin, specialized in cropping the early potato) had as main target the elaboration of a technology compatible with the sustainable, ecological agriculture system, which could be gradually integrated in this system, passing through a transitory period.

On the average, during the experimental period, there have been emphasized the following technological variants by performances of production and environmental protection: the fertilization with fermented or unfermented manure in a dose of 60 t/ha; Roclas, Christian and Tampa varieties with a high resistance to diseases specific to potato; 3 years rotation, the potato being cultivated after wheat; fungicides doses reduced with 20% in comparison with the doses recommended by the conventional technology. Depending upon harvest period, the production potential of recommended technological variants is between the following limits: 10-15 t/ha for the earliest species, during the first period of harvest (1.06) and 50-54 t/ha during the last period of harvest (10-20.07). From the qualitative point of view, the analysed chemical components values are found to be in normal limits, characteristic to an extremely safe alimentation.

CERCETĂRI PRIVIND UNELE ASPECTE DE FENOLOGIE ȘI DE CALITATE A RECOLTEI LA SPECIA *FAGOPYRUM ESCULENTUM* MOECH.

RESEARCH REGARDING THE PHENOLOGY AND YIELD QUALITY CHARACTERISTICS OF *FAGOPYRUM ESCULENTUM* MOENCH. SPECIES

MARIA TOADER, GH.V. ROMAN

Cuvinte cheie: hrișcă, aspecte fenologice, calitatea recoltei

Key words: buckwheat, phenology, yield quality

SUMMARY

This paper focuses on some aspects regarding buckwheat phenology and yield quality. Most of the buckwheat grains used as food for humans are marketed as flour. The flour is generally dark colored due to presence of hull fragments which are not removed during the milling process. Buckwheat flour is used for making buckwheat griddle cakes, and is more commonly marketed mainly as pancake mixtures than as pure buckwheat flour. These prepared mixtures may contain buckwheat mixed with wheat, corn, rice, or oat flours and a leavening agent too.

According to our research, the vegetation period of two experimented varieties was 86 days and the flowering stage 35-37 days after sowing.

The weight of 1000 seeds was about 18.5 g for the Greek variety and 19.05 g for the German variety and the level of the yield was 1420 kg/ha for the German variety and 1395 kg/ha for the Greek variety.

Referring to the yield quality, the grains protein content was lower than the German variety (13.97%), in comparison with the Greek variety (14.21%).

The starch content varied in the same way, i.e. the values were higher with the Greek variety (43.27%) in comparison with the German variety (43.27%).

Finally, the lipids content registered higher values in the German variety (4.1%) and lower in the Greek variety (3.25%).

**CERCETĂRI PRIVIND BIOLOGIA PLANTELOR DE PORUMB ȘI
DOVLEAC ÎN CONDIȚII DE CULTURĂ INTERCALATĂ,
ÎN SISTEM ECOLOGIC**

**RESEARCH REGARDING THE BIOLOGY OF MAIZE
AND PUMPKIN PLANTS IN INTERCROPPING CONDITIONS,
IN ECOLOGICAL AGRICULTURE SYSTEM**

ELENA MIRELA POPESCU, GH. V. ROMAN

Cuvinte cheie: culturi intercalate, porumb, dovleac, agricultură ecologică

Key words: intercropping, corn, pumpkin, ecological agriculture

SUMMARY

The goal of the ecological agriculture is to use nature like a model for agricultural systems establishment. While nature integrates plants and animals in a heterogeneous landscape, one of the main principle of the ecological agriculture is to create and to maintain biodiversity.

The agricultural practices can contribute for obtaining some superior and profitable qualitative yields but also for the environment conservation through decreasing the unfavorable ecological effects, at national and regional level.

One of the unpolluted agricultural practices would be the introduction of intercropping in the ecological agriculture system. In the past, in our country, were cited almost 300.000 ha of corn-pumpkin intercropping.

CERCETĂRI PRIVIND BIOLOGIA SPECIEI *TRIGONELLA FOENUM GRAECUM* L. ÎN CONDIȚIILE CAMEREI CLIMATIZATE (FITOTRON)

RESEARCH ON BIOLOGY OF *TRIGONELLA FOENUM GRAECUM* L. SPECIES UNDER CLIMATIC CHAMBER CONDITIONS

ALINA MARIA TRUȚA, GH.V. ROMAN

Cuvinte cheie: schinduf, aspecte fenologice

Key words: fenugreek, phenology characteristics

SUMMARY

The main objective of the research was to study in controlled environment conditions, the biology and ecology of a less common species of agricultural crops – fenugreek (*Trigonella foenum graecum* L.), with the aim of the adaptability on natural conditions and ecological cultivation in southern part of Romania.

Research was carried out in the period of 2 May – 1 August 2006 and allowed to establish the length of the vegetation cycle of fenugreek plants of 94 days.

In experimental conditions, *Trigonella foenum graecum* plants formed on the main stem 90 leaves. The leaf forming was rolling on a period of 70 vegetation days, resulting a medium growing rhythm of 0.77 days/leaf. The flowering duration was of 8 days, and seeds started to form 70 days after the emergence, and the harvest maturity was recorded on 1 August.

VALOAREA DE UTILIZARE A PATRIMONIULUI PASTORAL AL ROMÂNIEI. REALIZĂRI ȘI PERSPECTIVE

USE VALUE OF THE ROMANIAN PASTURES. ACHIEVEMENTS AND FORECAST

GH. MOTCĂ, C. BĂRBULESCU, P. BURCEA, LIDIA GEAMĂNU, N. DINCĂ

Cuvinte cheie: randament, indici, valoare, conversie, reciclare, compensare, eficiență

Key words: yield, index, value, conversion, recycling, compensation, efficiency

SUMMARY

The paper presents a new concept for assessing the pastoral lands according to their multifunctional use with a view to the sustainable development of the rural area. therefore, the authors of the paper substantiate a synthetical indicator of technical, economic and ecological assessment of the pastures; the Indicator is termed “use value”.

The “use value” of a pasture type includes the nutrients production for animals, the level of converting plant production into animal production, the ecological compensation capacity, and the economic efficiency of the multifunctional exploitation.

The data were collected from the meridional carpathians, sub-carpathians and the argeș and romanian plains during the past 50 years. based on the data, the most important indicators of the use value components were characterized, as follows: the average yield of dry matter, both unitary and total; the plant nutrition indices; the contribution of legumes rich biological nitrogen; the pasture value; the conversion of plant production into animal production; the nutrients recycling in the soil-plant-animal system. the values of the analysed indicators were correlated with the altitude, and the improvement and exploitation technologies.

