

ISSN 1222-5339

REFERENȚI ȘTIINȚIFICI

I.N. ALECU, Gh. BÂLTEANU, E. DOCEA, C. CHIRILĂ

COLEGIUL DE REDACȚIE

Gh.V. ROMAN, A. FALISSE, Gh. MOTCĂ, C. CIONTU, S. UDRESCU

SECRETARIAT ȘTIINȚIFIC

D.I. MARIN, M. MIHALACHE, V. ION, ELENA NISTOR

Secretar: L. ILIE

Redactare computerizată: L. ILIE, A.Gh. BĂȘA, MIHAELA HEIDEL

Redacția și administrația:

B-dul Mărăști nr. 59
București, sectorul 1
Cod 011464, România

Se face schimb de publicații cu instituțiile similare din România și străinătate.

*

Editorial board and administration:

59 Mărăști Blvd.
Bucharest
011464, Romania

Exchange of publications is done with institutions in Romania and abroad.

*

Rédaction et administration:

Bld. Mărăști n° 59
Bucarest
011464, Roumanie

Les publications de la faculté sont offertes en échange aux institutions similaires du Roumanie et de l'étranger.

*

Redaktion und Verwaltung:

B-dul Mărăști nr. 59
Bukarest, Sektor 1
Cod 011464, Rumänien

Es wird Austausch von Veröffentlichungen mit ähnlichen Behörden vom in- und Auslande angeboten.

*

CONTENTS

1. X. Tsilibaris, N. Manouselis, Gh. V. Roman, Maria Toader, Lenuța Iuliana Epure - ORGANIC.EDUNET – ORGANIC.EDUNET – A EUROPEAN INITIATIVE AIMED AT AWARENESS RAISING ABOUT ORGANIC AGRICULTURE AND AGROECOLOGY IN THE EUROPEAN AGRICULTURAL UNIVERSITIES
2. N. Florea, I. Munteanu - NEW ROMANIA' SOIL MAP AT 1:1000000 SCALE
3. A. Siuris, I. Rozloga - IMPROVEMENT OF SOILS AFFECTED BY SALTING
4. V. Alexeev, A. Burghilea, E. Varlamov - ASSESSMENT METHOD FOR MINERALOGICAL STATE OF CHERNOZEMS' SILICATE PART
5. C. Crăciun, M. Eftene, Victoria Mocanu, Sorina Dumitru - MINERALOGICAL CONTRIBUTIONS FOR IMPROVEMENT OF THE ROMANIAN SOIL TAXONOMY
6. Claudia Andreiași - ESTIMATION OF HYDROPHYSICAL AND PHYSICAL INDICATORS – HYDRAULIC CONDUCTIVITY (K) AND COMPACTION DEGREE (CD) AT SOILS FROM PANTELIMON - VOLUNTARI - PASĂREA IMPROVEMENT SYSTEM
7. N. Andreiași, A. Basarabă, D. Teaci, Claudia Andreiași - SOILS PRODUCTIVE PERENTALS MATERIALS FOR ROMANIA'S GEOPEDOLOGICAL CONDITIONS
8. Crina Turtoi - ASSESSMENT INDICATORS FOR THE MANAGEMENT OF SOIL QUALITY IN AGRICULTURAL FARMS
9. Valentina Coteș, M. Dumitru, N. Florea - CHARACTERISTICS OF SALT AFFECTED SOILS FROM EXPERIMENTAL FIELD „LACU SARAT” – BRAILA
10. C. Crăciun, Claudia Stan, M. Mușat, Alexandra Teodora Radu - MODIFICATION OF PHYSICAL AND CHEMICAL PROPERTIES IN SOILS IN BAESTI VALLEY CATCHMENT, UNDER THE INFLUENCE OF VARIOUS ANTIEROSIONAL WORKS AND VARIOUS USES
11. D. Brumar, N.Giugea, M.Cioboată - ANALYSIS OF THE PHYSICO-GEOGRAPHICAL CONDITIONS OF THE IMPROVEMENT AREA MARGINE-DOBREȘTI, DOLJ DISTRICT
12. Claudia Andreiași, A. Basarabă, Liliana Panăitescu, N. Andreiași - RISK ESTIMATE REGARDING SOIL DEGRADATION AND POLLUTION PROCESSES AND THE ECOPEDOLOGICAL RECONSTRUCTION MEASURES IN CUMPANA - AGIGEA - TUZLA AREA FROM CONSTANTA COUNTY
13. Adina Burcea, Mariana Burcea, A. Vranceanu, M. Mușat -IDENTIFYING AND CHARACTERIZING THE SOIL COVER FROM THE CADASTRAL TERRITORY ALEXANDRIA
14. A. Vrînceanu, Mariana Burcea, Adina Burcea, I. Jînga - SOME ASPECTS CONCERNING SOIL DEGRADATION RISK IN BĂRĂGAN PLAIN

15. Gâță Gh., S. Udrescu, M. Mihalache, L. Ilie - SPECIFIC GRAVITY OF SOME ROMANIAN SOILS
16. Monica Cristina Grigore, Elena Dumitru, Maria Ivașcu - EVALUATION OF LAND SUITABILITY FOR VINE ECOLOGICAL CULTIVATION BY USING EDAPHIC INDEXES
17. Nicoleta Balaban, E. Georgescu, Ioana Pănoiu - ASPECTS CONCERNING MORPHOLOGICAL, PHYSICAL AND CHEMICAL CHARACTERIZATION OF THE GLEYIC CHERNOZEMS FROM VIZIRU PLANE
18. Cornelia Dragomir, M. Mihalache, L. Ilie, A. Negoită - RESEARCH REGARDING PHYSICO-CHEMICAL SOIL PROPERTIES FROM S.C. OSTROVIT VINEYARDS
19. M. Musat, Alexandra Teodora Radu, Ileana Magureanu, Nicoleta Gherghiceanu, Mariana Burcea - RESEARCH REGARDING SOME HYDROPHYSICAL FEATURES OF ERODED SOILS IN SLANIC CATCHMENT, BUZAU COUNTY, UNDER DIFFERENT USES
20. Radu Alexandra Teodora, M. Musat, Ileana Magureanu, Nicoleta Gherghiceanu, Mariana Burcea - INFLUENCE OF WATER EROSION ON ARABLE SOILS SITUATED ON SLOPES, IN BUZAU COUNTY HILLY AREA
21. Anca-Luiza Stănilă, Raluca Popa, M. Parichi - CONSIDERATIONS CONCERNING THE SOIL COVER OF THE HILL PLAIN TRANSITION AREA BETWEEN OLT AND COTMEANA
22. C. Popescu, D. Vasile, Florina Grecu - PODZOLS FROM SOUTHERN PART OF THE PARANG MOUNTAIN AND THEIR MAIN CROPPING FEATURES
23. Anișoara Duma Copcea, M. Stepănescu, L. Niță, Casiana Mihuț, T. Mateoc, S. Copcea - PRODUCTION CAPACITY OF STAGNOSOIL AND GLEYSOIL IN DIFFERENT CROPS AND AGRICULTURAL USES IN THE MEHEDINTI COUNTY
24. Anișoara Duma Copcea, M. Stepănescu, T. Mateoc, Casiana Mihuț, S. Copcea, V. Ștefan - PHYSICAL AND CHEMICAL FEATURES OF THE STAGNOSOIL AND GLEYSOIL IN THE MEHEDINTI COUNTY
25. M. Stepănescu, Anișoara Duma Copcea - CHARACTERISING SOILS AND STATION TYPES OF THE NERGANITA PRODUCTION UNIT (COUNTY OF CARAS-SEVERIN)
26. M. Stepănescu, Anișoara Duma-Copcea - STUDY OF THE STATION AND FOREST VEGETATION OF THE BAILE PRODUCTION UNIT III (COUNTY OF CARAS-SEVERIN)
27. T. Mateoc, Nicoleta Mateoc-Sîrb, Anișoara Duma-Copcea, Mănescu Camelia - IMPROVING SOIL QUALITY IN ROMANIAN DEVELOPMENT POLICY (2007 - 2013)

28. Ioana Pănoiu, S. Udrescu, C. Simota, Valentina Coteț -ASSESSMENT OF ZONES VULNERABLE TO THE NITRATES ORIGINATING FROM AGRICULTURAL SOURCES, IN PRUT-BÂRLAD HYDROGRAPHIC AREA
29. Mihaela Monica Aldea, Mihaela Lungu, O.G. Iancu, N. Buzgar - DISTRIBUTION OF HEAVY METAL TOTAL CONTENTS IN THE SOILS OF THE NORTHERN PERI-URBAN AREA OF IAȘI MUNICIPALITY
30. Venera Mihaela Stroe, R.Lăcătușu, Mihaela Lungu, Rodica Lazăr, Mihaela Monica Aldea - DISTRIBUTION OF TOTAL CONTENT IN HEAVY METALS (Zn, Cu, Pb) IN SURFACE HORIZONTS OF FEW SOILS FROM PARKS AND PUBLIC GARDENS FROM IAȘI MUNICIPALITY
31. Georgiana Plopeanu, Eugenia Gament, M. Dumitru - PHYTOEXTRACTION, MODERN A METHOD FOR DEPOLLUTION OF LEAD POLLUTED SOILS
32. D. Brumar, N. Giugea, M. Cioboată - PEDOLOGICAL RESEARCH FOR ECOLOGICAL RECONSTRUCTION OF THE DEGRADED SOILS FROM THE IMPROVEMENT AREA MARGINE-DOBREȘTI, DOLJ DISTRICT
33. Alexandrina Manea, C. Ciobanu, M. Dumitru, Nicoleta Vrînceanu, Veronica Tănase, C. Pricop - HEAVY METAL SOIL AND PLANT POLLUTION IN BAIA MARE AREA
34. Mihaela Preda, R. Lăcătușu, M. Dumitru, Nicoleta Vrînceanu, Veronica Tănase - POLYCHLORINATED BIPHENYLS LOAD LEVEL OF SOILS FROM PLOIEȘTI
35. Rodica Lazar, R. Lăcătușu, Nineta Rizea, Mihaela Lungu, Venera Stroe, V. Iordache - EFFECT OF THE SOLID MATERIAL RESULTED FROM OIL SLUDGE PROCESSING INSTALATION ON RYEGRASS PLANT GROWTH
36. Vasilica Stan, Eugenia Gament, Georgiana Plopeanu - PHYTOEXTRACTION OF HEAVY METALS FROM CONTAMINATED SOIL USING DIFFERENT EDTA DOSES TO IMPROVE THE ACCUMULATION EFFICIENCY
37. Gabriela Mihalache, Anca Rovenă Lăcătușu, Mariana Marinescu - PRELIMINARY RESULTS CONCERNING ECOSOL PRODUCT TESTING ON A POLLUTED SOIL WITH CRUDE OIL IN UNINOCULATED AND INOCULATED VARIANTS WITH HETEROTROPHIC SELECTED BACTERIA
38. Mariana Marinescu, M. Dumitru, Anca Lăcătușu - PRELIMINARY RESULTS CONCERNING THE BIOREMEDIATION OF CONTAMINATED SOILS WITH PETROLEUM HYDROCARBONS
39. Monica Cristina Grigore, Maria Ivașcu, Elena Dumitru - THE GARDEN CRESS TEST – PROCEDURE FOR THE EVALUATION OF SOIL TOXICITY FOLLOWING A CONVENTIONAL CULTURE, IN VIEW OF SETTING UP AN ECOLOGICAL PLANTATION OF GRAPEVINE
40. M. Rusu, Marilena Mărghițaș, C. Toader, Lavinia Moldovan, Mihaela Rusu - POSSIBILITIES FOR METHODOLOGICAL IMPROVEMENT OF AGROCHEMICAL

STUDIES ON SOILS OF AGRICULTURAL AND HORTICULTURAL EMPLOYMENT

41. L. Popov - PHOSPHORUS EXPORTATION WITH THE YIELD OF PERENNIAL GRASSES ON MODERATELY ERODED COMMON CHERNOSEM
42. Marilena Mărghitaș, M. Rusu, C. Toader, Mihaela Rusu, Lavinia Moldovan, S. Man - EVOLUTION OF SOIL HUMUS CONTENT THROUGH ORGANO-MINERAL FERTILIZATIONS ON THE POTATO CROP OF A MOUNTAIN AREA
43. L. Rînciță, Gina Maria Gheorghe - INFLUENCE OF NITROGEN AND PHOSPHORUS FERTILISATION ON THE MORPHO-PHYSIOLOGICAL INDEXES OF SUNFLOWER IN THE SCDA TELEORMAN CONDITIONS
44. Lavinia Moldovan, M. Rusu, Marilena Mărghitaș, P. Kurtinecz, C. Toader - MODIFICATION OF SOIL ACIDITY INDICES UNDER THE INFLUENCE OF CALCIC LIMING AND LONG-TERM FERTILIZATION
45. Iulia Anton, A. Dorneanu, P. Niculiță, Daniela Dana, Geanina Bireescu, Daniela Mihalache, Ioana Oprică - PRELIMINARY RESEARCH ON THE INFLUENCE OF A SET OF ENVIRONMENTALLY FRIENDLY FERTILIZERS ON MINERAL COMPOSITION OF TOMATOES
46. Emilia Constantinescu, L. Olaru, Dorina Bonea - INFLUENCE OF THE INTERACTION BETWEEN CHEMICAL FERTILIZERS (NPK) AND AMENDMENTS ON SOME PHYSIOLOGICAL PROCESSES, CHEMICAL COMPOSITION OF THE PLANTS AND CORN SEEDS IN THE CONDITIONS OF SCDA SIMNIC
47. Rodica Soare, Adriana Duță, Cornelia Mirea, Daniela Moraru - RESEARCH CONCERNING ECOLOGICAL TOMATOES CROP AND AGROCHEMICAL CHARACTERISTICS OF SOIL BY ORGANIC FERTILIZERS
48. Neață Gabriela, Madjar Roxana, Davidescu Velicica, M. Mitrea - RESEARCH REGARDING THE QUALITY AND QUANTITY OF RADISH MADE IN ORGANIC CULTURE
49. Veronica Tănase, M. Dumitru, D.M. Motelică, Nicoleta Vrînceanu, Eugenia Gament, Mihaela Preda - EFFECTS OF THE COMPOSTED MANURE APPLICATION ON SOME NUTRIENT CONTENTS IN SOIL
50. Mihaela Lungu, S.L. Ștefănescu, Monica Dumitrașcu, L. Stoian, V. Lăcătuș, Marcela Fălticeanu, Rodica Lazăr, Mihaela Monica Aldea - ASSESSMENT OF VEGETABLE NUTRITIONAL STATE BY LEAVES CELLULAR SAP REACTION
51. C. Popescu, D.Vasile, Florina Grecu - RESEARCH ON THE INFLUENCE OF LIMESTONE SIZE DEGREE OF ON THE OAT YIELD AND THE MAIN STAGNIC LUVOSOIL FEATURES FROM CERNATEȘTI – DOLJ
52. C. Toader, M. Rusu, Marilena Mărghitaș, S. Man - AGROCHEMICAL MODIFICATIONS ON THE SOIL-PLANT SYSTEM IN THE CASE OF SOME DIFFERENTIATED FERTILIZATIONS IN POTATO

53. Mariana Burcea, Adina Burcea, A. Vranceanu, M. Muşat, Stefania Nistor - SOIL REACTION ANALYSIS ACCORDING WITH THE APPLICATION OF DIFFERENT SOIL TILLAGE METHODOLOGIES
54. N. Şarpe - ITALIAN FARMERS TAKE UP PRECISION AGRICULTURE
55. N. Şarpe - MULTIANNUAL STUDY OF THE NO-TILLAGE SYSTEM APPLIED ON MAIZE CROPS IN THE PEDOCLIMATIC CONDITIONS OF THE NATIONAL INSTITUTE FOR AGRICULTURAL RESEARCH&DEVELOPMENT FROM FUNDULEA
56. M. Mihalache, D.I. Marin, L. Ilie, Niculina Gheorghită - RESEARCH CONCERNING THE EFFECT OF MANAGEMENT SYSTEMS UPON REDDISH PRELUVO SOIL PHYSICAL PROPERTIES FROM MOARA DOMNEASCA FIELD CROP
57. A. Pop, P. Guş, T. Rusu, Ileana Bogdan, Paula Moraru - INFLUENCE OF MINIMUM SOIL TILLAGE UPON HYDRO STRUCTURAL STABILITY OF SOIL
58. Paula Moraru, P. Guş, T. Rusu, Ileana Bogdan, A. Pop - INFLUENCE OF SOIL TILLAGE SYSTEM ON PRODUCTION AND ECONOMIC EFFICIENCY OF WHEAT CROP
59. D. Țărău, I. Borza, N. Băghină, D. Dicu, Mădălina Iordache - DYNAMICS OF SOME PHYSICO-CHEMICAL AND HYDROPHYSICAL CHARACTERISTICS OF A CAMBIC CHERNOZEM FROM VINGA PLAIN, IN NO-TILL CULTIVATION SYSTEM
60. Vera Carabulea, M. Iancu - INFLUENCE OF DEEP TILLAGE ON SOIL STRUCTURE IN A FRUIT GROWING PLANTATION
61. Mihaela Obrisca - INFLUENCE OF SOIL MAIN TILLAGE DEPTH AND FERTILIZATION ABOVE REDDISH PRELUVO SOIL FROM MOARA DOMNEASCA FERTILITY LEVEL CHANGES ON SOIL VITAL ACTIVITY LEVEL
62. D.I. Marin, C. Bolohan, M. Roşu, A. Heroiu - RESEARCH ON WEED SEED RESERVE IN SOIL ACCORDING TO BASIC SOIL TILLAGE FOLLOWING WINTER WHEAT CROP .
63. C. Ciontu, C. Radu, M. Gîdea - RESEARCH REGARDING THE IMPLEMENTATION OF CROP TECHNOLOGY IN THE SUNFLOWER RESISTANT TO TRIBENURON METHYL
64. D. I. Săndoiu, A. Penescu, Niculina Gheorghită, V. G. Ghiţă, Nicoleta Claudia Dumitrescu, Mihaela Obrisca, I. Drăguleasa - THE INFLUENCE OF VARIETY /HYBREAD, ROWS DISTANCE AND HERBICIDES ON WINTER OIL SEED RAPS YELD IN THE REDDISH PRELUVO SOL CONDITIONS FROM ROUMANIAN PLAIN
65. Ersilia Alexa, A. Lazureanu, S. Alda, Monica Negrea -RESEARCH REGARDING ELUTRATION CAPACITY OF GLYPHOSATE HERBICIDE AND ITS METHABOLIT AMPA IN DIFFERENT TYPES OF SOIL