The pasture assessment by the synthetical indicator known as the “use value” will allow the correct application of the differentiated technologies for multifunctional exploitation, the devise of highly ensured prognoses, and the application of the best strategies for the sustainable development of the rural area.

**STUDII PRIVIND EXPLOATAREA COVORULUI VEGETAL
ÎN DOMENIUL CAPACITĂȚII DE REZILIENȚĂ
A ECOSISTEMULUI DE PAJIȘTE**

**RESEARCH CONCERNING THE VEGETAL COVER
EXPLOITATION IN THE RESILIENCE CAPACITY FIELD
OF MEADOW ECOSYSTEM**

GH. MOTCĂ, VIORICA GRAMA

Cuvinte cheie: reziliență, ecosistem, utilizare multifuncțională, specii, indicatori
Key words: resilience, ecosystem, multifunctional use, species, indicators

SUMMARY

The tolerance of an ecosystem dynamic balance to the action of anthropogenic factors represents what we defined to be "the resilience capacity". Irrespective of the technological interventions intensity and volume in the resilience capacity field, the ecosystem balance undergoes insignificant perturbations. This makes possible the sustainable exploitation of vegetal cover, without the risk of deteriorating biodiversity and specific natural landscape.

By the research performed 2004-2006, in the Southern Carpathians and in the adjacent hilly and depression areas, there were established the fertilization system as well as the using system correlated to the the resilience capacity which ensures effective benefits for the feeding use as well as for other complementary uses. The fertilization system is mainly based on restrictive chemical fertilization (50-100N, 50-100 P₂O₅, 50-100 K₂O), and also on direct or indirect organic fertilization (maximum 40 t/ha). Otherwise, the exploitation for animals feed in the resilience capacity field may be achieved by both methods (mowing-grazing), used in a rational way and applied in an alternative system (from one year to another) or in a mixed one (during one vegetation period).

EVALUAREA PRETABILITĂȚII SOLURILOR LA IRIGAT ÎN DOBROGEA – MĂSURĂ DE IMPORTANȚĂ MAJORĂ PENTRU EXTINDEREA IRIGAȚIILOR CA RĂSPUNS LA CREȘTEREA POTENȚIALULUI DE ARIDIZARE ÎN ACEASTĂ REGIUNE

ASSESSMENT OF SOIL PRETABILITY TO IRRIGATION IN DOBRUDJA – MEASURE OF MAJOR IMPORTANCE FOR EXTENDING IRRIGATIONS IN RESPONSE TO THE INCREASE IN THE ARIDIZATION POTENTIAL IN THIS REGION

VRINCEANU, MARIANA BURCEA, ADINA BURCEA,
AMELIA ANGHEL

Cuvinte cheie: aridizare, deșertificare, pretabilitate, sistem informatic geografic, irigație

Key words: aridization, desertification, feasibility, geographic informatic system, irrigation

SUMMARY

In the last 100 years, climatic data have changed through a progressive warming of the atmosphere resulted from the combined action of several factors, both natural (the Earth behaves like a black body attracting short wave solar radiations and turning them, at the ground level, into long wave radiations which are kept in the atmosphere) and human (the emission in the terrestrial atmosphere of an increasing amount of different substances with greenhouse effect), which eases the reduction of the precipitation amount at soil level combined with increasing temperatures. Climate has gradually become an important limitative factor to grow and develop agricultural crops, especially around the 11°C isotherm, the region in which aridity index (Iar) is lower than 0.65, the climatic influence being strongly felt both for the allocation and for the use of water resources in agriculture. Extreme aspects of the climate (manifested through the occurrence of draughts) are amplified by the current state of the irrigation systems which require not only retechnologization works, but also works regarding the extension of surfaces that can be irrigated, this being an indispensable measure to enhance the physico-chemical properties of the land fund in the dry-subhumid regions of Romania.

An important element in the process of increasing the agricultural potential in the Dobrudja region is the extension of irrigations, which would allow biodiversity to

increase as well, its diminishing trend being well-known in the regions of arid climate. Thus, we can practise sustainable management of the soil resources of the country, with real positive influences on the Dobrudjan agriculture.

**INFLUENȚA TRATAMENTULUI ASUPRA UNOR INDICI DE
CALITATE AI SEMINTELOR DE ORZ ȘI OREZ**

**TREATMENT INFLUENCE UPON SOME CHARACTERISTICS
OF THE BARLEY AND RICE SEEDS**

STELICA CRISTEA, E. GEORGESCU, C.R. ZALĂ

Cuvinte cheie: orz, orez, semințe, tratament

Key words: barlez, rice, seeds, treatment

SUMMARY

Seed treatment represents one of the essential measures to prevent and control some seed and soil pathogens that can affect the seeds in the germination period. Concerning importance of this measure in crop technology of the agricultural plants it has followed in same measure the treatment effect with different products on the qualitative characteristics of barley and rice seeds used for sowing. Experiments were performed in the Phytopathology Laboratory, Faculty of Agriculture as part of U.Ș.A.M.V.Bucharest. The biological material was collected from barley and rice seeds, and tested products were Orius ST 2 WS, Tiradin 70 PUS, Dithane M 45, Vitavax 200 PUS, Vitavax 201, Dinitin 2 PUS, Sumi 2 FL. Tested fungicides were applied in recommended concentrations and doses. It has followed treatment influence concerning energy and faculty of germination in barley and rice seeds. Seeds roots, were harvested and drying at stove roots mass was determined. Also, seed treatment was monitored in time concerning determined characteristics, at 30 and 60 days after applying the product. The moist chamber method was used. The results were compared with the untreated variant. It has made in evidence positive influence of the seeds treatment concerning germination characteristics. Keeping for a long period for treated seeds (30, 60 days) did not modify the seeds germination characteristics.

CERCETĂRI PRIVIND COMPORTAREA UNOR SOIURI ȘI LINII DE OREZ LA INFECȚIA ARTIFICIALĂ CU PATOGENUL *COCHLIOBOLUS MIYABEANUS* (ITO & KURIBAYASHI) ÎN CONDIȚII DE SERĂ, ÎN ANUL 2006

RESEARCH CONCERNING THE BEHAVIOR F SOME RICE VARIETIES AND CULTIVARS AT ARTIFICIAL INFECTION WITH *COCHLIOBOLUS MIYABEANUS* (ITO & KURIBAYASHI) PATHOGEN UNDER GREEN HOUSE CONDITIONS, YEAR 2006

E. GEORGESCU, STELICA CRISTEA, NICOLETA BALABAN

Cuvinte cheie: orez, infecție artificială, soi, rezistență

Key words: rice, artificial infection, varieties, resistance

SUMMARY

In Romania, the rice brown spot is the most frequent disease of this crop, producing quantitative and especially qualitative losses, in some years with hot and rainy summers. In countries with advanced agriculture varieties resistance is an important method by the integrated control of crop diseases and pests. In this paper, authors' collective has done research concerning the behavior of some Romanian rice varieties (Polizești 28, Dunăre, Zefir, Elida, Magic) and perspective cultivar (Basmati×Cristal) at artificial infection with *Cochliobolus miyabeanus* pathogens in greenhouse conditions, year 2006. Experience was located at University of Agronomical Sciences and Veterinary Medicine Bucharest greenhouses. Artificial infections were performed, when plants were in booting stage, through pulverization with a spore suspension (calibrated at 20000 spores/ml suspension). Two readings, were carried out it has noted attack frequency (F%) and intensity (I%) were noted and the attack degree was calculated (GA%). With an attack degree by 8.47% Elida varieties was the most sensible to artificial infection with *Cochliobolus miyabeanus* pathogen, and Dunarea varieties was the most resistant (GA=1.5%). Basmati×Cristal cultivar had an attack degree after 4 weeks from artificial infection by 2.25%.

ASPECTE PRIVIND COMPORTAREA UNOR SOIURI DE MĂR LA ATACUL PATOGENILOR *VENTURIA INAEQUALIS*, *PODOSPHAERA LEUCOTRICA* ȘI *MONILINIA FRUCTIGENA* LA S. C. D. P. BĂNEASA

ASPECTS CONCERNING THE BEHAVIOUR OF SOME APPLE VARIETIES IN AT *VENTURIA INAEQUALIS*, *PODOSPHAERA LEUCOTRICA* AND *MONILINIA FRUCTIGENA* AT S.C.D.P. BANEASA (RESEARCH AND DEVELOPMENT ORCHARD STATION-BANEASA)

MALI-SANDA MANOLE

Cuvinte cheie: soi, agenți patogeni, plantație de măr

Key words: variety, pathogens, apple orchards

SUMMARY

Among all fruit tree species from Romania, the apple has accorded adequate attention in agricultural economy, being a constant preoccupation of the specialists. Apples were fruit with the highest ratio in human fruit consumption. This impact was caused by large areas of spreading, different varieties and keeping for all year. In the consumption apple disease attacks were not presents, with consequence of excessive uses of the fungicides, practices “covering treatments”. This treatment made more damage than good, because it broke down the biocoenosis equilibrium with consequence of the appearance of the disease race resistant to fungicides. In these conditions new strategies of phytosanitary protection were developed.

**MONILINIA LAXA, PATOGENUL ANULUI 2006
ÎN LIVEZILE DIN SUDUL ȚĂRII**

**MONILINIA LAXA, THE PATHOGEN OF THE YEAR 2006
IN SOUTH ROMANIAN ORCHARDS**

C.R. ZALĂ, STELICA CRISTEA, C. COȚOVEANU, R. MOTRAN

Cuvinte cheie: patogen, fructe, condiții

Key words: pathogen, fruits, conditions

SUMMARY

The importance of fruit-tree growing is determined by the importance of the fruit as food. However, to enjoy them, the fruit must be protected firstly against the various pathogen infections.

The range of disease attack is highly variable each year, according to crop and area. From this point of view, this paper presents aspects regarding the *Monilinia* attack degree in different fruit-tree species.

The climatic conditions of the year 2006 proved that *Monilinia* disease, or the brown rot, and fruit mummification are the most damaging diseases of the fruit trees, particularly of pomes.

Research followed all the stages of the disease attack evolution, as well as the occurrence of the first symptoms correlated with the weather conditions, the evidence of the symptoms in various fruit-tree species, data related to frequency and intensity, warning activities, without ignoring the therapeutic recommendations.

**PROTEȚIA BIOLOGICĂ A VIȚEI DE VIE
ÎMPOTRIVA BOLILOR ȘI DĂUNĂTORILOR**

**BIOLOGICAL PROTECTION OF GRAPE-VINE
AGAINST DISEASES AND PESTS**

C. MIHAI, LILIANA TOMOIAGĂ, I. OROIAN, V. FLORIAN

SUMMARY

In Romania the biological systems of pest control in viticulture focus more and more on practical and scientific interests. At the moment, there are efficient biological means and methods of fighting against the most important pathogen agents of grape-vine (vine disease, mildew, grey rot) and pests. Real problems when fighting against phytoplasmosis of grape-vine (Flavescence doree and Bois noir). The elaboration of the biological systems of pest control in viticulture is based upon the assurance of some cultural and agrotechnical measures favourable to the plant, the exclusion of the organically synthesized chemical products, the use of biopesticides and biotechnical methods of pest organisms control, the utilisations of natural adjustment factors for the density of pest organism populations, the employment of resistant species, the improvement of the prognosis and warning methods.

**ELABORAREA UNUI SISTEM DE PROTECȚIE INTEGRATĂ A
CULTURII CARTOFULUI ÎMPOTRIVA PRINCIPALILOR AGENȚI
FITOPATOGENI**

**ELABORATION OF A POTATO CULTURE INTEGRATED
PROTECTION SYSTEM AGAINST THE MAIN PHYTOPATOGEN
AGENTS**

I. BRAȘOVEAN, I. OROIAN, V. FLORIAN

Cuvinte cheie: protecție integrată, patogeni, cartof

Key words: integrated protection, pathogens, potato

SUMMARY

Regarding the simultaneous and conjugated phytopatogenic agents, the wanted success in the fight against the occurrence and extension of the infectious processes, to limit them to an acceptable economic level for quantitative and qualitative production loss, it is obtained by an integrated usage of the entire available measurements combined in an efficient control system, an organic part of the crop technology.

With the help of the control methods applied, there is no need to slow down the existent tendency in the agrosystem, that is, the applied measurements do not have to concern only with the pathogen agent, but also with the other components of the agrosystem (plants, animals, soil and climate).