66. Silvia Chirilă, P. Chirilă - RESEARCH REGARDING SOYBEAN CROP CRITICAL PERIOD TO WEED HARMFULNESS
67. I. Oroian - TESTING EFFICACY OF CHEMICAL WEED CONTROL IN POTATO CULTURE
68. Irina Adriana Chiurciu - EQUIPMENTS USED FOR SPREADING HERBICIDES OVER FIELD CROPS REALIZED ON THE NATIONAL PLAN
69. Roxana Madjar, Niculina Gheorghita, Velicica Davidescu - LIVING LEVEL CHARACTERIZATION BY BIOTIC AND ENZYMATIC TESTS OF SOME CULTURE SUBSTRATA
70. Gh. Motcă, Viorica Grama, Ana-Maria Glăvan - RESILIENCE OF NATURAL ECOSYSTEMS WITH GRASSY VEGETATION: CONCEPT AND APPLICABILITY
71. Gh. Motcă, G.D. Ionescu - EXPERIMENTAL RESULTS CONCERNING PERENNIAL GRAMINACEAE AND LEGUMINOUS MIXTURES GAIN IN MOARA DOMNEASCA IN THE DROUGHTY CONDITIONS OF 2007
72. M. Soare, Paula Iancu, C.V. Păunescu, Ramona Aida Acsinia - RESEARCH CONCERNING THE BEHAVIOUR OF GENETICALLY MODIFIED CORN HYBRIDS COMPARATIVE WITH THEIR NORMAL HOMOLOGUES, IN THE CONDITIONS OF CENTRAL OLTENIA
73. M. Dumbravă, V. Ion, V. Ștefan, Nicoleta Ion - STUDY ON SUNFLOWER PRODUCTION COMPONENTS UNDER THE PEDOCLIMATIC CONDITIONS OF MOARA DOMNEASCĂ IN THE YEAR 2007
74. Maria Toader, Gh.V. Roman - COMPARATIVE STUDY REGARDING YIELD QUALITY IN *TRITICUM* L. SPECIES
75. Emilia Constantinescu, L. Olaru, Dorina Bonea - INFLUENCE OF THE FERTILIZER BACKGROUND AND SEEDING DENSITIES ON THE PEANUTS QUALITY YIELD (*ARACHIS HYPOGEA* L.) CULTIVATED ON IRRIGATED ASH DEPOSITS
76. Gh. Matei, G. Păunescu - INFLUENCE OF MINERAL AND ORGANIC FERTILIZATION MADE IN DIFFERENT ROTATION SYSTEMS TO THE YIELD QUALITY OF THE WHEAT CROP CULTIVATED IN CENTRAL AREA OF OLTENIA
77. Alina Maria Truța - RESEARCH ON MORPHOLOGICAL AND BIOLOGICAL PECULIARITIES OF *TRIGONELLA COERULEA* L. SPECIES UNDER CLIMATIC CHAMBER CONDITIONS
78. M. Gîdea, Irina Zavalschi, C. Radu, C. Ciontu, I. Ciocăzan, D.I. Săndoiu - RESEARCHES CONCERNING PIONEER MAIZE HYBRID BEHAVIOR UNDER THE CONDITION OF RED BROWN PRELUVOSOIL FROM THE NORTH – EAST PART OF BUCHAREST

79. Geanina Diana (Donțu) Botnar, Cristina Loredana Danalache - RESEARCH REGARDING THE INFLUENCE OF BIOLOGICAL AND TECHNOLOGICAL FACTORS, CONCERNING PRODUCTION AND QUALITY OF POTATO, IN ECOLOGICAL CONDITIONS OF MOLDAVIAN PLAIN FOR A SUSTAINABLE AGRICULTURE
80. N. Codrea - CROP POTENTIAL OF SOME SUNFLOWER HYBRIDS AT COGEALAC VARIETIES TESTING CENTER DURING 2002-2004
81. Daniela Trifan, Gabriela Alina Cioromele, Ana-Maria Popa - RESEARCH CONCERNING BEHAVIOUR OF TWO BARLEY TYPES UNDER CLIMATIC CONDITION OF BRAILA PLAIN IN THE AGRICULTURAL YEAR 2006 -2007
82. S. Muntean, M. Legras, J.M. Llorens, M. Duda, D. Varban, S. Taibi - ESTIMATION OF UPTAKE RATE OF HEAVY METALS FROM THE SOIL TO SEEDS OF OILSEED FLAX
83. A.Gh. Bășa, Gh.V. Roman, V. Ion, Lenuța Iuliana Epure, Maria Toader - MARKET ANALYSIS REGARDING MEDICINAL AND SPICE PLANTS PROVISION AND USE
84. Liliana Panaitescu, Rodica Bercu - STUDIES REGARDING THE CULTIVATION TECHNOLOGY AND A FEW HISTO-ANATOMICAL ASPECTS OF COMMON FLAX (*LINUM USITATISSIMUM L.*) CULTIVATED IN DOBROGEA
85. Elena Mirela Popescu - RESEARCH REGARDING BIOLOGY AND PRODUCTIVITY OF MAIZE-BEAN INTERCROPPING IN THE ECOLOGICAL AGRICULTURE SYSTEM
86. Cristina Danalache, S. Ifrim, Geanina (Donțu) Botnar, C.I. Airinei - INFLUENCE OF FERTILIZATION AND PLANT DENSITY ON ACHENE AND OIL PRODUCTION, WITHIN SOME SUNFLOWER HYBRIDS IN ECOLOGICAL CONDITIONS OF JIJIA PLAIN
87. Oana Ofelia Gheolțan, Georgeta Oroian, Cristina Maria Neag, G. Morar - THE PRETABILITY OF WHEAT SPELT IN ECOLOGICAL AGRICULTURE SYSTEM
88. Liliana Panaitescu - EVOLUTION OF THE VEGETAL PRODUCTION PROFILE IN CONSTANTA COUNTY UNDER THE INFLUENCE OF FACTORS EXTERNAL TO THE EXPLOITATION
89. M.M. Duda, D.I. Vârban, S. Muntean, O. Negrea – ASPECTS CONCERNING ECOLOGICAL HOP CULTIVATION TECHNOLOGY
90. Dorina Bonea, Viorica Urechean, Emilia Constantinescu - CORRELATION BETWEEN PRODUCTION CAPACITY AND PRODUCTIVITY ELEMENTS IN DIFFERENT WATER SUPPLYING CONDITIONS
91. C.V. Popescu - RESEARCH CONCERNING WATER CONSUMPTION IN THE SUNFLOWER CROP

92. C.V. Popescu, C. Bora, E. Petrescu, C. Popescu - THE WATER CONSUMPTION FOR SOYBEAN CROP
93. C.V. Popescu - RESEARCH CONCERNING IRRIGATED AND RAIN-FED SOIL'S WATER BALANCE FOR THE WHEAT CROP
94. C. Bora, C.V. Popescu, C.A. Roşculete, E. Petrescu - IRRIGATED AND RAIN-FED SOIL WATER BALANCE FOR THE CORN CROP
95. Florina Palada, C. Bărbulescu - SEED VIGOUR, APPROPRIATION WHICH INFLUENCES RESISTANCE TO LESS FAVOURABLE STORAGE AND CULTIVATION AGENTS FOR *LOLIUM PERENNE*
96. A. Mitroi- AGRICULTURAL ENGINEERING AND THE ENVIRONMENT
97. C. Marinescu, A. Mitroi, Nicoleta-Alina Udrioiu, Claudia Calinescu, Vasilica Popa-Udrea - USE OF POLLUTION FREE ENERGY FORMS FOR AGRICULTURAL AND HORTICULTURAL PRODUCTS IN DRYING PROCESSES
98. D.G. Epure, Vasilica Popa-Udrea, A. Mitroi, D. Ionescu - CONSUME OF ENERGY RELATED TO QUALITY OF PRODUCTS FOR COLD PRESERVATION OF CEREALS
99. S. Doven, A. Mitroi, D.G. Epure, Vasilica Popa-Udrea - ECOLOGICAL IMPLICATIONS OF POST HARVEST TECHNIQUES FOR CEREALS
100. I. Sărăcin - CORRELATION BETWEEN REVOLUTION ENGINE, POWER ENGINE AND FUEL CONSUMPTION FOR ITS DECREASING
101. G. Ştefan - THE INFLUENCE OF SOME SOIL FEATURES UPON FRICTION WEAR OF PLOUGH FURROWS
101. G. Ştefan - PHYSICAL, MECHANICAL AND ECONOMIC ASPECTS OF RELIABILITY FOR PLOUGH FURROWS AT SC SEMAKO SRL, SC MARETU SRL AND SC AGRISAN SRL FARMS
103. I. Roşca, Rada Istrate - RESEARCH REGARDING THE STUDY OF BIODIVERSITY OF HETEROPTERA FAUNA FROM WHEAT, CORN AND SOYBEAN AGRO-ECOSYSTEMS
104. I. Roşca – PRELIMINARY RESEARCH REGARDING STUDYING SCHEMA OF NON TARGET ORGANISMS IN GENETICALLY MODIFIED CROPS
105. S. Enuţă - STUDIES OF BIODIVERSITY IN DIFFERENT ECOLOGICAL SYSTEMS OF CULTIVATING AGRICULTURAL TERRAINS
106. Emilia Vasile, P. Paşol, Gr. Mărgărit - APHIDOPHAG SPECTRUM INVOLVED IN *ACYRTHOSIPHON PISUM* HARR. POPULATIONS REDUCTION FROM PEA CULTURE
107. I. Oroian - STRATEGIES USED FOR INSECT CONTROL IN POTATO CULTURE

108. Cristina Zepa, I. Pălăgeşiu, Lavinia Micu - EVOLUTION OF THE THRIPS POPULATIONS (*HELIOTHRIPS HAEMORROIDALIS*) IN THE MARIGOLD IN THE GREENHOUSES OF THE YOUNG NATURALISTS' STATION, FROM TIMIŞOARA LOCALITY, TIMIŞ DISTRICT
109. Constantina Chireceanu - PRELIMINARY PHENOLOGICAL MODEL OF PREDICTING THE ADULT EMERGENCE OF CHERRY FRUIT FLIES *RHAGOLETIS CERASI* L. (DIPTERA: TEPHRITIDAE) IN BANEASA AREA
110. Minodora Tudose, I. Geamăn, V. Jînga, M. Popescu, C. Gutue, Ionela Dobrin, Vlad Fulvia Florica - OBSERVATIONS REGARDING THE ACTION OF OLEOSAN A PG PRODUCT UPON SEVERAL PESTS FROM THE FRUIT-GROWING AGROECOSYSTEM
111. Anca Amuzescu, Elena Mateescu, D. Alexandru - ASPECTS OF INFLUENCE OF AGROMETEOROLOGICAL CONDITIONS OVER THE EMERGING PHYTOSANITARY RISKS IN ROMANIA'S MAIN CROPS
112. Beatrice Iacomi, C. Gheorghies - STUDIES ON INTERRELATIONSHIP BETWEEN MICROORGANISMS ASSOCIATED WITH WHEAT BLACK POINT MICROFLORA
113. Stelica Cristea, Mihaela Georgescu, Neliana Pătraşcu, O. Groza, L. Ion - RESEARCH REGARDING THE PATHOLOGY AND ANATOMY OF THE SEED- THE EXTENSION OF WHEAT KERNEL
114. Emilia Brînduşa Şchiopu, T. Şchiopu - CONTRIBUTIONS TO *IN VITRO* RESEARCH OF PATHOGENOUS FUNGI
115. Emilia Brînduşa Şchiopu - NEW DEVELOPMENTS REGARDING MORPHOLOGY OF *ALTERNARIA DAUCI* F.SP. *SOLANI*
116. T. Şchiopu, Emilia Brînduşa Şchiopu - STUDY OF GROWTH CONDITIONS (pH, T°C) IN *ALTERNARIA DAUCI* F.SP. *SOLANI* AND *ALTERNARIA ALTERNATA* F.SP. *LYCOPERSICI* PATHOGENS OF MAJOR IMPORTANCE IN DISEASE MANAGEMENT
117. T. Şchiopu, Emilia Brînduşa Şchiopu, M. Gîdea - METHOD OF SLOW FILTRATION – ALTERNATIVE IN CONTROLLING THE PATHOGEN FUNGUS *BOTRYTIS CINEREA* IN GREENHOUSES
118. I.V. Pop, F. Chiţoran - RESULTS REGARDING THE CONTROL OF FOLIAR DISEASES OF WHEAT BY CHEMICAL TREATMENTS
119. Lavinia Micu, D. Petanec, I. Pălăgeşiu, Florina Radu - RESEARCH CONCERNING THE CHANGES IN RAW PROTEIN CONTENT IN STORED WHEAT AFTER INFESTATION BY *RHIZOPERTA DOMINICA*
120. I. Braşovean, V. Florian, I. Oroian - PRETABILITY OF SEVERAL POTATO CULTIVARS FROM DIFFERENT PRECOCITY GROUPS AT PHYTOSANITARY TREATMENTS APPLICATION WITH ECOLOGICAL PRODUCTS

121. I. Geamăn, Fulvia-Florica Vlad, V. Jinga, Minodora Tudose, Ionela Dobrin, C. Gutue - ELABORATION OF SOME SYSTEMS TO INTEGRATED PROTECTION MANAGEMENT OF STONE FRUIT TREES CONTROL IN SUSTAINABLE AGRICULTURE
122. Delia Banga, M. Ardelean - GENETIC RELATIONSHIPS AND DIVERSITY OF SEVERAL *ECHINACEA PURPUREA* CULTIVARS BY MEANS OF RAPD AND MORPHOLOGICAL ANALYSES
123. Elena-Laura Contescu, C.Marinciu, N.N. Săulescu - EFFECTS OF 7B CHROMOSOME ON GRAIN PROTEIN CONTENT AND PRODUCTION USING RECOMBINANT SUBSTITUTION LINES OF WHEAT
124. Ana - Maria Popa, C. Leonte - CYTOGENETIC EFFECTS INDUCED BY TREATMENT WITH ACID 2,4 - D AT *PAPAVER SOMNIFERUM* SPECIES
125. Daniela Trifan, C. Leonte, Alina Gabriela Cioromele - RESEARCH REGARDING THE SEGREGATED CHARACTERS IN F2 GENERATION OF SOME GARDEN BEAN HYBRIDS (*PHASEOLUS VULGARIS* L)
126. Viorica Bălan, Valerica Tudor, Elena Topor, Mihaela Corneanu - GENETICS, BREEDING AND BIOTECHNOLOGY OF APRICOT IN ROMANIA
127. Florina Uleanu, A. Mihăescu, Raluca Boştinaru - STUDIES ON THE PRODUCTIVITY OF CERTAIN NEW HYBRIDS OF TOMATOES
128. Amalia Miteluţ, Mona Popa, P.Niculiţa, Mihaela Turtoi, Mihaela Geicu - NUTRACEUTIC PRODUCTS FOR METABOLIC FUNCTIONS REGULATION
129. Mariana Niculescu - CONTRIBUTIONS TO THE STUDY OF DETRITUS ASSOCIATION *ACINO ALPINI-GALIAM ANISOPHYLLI* BELDIE 1967 (SYN. *CALAMINTHA BAUMGARTENII-GALIAM ANISOPHYLLUM* BELDIE 1967; *ACINO-GALIETUM ANISOPHYLLI* NOM. MUT. PROPOS COLDEA 1991) IN THE UPPER BASIN OF THE LUNCAVĂŢ RIVER
130. Mariana Niculescu, St. A. Ciupitu, Paula Cismaru, Moldoveanu Florentina - RUDERAL PLANT COMMUNITIES OF *ARCTION LAPPAE* TX. 1937 EM. SISS. 1946 ALLIANCE IN THE RÂMEŞTI VALLEY (CĂPĂŢÂNII MOUNTAINS)
131. Mhaela Ioana Georgescu, Elena Săvulescu, D. Ştefan -PECULIARITIES OF AN *ARRHENATHERUM ELATIUS* LAWN IN FLORAL COMPOSITION OF MOARA DOMNEASCĂ AREA (ILFOV DISTRICT)
132. M. Gîdea, Irina Zavalschi, C.Radu, C.Ciontu, I.Ciocăzan, I.D.Săndoiu - RESEARCHES CONCERNING PIONEER MAIZE HYBRID BEHAVIOR UNDER THE CONDITION OF RED BROWN PRELUVOSOIL FROM THE NORTH – EAST PART OF BUCHAREST
133. Olimpia Pandia - IRRIGATED INFLUENCE THE DOSES OF NITROGEN AND PHOSPHOROUS DOSES APPLIED TO THE IRRIGATED AND NON IRRIGATED SYSTEM ON PHYSIOLOGICAL PROCESSES IN THE MINERVA CROP HYBRID