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**FOLOSIREA RAȚIONALĂ CONFORM NORMELOR EUROPENE
A ERBICIDELOR, FUNGICIDELOR ȘI INSECTICIDELOR
ÎN TEHNOLOGIILE UNOR CULTURI AGRICOLE**

**RATIONAL UTILIZATION IN ACCORDANCE WITH EUROPEAN
NORMS OF CHEMICALS IN AGRICULTURAL CROPS
TECHNOLOGIES**

OLIMPIA PANDIA, I. SĂRĂCIN

Cuvinte cheie: erbicide, fungicide, insecticide, dicotiledonate, monocotiledonate, substanță activă

Key words: herbicides, fungicides, monocotyledonous, dicotyledonous, monodicotyledonous, dicotyledpnous active substance

SUMMARY

The work presents the promotion of ecological agriculture, with the aim to obtain foods adapted to the European norms, which allow using only products which let no residues in soil. The products are not dangerous for human beings, animals and plants, and must have active substance in accordance with the European norms, for an efficacious utilization of the ecological products on the romanian market.

**MONITORIZAREA GÂNDACILOR POCNITORI DIN GENUL
AGRIOTES ESCH. (*COLEOPTERA*, *ELATERIDAE*) CU AJUTORUL
FEROMONILOR SEXUALI DE SINTEZĂ ÎN ZONA BUCUREȘTI**

**MONITORING OF CLICK BEETLES
AGRIOTES ESCH. GENUS (*COLEOPTERA*, *ELATERIDAE*)
FROM BUCHAREST USING SYNTHETIC SEXUAL PHEROMONES**

MARIANA RĂDESCU, I. ROȘCA, RADA ISTRATE, GR. MĂRGĂRIT

Cuvinte cheie: gândaci pocnitori, *Agriotes* Esch., *Elateridae*, feromoni

Key words: click beetles, *Agriotes* Esch., *Elateridae*, pheromones

SUMMARY

The monitoring of click beetles *Agriotes* esch. type (*Coleoptera*, *Elateridae*) was realised using synthetic sexual pheromones in the Bucharest area, green yard biotope, During 2005-2006.

Pheromones for 8 species were used: *Agriotes* Esch., *A. lineatus* L., *A. obscurus* L., *A. sputator* L., *A. ustulatus* Schäll., *A. sordidus* Illiger, *A. brevis* Candèze, *A. litigiosus* Rossi și *A. rufipalpis* Brullé types.

The traps used were: YATLORfunnel for *A. lineatus* L., *A. obscurus* L., *A. sputator* L., *A. sordidus* Illiger, *A. brevis* Candèze, *A. litigiosus* Rossi species and VARb3 for *A. ustulatus* Schäll. and *A. rufipalpis* Brullé species.

This method allowed the collection of complex biologic material composed from 940 samples that were used to establish the the occurrence of click beetles in the soil, the present species in the researched area, the population level, the maximum flight and also the specificity of the pheromones used.

The highest population level was recorded for *A. ustulatus* Schäll (400 samples) and *A. sputator* L. (319 samples), both species having a dominant character inside the monitored group.

Less present were *A. lineatus* L. and *A. litigiosus* Rossi species that recorded a low level of adults trapped with the help of synthetic sexual pheromones.

**CERCETĂRI PRIVIND CONSECINȚELE ATACULUI PRODUS DE
INSECTE DE DEPOZIT ASUPRA CALITĂȚII FĂINII DE GRÂU**

**INVESTIGATIONS CONCERNING THE ATTACK RESULTS
PRODUCED BY THE STOREHOUSE INSECTS ON WHEAT FLOUR
QUALITY**

LAVINIA MICU, I. PĂLĂGEȘIU, D. PETANEC, CRISTINA ZEPA

Cuvinte cheie: făină, modificări, calitate, dăunător

Key words: flour, modifications, quality, pest

SUMMARY

The paper has in view the establishing of some modifications of the wheat flour quality from grains attacked by different storehouse insects, obtaining a quality product consistent with the European Union requirements.

The flour infested with spiders had an unpleasant particular smell, when that kind of flour was used in bread-making, the bread had a rourish taste, a mediocre colour and it could not grow in a suitable way.

The flour infested with insects was in generally refused because of the eshetical reasons and it was considered injurious to the health, and the excretions and secretions influenced of the insects on the functional characteristics and organoleptical quality, was not taken into consideration.

The presence of one infesting with insects in the cereals products ground (the flour) which were for the human consumption and also its contamination were more serious than a similar infesting of the stored up grains. There were no practical methods of a total elimination of products contamination with insects of that kind.

It was published a little about the infesting effects with insects on the organoleptical and panification characteristics of the bread prepared from the flour degraded by the insects.

For realizing the points followed in the paper, 100 flour, samples were analysed of type 550 and 20 samples of semolina flour type, in January, February of the year 2007, in the laboratory of Carani.

**CONTRIBUȚII LA STABILIREA CONSTANTELOR TERMICE
ALE PĂDUCHELUI VERDE AL MAZĂRII
(*ACYRTHOSIPHON PISUM* HARR., *APHIDIDAE* – *HOMOPTERA*)**

**CONTRIBUTIONS TO ESTABLISHING THE THERMIC VARIATIONS
OF THE GREEN PEA APHID (*ACYRTHOSIPHON PISUM* HARR.,
APHIDIDAE – *HOMOPTERA*)**

EMILIA VASILE, P. PAȘOL

Cuvinte cheie: constante termice, păduchele verde al mazării, bioecologie

Key words: thermic variations, green pea aphid, bioecology

SUMMARY

The influence of climatic factors on the development (progress) of the green pea aphid was closely studied during an experiment at U.Ș.A.M.V. Bucharest, in 2000, 2001, 2002.

In order to find the best methods to kill the green pea aphid, big and detailed bioecological studies must be done. These studies include growth characteristics and especially the determination of thermic variations. These thermic variations are particular and unique to every single species.

As a result of this research, the following termical values were established:

- the lower biological limit of growth (t_0) = 2.93°C
- the prolificity limit (0) = 6.63°C
- the optimum temperature (0_1) = 15.29°C
- the superior biological limit (T) = 16.67°C

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**EFECTELE BIODIVERSITĂȚII DIN ECOSISTEMUL LAN DE GRÂU
ASUPRA COMPONENTELOR DE PRODUCȚIE ȘI A CALITĂȚII
RECOLTEI**

**THE EFFECTS OF THE BIODIVERSITY IN THE WHEAT FIELD
AGRO-ECOSYSTEM ON THE PRODUCTION COMPONENTS AND THE
PRODUCTION QUALITY**

M. DUMBRAVĂ , IONELA DOBRIN, BEATRICE IACOMI

Cuvinte cheie: biodiversitate, calitate, componente de producție

Key words: biodiversity, quality, production components

SUMMARY

The biodiversity within the wheat culture presented a great variability, according to variety of wheat, the vegetation phase, cultural area, precursory plant, sowing density, the treatments on seeds, time of sowing, fertilization system, control of pest and diseases and climate condition of the year.