134. Maria Daniela Pletea, Liliana Bădulescu - PARTIAL STUDIES REGARDING THE POLLUTION INFLUENCE ON LEAF PHYTOCHEMISTRY IN *PICEA PUNGENS* ENGELM. 'ARGENTEA' (*PINACEAE*)
135. Mala-Maria Stavrescu-Bedivan, F. Aioanei - NEW DATA CONCERNING MONOGENEAN PARASITOFUNA IN *ALBURNOIDES BIPUNCTATUS* (CYPRINIDAE) FROM SOMEȘ BASIN
136. Mala-Maria Stavrescu-Bedivan - RESEARCH REGARDING SOME ECOLOGICAL ASPECTS OF BRANCHIAL MICROHABITAT IN *LEUCISCUS CEPHALUS* (CYPRINIDAE)
137. Mirela Coman, Cristina Big, Georgeta Iuga - ASPECTS REGARDING PRESENT CONSERVATION OPPORTUNITIES FOR THE NATURAL AND CULTURAL HERITAGE IN MARAMUREȘ COUNTY
138. Mirela Coman, G. Taro, R. Pop, Paula Pop, T. Năforeanu, Alexandra Sângeorzan - ON THE USE OF THE ECOLOGIC, BIOGENETIC HEATING SYSTEM OF LEXIN TYPE IN ROMANIA (I)
139. Nineta Rizea, R. Lăcătușu, Virginia Catrina, Rodica Lazăr, I. Râșnoveanu, Venera Mihaela Stroe, Monica Mihaela Aldea - INFLUENCE OF INDUSTRIAL POULTRY PRODUCTION SYSTEM FORM S.C. AVI TOP S.A., IAȘI DISTRICT UPON THE ENVIRONMENT
140. Cecilia Bucur, Daniela Radu, Mioara Costache, S. Stăncioiu - CONTRIBUTIONS TO KNOWLEDGE THE PATHOLOGY OF NORTH AMERICAN STURGEON, *POLYODON SPATHULA* REARED IN PONDS
141. D. Oprea, L. Oprea - RESEARCH CONCERNING FEEDING OF RUSSIAN STURGEON FRY (*ACIPENSER GULDENSTAEDTI* – BRANDT, 1833), REARED IN A SUPERINTENSIVE SYSTEM
142. Silvia Vladioiu, Mioara Costache, Cecilia Bucur, N. Marica, G. Vasilescu - CONTRIBUTIONS TO IMPROVE THE PRODUCTION METHOD FOR CLADOCERANS, TO INSURE LIVING BATE NECESARY FOR THE GROWTH OF YOUNG TROUGHTS OF CARP (*CYPRINUS CARPIO* - L. 1758)
143. Claudia Dima, P. Niculiță, Mona Popa, Amalia Miteluț -MONITORING AND PREVENTION STRATEGIES OF ZOONOTIC DISEASES USING TRACEABILITY AND HACCP SYSTEMS
144. Paula Petrică, Valentina Tudor, Adina Burcea -AGRICULTURE-ON-GOING DEVELOPING FACTOR OF RURAL ENVIRONMENT IN TELEORMAN COUNTY
145. Mirela Rusali - MODELS OF ORGANIC AGRICULTURE IN EUROPEAN CONTEXT
146. Camelia Slave - LOCAL, REGIONAL AND GLOBAL HAZARDS AND RISKS
147. Camelia Slave - SUSTAINABLE DEVELOPMENT CONCEPT IN THE CURENT GLOBAL FRAME

**ORGANIC.EDUNET – A EUROPEAN INITIATIVE AIMED AT
AWARENESS RAISING ABOUT ORGANIC AGRICULTURE AND
AGROECOLOGY IN THE EUROPEAN AGRICULTURAL
UNIVERSITIES**

**ORGANIC.EDUNET – O ÎNȚIATIVĂ EUROPEANĂ CARE ÎȘI PROPUNE
SĂ SPOREASCĂ INTERESUL PENTRU AGRICULTURA ECOLOGICĂ ȘI
AGROECOLOGIE ÎN UNIVERSITĂȚILE AGRICOLE DIN ÎNTREAGA
EUROPĂ**

X. TSILIBARIS, N. MANOUSELIS, GH. V. ROMAN,
MARIA TOADER, LENUȚA IULIANA EPURE

Cuvinte cheie: Organic.Edunet project, organic agriculture, agroecology, Internet

Key words: proiectul Organic.Edunet, agricultura ecologică, agroecologie, Internet

SUMMARY

Organic.Edunet este un proiect internațional finanțat de Uniunea Europeană care își propune să susțină universitățile și școlile agricole din Europa în utilizarea ușoară și performantă a tehnologiilor de Internet în vederea îmbunătățirii ofertelor educaționale în domeniul agriculturii ecologice și agroecologiei. Proiectul va dezvolta un website multilingual (Organic.edunet Web portal) care va facilita celor interesați căutarea, accesul și utilizarea unui conținut educațional digital destinat învățării. Pe această cale, conținutul digital va putea fi utilizat pentru educarea tineretului european asupra beneficiilor agriculturii ecologice și agroecologiei, cunoștințele respective devenind mai ușor accesibile, utilizabile și exploatabile.

NOUA HARTĂ A SOLURILOR ROMÂNIEI LA SCARA 1:1000000
NEW ROMANIA' SOIL MAP AT 1:1000000 SCALE

N. FLOREA, I. MUNTEANU

Cuvinte cheie: harta solurilor, scară mică, România

Key words: soil map, small scale, Romania

SUMMARY

A new soil map of Romania at scale 1:1000000 has been compiled by taxonomical, cartographical and spatial generalization of the Romania territory soil map at scale 1:200000, taking into account the new soil terminology according to the Romanian system of soil taxonomy, 2003.

The map renders both the main soil distribution and soil association specific to the various soils landscapes discriminated taking into consideration the parent material, land forms, relief types, as well as soil zone inferentially from the kind of association soils. The map has a concise legend – written on map – and an extensive legend annexed to map, with some information about soil association units.

The map has a naturalistic and didactic interest and also an environmental and bioproductive importance.

AMELIORAREA SOLURILOR AFECTATE DE SĂRĂTURARE

IMPROVEMENT OF SOILS AFFECTED BY SALTING

A. SIURIS, I. ROZLOGA

Cuvintele cheie: ameliorare, soluri sărăturate, amenajări de drenaj, lignina hidrolitică

Key words: amelioration, alkaline soils, drainage systems, hydrolytic lignine

SUMMARY

The paper deals with agriculture and refers to the improvement of soils affected by salts. We propose a method that includes: the setting up of a network of ditches for drainage, the removal of the soil evacuated from ditches, the placement the drainage material formed of hydrolytic lignine into the ditches, the addition of a non-salted soil layer till complete filling-in of the ditches, and the chemical amelioration of the superior layer of the soil.

Hydrolytic lignine possessing natural humidity are applied in the quantity of 310-350 kg per 1 meter of drain. The result of the procedure consists in the acceleration of de-salting processes of the alkaline soils through the intensification of penetration conditions into the drains of alkaline soils. It should also be mentioned its double effect: on the one hand, it protects the environment through the saving of the wooden material from forest plantations, on the other, the use of hydrolytic lignine with polluting potential as a production resource.

**METODA DE EVALUARE A STĂRII MINERALOGICE A PĂRȚII
SILICATE A CERNOZIOMURILOR**

**ASSESSMENT METHOD FOR MINERALOGICAL STATE OF
CHERNOZEMS' SILICATE PART**

V. ALEXEEV, A. BURGHELEA, E. VARLAMOV

Cuvinte cheie: cernoziomuri, compoziția mineralogică, evaluare, pedogeneză

Key words: chernozems, mineralogical composition, assessment, pedogenesis

SUMMARY

There was developed a method of assessment of chernozems mineralogical state. Eight evaluation indices were used as the method base. They characterize state of main groups of rock-forming minerals. Values of the method are in integrity, compactness and multivariability of the assessment of chernozems mineralogical state, and of the degree of its transformation under action of pedogenic processes. Findings can be used for determination of soils genesis, their classification, and also in application purposes. Principles of the method base can be used for other soils.

**CONTRIBUȚII DE ORDIN MINERALOGIC LA ÎMBUNĂTĂȚIREA
SISTEMULUI ROMÂN DE TAXONOMIE A SOLURILOR**
**MINERALGICAL CONTRIBUTIONS FOR IMPROVEMENT OF THE
ROMANIAN SOIL TAXONOMY**

C. CRĂCIUN, M. EFTENE, VICTORIA MOCANU, SORINA DUMITRU

Cuvinte cheie: Taxonomia solului, minerale argiloase

Key words: Soil taxonomy, clay minerals

SUMMARY

The paper purpose is to improve The Romanian Soil Taxonomy System by providing some information about clay mineralogical composition from some soils introduced as a new taxonomic unit (Pelosol) added to this taxonomy system.

The corelation attempts of two parameters which express the clay quantity and quality leads to a strong relationship between them, demonstrating that an increase of the clay content will lead to an increase of smectit/illite ratio for two soil types, Chernozem and Eutricambosols. The vertic subtypes of these two soil units, are the most frequent cases proposed for equivalence with Pelosol subtypes.

The regresion ecuations show that in both cases on exceeding of a 30-35% clay content leads to a smectite/illite ratio higher than 1, which attests a predomination of smectite in the clay fraction for both soil types.

These results denote a disaccord between the granulometric criteria (>45% clay content) and the mineralogical criteria (nonsmectite predomination of clay) wich define the pelic horizon of the Pelosol type. From this reasons we propose to change the definition of the mineralogical criteria.

**RAIONAREA INDICILOR HIDROFIZICI ȘI FIZICI-CONDUCTIVITATE
HIDRAULICĂ (K) ȘI GRAD DE TASARE (GT) LA SOLURILE DIN
SISTEMUL AMELIORATIV PANTELIMON - VOLUNTARI - PASĂREA
ESTIMATION OF HYDROPHYSICAL AND PHYSICAL INDICATORS –
HYDRAULIC CONDUCTIVITY (K) AND COMPACTION DEGREE (CD)
AT SOILS FROM PANTELIMON - VOLUNTARI - PASĂREA
IMPROVEMENT SYSTEM**

CLAUDIA ANDREIAȘI

Cuvinte cheie: permeabilitate, grad de tasare, circulația apei

Key words: permeability, compaction degree, water circulation

SUMMARY

Hydraulic conductivity (K) or permeability, as well as the compaction degree (CD), represent two of the soil important physical indicators necessary to estimate land improvement projects and studies, both theoretically, in understanding of the water circulation mechanism, and practically, for the useful information they bring.

The purpose of this work-paper was the determination of these two features (K and CD), for each geomorphological situation – in help of the specialists who made the soil evolution control in the arranged perimeters – and the mapping of all data collected from field and laboratory, with the indication of improvement measures.

**MATERIALELE PARENTALE „PRODUCTIVE” DE SOLURI ÎN
SITUAȚIA GEOPEDOLOGICĂ A ROMÂNIEI**
**SOILS PRODUCTIVE PERENTALS MATERIALS FOR ROMANIA’S
GEOPEDOLOGICAL CONDITIONS**

N. ANDREIAȘI, A. BASARABĂ, D. TEACI, CLAUDIA ANDREIAȘI

Cuvinte cheie: fabrica solurilor fertile, materiale parentale

Key words: fertile soils „factory”, parental materials

SUMMARY

In a geomorphological landscape, lithology always represents the stationary solification factor. Along with other solification elements, lithology is responsible for soils genesis, development and evolution. The parental materials vary, depending on soil location and texture; more, they can be different, even as part of the same parental deposit. In Romania for instance, a classification of parental materials indicates two different types of lithologic base: fertile soils producers materials (fertile soils “factory”) and decreased fertility soils producers. Romania's most productive solification rock is represented by loess. Under loess, chernozems, leached chernozems and chestnut steppe soils were formed.

The present work – paper emphasizes the importance of parental materials for soils genesis; it also contains data regarding Romania's fertile soils surfaces, divided on land using categories and historical provinces.

**INDICATORI NECESARI EVALUĂRII MANAGEMENTULUI
CALITĂȚII SOLULUI ÎN EXPLOATAȚIILE AGRICOLE**
**ASSESSMENT INDICATORS FOR THE MANAGEMENT OF SOIL
QUALITY IN AGRICULTURAL FARMS**

CRINA TURTOI

Cuvinte cheie: practici agricole, indicatori, agricultură durabilă, practici manageriale

Key words: agricultural practice, indicators, sustainable agriculture, management

SUMMARY

The paper deals with the importance of identifying the necessary indicators for the assessment of the management of soil quality. More recently, soil quality has come to refer to the *dynamic quality* of soils, defined as the changing nature of soil properties resulting from human use and management. Some management practices, such as the use of cover crops, increase organic matter and can have a positive effect on soil quality. Other management practices, such as tilling the soil when wet, adversely affect soil quality by increasing compaction. Since it is impractical to measure every ecosystem or soil property, many researchers have proposed a minimum data set, which is the smallest set of soil properties or indicators needed to measure or characterize soil quality. For identifying the key soil properties or attributes that are sensitive to change in soil functions, a minimum data set of indicators is to be established.

**CARACTERISTICILE SOLURILOR SĂRĂTURATE DIN CÂMPUL
EXPERIMENTAL „LACU SĂRAT” - BRAILA**

**CHARACTERISTICS OF SALT AFFECTED SOILS FROM
EXPERIMENTAL FIELD „LACU SARAT” - BRAILA**

VALENTINA COTEȚ, M. DUMITRU, N. FLOREA

Cuvinte cheie: câmp experimental de ameliorare, salinitatea și sodicitatea solului

Key words: land reclamation experimental field, soil salinity and sodicity

SUMMARY

The experimental field „Lacu Sarat” is situated in the east part of the Romanian Plain (Braila Plain) in a depressionary area with an altitude of about 8 m (with 4 m below the field level, 12 m). A horizontal drainage network with ceramics tiles laid at 1 m depth and 20 – 40 m distance was realized in order to study the soil salinity and alkalinity evolution during the soil reclamation.

The paper presents the salinity and sodicity degree of the soils from the experimental field at the reclamation beginning. Soils are loamy textured calcareous chernozems developed in loess deposits; ground water is shallow (2 m and locally less than 1 m) with high salinity (about 10 g/l).

From the analytical data for 16 soil profiles, soil salinity and sodicity are as follows: soluble salts content between 64 and 1594 mg/100 g soil; salinization type is sulphato-chloruric, in some soils the gypsum being present; soluble Na content is relatively reduced and less than Ca + Mg; cationic exchange capacity (CEC) is between 16 and 30 meq/100 g soil; exchangeable Na has values between 1.0 and 7.2% from CEC; soil pH values oscilate within a reduced range, between 7.3 and 8.5.

Although soil salinity is moderate to strong, however sodicity is reduced wpecially due to the presence of the CaCO_3 in soil.

**MODIFICAREA ÎNSUȘIRILOR FIZICO-CHIMICE LA SOLURILE DIN
BAZINUL HIDROGRAFIC VALEA BĂEȘTI, SUB INFLUENȚA
DIFERITELOR LUCRĂRI ANTIEROZIONALE, PE DIFERITE
FOLOSINȚE**

**MODIFICATION OF PHYSICAL AND CHEMICAL PROPERTIES IN
SOILS IN BAEȘTI VALLEY CATCHMENT, UNDER THE INFLUENCE
OF VARIOUS ANTIEROSIONAL WORKS AND VARIOUS USES**

C. CRĂCIUN, CLAUDIA STAN, M. MUȘAT, ALEXANDRA TEODORA RADU

Cuvinte cheie: bazin hidrografic, eroziune, lucrări antierozionale

Key words: catchment (hydrographic basin), erosion, antierosional works

SUMMARY

However, after the arrangement (terraces, agroterraces, works on elevation curves, grassy stripes) the land was used irrationally (in another way than the recommended one). A part of the works were destroyed thus not being able to ensure antierosion protection for soil which has been degrading ever since.

Valea Baiești catchment is situated on the left slope of Slanic de Buzau in the Subcarpathians of the Curvature. It is the most representative for this area thanks to its complex morphometry, multiple agricultural uses (arable, fruit tree plantations, vineyards, pastures etc.) and different degrees of degradation by erosion. In time, there have been executed antierosional works with a view to reducing the erosion processes, especially active in this area.

**ANALIZA CONDIȚIILOR FIZICO-GEOGRAFICE DIN PERIMETRUL
DE AMELIORARE MARGINE-DOBREȘTI, JUDEȚUL DOLJ**

**ANALYSIS OF THE PHYSICO-GEOGRAPHICAL CONDITIONS
OF THE IMPROVEMENT AREA MARGINE-DOBREȘTI, DOLJ
DISTRICT**

D. BRUMAR, N.GIUGEA, M.CIOBOATĂ

Cuvinte cheie: relief, climă, analiză

Key words: relief, climate, analysis

SUMMARY

The research of the physico-geographical conditions of the Margine-Dobrești improvement perimeter, situated in SSE side of the Dobrești place, from Dolj district, was done on the basis of the geomorphological, natural vegetation, hydrological and climate regime studies.

In accordance with analysis results: from the geomorphological point of view, the studied area belongs to the subunit of the Oltenia field; the relief is very corrugated, with large or tight dune and interdune under the influence of the eolian deflate; the climate characterization was done with the Walter-Lieth climogramme; the level of the subsoil water is to 2-3 meters from the dune and 0.8-1.2 meters of the interdune; the climate type of area is c.f.a.x.

**RISK ESTIMATE REGARDING SOIL DEGRADATION AND
POLLUTION PROCESSES AND THE ECOPEDOLOGICAL
RECONSTRUCTION MEASURES IN CUMPANA - AGIGEA - TUZLA
AREA FROM CONSTANTA COUNTY**

**ESTIMAREA RISCULUI PRIVIND PROCESELE DEGRADARE ȘI
POLUARE A SOLURILOR ȘI MĂSURILE DE RECONSTRUCȚIE
ECOPEDOLOGICĂ ÎN ZONA CUMPANA - AGIGEA - TUZLA,
JUDEȚUL CONSTANȚA**

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

Cuvinte cheie: aridizare, mineralizare, materie organică
Key words: aridity, mineralization, organic matter

This scientific material represents a preliminary research, dated approval by URBB (Tuborg-Romania) and BALKAN ENVIRONMENTAL ASSOCIATION (RE.N.A), as donors and the "Ovidius" University from Constantza, as project holder and performer.

The research report is structured in two parts: the first one (the one we study) presents the ecological environment where the research took place (we also mention the most important degradation factors) and the last part establishes the specific measures for ecopedological reconstruction, including the maps regarding the risk and soil evaluation.

Each material has sketches as follows: geology and litology, soils and soils profiles, tables containing the improvement measures. There is obvious continuity between the two parts; the distinct presentation is due to the different stages of delivery: July and November.

During April - July period, the staff of this activity went on the field to the administrative and agrarian production units, where the research intentions were presented and local help was asked, as well as the modalities of using research by the beneficiaries: mayoralties, agrarian chambers, agro industrial private associations, commercial societies.

The measures we used, specifically for the ecopedological theme, respected the rules and the scientifically aspect required by such level studies.

**IDENTIFICAREA ȘI CARACTERIZAREA ÎNVELIȘULUI DE SOL DIN
CADRUL TERITORIULUI CADASTRAL ALEXANDRIA**
**IDENTIFYING AND CHARACTERIZING THE SOIL COVER FROM THE
CADASTRAL TERRITORY ALEXANDRIA**

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

Cuvinte cheie: resurse de sol, cernoziom, indicatori fizici, indicatori chimici

Key words: soil resources, chernozem, physical indicators, chemical indicators

Soil is considered the natural resource based on efficient agricultural system, productive and sustainable, being at the same time a complex and a limited resource, representing the essential life support. The rational exploitation of the soil should be realized by combining the agricultural technologies in such a way that it will be realized concomitantly: bio productivity, food security, soil quality protection, economic viability and social acceptance.

In order to increase the efficiency of the entire complex of hydro ameliorative, agro soil ameliorative and agro phyto technical works, it is important to know the types of soil specific to every area and their physical, chemical and biological properties, and also the different problems which appear as a result of the agricultural technological works, for increasing fertility.

The scope of realizing this soil study was assured by the necessary of information regarding the natural result of the area. After the relief, climate and vegetation study, the analysis of the natural and atrophic factors was realized, which conduct to the degradation of the soil cover, improved with the physical and chemical analyses made on the draw tests in the studied perimeter.

UNELE ASPECTE PRIVIND RISCUL DE DEGRADARE AL SOLURILOR ÎN CÂMPIA BĂRĂGANULUI

SOME ASPECTS CONCERNING SOIL DEGRADATION RISK IN BĂRĂGAN PLAIN

A. VRÎNCEANU, MARIANA BURCEA, ADINA BURCEA, I. JINGA

Cuvinte cheie: degradarea solului, secetă, vulnerabilitate, resurse de sol

Key words: soil degradation, drought, vulnerability, soil resources

SUMMARY

Drought is a natural phenomenon that has affected Southern and South-Eastern Romania, periods of severe drought having recurred in 1894-1905, 1942-1945 and most recently in 1981-2001.

The Baragan Plain is no exception as far as these drought phenomena are concerned. The geographical position of the Eastern Romanian Plain subjects it to the influence of an excessive continentalism with average temperatures ($T^{\circ}\text{C}$) of 10 to 11 $^{\circ}\text{C}$, average annual precipitations of 400 to 500 mm and an aridity index (P/ETP) of 0.50 to 0.65, this being one of the most sensitive areas to soil degradation processes caused by drought-aridization-desertification. This area is covered, to a large extent, by soils with high fertility potential (such as typical chernozems, cambic chernozems, eutric aluviosols, entic aluviosols etc.)

Precise information on the vulnerability of these soils/terrains enables a more rigorous management of their use. Soil being the support for plant and animal growth and development, a sustainable soil management is focused on biodiversity in different soil types, in an area where it has been gradually dwindling.

SPECIFIC GRAVITY OF SOME ROMANIAN SOILS
GREAUTATEA SPECIFICĂ A UNOR SOLURI DIN ROMÂNIA

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

Key words: specific gravity, soils and sediments, Romanian soils

Cuvinte cheie: greutate specifică, soluri și sedimente, soluri din România

SUMMARY

In order to know the component contributions of a sediment and soil on the value of their specific gravity the were selected a group of geological, soil and loess samples beside of some montmorillonite, illite and kaolinite samples. In this group, specific gravity varies from 2.22 g/cm^3 to 2.84 g/cm^3 , increase at the same time with carbonate content and low decrease with the clay quantity.

This contribution of soil components on specific gravity value were estimated by means of a soil group with three categories according to the prevalent soil type, namely podzols, luvisols and chernozems.

By means of a multiple linear equation with high correlation coefficient ($R_m=0.784^{***}$), there were estimated the mean values of specific gravity for some components of selected group. For organic matter, clay, silt, sand, smectite and illite were obtained $0.88\text{-}0.98 \text{ g/cm}^3$, 2.73 g/cm^3 , 2.64 g/cm^3 , 2.55 g/cm^3 and 2.79 g/cm^3 respectively.

**UTILIZAREA UNOR INDICATORI EDAFICI ÎN VEDEREA STABILIRII
GRADULUI DE PRETABILITATE A TERENURILOR PENTRU
CULTURA ECOLOGICĂ A VIȚEI DE VIE**

**EVALUATION OF LAND SUITABILITY FOR VINE ECOLOGICAL
CULTIVATION BY USING EDAPHIC INDEXES**

MONICA CRISTINA GRIGORE, ELENA DUMITRU, MARIA IVAȘCU

Cuvinte cheie: viticultura ecologica, reconversie, gradul de favorabilitate al factorilor edafici

Key words: ecological viticulture, conversion, the favorability's determination of the edaphic factors

SUMMARY

The decision to convert a traditional vine plantation to an ecological culture requires first the evaluation of land suitability, especially of the natural factors such as relief, rock, soil and climate. These factors can have either positive or negative effects on the vineyards.

Due to the fact that actions for edaphic factors correction are not allowed for the ecologically cultivated vines, the values of the edaphic indexes become very restrictive, a certain plot being selected only if these values prove to be optimal.

Among the restrictive factors included in our research and used for the classification of the lands in accordance with their suitability for ecological viticulture, we can mention: soil texture, soil thickness, edaphic volume, salinity degree, alkalinity degree, soil reaction and land slope.

This work proposes the agro-chemical mapping of the soil, followed by the evaluation of the edaphic indexes on a scale from 0 to 100, scale that correlates with the land suitability for ecological vine cultivation.

The present research aims to the determination of the favorability of two land plots proposed for conversion from the traditional system to the ecological one. Both plots are located in Pietroasa viticultural center and are destined for setting up of new vineyards.

In accordance to our methodology, the results showed that only one of the plots is suitable for ecological viticulture, the one respecting the restrictive conditions of this type of cultivation system.

**ASPECTE PRIVIND CARACTERIZAREA MORFOLOGICĂ, FIZICĂ ȘI
CHIMICĂ A CERNOZIOMURILOR GLEICE DIN CÂMPIA VIZIRU**

**ASPECTS CONCERNING MORPHOLOGICAL, PHYSICAL AND
CHEMICAL CHARACTERIZATION OF THE GLEYIC CHERNOZEMS
FROM VIZIRU PLANE**

NICOLETA BALABAN, E. GEORGESCU, IOANA PĂNOIU

Cuvinte cheie: câmpie, sol, cernoziom gleic

Key words: plane, soil, gleyic chernozems

SUMMARY

Situated in east extremity of the Romanian Plane, Viziru Plane present a relative large range of soils as part of the Chernisols and Salsodisols classes. In our paper authors collective present some aspects concerning morphological, physical and chemical characteristics of the gleyic chernozems, soils that appear in central part of the plane, were according with micro depressions clear determined by gullies type

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CERCETĂRI PRIVIND PROPRIETĂȚILE FIZICO-CHIMICE ALE
SOLURILOR DIN PLANTAȚIILE VITICOLE - S.C. OSTROVIT**
**RESEARCH REGARDING PHYSICO-CHEMICAL SOIL PROPERTIES
FROM S.C. OSTROVIT VINEYARDS**

CORNELIA DRAGOMIR, M. MIHALACHE, L. ILIE, A. NEGOIȚĂ

Cuvinte cheie: sol, proprietățile solului, nivel de aprovizionare, viticultură

Key words: soil, soil properties, level ensuring, viticulture

SUMMARY

Soils cover research cannot be completed until some aspects concerning rocks, relief, and climatic conditions, factors that have contributed to its formation and evolution, are presented. Such kind of research we have carried in Dobrogea Plateau, Ostrov area.

This paper presents the main physical properties of soil from S.C. Ostrovit vineyards and also the level of ensuring with nitrogen, phosphorous, potassium and some microelements.

Kastanozems have low organic matter content, pH is low alkaline and weak ensuring nutrients.

**CERCETĂRI PRIVIND UNELE ÎNSUȘIRI HIDROFIZICE ALE
SOLURILOR ERODATE DIN BAZINUL SLĂNICULUI JUD. BUZĂU,
ÎN DIFERITE VARIANTE DE EXPLOATARE**

**RESEARCH REGARDING SOME HYDROPHYSICAL FEATURES OF
ERODED SOILS IN SLANIC CATCHMENT, BUZAU COUNTY, UNDER
DIFFERENT USES**

M. MUSAT, ALEXANDRA TEODORA RADU, ILEANA MAGUREANU, NICOLETA
GHERGHICEANU, MARIANA BURCEA

Cuvinte cheie: plantație pomicolă, parcele de control, umiditate, rezervă de apă

Key words: fruit tree plantation, control lots, moisture, water supply

SUMMARY

Concerning slopy lands under differentiated cultivation, one of the problems is caused by the precipitation water being retained and stored in soil. In this respect soil moisture dynamics has been followed in the perimeter of Aldeni Stationary of Erosion Control in Buzău county, in a fruit tree plantation (on cambic erodosol) and in control parcels (on argic chernozem) cultivated with wheat, corn and perennial grasses. The present paper comprises data regarding water dynamics on the depth of 80 cm for trees and 60 cm for control lots, as well as water supply in soil compared with the supply at field capacity.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**INFLUENȚA EROZIUNII HIDRICE ASUPRA CALITĂȚII SOLURILOR
ARABILE SITUATE ÎN PANTĂ, DIN ZONA COLINARĂ
A JUDEȚULUI BUZĂU**

**INFLUENCE OF WATER EROSION ON ARABLE SOILS SITUATED ON
SLOPES, IN BUZAU COUNTY HILLY AREA**

RADU ALEXANDRA TEODORA, M. MUSAT, ILEANA MAGUREANU,
NICOLETA GHERGHICEANU, MARIANA BURCEA

Cuvinte cheie: eroziune, scurgeri de suprafață, pierderi de sol

Key Words: erosion, surface leakage, soil loss

SUMMARY

Studies and research regarding the influence of erosion on the quality of arable soils have been carried out in the perimeter of Aldeni Station for Soil Erosion Control, situated in Buzau county hilly area. Within the Station there is a set of 12 control parcels, sited in two batteries: the first one comprises 6 parcels, each of a surface of 100 square metres (25m/4m) and a slope of 20%; the second one comprises 6 parcels, each with a surface of 40 square metres (10m/4m) and a slope of 15%. The paper there are presents data regarding the main meteorological parameteres, surface leakage and the degree in which vegetation covers soil in 2007.

**CONSIDERAȚII PRIVIND ÎNVELIȘUL DE SOL AL ZONEI DE
TRANZIȚIE DEAL-CÂMPIE ÎNTRE OLT ȘI COTMEANA**

**CONSIDERATIONS CONCERNING THE SOIL COVER OF THE
HILL PLAIN TRANSITION AREA BETWEEN OLT AND COTMEANA**

ANCA-LUIZA STĂNILĂ, RALUCA POPA, M. PARICHI

Cuvinte cheie: factori, tranziție, sol

Key words: factors, transition, soil

SUMMARY

The transition between Cotmeana Piedmont and Boianului Plain is achieved through an area that, under a geomorphological report, interferes with the plateau and plain character.

The soil cover is mostly made out of vertosoils. These remain preponderant to the south, in the Boianului Plain and in a high percentage typical the Cotmeana Piedmont direction.

Along the typic vertosoils there are stagnic vertosoils, preluvo-soils and even stagnic melanic luvosoils. The typical ones of which concept is type Ay-ACy-Cca have a high content of clay (70-75%, clay under 0.002 mm), impermeable (0.3-0.5 mm/h), weak humifere (2-4%) and weak moderate stocked with nutrients (N, 0-200-0.218%, P, 10-12 ppm și K, 110-120 ppm).

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**PODZOLURILE DE PE VERSANTUL SUDIC AL MASIVULUI PARÂNG
ȘI PRINCIPALELE LOR PROPRIETĂȚI AGROPRODUCTIVE**

**PODZOLS FROM SOUTHERN PART OF THE PARANG MOUNTAIN
AND THEIR MAIN CROPPING FEATURES**

C. POPESCU, D. VASILE, FLORINA GRECU

Cuvinte cheie: podzol, profil de sol, textură, structură, aciditate, fertilitate, ameliorare

Key words: podzol, soil profile, texture, structure, acidity, fertility, reclamation

SUMMARY

In scarce natural conditions regarding temperature, rainfall, vegetation and bedrock, within the Parang Mountain podzol kind soils have evolved that are characterized by a short profile, high acidity, low base saturation degree and low nutritive elements content.

Podzol soils occupy the mountain edges with acid rocks and depending on the profile morphology and physico-chemical properties, they have been grouped in prepodzols, typical podzols and lithical podzols.

They have acid reaction, a low bases saturation degree and, generally, a low natural fertility.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CAPACITATEA DE PRODUCȚIE A STAGNOSOLULUI ȘI
GLEIOSOLULUI PENTRU DIFERITE CULTURI ȘI FOLOSINȚE
AGRICOLE DIN JUDEȚUL MEHEDINȚI**

**PRODUCTION CAPACITY OF STAGNOSOIL AND GLEYSOIL IN DIFFERENT
CROPS AND AGRICULTURAL USES IN THE MEHEDINTI COUNTY**

ANIȘOARA DUMA COPCEA, M. STEPĂNESCU, L. NIȚĂ,
CASIANA MIHUȚ, T. MATEOC, S. COPCEA

Cuvinte cheie: capacitate, producție, sol

Key words: capacity, production, soil

SUMMARY

Results obtained are presented in detail for different use categories or the crop groups with the same biological or technological features. In order to assess production capacity of the agricultural lands in the Mehedinți County, we have chosen 17 indices considered more significant, i.e. determinable from the environmental conditions.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**PROPRIETĂȚILE FIZICO-CHIMICE ALE STAGNOSOLULUI ȘI
GLEIOSOLULUI DIN JUDEȚUL MEHEDINȚI**

**PHYSICAL AND CHEMICAL FEATURES OF THE STAGNOSOIL AND
GLEYSOIL IN THE MEHEDINTI COUNTY**

ANIȘOARA DUMA COPCEA, M. STEPĂNESCU, T. MATEOC, CASIANA MIHUȚ,
S.COPCEA, V. ȘTEFAN

Cuvinte cheie: stagnosol, gleiosol, proprietățile fizico-chimice

Key words: stagnosol, gleysoil, physical and chemical features

SUMMARY

Stagnosol covers an area of 140 ha, while gleysoil covers 10,000 ha of the area of the Mehedinți County in the mountains, in an area that seems a flooding valley under the natural conditions of the Mehedinți Mountains. The climate conditions in which stagnosol develops are annual precipitation mean of 700 mm and annual temperature mean of 9.7⁰C; gleysoil is characterised by annual precipitation mean of 600 mm and annual temperature mean of 9.6⁰C.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**STUDIUL STAȚIUNII ȘI AL VEGETAȚIEI FORESTIERE DIN
UNITATEA DE PRODUCȚIE III BĂILE, JUDEȚUL CARAȘ-SEVERIN**

**STUDY OF THE STATION AND FOREST VEGETATION OF THE BAILE
PRODUCTION UNIT III (COUNTY OF CARAS-SEVERIN)**

M. STEPĂNESCU, ANIȘOARA DUMA-COPCEA

Cuvinte cheie:•ocol, stațiune forestieră, unitate de amenajare

Key words: district, forest station, management unit

SUMMARY

Forests in the Baile production unit III are part of the natural landscape of the Semenik Mountains, and are located between the Bârzava river and the Semenik Mountains. The climate conditions are determined by the Semenik Mountains. The main climate factors (thermal regime, rainfall) have contributed to the establishment of the area; they also determine, together with the soils, different degrees of favourability for species development.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CARACTERIZAREA SOLURILOR ȘI A TIPURILOR DE STAȚIUNE DIN
UNITATEA DE PRODUCȚIE VI NERGĂNIȚA, JUDEȚUL CARAȘ-SEVERIN**

**CHARACTERISING SOILS AND STATION TYPES OF THE NERGANITA
PRODUCTION UNIT (COUNTY OF CARAS-SEVERIN)**

M. STEPĂNESCU, ANIȘOARA DUMA COPCEA

Cuvinte cheie: unitate de producție, sol, tipuri de stațiune

Key words: production unit, soil, station types

SUMMARY

The Nerganita production unit is located on the western slope of the Semenik Mountains, in the basin of the Negarnita river up to the confluence with the Nera river and continuing on the left slope of the Nera river up to the territory of the Commune of Prigor.