Through the performed observations was intended to follow the existent competitiveness in the vegetal population of the cultivate plant, the weed range in the crop, the pathogens, pests and useful insects. The competitiveness in the wheat field agro-ecosystem affects considerably the production components and the production quality.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**VARIABILITATEA FENOTIPICĂ ȘI GENOTIPICĂ A UNOR HIBRIZI
DE PORUMB CULTIVAȚI LA DESIMI DIFERITE**

**THE FENOTYPICAL AND GENOTYPICAL VARIABILITY OF SOME
MAIZE HIBRIDS, CULTIVATED AT DIFFERENT DENSITIES**

DORINA BONEA, VIORICA URECHEAN

Cuvinte cheie: hibridi de porumb, desime, capacitate de producție, variabilitate

Key words: maize hybrids, densities, capacity of production, variability

SUMMARY

The paper presents the capacity of production, some productivity elements and their variation for 20 homologated or on homologating way maize hybrids.

These hybrids were cultivated on the luvo-soils from the south-west areas of the contry, under the climatic conditions of the year 2005 and at two different densities (50.000 plants/ha and 65.000 plants/ha).

The capacity of production and the productivity elements have registered different values depending on the densities of plants/ha. The highest variability has been shown by the tall insert of ear, for 50.000 plants/ha density ($vc=24,8\%$). The Oituz, Neptun, HSF66-03 hibrids themselves by their high capacity of production, compared to the control (Saturn) for the both densities.

VARIAȚIA CONȚINUTULUI DE PROTEINE ÎN BOBUL DE GRÂU ÎN FUNCȚIE DE GENOTIP ȘI CONDIȚIILE DE MEDIU

GENOTYPIC AND ENVIRONMENTAL VARIATION OF WHEAT GRAIN PROTEIN CONTENT

CRISTINA MIHAELA MARINCIU

Cuvinte cheie: % proteine, producție, condiții de mediu

Key words: protein percentage, yield, environmental conditions

SUMMARY

Wheat breeding for increasing grain protein concentration is difficult, mainly because protein content is negatively correlated with the yield level. We analyzed the variation of grain protein content (GPC%) in several wheat cultivars, tested several locations, in various conditions of water and Nitrogen availability. Yield trials included 19 cultivars, tested in 16 environments, 14 genotypes being common to 10 environments. GPC% of each cultivar varied widely, due to the variation in Nitrogen fertilization, irrigation, soil and climatic conditions among the testing locations. For example protein content in cultivar Delia had a minimum value of 10.1% (at Valu lui Traian, irrigated, without Nitrogen fertilization) and a maximum value of 20.8% (at Turda, with Nitrogen fertilization), while in cultivar Bezostaya 1 the range was from 11.3% (at Valu lui Traian, irrigated, without Nitrogen fertilization) to 17.1% (at Fundulea, with Nitrogen fertilization). The cultivar protein content, averaged over all trials, varied from 13.13% in cultivar Izvor and 14.22% in cultivar Crina. The correlation between yield and protein content, calculated for 19 entries in each trial, was significantly negative in 7 out of 16 environments, but a trend of lower protein content at higher yields was always present. Significant correlations between yield and GPC% were found at all GPC% (between 12.17%-18.69%) as well as at all yield levels (between 1800kg/ha - 6400kg/ha). A weak correlation ($r = -0.47$) was found between GPC% of 14 cultivars, averaged over all locations, and their respective average yields. Positive deviations from the regression were noticed for cultivars Delabrad, Romulus, Crina, which might be promising parents in breeding for increased GPC.

**EFFECTUL GENELOR DE PE CROMOZOMUL 7B
ASUPRA CONȚINUTULUI DE PROTEINĂ LA GRÂU**

**EFFECT OF GENES ON CHROMOSOME 7B
ON GRAIN PROTEIN CONTENT IN WHEAT**

ELENA-LAURA NICULAE

Cuvinte cheie: grâu, linii recombinante, conținut de proteine

Key words: wheat, recombined lines, protein content

SUMMARY

Grain protein content has a major influence on wheat bread-making quality and nutritional value. This research was aimed at a better understanding of its genetic control, for increasing the efficiency of breeding for quality.

Forty seven recombinant inbred lines for 7B chromosome of the high protein F26-70 line, in the genetic background of cultivar "Favorit", were tested in 2006, in two yield trials, using a balanced lattice design, at two levels of Nitrogen supply (unfertilized and fertilized in spring with 200kg/ha ammonium nitrate). Our results showed that:

- The recombination of chromosome 7B genes of F26-70 and Favorit produced a very significant variation of the protein concentration and a less significant yield variation.
- Segregation at the 7B chromosome level did not determine a differential reaction to the level of Nitrogen supply.
- The negative correlation between yield and protein content was low and occurred only under Nitrogen fertilization.
- Grain protein content was strongly correlated with earliness at heading, at both levels of Nitrogen supply.

**DEZVOLTAREA SISTEMULUI RADICULAR LA DIFERITE
COMBINAȚII SOI-PORTALTOI LA MIGDAL PE NISIPURI**

**ROOT SYSTEM DEVELOPMENT IN DIFFERENT CULTIVARS –
ROOTSTOCK COMBINATION TO ALMOND ON SANDS**

M. CICHI, MIHAELA LARISA PĂUN, LUMINIȚA RADU MILITARU,
RAMONA CĂPRUCIU

Cuvinte cheie : migdal, portaltoi, sistem radicular, nisipuri

Key words: almond, rootstock, root system, sands

SUMMARY

For the experiment the zoning of the varieties is as important as the zoning of the rootstocks. During the observation of the behavior of almond on sands (in the South Oltenia) grafted on Frank peach tree, I found that this rootstock give a good compatibility with Sudak and De Ialta varieties.

These constituents variety x rootstock, become an independent entity with mutual influence in the growth and fructification of the tree.

It is to be noticed that the De Ialta variety has almost a double number of roots (59), while the other variety, Sudak, has only 36 roots.

The penetration depth of the roots into the soil is up to 70 cm for Sudak variety and for the De Ialta variety comes to 60 cm. It does not find roots further on, beyond 60 -70 cm, on the sides of the trench.