From the view point of the altitude, the unit covers the area between 300 m and 1447 m (the Piatra Goznei peak). The relief is made up mainly of long slopes with different inclinations, with deep, narrow valleys specific to the mountain area in the upper part of the production unit and with short, uneven slopes, strongly inclined towards the lower part.

**AMELIORAREA CALITĂȚII SOLURILOR ÎN POLITICA DE
DEZVOLTARE A ROMÂNIEI 2007-2013**

**IMPROVING SOIL QUALITY IN ROMANIAN DEVELOPMENT POLICY
(2007-2013)**

T. MATEOC, NICOLETA MATEOC-SÎRB, ANIȘOARA DUMA-COPCEA,
MĂNESCU CAMELIA

Cuvinte cheie: sol, poluare, ameliorare, politică, măsuri

Key words: soil, pollution, improvement, politics, measure

SUMARY

In general, Romanian agricultural lands are considered among the most fertile in Europe. At present, of the over 9.3 million ha of arable lands, only 3.7 ha meet efficient sustainable agriculture requirements. The vast land areas are subject to such phenomena as erosion, land gliding, acidification, alkalisation, moisture excess, drought, swamping, salting, compacting, and chemical pollution (by pesticides, heavy meals, oil, etc.) that result in the deterioration of soil quality and reduced soil suitability for different crops. The irrational use of chemical fertilizers, pesticides and irrigation leads to a diminution of the yielding capacity of the soils even in areas considered fertile. Over the last years, there has been a strong degradation of the soil up to desertification in certain areas. The effects of soil degradation have an impact not only on their yielding capacity, but also on the quality of plant and animal produce and, implicitly, on the population health. Recovering land quality is a difficult and long-lasting process that needs huge investment efforts over a long period of time. In this paper, we aim at analyzing Romanian soil improvement measures such as established by the National Development Plan developed by the Romanian Government over the period 2007 – 2013.

**EVALUAREA ZONELOR VULNERABILE LA POLUAREA CU NITRAȚI
DIN SURSE AGRICOLE, ÎN SPAȚIUL HIDROGRAFIC PRUT-BÂRLAD**

**ASSESSMENT OF ZONES VULNERABLE TO THE NITRATES
ORIGINATING FROM AGRICULTURAL SOURCES, IN PRUT-BÂRLAD
HYDROGRAPHIC AREA**

IOANA PĂNOIU, S. UDRESCU, C. SIMOTA, VALENTINA COTEȚ

Cuvinte cheie: nitrați, zone vulnerabile, zootehnie

Keywords: nitrates, vulnerable zones, livestock

SUMMARY

According to Directive 91/676/EEC on nitrates from agricultural sources, in Romania there have been designated 255 vulnerable zones, from which 30 in Prut-Barlad hydrographic area.

Possessing information regarding site-specific environmental conditions (soil, climate, aquifer waters, landuse, etc.), running a simulation model (ROIMPEL) and using Geographical Information System (GIS), it has been estimated the maximum nitrates flow below root zone allowed by the Nitrates Directive, and thees, the maximum livestock supported in order not to exceed this flow.

The data resulted have been compared with the number of farm animals already existing and the total surface of agricultural areas on which manure is applied, in order to highlight those vulnerable zones with high risk to nitrogen pollution.

**DISTRIBUȚIA CONȚINUTURILOR TOTALE DE METALE GRELE
(Zn, Cu, Pb, Cd) ÎN SOLURILE ZONEI PERIURBANE NORDICE A
MUNICIPIULUI IAȘI**

**DISTRIBUTION OF HEAVY METAL TOTAL CONTENTS IN THE SOILS
OF THE NORTHERN PERI-URBAN AREA OF IAȘI MUNICIPALITY**

MIHAELA MONICA ALDEA, MIHAELA LUNGU, O.G. IANCU, N. BUZGAR

Cuvinte cheie: sol, metale grele

Key words: soil, heavy metals

SUMMARY

A number of 350 samples were collected from the Northern peri-urban area of the Iași municipality, from the upper horizon (0-20 cm) of some soils with predominantly agricultural use (vineyards, grasslands, woods, orchards, arable lands). These soils belong to the following types: Fluvisol¹ (FS), Anthrosol (AT), Chernozem (CH), Entisol (ET), Phaeozem (PH), Regosol (RG) [1]. Heavy metals (zinc, copper, lead, cadmium) total contents were determined from the analysed samples through the optic method of analysis, the atomic adsorption spectrophotometry. For each element, the grouping centre parameters (\bar{X} - arithmetic mean, Me – median, Mo- module) and spreading parameters (x_{min} - minimum value, x_{max} - maximum value, σ - standard deviation, and $cv\%$ - coefficient of variation) were computed to outline the distribution of these chemical elements in the soils of the studied area.

**DISTRIBUȚIA COȚINUTURILOR TOTALE DE METALE GRELE
(Zn, Cu, Pb) ÎN ORIZONTURILE DE SUPRAFAȚĂ ALE UNOR SOLURI
DIN PARCURILE ȘI GRĂDINILE MUNICIPIULUI IAȘI**

**DISTRIBUTION OF TOTAL CONTENT IN HEAVY METALS (Zn,
Cu, Pb) IN SURFACE HORIZONTS OF FEW SOILS FROM PARKS AND
PUBLIC GARDENS FROM IAȘI MUNICIPALITY**

VENERA MIHAELA STROE, R.LĂCĂTUȘU, MIHAELA LUNGU, RODICA LAZĂR,
MIHAELA MONICA ALDEA

Cuvinte cheie: sol, metale grele

Key words: soil, heavy metals

SUMMARY

Samples were collected from 34 soil profiles from public gardens and parks of the Iași municipality, in which the heavy metals total content was determined. The data were statistically computed to obtain the grouping centre and dispersion parameters.

Total contents of Cu and Pb did not exceed significantly the maximum admissible limits. In the case of Zn, an overflow of the maximum allowable limit can be observed, in some cases, in the upper horizon. In the three soil profiles where high Zn contents were noticed, its distribution on the soil profile was studied. The large Zn content decreases in the depth of the profile, proving an anthropic influence.

A similar research was carried on in the case of a soil profile where total Pb content in the upper horizon exceeded the normal limits.

**FITOEXTRACȚIA, METODĂ MODERNĂ DE DEPOLUARE A
SOLURILOR POLUATE CU PLUMB**

**PHYTOEXTRACTION, MODERN A METHOD FOR DEPOLLUTION OF
LEAD POLLUTED SOILS**

GEORGIANA PLOPEANU, EUGENIA GAMENTȚ, M. DUMITRU

Cuvinte cheie: fitoextracție, poluarea solului, plumb, EDTA

Key words: phytoextraction, polluted soils, lead, EDTA

SUMMARY

Phytoextraction is a removal method of heavy metals from soil using direct absorption in plant tissues. The implementation of a phytoextraction program involves the cultivation of one or more plant species that are hiperaccumulating contaminants. Specific conditions for the application of the phytoextraction program in the case of a special polluted area is related with the fertilization, vegetation period, pollution degree; these can be established by preliminary tests.

This paper presents laboratory preliminary tests for the elaboration and achievement of the extraction process.

In experiments 2 test plants were used: mustard and maize, the soil was Calcic Chernozems form Fundulea.

Soil was artificially by polluted with lead – Pb (1000 mg/kg, 2000 mg/kg, 3000 mg/kg) and EDTA (etilen diamino tetraacetic acid) was administered at the beginning of the experiment, before seeding. EDTA addition was aimed at increasing of lead bioavailability being known from speciality literature as one of the less bioaccessible heavy metals.

**STUDIU PEDOLOGIC PENTRU RECONSTRUCȚIA ECOLOGICĂ A
TERENURILOR DEGRADATE DIN PERIMETRUL DE AMELIORARE
MARGINE-DOBREȘTI, JUDEȚUL DOLJ**

**PEDOLOGICAL RESEARCH FOR ECOLOGICAL RECONSTRUCTION
OF THE DEGRADED SOILS FROM THE IMPROVEMENT AREA
MARGINE-DOBREȘTI, DOLJ DISTRICT**

D. BRUMAR, N. GIUGEA, M. CIOBOATĂ

Cuvinte cheie: studiu, soluri, unități de sol, analiză

Key words: research, soils, soil units, analysis

SUMMARY

The research of this study is soil classification of the grounds which make up the object of ground ecological reconstruction from Margine-Dobrești improvement perimeter, situated in SSE side of the Dobrești place, from Dolj district.

In accordance with analysis and grounds determination finding in the top of the soil profile is setting up, in generally, an A horizon with 20-30 cm width and even 30-40 cm width, with sand hill dissipate affected exception.

Soil profiles analysis tend to 6 units soil identification whereby are representation 3 soil types and 5 soil subtypes are represented, the bulk is psamosoils.

**GRADUL DE ÎNCĂRCARE CU BIFENILI POLICLORURAȚI A UNOR
SOLURI DIN MUNICIPIUL PLOIEȘTI**

**POLYCHLORINATED BIPHENYLS LOAD LEVEL OF SOILS FROM
PLOIEȘTI**

MIHAELA PREDA, R. LĂCĂTUȘU, M. DUMITRU,
NICOLETA VRÎNCEANU, VERONICA TĂNASE

Cuvinte cheie: PCB, sol urban, poluare

Key words: PCBs, urban soil, pollution

SUMMARY

Polychlorinated biphenyls (PCBs) are highly stable industrial chemical products. PCBs are nonpolar compounds and, due to bioaccumulation, have been widely identified in wildlife and human tissue. A total of 209 theoretical PCB congeners exist and around 150 have been reported in the environment. This paper presents the distribution of soil samples from Ploiești considering the load level of PCBs. The analytical method used was high resolution gas chromatography. The results indicate that over 20% from soil samples have concentration values of PCB 138, PCB 153 and PCB 180 higher than intervention thresholds. Also, the most polluted soil samples are located in industrial zone of the city.

**EFFECTUL MATERIALULUI SOLID REZULTAT DE LA INSTALAȚIA DE
PROCESARE A ȘLAMULUI PETROLIER ASUPRA CREȘTERII
PLANTELOR DE RAIGRAS**

**EFFECT OF THE SOLID MATERIAL RESULTED FROM OIL SLUDGE
PROCESSING INSTALLATION ON RYEGRASS PLANT GROWTH**

RODICA LAZAR, R. L. CĂTUȘ, NINETA RIZEA, MIHAELA LUNGU, VENERA
STROE, V. IORDACHE

Cuvinte cheie: lam petrolier, fertilizare cu NPK, fosfogips, plante de raigras

Key words: oil sludge, NPK fertilization, phosphogypsum, ryegrass plants

SUMMARY

Research was carried out to demonstrate, through experiments with plants, that the materials resulted from oil sludge processing can constitute a source of nutritional elements for crops.

The administration of the material from Suplacu de Barcău, in 10-20 t/ha doses, accompanied by NPK fertilization, determines a very significant growth of height ryegrass plants. The material from Ticleni, in 10-20 t/ha doses, determines significant depletion of mass and height of the plants. Also, the albic luvisol pH increases with up to 0,17 pH units and total soluble salts content increases up to a maximum value of 119 mg/100 g soil. The administration of phosphogypsum has no significant effect on ryegrass plants growth. Oil hydrocarbon content in the mixture of soil and solid material proceeded from oil sludge processing installations was below 1%, with lower values in the fertilized variants as compared to the unfertilized one.

**FITOEXTRACȚIA METALELOR GRELE DIN SOLURILE
CONTAMINATE FOLOSIND DIFERITE DOZE DE EDTA PENTRU
CREȘTEREA EFICIENȚEI ACUMULĂRII**

**PHYTOEXTRACTION OF HEAVY METALS FROM CONTAMINATED
SOIL USING DIFFERENT EDTA DOSES TO IMPROVE THE
ACCUMULATION EFFICIENCY**

VASILICA STAN, EUGENIA GAMENTȚ, GEORGIANA PLOPEANU

Cuvinte cheie:•Fitoextracție, EDTA, Zinc, *Zea mays*, soluri contaminate

Key words: Phytoextraction, EDTA, Zinc, *Zea mays*, *Contaminated soils*

SUMMARY

Enhanced phytoextraction of heavy metals using chelating agents and agricultural crops is a very studied and debated practice due to the importance of the remediation technique of low mobile heavy metals contaminated agricultural soils. In this paper we present some results about the efficiency of phytoextraction with corn (*Zea mays*) using different doses of chelating agent. EDTA (ethylene diamine tetraacetic acid) was tested due to its known efficiency as synthetic chelating agent and its ability to induce a very good mobilization of metals in the soil. The experiments were carried out in glasshouse. An artificial pollution of the soil was done (*Cernoziom cambic* from Fundulea-Călărași area) using zinc as zinc sulphate, 7 hydrate ($\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$). The soil was treated with 500 and 1000 ppm Zn and EDTA following a calculated ratio of Ligand and Zn (Zn mols number / EDTA mols number). The results refer to the Zn solubilization efficiency (%) and its effects on corn biomass production. They revealed a significant growing of the corn leaves biomass in the same time with Zn mobilisation efficiency. A very important role to increase phytoextraction efficiency is the management of the Ligand and metal ratio.

**REZULTATE PRELIMINARE PRIVIND TESTAREA PRODUSULUI
ECOSOL ÎN CONDIȚII DE POLUARE A SOLULUI CU ȚITEI ÎN
VARIANTE INOCULATE ȘI NEINOCULATE CU BACTERII
HETEROTROFE SELECȚIONATE**

**PRELIMINARY RESULTS CONCERNING ECOSOL PRODUCT
TESTING ON A POLLUTED SOIL WITH CRUDE OIL IN
UNINOCULATED AND INOCULATED VARIANTS WITH
HETEROTROPHIC SELECTED BACTERIA**

GABRIELA MIHALACHE, ANCA ROVENA LĂCĂTUȘU, MARIANA MARINESCU

Cuvinte cheie: bioremediere, inocul bacterian, biodegradarea țițeiului, tratamentul cu ECOSOL

Key words: bioremediation, bacterial inoculation, crude oil biodegradation, ECOSOL treatment

SUMMARY

The paper presents preliminary results concerning ECOSOL product testing on a crude oil polluted soil. The experiment was achieved in Green House on a calcic chernozem polluted with 5% and 10% crude oil in variants conditioned with 50g, 100g and 200g ECOSOL, inoculated and uninoculated with selected bacteria.

After an experimental year, it was observed that immediately after soil pollution with 5% and 10% crude oil, in majority of experimental variants, the dimension of heterotrophic bacterial community severely decreased.

After soil inoculation with selected bacteria, the total number of bacteria were very high (range between 25-60 days) not depending on crude oil concentration and ECOSOL applied treatments. The bacteria constituted inoculation were adapted to the conditions offered by crude oil pollution and together with soil bacteria were intensively participated to crude soil biodegradation.

**REZULTATE PRELIMINARE PRIVIND BIOREMEDIEREA SOLURILOR
CONTAMINATE CU HIDROCARBURI DIN PETROL**

**PRELIMINARY RESULTS CONCERNING THE BIOREMEDIATION OF
CONTAMINATED SOILS WITH PETROLEUM HYDROCARBONS**

MARIANA MARINESCU, M. DUMITRU, ANCA LĂCĂTUȘU

Cuvinte cheie: soluri contaminate/poluare, hidrocarburi din petrol, bioremediere

Keywords: contaminated/polluted soils, petroleum hydrocarbons, bioremediation

SUMMARY

One of the major environmental problems is soil contamination caused by spills of petroleum hydrocarbon compounds. Hydrocarbons are a frequent cause of environmental pollution, which is why the oil and petrochemical industries have a great responsibility for resolving environmental protection problems.

Bioremediation methods use microorganisms that occur naturally in the environment and degrade (mineralize) contaminants to carbon dioxide and water. Biological processes have been used successfully to remediate soils contaminated with petroleum hydrocarbons and their derivative. Several petroleum hydrocarbons can act as a source of carbon and energy for the growth of soil microorganisms. Bioremediation is not a new concept and is being increasingly used as a relatively economical environmental remediation technology.

Although hydrocarbons could be biodegradable, the main limiting factor to their effective and complete degradation is their bioavailability to soil microorganisms, due to limited solubility in aqueous media, especially for high molecular weight compounds.

In this paper are presented the preliminary results concerning the bioremediation of contaminated soils using a natural hydrocarbon absorbent product to enhance the biodegradation of petroleum hydrocarbons.

**TESTUL CU CRESON - PROCEDURĂ DE VERIFICARE A TOXICITĂȚII
SOLULUI, DUPĂ O CULTURĂ CONVENȚIONALĂ, ÎN VEDEREA
ÎNFIINȚĂRII UNEI CULTURI ECOLOGICE DE VIȚĂ DE VIE**

**THE GARDEN CRESS TEST – PROCEDURE FOR THE EVALUATION
OF SOIL TOXICITY FOLLOWING A CONVENTIONAL CULTURE, IN
VIEW OF SETTING UP AN ECOLOGICAL PLANTATION OF
GRAPEVINE**

MONICA CRISTINA GRIGORE, MARIA IVAȘCU, ELENA DUMITRU

Cuvinte cheie: test de toxicitate, creson, cultura ecologica

Key words: toxicity test, graden cress, ecological culture

SUMMARY

The replanting of grapevine is done most frequently on surfaces which qualify for denomination of origin. New available plots are practically inexistant. A rest period of at least 3 years is recommended by the ecological viticulture principles, during this period the land being cultivated with leguminous plants.

When a new grapevine plantation is set up in ecological system, soil toxicity must be evaluated. The most practical and easy method, recognized and recommended by experienced growers in EU countries, is the garden cress test. The garden cress is considered a test plant, since it grows only in clean, safe places.

At the Pietroasa Viticultural Research Station, a plot of 6.68 ha of land previously occupied by a conventional plantation was allowed a 3 year rest period, after which the variety Fetească neagră was planted, aiming for ecological exploitation. The garden cress test allowed the evaluation of soil toxicity, by means of determining of the germination degree of seeds both in the grubbing year and in the planting year.

**POSSIBILITĂȚI DE ÎMBUNĂTĂȚIRE METODOLOGICĂ A STUDIILOR
AGROCHIMICE LA SOLURILE CU FOLOSINȚĂ AGRICOLĂ ȘI
HORTICOLĂ**

**POSSIBILITIES FOR METHODOLOGICAL IMPROVEMENT OF
AGROCHEMICAL STUDIES ON SOILS OF AGRICULTURAL AND
HORTICULTURAL EMPLOYMENT**

M. RUSU, MARILENA MĂRGHITAȘ, C. TOADER,
LAVINIA MOLDOVAN, MIHAELA RUSU

Cuvinte cheie: cartare agrochimică, indici relevanți

Key words: agrochemical mapping, relevant indices

SUMMARY

Agrochemical studies (mappings) conducted by specialized units are based on the content of interpretations enclosed in a rich and consistent guideline of Methodological Instructions by ICPAPM, as a results of the accomplishment, on experimental and analytical bases, of significant dependencies between the effect of amendments and fertilizers and the agrochemical modifications induced in the soil-plant system.

While fertility and its relevant indices have a dynamic and interdependent character, the probity level of these agrochemical guidelines, which can be capitalized through agrochemical studies in fertilization technologies, requests for a permanent methodological improvement of the agrochemical activity in specific studies (mappings). These alternative being considered, the paper draws the attention of specialists in the field on clear through approaches and interpretation that bring accessibility to the agrochemical study, in connection with nutrient and organic-C content and with certain interpretations of the soils' buffering capacity. Long-term and sustainable interpretations of relevant fertility indicators can be encountered in the content proposed.

**EXPORTUL FOSFORULUI CU RECOLTA DE IERBURI PERENE PE CERNOZIOM
OBIŢIŢIE NUIŢ MODERAT ERODAT**

**PHOSPHORUS EXPORTATION WITH THE YIELD OF PERENNIAL GRASSES ON
MODERATELY ERODED COMMON CHERNOSEM**

L. POPOV

Cuvinte cheie: eroziune de suprafață, fertilitatea solului, ierburi perene, recolta

Key words: superficial erosion, soil fertility, perennial grasses, crop

SUMMARY

The mixture of perennial grasses represent a phytoameliorative method which in association with the agrotechnical method, positively influences the reduction of erosion and contributes to the preservation of soil fertility. At the same time, they are crops (vegetative) cultures which require necessary conditions for growth and development.

The nutritive conditions of the soil, which is the first minimum condition, can be influenced by the application of fertilizers, in cases when biophyle elements are of different concentration.

The balance of the phosphorus in the system: soil – plant – fertilizer depends to a greater degree on its maintenance in the soil and its carrying out with the yield of plants.

The application of different forms of fertilizers with a corresponding concentration, increases the phosphorus contents, getting in some cases as high a level as - 4,7 mg/100 g of soil. With 1 t of withered substance mixture of perennial grasses carries out of the soil, an average of 6 kg/ha of phosphorus.

**EVOLUȚIA CONȚINUTULUI DE HUMUS DIN SOL, PRIN FERTILIZĂRI
ORGANO-MINERALE LA CULTURA CARTOFULUI, ÎN ZONA
MONTANĂ**

**EVOLUTION OF SOIL HUMUS CONTENT THROUGH ORGANO-
MINERAL FERTILIZATIONS ON THE POTATO CROP OF A
MOUNTAIN AREA**

MARILENA MĂRGHITAȘ, M. RUSU, C. TOADER, MIHAELA RUSU,
LAVINIA MOLDOVAN, S. MAN

Cuvinte cheie: sol, conținut de humus, fertilizare, cartof

Key words: soil, humus, organo-mineral fertilization, potato

SUMMARY

The paper presents the evolution of the soil humus content, through organo-mineral fertilization on the potato grown, in the mountain area on a brown acidic soil (Districambosoil).

The acidic and strongly acidic character ($\text{pH}_{\text{H}_2\text{O}}$ 5,6-4,8) of the districambosoil, which is specific for the mountain area, the presence of the exchangeable aluminum in all its subtypes, the moderate humus content, the low supply in nutritive elements with a plant basis require for an enhanced attention granted to fertilization, especially that involving mineral fertilizers [1]. Through organo-mineral fertilization, the organic matter formed in the soil on the basis of natural organic fertilizers positively influences the physical and agrochemical traits of the soil and contributes to the diminishing of wind and water erosion (particular for mountain areas), diminishes nutrition imbalances and enhances the effect of mineral fertilizers applied to plant species, complementarily, for the superior productions on a qualitative, as well as quantitative basis [3].

Production results obtained on the potato crop in the mountain areas emphasize the priority effect of organic fertilizations, completed with mineral fertilizers for the maintenance and enhancement of the organic matter and humus content in the soil.

**INFLUENȚA FERTILIZĂRII CU AZOT ȘI FOSFOR ASUPRA UNOR
INDICI MORFOFIZIOLOGICI LA FLOAREA-SOARELUI ÎN
CONDIȚIILE DE LA SCDA TELEORMAN**

**INFLUENCE OF NITROGEN AND PHOSPHORUS FERTILISATION ON
THE MORPHO-PHYSIOLOGICAL INDEXES OF SUNFLOWER IN THE
SCDA TELEORMAN CONDITIONS**

L. RÎNCHIȚĂ, GINA MARIA GHEORGHE

Cuvinte cheie: fertilizare, azot, fosfor, biomasă, substanță uscată, indice suprafață foliară

Key words: fertilisation, nitrogen, phosphorus, biomass, dry substance, index, leaf area

SUMMARY

During 2004-2006 at SCDA Teleorman, we studied the influence of nitrogen and phosphorus fertilizers on the leaf area ratio, biomass accumulation and seed production in sunflower Performar hy-brid in non-irrigated crops. The nitrogen and phosphorus fertilization has determined the significant increase of sunflower production in southern Romania on non-irrigated crops.

The optimum development of the plant and the largest productions were noted at the in variants: $P_{80}N_{40}$, $P_{80}N_{80}$ și $P_{120}N_{80}$ kg/ha.

**MODIFICAREA INDICILOR ACIDITĂȚII SOLULUI SUB INFLUENȚA
AMENDĂRII CALCICE ȘI FERTILIZĂRII DE LUNGĂ DURATĂ**

**MODIFICATION OF SOIL ACIDITY INDICES UNDER THE
INFLUENCE OF CALCIC LIMING AND LONG-TERM FERTILIZATION**

LAVINIA MOLDOVAN, M. RUSU, MARILENA MĂRGHIȚĂȘ,
P. KURTINECZ, C. TOADER

Cuvinte cheie: aciditate, amendare, fertilizare de lungă durată

Key words: acidity, liming, long-term fertilization

SUMMARY

The paper presents analytical results concerning the effect of some meliorating measures (liming and fertilization) on certain relevant indices for the acidity of the albic luvosoil in Livada.

Calcic liming conducted in a cyclic manner and annual mineral, organic and organo-mineral fertilizations significantly improve soil reaction and differentiatedly modify the content of mobile Al. Soil liming and re-liming, for a period of 45 years determines favorable modifications of the reaction (with approximately 3 pH units), but the fertilization systems applied differentiate these values. Mineral fertilization holds acidifying effects and the application of organic resources (manure) effectively contributes to the improvement of reaction conditions.

These relevant and differentiated values can be interpreted in the correct accomplishment of the liming and reliming measures (according to initial and modified acidity indices), as well as in the adequate approach of fertilization systems.

**CERCETĂRI PRELIMINARE PRIVIND INFLUENȚA UNUI SORTIMENT
DE ÎNGRĂȘĂMINTE CU ÎNSUȘIRI ECOLOGICE ASUPRA
COMPOZIȚIEI MINERALE A FRUCTELOR DE TOMATE**

**PRELIMINARY RESEARCH ON THE INFLUENCE OF A SET OF
ENVIRONMENTALLY FRIENDLY FERTILIZERS ON MINERAL
COMPOSITION OF TOMATOES**

IULIA ANTON, A. DORNEANU, P. NICULIȚĂ, DANIELA DANA, GEANINA
BIREESCU, DANIELA MIHALACHE, IOANA OPRICĂ

Cuvinte cheie: îngrășăminte lichide, tomate, seră

Key words: liquid fertilizers, tomatoes, glasshouse

SUMARRY

Research was carried out in the S.C. SERE S.A., Codlea, within the Agral Project No. 1374/2003-2006, contracted by INCDPAPM – ICPA, Bucharest, which follows to be continued after the end of this project aiming at crop fertilization in glasshouse during the growing season of crop.

The main crop for the research was tomatoes in the second cycle (June – December) using the high productive Thirley cultivar grown on Faeozems.

The fertilizers used were two types of foliar fertilizers with ecological features (Fertec B and Fertec C) prepared by INCDPAPM-ICPA, Bucharest. These fertilizers include pure elements without ballast, nitrogen coming from the urea, phosphorus and potassium from the potassium monophosphate and potassium sulphate, respectively. Potassium sulphate, magnesium sulphate and sulphur in the respective salts are allowed for the ecological agriculture because they are obtained from natural deposits.

Thanks to the extract from plants and sea algae, the Fertec fertilizers stimulate the growth and development of plants, increase the root absorption of soil nutrients, improve yield quality.

**INFLUENȚA INTERACȚIUNII ÎNGRĂȘĂMINTELOR CHIMICE (NPK)
ȘI AMENDAMENTELOR ASUPRA UNOR PROCESE FIZIOLOGICE, A
COMPOZIȚIEI CHIMICE A PLANTELOR ȘI A CARIOPSELOR DE
PORUMB, ÎN CONDIȚIILE PRELUVOSOLULUI DE LA SCDA ȘIMNIC**

**INFLUENCE OF THE INTERACTION BETWEEN CHEMICAL
FERTILIZERS (NPK) AND AMENDMENTS ON SOME PHYSIOLOGICAL
PROCESSES, CHEMICAL COMPOSITION OF THE PLANTS AND CORN
SEEDS IN THE CONDITIONS OF SCDA SIMNIC**

EMILIA CONSTANTINESCU, L. OLARU, DORINA BONEA

Cuvinte cheie: îngrășământ, amendament, compoziție chimică, plantă, cariopsă, preluvosol

Key words: fertilizer, amendment, chemical composition, plant, seed, preluvosoil

SUMMARY

The set up of the most adequate and optimal fertilizer doses on reclaimed and not reclaimed background by CaCO_3 is based on knowing the soil transformations and secondly by leaves, stalks and corn seeds chemical composition change.

The corn cropped in reclamation conditions by CaCO_3 has well capitalized both small and moderate phosphorus doses as well as the longer effect of higher doses applied during the previous crops.

Researching the nitrogen content in order to establish its variation in leaves and stems that increased along with the nitrogen doses. The increasing of the protein content in the corn kernel is influenced by the level of the nitrogen doses. The phosphorus doses have less influenced the protein content and more the raw fat content. The fat content increases on reclaimed background in comparison with the not reclaimed one, yet it decreases along with the nitrogen fertilizer. Between the yields and the chemical fertilizers there were established linear regression equations and statistically ensured correlations.

**CERCETĂRI PRIVIND CULTURA ECOLOGICĂ DE TOMATE ȘI
CARACTERISTICILE AGROCHIMICE ALE SOLULUI PRIN
FERTILIZAREA CU ÎNGRĂȘĂMINTE ORGANICE**

**RESEARCH CONCERNING ECOLOGICAL TOMATOES CROP AND
AGROCHEMICAL CHARACTERISTICS OF SOIL BY ORGANIC
FERTILIZERS**

RODICA SOARE, ADRIANA DUȚĂ, CORNELIA MIREA, DANIELA MORARU

Cuvinte cheie: compost de tescovină, îngrășământ verde, fertilitatea solului, tomate

Key words: husks of grape compost, green fertilizer, soil fertility, tomato

SUMMARY

Ecological vegetable growing promotes new technologies which have as the base the unaffected maintenance of the environment and the obtaining of unpolluted crops, higher quality and big quantities. Thus, to realize organic farms, a way to start is applying organic fertilizers (green fertilizers, composts, residual vegetable products, etc.) for soil amelioration. In this context, at Banu Maracine Research Station of the University of Craiova, it was followed the influence of green manure formed by soy bean (*Glycine max*, Fam. *Fabaceae*) + fodder radish (*Raphanus sativus oleiformis*, Fam. *Brassicaceae*) and the husks of grape compost (15 t/ha and 25 t/ha) on the agrochemical characteristics of the soil and also on the yield and the quality of the tomatoe crops. The experience was laid out on a field cultivated using organic technologies in the last two years (2005-2006). Green manure, used as the only fertilizer or together with the husks of grapes compost, improves soil fertility, by increasing the content in humus from 2.50% to 3.16-4.00%, in total N from 0.131% to .0216-.259%, in mobile P from 68 ppm to 86.4-92.0 ppm and in mobile P from 205 to 252-404 ppm. The 25 t/ha husks of grape compost dose applied together with green manure determines the highest yield level, 41.5 t/ha, the increase of crop being of 4.9 t/ha (13.4%) comparative to control being considered significant positive. As for the nitrates accumulation, the level of 49-128 ppm is situated under the maximum accepted limits for the concentration (150 ppm).

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CERCETĂRI PRIVIND CALITATEA ȘI CANTITATEA RIDICHIILOR DE
LUNĂ PRODUSE ÎN CULTURA ORGANICĂ**

**RESEARCH REGARDING THE QUALITY AND QUANTITY OF RADISH
MADE IN ORGANIC CULTURE**

NEAȚĂ GABRIELA, MADJAR ROXANA, DAVIDESCU VELICICA, M. MITREA

Cuvinte cheie: cultura organică, legume, calitate, producție

Key words: organic culture, vegetables, quality, crop

SUMMARY

Agriculture, one of the oldest workskill of mankind is also at present time the most important sour of food for mankind. Organic agriculture in present time represents an alternative for intensive agriculture in which there chemical fertilizers and pesticides are used and has a main objective obtaining food with a high active biological compounds free of nitrates, heavy metals and pesticides.

Research made in 2007 regard to establish optimum doses of organical fertilizers: cow manure (20, 30, 40t/ha doses) and poultry manure (10, 15 and 20 t/ha doses) at Marbela redishes culture.

During the vegetation period there were made analyses regarding the contents of nitrates, phosphorus, potassium and heavy metals in roots and also biochemical compounds (glucides, acidity and C-vitamin) parameters which represents the quality of redishes. The crop was registered and statistical interpretation.

**EFECTELE APLICĂRII COMPOSTULUI OBȚINUT DIN GUNOI DE
BOVINE ASUPRA CONȚINUTURILOR UNOR ELEMENTE NUTRITIVE
DIN SOL**

**EFFECTS OF THE COMPOSTED MANURE APPLICATION ON SOME
NUTRIENT CONTENTS IN SOIL**

VERONICA TĂNASE, M. DUMITRU, D.M. MOTELICĂ,
NICOLETA VRÎNCEANU, EUGENIA GAMENTȚ, MIHAELA PREDA

Cuvinte cheie: gunoi de grajd, compost, fertilizare minerală, nutrienți

Keywords: manure, compost, mineral fertilization, nutrients

SUMMARY

Composted manure could be successfully used as fertilizer in organic crop production. In order to obtain better results, composts can be used in combination with other sustainable practices as crop rotation, cover cropping, amendments.

There were organized experiments on Haplic Chernozems to reveal the effects of organic fertilizers on soil nutrients content.