For the same species, through their hereditary characteristics, rootstocks generate great differences of rooting for the same soil and agrotechnics (farm practices) conditions.

**CERCETĂRI PRIVIND COMPORTAREA UNOR SOIURI DE
CRIZANTEMĂ LA PRODUCEREA *IN VITRO* A MATERIALULUI
SĂDITOR ȘI LA CULTURA CONTAINERIZATĂ**

**RESEARCH ON THE BEHAVIOUR OF SOME CHRYSANTHEMUM
VARIETIES TO THE *IN VITRO* PRODUCTION AND POT GROWING
OF THE SEEDLING MATERIAL**

VIORICA BĂLAN, FL. TOMA, GABRIELA POPA, ANA-MARIA CIUREA

Cuvinte cheie: *Chrysanthemum*, liber de virusuri, cultivat la ghivece, noi soiuri, Termincultur

Key words: *Chrysanthemum*, virus free, pot cultivated, new varieties, Termincultur

SUMMARY

The research presented in this paper had two aims: the in vitro multiplication and the plant acclimatization under greenhouse conditions, for the following purposes: to know and apply the best intensive-clone variants of the chrysanthemum genotypes, to obtain virus- and disease-free clones, to shorten the growing cycle by quickening the obtaining of seedling material, to introduce new varieties in order to diversify the assortment, especially of the pot-cultivated chrysanthemums.

The biological material belonged to the following varieties: Axilia, Alb de Brăila, Alb Japonica, Briertner, Gold Cristal, Homaro and Lamet Bright.

The experiment had two acclimatisation phases: 1 – the pre-acclimatisation phase, i.e. the acclimatisation of rooted plantlets with the environment (at SCDP Băneasa), and 2 – plant acclimatisation in the greenhouse (at USAMV Bucharest). The results obtained were according to the modern growing technology of the year-round flowering chrysanthemums (“Termincultur” or “All Year Round”), as planting is done in the greenhouse irrespective of the season, resulting in short time flowering and high profitability.

**CERCETĂRI PRIVIND PRODUCEREA ȘI CULTURA
CONTAINERIZATĂ A PLANTELOR DE *FICUS BENJAMINA***

**RESEARCH ON THE PRODUCTION AND POT-GROWING
OF THE *FICUS BENJAMINA* PLANTS**

VIORICA BĂLAN, FL. TOMA, FLOARE-ROXANA CUCU

Cuvinte cheie: *Ficus benjamina*, butășire, containerizare, valorificare

Key words: *Ficus benjamina*, multiplied by cutting, pot growin technology, valorisation

SUMMARY

The paper presents the results of the research performed between 2005-2007, on the pot growing plants belonging to the *Ficus benjamina* species.

The research objectives were: to increase the rate of the rooted plants multiplied by cuttings, and to study and know the growth and development phases of the cutting-obtained rooting plants, in order to establish a pot growing technology.

The best results were recorded in the cuttings gathered from the tips of the mother plants in the autumn-winter period, 6-8 cm in length and 2-3 leaves. Most rooting plants were obtained on a perlite substratum, i.e. 50% of the planted cuttings. Disinfected pots must be used for the first transplantation (5 cm in diametre), while for the other transplantations their size must be directly proportional with the size of the roote plants.

The best soil used for transplantation consisted in leaf soil+manure+fallow soil, and a neutral slightly alkaline pH.

The growth rate of the rooted plants was higher on the above mentioned substratum, as they reached an average height of 14.5 cm in only six months, 31 cm in a year, over 60 cm in two years, which allows their valorisation even in their first and second year after cutting prelevation.

**CARACTERIZAREA AGROPRODUCTIVĂ A SOIURILOR DE DUD
APARTINÂND PATRIMONIULUI SERICICOL DIN ROMÂNIA**

**AGROPRODUCTIVE CHARACTERISATION OF MULBERRY
VARIETIES FROM ROMANIA SERICULTURE PATRIMONY**

DOINA TĂNASE, C. GUTUIE

Cuvinte cheie: fond genetic al dudului, soiuri de dud, diversitate fenotipică și genotipică, fișe de evaluare

Key words: mulberry germplasm stock, mulberry varieties, phenotypic and genotypic diversity, assessment form

SUMMARY

The germplasm stock of the mulberry from Romania includes 64 mulberry varieties from 5 *Morus* species, from which 16 are indigene varieties, 11 are Japanese, 13 Chinese, 14 from ex-URSS, 5 Italian and 5 Bulgarian.

Up to the present there were monitored 50 mulberry varieties with various proveniences, by filling in the Assessment Forms.

The agro productive characterization of these varieties is realised based on the Assessment Forms, in which it is observed the phenotypic and genotypic diversity of the vegetal sericulture germplasm stock; the agro productive parameters such as branch %SU, are significant.

The phenotypic and agro productive characters of the mulberry varieties are taken into consideration when choosing the parental forms in order to obtain some hybrid population that shall constitute the base for new mulberry varieties selection

**OPORTUNITĂȚI ACTUALE PENTRU IMPLEMENTAREA UNOR
SISTEME AGRO-FORESTIERE ÎN ZONA SEINI, JUDEȚUL
MARAMUREȘ**

**ACTUAL OPORTUNITIES FOR AN AGRO-FORESTRY SYSTEMS
IMPLEMENTATION IN SEINI ZONE, MARAMUREȘ COUNTY**

MIRELA COMAN, E. MOHAN

Cuvinte cheie: program de acțiune, agricultură durabilă, sistem agro-forestier;
Key words: action program, sustainable agriculture, agro-forestry system;

SUMMARY

The paper presents an actual thinking style for the land using from our country. After lot of time when we were so confused and we had wait for something new, the authors, the ancestors, working people and theoreticians alike, start to model an action program for an area that was ones well known for its agricultural production and socio-economical diversity. The authors did their best to adopt the models from The Code of Good Agricultural Practices to the local conditions from Seini area situated in Maramureș County.

The conclusions of this work paper are that in actual period the agricultures need more good examples of good agricultural practices, applications based on science results and precision information, good examples in real time. The forests men need to make a change in their outlook and need both sides beneficial collaboration with the agriculture. We must stay open for this time of change and must be interested in our sustainability development.