The results show that fertilization with compost lead to significant increases of mobile phosphorus content, but increases were not correlative with the dose applied.

Mineral fertilization does not bring statistical significant increases of mobile phosphorus content because of low doses of mineral fertilizer applied and because of short time for experimentation. The application of both compost and mineral fertilizers leads to important increases of mobile phosphorus content in soil. The content of mobile potassium increased with the dose of compost applied. The level of mobile potassium in variants where we used mineral fertilization did not record significant statistical modifications. The content of mobile potassium in soil increased in variants with both organic and mineral fertilization as a consequence of exclusive organic fertilization.

**ESTIMAREA STĂRII DE NUTRIȚIE A UNOR PLANTE LEGUMICOLE
DUPĂ VALOAREA REACȚIEI SUCULUI CELULAR DIN FRUNZE**

**ASSESSMENT OF VEGETABLE NUTRITIONAL STATE BY LEAVES
CELLULAR SAP REACTION**

MIHAELA LUNGU, S.L. ȘTEFĂNESCU, MONICA DUMITRAȘCU, L. STOIAN,
V. LĂCĂTUȘ, MARCELA FĂLTICEANU, RODICA LAZĂR,
MIHAELA MONICA ALDEA

Cuvinte cheie: pH-ul sucului celular, plante legumicole

Key words: cellular sap pH, vegetables

SUMMARY

Several vegetable species were studied, grown in field at SCDL Bacău, in ecological agriculture conditions, and in solarium at ICDLF Vidra, in organic agriculture conditions, two consecutive years, 2006 and 2007. The latter was a very droughty one and plant vegetation had much to suffer. Differences were found in the leaves mineral composition, between culture technologies as well as between the two experimental years. The mineral composition variations determined corresponding variations of the leaves cellular sap reaction, by complex processes which involved mineral elements and ions with aqueous solutions acidification or alkalization. Therefore, the studied index could be generally used for rapid and economic assessment of the vegetables nutritional state, without replacing the leaves analysis. Such variations appear very quickly in case of nutritional disorders, before the visible symptoms, thus allowing rapid and efficient interventions by leaves analysis and proper remediation technologies.

In 2007, on a demonstrative lot at Traian, Ialomița county, the leaves cellular sap pH proved to be higher for the conventional vegetables as compared to the ecological ones.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CERCETĂRI PRIVIND INFLUENȚA GRADULUI DE MĂRUNȚIRE A
CARBONATULUI DE CALCIU ASUPRA PRODUCȚIEI DE OVĂZ ȘI A
PROPRIETĂȚILOR LUVOSOLULUI STAGNIC DE LA
CERNĂTEȘTI-DOLJ**

**RESEARCH ON THE INFLUENCE OF LIMESTONE SIZE DEGREE OF
ON THE OAT YIELD AND THE MAIN STAGNIC LUVOSOIL FEATURES
FROM CERNATEȘTI – DOLJ**

C. POPESCU, D.VASILE, FLORINA GRECU

Cuvinte cheie: îngrasamant, amendament, varianta, reacție, producție

Key words: fertilizer, amendment, treatment, reaction, yield

SUMMARY

Stagnic luvisol is a soil with acid reaction, low humus content and low natural fertility. This is the reason why the amendment and fertilizer applying is a basis measure for their fertility increasing.

The applying of the limestone has determined the balance of the soil reaction by 0.2-1.8 units and the bases saturation degree has increased by 5-50%. The highest changes have unfolded when the amendments have had dimensions less than 0.4 mm.

The chemical complex fertilizer (NPK) on the limestone background has determined a higher yield output in the second year after the application (400-425%).

**MODIFICĂRI AGROCHIMICE ÎN SISTEMUL SOL-PLANTĂ ÎN
CONDIȚIILE UNOR FERTILIZĂRI DIFERENȚIAȚE LA CARTOF**
**AGROCHEMICAL MODIFICATIONS ON THE SOIL-PLANT SYSTEM IN
THE CASE OF SOME DIFFERENTIATED FERTILIZATIONS IN
POTATO**

C. TOADER, M. RUSU, MARILENA MĂRGHITAȘ, S. MAN

Cuvinte cheie: tuberculi de cartof, elemente minerale, sol

Key words: potato tubers, mineral elements, soil

SUMMARY

Potato, by it's main valuable product (tubers), has imposed to agricultural research the study of crop zone ecopedological conditions, of applied technology and obtained results as a result of application of these technologies.

Potato fertilization in doses that correspond to agrochemical optimum proved to be extremely efficient for the production and deterrent for some nutritional deficiencies dismissing of this crop that is considered as a plant with increased demand in nutritional elements.

The present paper offers the effects of some differentiated fertilization systems on potato, ensured by the complex fertilization system variants, exclusively mineral, (NP type) and organic-mineral (on combination of organic substratum and farmyard manure or residual compost from mushroom bed, with NP complex fertilization) and exclusively with foliar fertilization, over the soil agro-chemical value modifications and nutrients accumulation on tubers.

Differentiated fertilization measures change significantly, according to the components of the applied systems, the important values of soil fertility. Essential modifications of the humifiable soil organic resources can be recorded through the organic fertilization contribution and significant increases on phosphorus and potassium potential approachable content. Major effects of the fertilizers can be found in tubers on every analyzed value, with most important changes in nitrogen and phosphorus, particularly on foliar fertilizers application.

**ANALIZA EVOLUTIEI REACTIEI SOLULUI, CA URMARE A
APLICARII DIVERSELOR METODE DE LUCRARE A SOLULUI**
**SOIL REACTION ANALYSIS ACCORDING WITH THE APPLICATION
OF DIFFERENT SOIL TILLAGE METHODOLOGIES**

MARIANA BURCEA, ADINA BURCEA, A. VRANCEANU,
M. MUȘAT, STEFANIA NISTOR

Cuvinte cheie: însușirile solului, fertilitate, acidifiere, lucrările tehnologice ale solului

Key words: soil properties, fertility, acidification, soil tillage

SUMMARY

Soil, as a mean of yield used in agriculture is getting worst physically and ethically, even if is rationally used, but has the estate that used in properly conditions not to get worse, on the contrary to get better permanently; therefore, yield will increase (Pana Viorica, I. Pana, M. Costescu, 1994).

In the latest decades, intense research resulted in new systems for soil tillage, based on the idea that the high number of soil working applied in recent methodologies goes to decreasing soil fertility, therefore to eliminate those disadvantages the application of a low number of soil working was introduced. The recent conventional methodologies to prepare the soil were ploughing, disking, dragging applied every year, paving the land very well for seeds germination, but less for plant growth. Using this way to prepare the soil, it is submit to the land subsidence and the decrease of nutritive elements concentration leading to the deterioration of physical, chemical (soil acidity) characteristics and the decrease of fertility.

The soil reaction study, under the influence of the different soil methodologies, becomes necessary because of the requirements of soil reaction ranged between $\text{pH} = 5.5 - 7.5$ (Davidescu et al. 1974), and those soil methodologies can modify soil pH reaching an alkalinity harmful for plants.

ITALIAN FARMERS TAKE UP PRECISION AGRICULTURE
FERMIERII ITALIENI PRACTICĂ AGRICULTURA DE PRECIZIE

N. ȘARPE

Cuvinte cheie: Agricultură de Precizie, receptor de satelit, semănătoare de precizie

Key words: Precision Agriculture, satellite receiver, accurate seeder

SUMMARY

Precision agriculture is performed in many European countries and in the U.S.A. This type of agriculture is based on the differences recorded at a field level. In case of a company, any intervention is performed where and when it is necessary.

The first thing to be considered in order to adopt the principles of precision agriculture is to have detailed knowledge of the land characteristics and it is therefore necessary for the company that they should obtain first of all as much information as possible concerning all the useful aspects to know better the lands and plants during the crop cycle.

For the purpose of precision agriculture, Italian farmers use satellite receivers mounted on tractors. Sowers are equipped with devices able to determine plant depending on the amount of fertilizer applied to each crop plot. At the same time, the equipment by which herbicides are applied is provided with devices which determine the application dose independently of the tractor speed.

**MULTIANNUAL STUDY OF THE NO-TILLAGE SYSTEM APPLIED ON
MAIZE CROPS IN THE PEDOCLIMATIC CONDITIONS OF THE
NATIONAL INSTITUTE FOR AGRICULTURAL
RESEARCH&DEVELOPMENT FROM FUNDULEA**

**STUDIAREA MULTIANUAL A SISTEMULUI NO-TILLAGE LA
CULTURA PORUMBULUI ÎN CONDIȚIILE PEDOCLIMATICE ALE
INSTITUTULUI NAȚIONAL DE CERCETARE-DEZVOLTARE
AGRICOL DE LA FUNDULEA**

N. ȘARPE

SUMMARY

In the interval 1967-1993, maize cultivation by two technological systems, namely the conventional system and the no-tillage system was studied at the National Institute for Agricultural Research & Development from Fundulea, Călărași County.

As regards the conventional system, weed control was performed by tillage works (ploughing, disking, mechanical and manual hoeing) whereas in the no-tillage system weed control was performed by means of various herbicides. In both systems - conventional and no-tillage - soil humidity within a depth of 0-100 cm was **practically the same**. We can thus conclude that the role of tillage and especially of **hoeing operations** is not to preserve water in the soil but **to destroy the weeds** from maize crops.

The yields recorded for the two systems - conventional and no-tillage - were practically equal.

However, the no-tillage system turned out to be superior (from an economical point of view) as compared to the conventional system. In the conventional system, for the execution of the various tillage operations (ploughing, disking, mechanical hoeing) the fuel consumption was of about 52 litres/hectare while in the no-tillage system the fuel consumption recorded was of only 10 litres/hectare.

Based on this 40 years long research, Romanian farmers can apply the no-tillage system to maize crops if they are equipped with modern seeders (such as the ones produced by Massey Fergusson, Maschio-Gaspardo, John Déere, etc.)

**CERCETĂRI PRIVIND INFLUENȚA LUCRĂRILOR DE BAZĂ ALE
SOLULUI ASUPRA PRINCIPALELOR ÎNSUȘIRI FIZICE ALE
PRELUVOSOLULUI ROSCAT DE LA MOARA DOMNEASCĂ**

**RESEARCH CONCERNING THE EFFECT OF MANAGEMENT
SYSTEMS UPON REDDISH PRELUVOSOIL PHYSICAL PROPERTIES
FROM MOARA DOMNEASCA FIELD CROP**

M. MIHALACHE, D.I. MARIN, L. ILIE, NICULINA GHEORGHITĂ

Cuvinte cheie: sol, rezistență la penetrare, sisteme de lucrări

Key words: soil, penetration resistance, management systems

SUMMARY

Crop response to soil compaction depends on the interaction among crop, soil type, water content and compaction degree. We determined the effects of soil management on bulk density, penetration resistance, texture and total porosity under for soil management systems: plowing 20 cm, chisel 20 cm, chisel 40 cm and disk 10 cm in from Moara Domneasca field crop. Soil penetration resistance was determined from the soil surface down to 80 cm depth with a handheld penetrometer Eijkelkamp, with 60° cone type and 2,0 cm² of cone base diameter. The penetration resistance for 30-40 cm layer was greater than 2 MPa for plowing 20 cm and disk 10 cm, the value is restrictive for root growth.

INFLUENȚA SISTEMULUI DE LUCRARE ASUPRA STABILITĂȚII HIDRICE A STRUCTURII SOLULUI

INFLUENCE OF MINIMUM SOIL TILLAGE UPON HYDRO STRUCTURAL STABILITY OF SOIL

A. POP, P. GUȘ, T. RUSU, ILEANA BOGDAN, PAULA MORARU

Cuvinte cheie: lucrările solului, structură, umiditate

Key words: soil tillage, soil structure, humidity

SUMMARY

The applied soil tillage and crop management reveals the soil structure in two opposite processes: degradation and improvement of soil structure. The system capacity for developing one of the above mentioned processes stays as a highly important issue. In order to obtain good soil tillage for seeds and optimum balance between the solid state and pour state in the soil, is important to assure a maximum of hidrostabile aggregates in soil with a diameter between 0.25-5 mm. Compared with the conventional tilled variant, all the experimental variants where soil was tilled by cizel and paraplow had hydrostable aggregates with positive values or constant ones. These values are relevant for the experimental variants tilled by cizel when the increase of hydrostable aggregates is 3.15%, from 95.4% to 98.55%. In the experimental variant tilled by paraplow, the quality of the soil structure explained in percent of hydrostable aggregates remains constant, compared with the classical soil tillage variant. At the experimental variant tilled with paraplow the soil structure modification is recorded for the fractions with a diameter between 1-2 mm, when percentage dropped to 25.25% compared with 39.5% in the classical tilled variant, and 37.3% for the cizel tilled variant. Regarding the experimental variant tilled by the rotative harrow, recorded decreases for the structure quality, at the soil depth 0-10 cm, because the percentage of hydrostable macroagregates reached values of 85.85%, compared with 95.4% in the classical tilled variant, and 98.55% in the variant tilled with cizel.

**INFLUENȚA SISTEMULUI DE LUCRARE A SOLULUI ASUPRA
PRODUCȚIEI ȘI EFICIENȚEI ECONOMICE
LA CULTURA DE GRÂU**

**INFLUENCE OF SOIL TILLAGE SYSTEM ON
PRODUCTION AND ECONOMIC EFFICIENCY OF
WHEAT CROP**

PAULA MORARU, P. GUȘ, T. RUSU, ILEANA BOGDAN, A. POP

Cuvinte cheie: sisteme de lucrare, producție, eficiență economică

Key words: soil tillage system, production, economic efficiency

SUMMARY

Concerning the wheat crop, the influence of the tillage system consists primarily in the degree of weed contamination of the culture starting with the emerging phase of the plant until harvesting, when the amount of weeds increases by 8.2 to 50.6 per cent in the variants of minimum soil tillage system as compared with ploughing soil tillage system. The wheat production in the case of minimum soil tillage system draws near the production obtained through conventional tillage system representing 97.8% for paraplow, 98.2% for chise and 97.3% for rotary harrow. By replacing the conventional soil tillage system with the variants paraplow, chise and rotary harrow, the fuel consumption being reduced to 64.1 to 91.4%, and the oil consumption is also reduced from 14.44 l per ton to 9.52-13.5 l/t in the variants in which minimum soil tillage system has been used. Total expenses are influenced by soil tillage, having average values between 1400.26 - 1542.3 lei per ha, final profit being thus increased by 2.4-14.9 % in the variants in which paraplow, chise and rotary harrow have been used.

**DINAMICA UNOR ÎNSUȘIRI FIZICO-CHIMICE ȘI HIDROFIZICE ALE
UNUI CERNOZIOM CAMBIC DIN CÂMPIA VINGA, ÎN SISTEMUL DE
CULTURĂ NO-TILL**

**DYNAMICS OF SOME PHYSICO-CHEMICAL AND HYDROPHYSICAL
CHARACTERISTICS OF A CAMBIC CHERNOZEM FROM VINGA
PLAIN, IN NO-TILL CULTIVATION SYSTEM**

D. ȚĂRĂU, I. BORZA, N. BĂGHINĂ, D. DICU, MĂDĂLINA IORDACHE

Cuvinte cheie: cultură, sistem, influență, componentă, agroecosistem

Keywords: plant culture, system, influence, component, agroecosystem

SUMMARY

The experimental field was placed on the terrain of agrocenter Prodagro Vest Arad and observations listed for three agricultural years (2005-2007), for the wheat, maize and soybean cultures, using the technologies specific to the CLASSIC and NO-TILL cultivation systems. The research had the goal to accomplish the following objectives:

- Accumulation of scientific data necessary to establish the NO-TILL technology compared to the classic system;
- Comparative analyses between NO-TILL cultivation system and conventional system through the perspective of the technological, climatic, edaphical and ecological implications;
- Implementation of the NO-TILL cultivation system in the physico-geographical conditions of Western Romania.

In order to reach the proposed objectives, were started and continued a series of activities:

- Study and specification of the soil type and its genetic subtype, as well as the main features that define soil fertility;
- The works specific to the experimental techniques were performed by the members of the research team, observation being made from the plant rising moment until cropping, under aspects like evolution of culture plant, weeding degree, estimation of the diseases and pests attack;
- Observations referring to soil humidity evolution put in evidence that in the No-till system more uniform values were registered through the soil profile, during the vegetation state of the plant cultures.

**INFLUENȚA ADÂNCIMII DE AFÂNARE DE BAZĂ A SOLULUI ȘI A
MODULUI DE FERTILIZARE ASUPRA NIVELULUI DE FERTILITATE
A PRELUVOSOLULUI ROȘCAT DE LA MOARA DOMNEASCĂ
MODIFICAREA NIVELULUI PROCESELOR VITALE DIN SOL**

**INFLUENCE OF SOIL MAIN TILLAGE DEPTH AND FERTILIZATION
ABOVE REDDISH PRELUVOSOIL FROM MOARA DOMNEASCA
FERTILITY LEVEL CHANGES ON SOIL VITAL ACTIVITY LEVEL**

MIHAELA OBRIȘCĂ

Cuvinte cheie: lucrările solului, fertilizare, respirație potențială, activitate celulozolică, activitate vitală

Key words: soil tillage, fertilization, potential respiration, cellulosolytic activity, vital activity

SUMMARY

The aim of the research was to emphasize the changes of soil vital activities under the influence of soil tillage and organic and mineral fertilization.

For the respiration potential, the higher increase of its values was observed at 20 cm ploughing and mineral fertilization with $N_{100}P_{70}$.