**CONSIDERAȚII CU PRIVIRE LA VALORIFICAREA BAZEI MELIFERE
FORESTIERE A JUDEȚULUI CONSTANȚA**

**CONSIDERATIONS REGARDING MELLIFEROUS FOREST BASE
VALORIFICATION FROM CONSTANTA COUNTY**

DANIELA JITARIU, IRINA MOISE, CLAUDIA ANDREIAȘI, M. POPESCU

Cuvinte cheie: melifer, forestier, Constanța

Key words: melliferous, forest, Constanta

SUMMARY

Latest reorientation of beekeeping to the forest represents an important tendency, because the forest has the advantage of a more stable climate in its area, with reduced temperature variations from one season to another; thus, the negative impact of environmental variations upon the bee colonies development is more reduced. the present study shows the melliferous base inventory of the Constanta Forestry Directorate, the actual rate estimation of its exploitation and, beginning with Romania's accession to the European Union, the determination of melliferous base charge capacity on the studied area. after European Union accession, Romania's forestry national fund, respectively the one of constanta forestry directorate, will become a communitary melliferous base, the response being the fact that european community beekeepers are allowed to practise pastoral beekeeping on the romanian territory.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**CERCETĂRI MORFO-ANATOMICE ȘI FITOCHIMICE PRIVIND
ORGANELE VEGETATIVE LA SPECIA *SALVIA FARINACEA* BENTH.
(*LAMIACEAE*)**

**MORPHO-ANATOMICAL AND PHYTOCHEMICAL RESEARCH
REGARDING THE VEGETATIVE ORGANS IN *SALVIA FARINACEA*
BENTH.(*LAMIACEAE*)**

MONICA LUMINIȚA BADEA, IOANA MARCELA PĂDURE, I. BURZO

Cuvinte cheie: *Salvia farinacea*, *Lamiaceae*, morfo-anatomie, fitochimie, frunză, tulpină

Key words: *Salvia farinacea*, *Lamiaceae*, morfo-anatomy, phytochemistry, leaf, stem

SUMMARY

The paper presents the morfo-anatomical and phytochemical aspects of *Salvia farinacea* Benth. (*Lamiaceae*). The anatomical and morphological characteristics of the vegetative organs analysed regarding the main structural features of leaves (including petiole) and stem, or micromorphology of leaf indumentum, including stomata types and non-glandular trichomes. Aspects regarding the essential oil composition of the flowering stems are presented. The species was analyzed for the first time in Romania. The original photos and oil chromatogram are shown.

Lucrări științifice, U.Ș.A.M.V., Serie A, Vol. L, 2007

**REGLEMENTĂRI ÎN DOMENIUL ETICHETĂRII
PRODUSELOR AGROALIMENTARE**

REGULATION IN AGRICULTURAL FOOD PRODUCE LABELLING

NARCISA BĂBEANU, D.I.MARIN, O. POPA

Cuvinte cheie: protecția consumatorului, etichetare, produse agroalimentare, legislație

Key words: consumer's protection, labelling, agricultural food produce, legislation

SUMMARY

In order to inform and protect consumers, and to reduce the gaps existing between the EU states, common European norms, have been established, regulating the labelling, presentation and advertising of the food, ecological and GMO - based produce. These norms have also taken into consideration specific international provisions. Romania accepted the community aquis in totality and, on adhesion, has succeeded in implementing the provisions referring to agricultural food produce labelling.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol.L., 2007

RENDA VIAGERĂ AGRICOLĂ ÎN ROMÂNIA
AGRICULTURAL LIFE ANNUITY IN ROMANIA

N. STANCA

Cuvinte cheie: renta viageră agricolă, rentier agricol, cuantumul rentei

Key words: agricultural life annuity, agricultural fund holder, life annuity ratio

SUMMARY

Numerous measures have been taken for the modernisation of Romanian agriculture and the accession of competitive products to the single European market, among which the introduction of the Agricultural life annuity. The specific national provisions are included in Act No 247/2005, subsequently modified, and in its application norms. The legal and administrative framework has been currently established for the implementation of the programme, and progress has been made for popularisation and information, as well as the education of rural population.

**STRATEGII PRIVIND DEZVOLTAREA RURALĂ DURABILĂ
ÎN ROMÂNIA, DUPĂ INTEGRAREA ÎN UNIUNEA EUROPEANĂ**

**STRATEGIES REGARDING THE SUSTAINABLE RURAL
DEVELOPMENT IN ROMANIA, AFTER JOINING
THE EUROPEAN UNION**

V. STERIU, SIMONA PARANICI

Cuvinte cheie: politică agricolă, integrare, obiective, dezvoltare rurală, investiții, economie rurală

Key words: agricultural policy, integration, objectives, rural development, investments, rural economy

SUMMARY

An important moment for Romanian agricultural policy as for the entire economy is the 1st of January 2007. By adhering to the European Union, Romania entered a new age of its progress, thus achieving its option to become a real inseparable part of the European space.

From this moment, the major objective of Romanian agricultural policy is implementing sustainable rural development, by insuring long term development and social, economic and cultural stability for the rural sector, in close connection with the protection and preservation of the environment, landscapes, soil fertility, habitats and biodiversity, traditions and cultural heritage.

The integration of the Romanian agricultural sector in the European structures will ensure the efficiency of activities, improvement of products competitiveness, consumers' safety, environmental protection and preservation of natural, historic and cultural heritage.

**IMPLICAȚII ALE ADERĂRII LA UNIUNEA EUROPEANĂ
ASUPRA AGRICULTURII ROMÂNEȘTI**

**EFFECTS OF THE E.U. INTEGRATION UPON ROMANIAN
AGRICULTURE**

V. STERIU, SIMONA PARANICI

Cuvinte cheie: integrare, politici agricole comune, produse agricole ecologice, ferme ecologice, turism rural, dezvoltare rurală, populație rurală, proces investițional

Keywords: Integration, Common Agricultural Policies, ecologic agricultural produces, ecologic farms, rural tourism, rural development, investments.

SUMMARY

The latest EU enlargement represents a challenge for all those involved in the process. For the new member States, hence for Romania too, agriculture continues to be a major sector, with an important share in active population and GDP. Integrating Romanian agriculture in the CAP is considered extremely difficult, requiring a long period of transition even after joining the EU, to not unbalance the already existing structures of the CAP. Romania's agricultural policy, within the framework of EU Integration and of an increasing presence on international markets, should head towards: orienting the strategic objectives of the agricultural policies towards the creation and development of an upstream competitive market of the sector and of agro food products (downstream industries); relaunching of investments, elaborating and implementing an integrated development policy of rural communities, as a premise for strengthening the territorial fund and exploitation in competitive and viable farm units.

Lucrari științifice, U.Ș.A.M.V.B., Seria A, Vol. L, 2007

**DEZVOLTAREA TURISMULUI RURAL ȘI AGROTURISMULUI
ȘI CALITATEA PRODUSELOR**

**DEVELOPMENT OF RURAL TOURISM AND AGRO-TOURISM
AND THE QUALITY OF AGRICULTURAL PRODUCTS**

LILIANA BLAJOVICI

Cuvintele cheie: Tourism rural, agroturism, calitate, produse agricole

Key words: rural tourism, agricultural tourism, quality, agricultural products

SUMMARY

The paper presents the importance of the development of rural tourism and agrotourism on the background of harsh competition on this niche market regarding the means of attracting tourists and also keeping those in favour of this type of tourism

The main focus will envisage the chief role which the agricultural products hold in order to attain quality standards; this activity is also known as the industry of hospitality and should become sustainable. In the context of the E.U. accession, Romania must align the due provisions and comply with them

**AGRICULTURA JUDEȚULUI MUREȘ – OBIECTIVE
ÎN PERIOADA POSTADERARE**

**THE MUREȘ COUNTY AGRICULTURE – OBJECTIVES
FOR THE POST EUROPEAN INTEGRATION PERIOD**

E. CIGHIR, F. SÎNTEAN

Cuvinte cheie: agricultură, dezvoltare, integrare
Key words: agriculture, development, integration

SUMMARY

The joining to the European Union on January 1st, 2007 makes available several opportunities for the recovery of the handicaps that have appeared after 1989 and the development of a supportive agriculture which decisively contributes to the European redefining of the Romanian countryside.

The objectives of a lasting development of agriculture in Mureș county, taking into account the major changes that have taken place in the previous years, are aiming to the lasting development programme of the rural area by assuring the rural youth training and integration in agriculture, mainly for those youth who have the calling for this field of activity.

The urbanization of the villages by achieving the proper infrastructure, roads of access, water, sewerage, condition of living, access to the Internet, possibilities of amusement, civilized trading and other facilities, constitute the compulsory conditions for the settlement of the young generation and the reconstruction of the countryside intellectuals. Beside a very efficient agricultural activity, it is also required the raising of the economic potentials of the villages by offering favorable conditions for the possibility of alternative incomes agricultural activities such as agro tourism, handicraft activities and traditional jobs, varied services in the field of amusement and others.

The general strategic objective of lasting development in agriculture is the achieving of a technological level which can assure the reaching of specific quantities and qualitative parameters that are able to guarantee conditions for a decent life in the rural area, comparable to those in the urban areas, to preserve and regenerate the environment and to contribute at the stopping of the decreasing of the population in the disadvantages.

STAREA ACTUALA A AGRICULTURII ECOLOGICE
CURRENT STATE OF ECOLOGICAL AGRICULTURE

AURELIA VASILICA FLORESCU

Cuvinte cheie: agricultura ecologică, producție agricolă, conservarea solului.
Key words: ecological agriculture, agricultural, production, soil conservation

SUMMARY

Agriculture, as specialized human activity, provides the food of the population and important amounts of raw materials for the food and non-food industry. *The protection of agricultural environment does not mean not utilizing the modern means of production, leaving everything more expensive of nature.* The system of agricultural reconcilable with production exigently protective average and of the sceneries is complex whose system aims are represented by the procurement foods to "maximum quality".

Sustainability of agriculture and the environment is *a key objective of the current Communitary Agricultural Policy.*

Farmers are prompted to estimate themselves as much the effect of present activities about future agriculture, quotient the way how it is involved in the preservation environment. As a direct consequence, farmers, consumers and decision-makers show a large interest for the protection of the environment in agriculture.

**IMPORTANȚA FONDURILOR STRUCTURALE PRIVIND
DEZVOLTAREA DURABILĂ A AGRICULTURII ȘI A MEDIULUI
RURAL DIN ROMÂNIA**

**IMPORTANCE OF THE STRUCTURAL BACKGROUNDS
CONCERNING SUSTAINABLE DEVELOPMENT OF AGRICULTURE
AND RURAL SPACE FROM ROMANIA**

PAULA PETRICĂ, VALENTINA TUDOR

Cuvinte cheie: fonduri structurale, dezvoltare durabilă, agricultura, mediul rural
Key words: structural backgrounds, sustainable development, agriculture, rural space

SUMMARY

Designed as a necessity of reconciliation between men and nature, as a new type of development that could sustain human progress on a long term a sustainable development expresses the harmonization necessity of the present interests with the ones of the future generations that succeed in time. For Romania, sustainable development has the role to assure the management of the fundamental natural resources which lie at the base of the general ecological balance by conserving the earth, water, fauna and flora, by clearing a new technical and technological way of producing economic goods based on the use of the neo-factors, and legislative and institutional space favorable to the social needs, in full rise and diversification for future and present generations.

The strategy of sustainable development of the Romanian economy is based on an assembly of general objectives that regards the construction of a functional market economy, compatible with the principles, mechanisms, institutions and the EU policies, which concern all the economic-social subsystems, including agriculture and the rural space.

**PLANIFICAREA ACȚIUNILOR
CUPRINSE ÎN PLANUL DE DEZVOLTARE AL REGIUNII CENTRU**

**THE PROJECT OF THE ACTIONS
STIPULATED IN THE DEVELOPMENT PLAN OF THE CENTRAL
REGION**

F. SÎNTEAN, E. CIGHIR

Cuvinte cheie: Regiunea Centru, dezvoltare, priorități, plan de acțiune
Key words: Central Region, development, priorities, tourism, action plan

SUMMARY

In the view of the year 2007, the Central region is going to be considered as a geographic individuality. Starting from a complex and unitary offer, there will be created the premises for the growing of the competitiveness of the Region on the internal and foreign market of tourism, and the economy of the regional tourism will tend to become an important factor of prosperity.

The immediate aim of the Action Plan is required by the necessity of the Council of Central Regional Development And the socio-economic responsables in the region, to have at their disposal a guide which facilitates the taking of necessary decisions to create the premises for a harmonious and balanced development. By the priorities that have been established, it is attempted the avoiding of the circumstances in which each county produces and distributes its own material, and it promotion is encouraged at a regional level together with the focus on the actions directed towards the consumer.

The achieving of the aims of this programme may be assured only by a process of implementation based on partnership between the political actors and socio-economic ones from the Central region, and also by an intense cooperation with the European and International partners.