Concerning soil cellulose, the higher value was observed at 30 cm chisel tillage and organic fertilization with manure.

Regarding the values for soil potential of vital activities indicator, we can observe a similar trend with the cellulose activity ones.

**CERCETĂRI PRIVIND REZERVA SOLULUI ÎN SEMINȚE DE BURUIENI ÎN
FUNCȚIE DE LUCRĂRILE DE BAZĂ APLICATE SOLULUI LA CULTURA DE
GRÂU DE TOAMNĂ**

**RESEARCH ON WEED SEED RESERVE IN SOIL ACCORDING TO BASIC SOIL
TILLAGE FOLLOWING WINTER WHEAT CROP**

D.I. MARIN, C. BOLOHAN, M. ROȘU, A. HEROIU

Cuvinte cheie: semințe de buruieni, lucrările solului, grâu de toamnă

Key words: weed seeds, soil tillage, winter wheat

SUMMARY

Soil is the main source of crop weeding due to the weed seed it contains. Numerous authors have remarked that 10,000 to 200,000 weed seeds may be found on each square meter of cultivated land [1, 2, 3]. Out of this huge seed reserve, at an annual germination of 1%, agricultural crops would compete with 100-2,000 plant individuals belonging to various species; very often, the latter have higher competitive capacity than the grown species.

Our research is aimed to measure the total weed seed reserve in the soil after having applied different basic soil tillage (classical and minimum tillage systems) on a three-year rotation – soybean/ winter wheat/ maize.

The present paper includes the results obtained from the winter wheat crop.

**CERCETĂRI PRIVIND IMPLEMENTAREA TEHNOLOGIEI DE
CULTURĂ LA FLOAREA-SOARELUI REZISTENTĂ LA TRIBENURON
METHIL**

**RESEARCH REGARDING THE IMPLEMENTATION OF CROP
TECHNOLOGY IN THE SUNFLOWER RESISTANT TO TRIBENURON
METHYL**

C. CIONTU, C. RADU, M. GÎDEA

Cuvinte cheie: floarea-soarelui, selectivitatea, eficacitatea erbicidelor, producții

Key words: sunflower, selectivity, efficiency of herbicides, yields

SUMMARY

Within the didactic and experimental field of Moara Domneasca belonging to the Agriculture Faculty – University of Agronomic Sciences and Veterinary Medicine of Bucharest, there was carried out research for studying the PR 64 E 83 sunflower hybrid, which is a new creation of the PIONEER HI-BRED SEEDS Company and a simple hybrid resistant to the tribenuron methyl. The aim of our research was to test the PR 64 E 83 sunflower hybrid to the Express 50 SG herbicide (tribenuron methyl 500 g/ka) and to promote new technological solutions for the control of the dicotyledonous weeds (*Cirsium* sp. and *Xanthium* sp.), which have a very high frequency in the sunflower fields.

Taking into account the obtained results, one may assert that cultivating the PR 64 E 83 sunflower hybrid and using the Express 50 SG herbicide represent one of the efficient technological solutions for controlling the dicotyledonous weeds within the sunflower crop.

STABILIREA INFLUENȚEI SOIULUI /HIBRIDULUI, A DISTANȚEI ÎNTRE RÂNDURI, ȘI A EFICACITĂȚII ERBICIDELOR ASUPRA PRODUCȚIEI DE RAPIȚĂ PE PRELUVOSOLUL ROȘCAT DIN CÂMPIA ROMÂNĂ

INFLUENCE OF VARIETY /HYBRID, ROW DISTANCE AND HERBICIDES ON WINTER OIL SEED RAPS YELD IN THE REDDISH PRELUVOSOL CONDITIONS FROM ROMANIAN PLAIN

D.I. SĂNDOIU, A. PENESCU, NICULINA GHEORGHITĂ, V.G. GHITĂ, NICOLETA CLAUDIA DUMITRESCU, MIHAELA OBRIȘCĂ, I. DRĂGULEASA

Cuvinte cheie: rapița de toamnă, soi, clorpiralid, distanța între rânduri

Key words: winter rape, variety, clopiralid, distance between rows

SUMMARY

The improvement of winter oil seed rape cultivation technology involves the achievement of certain problem concerning the input cost and choice the variety, herbicide, or distance between rows contribute to its decrease.

The aim of this paper is to approach problems concerning the yield value potential of new winter oil seed raps variety and to find solutions to certain problems regarding herbicides and the distance between rows.

**CERCETĂRI PRIVIND CAPACITATEA DE LEVIGARE A ERBICIDULUI
GLIFOSAT ȘI A METABOLITULUI SAU AMPA ÎN DIFERITE TIPURI
DE SOL**

**RESEARCH REGARDING ELUTRATION CAPACITY OF GLYPHOSATE
HERBICIDE AND ITS METHABOLIT AMPA IN DIFFERENT TYPES OF
SOIL**

ERSILIA ALEXA, A. LAZUREANU, S. ALDA, MONICA NEGREA

Cuvinte cheie: glifosat, AMPA, levigare, reziduuri extractibile

Key words: glyphosate, AMPA, elutration, extractable residues

SUMMARY

Glyphosate (N-phosphonomethyl-glycine) is a systemic, broad spectrum herbicide effective against most plant species, including annual and perennial species and is one of the world's most widely used herbicide. At glyphosate applied treatments, a part of active agent comes in contact with soil surface, adsorbing to soil components, while another part remains in soil solution. The elutration capacity of the glyphosate in soil solution is given by the free glyphosate fraction, unadsorbed on soil components. The higher the herbicide adsorbtion capacity the lower, the soil fraction left in soil solution and the adsorbtion capacity will be lower. The paper analyzes the elutration capacity of glyphosate and its methabolit AMPA in different types of soil (Black Chernozem, Typical Gleysoil, Slight Vertisol, with moderate carbonatation. The determination methodology of residues from soil solution was HPLC-FLD. The obtained experimental results show that glyphosate and AMPA molecule adsorbtion is intense in surface layer (0-10 cm), being in direct bonding with a great clay content in this layer, which defines the formation of compounds stable quiescent on soil surface.

**CERCETĂRI PRIVIND PERIOADA CRITICĂ LA ÎMBURUIENARE A
CULTURII DE SOIA**

**RESEARCH REGARDING SOYBEAN CROP CRITICAL PERIOD TO
WEED HARMFULNESS**

SILVIA CHIRILĂ, P. CHIRILĂ

Cuvinte cheie: perioadă critică, competiția cultură-buruieni

Key words: critical period, crop-weeds competition

SUMMARY

Weeds compete with crops for environmental resources available in limited supply, e.g. nutrients, water, height.

Weed harmfulness is determined not only by the abundance and composition of weeds but crop susceptibility to them depending on the crop development during the vegetation period. In general, the earlier the emergence of the weed to the crop, the more competitive it is likely to be.

The identification of the critical period of competition is of particular importance for the sustainable agricultural activity in order that weed control cultural methods are carried out at the optimum time (Froud – Williams, 2002).

The paper presents part of our research on the soybean crop, performed during 2003-2005 period at the Fundulea Research and Development National Institute. It has been demonstrated that usually this crop is more sensitive to the weediness between the period of 20-35 after emergence days. If the weeds emerge earlier to the crop, weed harmfulness competition starts earlier.

**TESTAREA EFICACITATII CONTROLULUI CHIMIC AL
BURUIENILOR LA CULTURA CARTOFULUI**
**TESTING EFFICACY OF CHEMICAL WEED CONTROL IN POTATO
CULTURE**

I. OROIAN

Cuvinte cheie: buruieni, cartof, combatere chimică, Sencor, Pantera

Key words: weeds, potato, chemical control, Sencor, Pantera

SUMMARY

Within the present conditions of the Romanian agro-ecosystems, based on the integrated control against weeds, diseases and pests, the development of the potato production cannot be conceived without chemical control. The trial was performed in 2007, in Câmpenești village, county of Cluj. Two products were tested: Pantera și Sencor. Each of both herbicides were tested using three application variants, single, two administrated doses and then in mixture. The trial led to the following conclusions: the Pantera herbicide used in potato culture determined the reducing of the weeds occurrence by 92.91%; it was very efficient in fight against annual and perennial monocotyledonates; this herbicide is recommended in doses of 2 kg/ha, where perennial monocotyledonates are present; the use of potato herbicidation in two stages using Sencor before potato emergence and Pantera on vegetation, increases the efficacy of weed control, which can be 100% destroyed.

**UTILAJE PENTRU APLICAREA ERBICIDELOR ÎN CULTURI DE
CÂMP REALIZATE PE PLAN NAȚIONAL**
**EQUIPMENTS USED FOR SPREADING HERBICIDES OVER FIELD
CROPS REALIZED ON THE NATIONAL PLAN**

IRINA ADRIANA CHIURCIU

Cuvinte cheie: duze, pompe, jet proiectat

Key words: nozzles, pumps, directed flow

SUMMARY

An important part in the ecologic agriculture practicing is the permanent enrichment of the machines for spreading herbicides produced in our country. This improvement has the possibility to reduce the quantity of herbicides utilized for the surface unit, the asigurance of a correct distribution and an uniform dispersion, as well as a directing of the products on the plants in a bigger measure and a little bit in the medium. In Romania has introduced in fabrication types of equipments for spreading herbicides over field crops at compatible parameters with the ones of the prestigious companies.

For the range of machines specialized in spreading herbicides several constructive variants have been analized as following, produced by companies: S.C. Tehnofavorit S.A, S.C.Agrojet S.A., S.C. Mecanică Codlea S.A. and S.C. Servoplant SRL.

CARACTERIZAREA NIVELULUI DE VIAȚĂ, PRIN TESTE BIOTICE ȘI ENZIMATICE, A UNOR SUBSTRATURI DE CULTURĂ

LIVING LEVEL CHARACTERIZATION BY BIOTIC AND ENZYMATIC TESTS OF SOME CULTURE SUBSTRATA

ROXANA MADJAR, NICULINA GHEORGHITA, VELICICA DAVIDESCU

Cuvinte cheie: substraturi de cultură, teste biotice, teste enzimatic

Key words: substrata, biotic tests, enzymatic tests

SUMMARY

In the last two decades, the extension of ornamental plants produced by the container technology which uses as a culture support base instead of soil, culture substrata, has determined theoretical and practical research concerning the study of physical, chemical, agrochemical and biological substratum properties.

The level live of four substrata variants with different ratio of marc compost (0,5, 1, 2, 3) mixed with forestry compost, leaves compost and peat was put in evidence by two biotical tests: respiration and cellulolyse activities. From the pedoenzyme tests, the most important from soil were chosen, more exactly for the element cycles like: urease (N cycle), phosphatase (P cycle), saccharase (C cycle) and catalase activity (oxidation power of soil). On the base of biotical and enzymatic test there were calculated the modular (Indicator of Vital Activity Potential, Indicator of Enzymatic Activity Potential) and synthetic (Biological Synthetic Indicator) indicators using the methodology elaborated by Ștefanic (1999), Ștefanic și colab. (2001), Ștefanic și colab. (2006).

The culture substrata for the four new variants are characterized by high vital and enzymatic level proportional with the ratio of marc compost in the substrate. Generally, the biological activity into the studied substrata was of 2.7-7 times higher than chernozem.

**REZILIENȚA ECOSISTEMELOR NATURALE
CU VEGETAȚIE IERBOASĂ: CONCEPT ȘI APLICABILITATE**

**RESILIENCE OF NATURAL ECOSYSTEMS WITH GRASSY
VEGETATION: CONCEPT AND APPLICABILITY**

GH. MOTCĂ, VIORICA GRAMA, ANA-MARIA GLĂVAN

Cuvinte cheie: reziliență, ecosistem, tip de pajiște, indicatori

Key words: resilience, ecosystem, grassland type, indicators

SUMMARY

Resilience or the resilience capacity of natural ecosystems generally represents a new concept in pratology and agricultural technologies field. As to us, for the natural ecosystems with grassy vegetation, resilience represents "self-adjustment capacity of one ecosystem within the limits of a dynamic balance maintenance" or „natural ecosystem tolerance to the disturbing factors action, factors of anthropic nature ”.

Resilience indexes for the basic kinds of grasslands are: the number of varieties which compose the vegetal layer and the participation rate of varieties which belong to other botanical families (except graminaceae and leguminous varieties) when forming biomass. For the varieties which come from *Nardus stricta* grasslands, the resilience capacity is expressed by additional indexes, which refers only to dominant graminaceae (general and specific covering).

The variability of resilience capacity indexes is expressed by the variation coefficient (VC). In the case of basic types of grasslands, for the fertilization system, it is accepted a variability of a *maximum* 20% of the varieties number from the vegetal layer and of maximum 30% of the varieties rate which belong to other botanical families from the harvested biomass. For the varieties derived from *Nardus stricta* grasslands, the variation coefficient specific to the field of resilience capacity is of maximum 30% for both additional indexes.

**REZULTATE EXPERIMENTALE PRIVIND RANDAMENTUL
AMESTECURILOR DE GRAMINEE ȘI LEGUMINOASE PERENE LA
MOARA DOMNEASCĂ, ÎN CONDIȚIILE ANULUI SECETOS 2007**

**EXPERIMENTAL RESULTS CONCERNING PERENNIAL
GRAMINACEAE AND LEGUMINOUS MIXTURES GAIN IN MOARA
DOMNEASCA IN THE DROUGHTY CONDITIONS OF 2007**

GH. MOTCĂ, G.D. IONESCU

Cuvinte cheie: amestecuri, fertilizare, randament, compoziție floristică

Key words: mixtures, fertilization, yield, botanical composition

SUMMARY

The work is based on the results of a bifactorial experiment with 3 mixtures and 3 fertilization variants, found in the third year of production.

From climatical point of view, the year 2007 generally characterized itself as an extremely droughty year. In the vegetation period (III-IX), the precipitations were more reduced with 118,5 mm than the normal level, and the medium daily temperature was higher with 3,2°C. Even in these conditions, as an average, for the experimental variants, there were obtained yields of dry matter of 7-9 t/ha, yields estimated to be extremely adequate for the system of unirrigated crops in Romanian Plain. Taking into account that the grassland is in the third year of vegetation, the yield level in this droughty year is, however, diminished with about 20-30% in comparison with the potential achieved by the respective mixtures in Romanian Plain, during the normal years.

During the third year of vegetation, in drought conditions, the alfa-alfa is dominant in all the mixtures as well as number of offshoots/m² (931-1547 for the first cycle and 1588-1697 for the third cycle), but as share in the biomass structure, having a growing rhythm superior to the one of the cocksfoot.

Due to the alfa-alfa predominance in the studied mixtures, the total production in 2007 has been practically uninfluenced in a significant way, by this kind of mixture. At the same time, the fertilization with azote led to the diminishment until to a very significant level of the production, in comparison with the unfertilized variant with azote. These partial results allow us to state the conclusion that any of the studied mixtures (*Dactylis glomerata* 40-60% + *Medicago sativa* 40-60%) may be cultivated without azote fertilization or in a particular way with N50P50. When choosing the mixture, it will be taken into account the exploitation way, so that the economic benefits of alfa-alfa share in the mixtures structures should be valorized in a best possible way, as well as the superior resistance of these varieties to drought.

**CERCETĂRI PRIVIND COMPORTAREA HIBRIZILOR DE PORUMB
MODIFICAȚI GENETIC COMPARATIV CU OMOLOGII LOR
NORMALI, ÎN CONDIȚIILE DIN ZONA CENTRALĂ A OLTENIEI**

**RESEARCH CONCERNING THE BEHAVIOUR OF
GENETICALLY MODIFIED CORN HYBRIDS COMPARATIVE WITH
THEIR NORMAL HOMOLOGUES, IN THE CONDITIONS OF CENTRAL
OLTENIA**

M. SOARE, PAULA IANCU, C.V. PĂUNESCU, RAMONA AIDA ACSINIA

Cuvinte cheie: hibrizi porumb modificați genetic, Roundup Ready, Liberty Link, erbicidare

Key words: genetically modified corn hybrids, Roundup Ready, Liberty Link, herbicidation

SUMMARY

For three years (2005-2007), in the conditions from Șimnic two genetic modified corn hybrids were experimented (F 376 RR and Clarica LL) besides their normal homologues, in different variants with maintenance work. Classic herbicided variants, preemergent and post emergent, but especially in the preemergent herbicided, the weed degree is relatively high and determines yields decreases of 23% until 50% comparative with the variant manually weeding and maintained cleaned, as well as the GMO variants totally herbicided, this diminution of the yield is between 7% and 10%. In the conditions of SCDA Șimnic, the utilization to control the weeds with total herbicides by using genetically modified hybrids, tolerant to these herbicides, is more advantageous comparatively with classical herbicidation.

**STUDIUL COMPONENTELOR DE PRODUCȚIE LA
FLOAREA -SOARELUI ÎN CONDIȚIILE PEDOCLIMATICE DE LA
MOARA DOMNEASCĂ ÎN ANUL 2007**

**STUDY ON SUNFLOWER PRODUCTION COMPONENTS UNDER THE
PEDOCLIMATIC CONDITIONS OF MOARA DOMNEASCĂ IN THE
YEAR 2007**

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

Cuvinte cheie: hibrizi de floarea-soarelui, componentele randamentului, factorii limitativi

Key words: sunflower hybrids, productivity components, limiting factors

SUMMARY

Experiments were performed on 20 sunflower hybrids under the pedoclimatic conditions of Moara Domnească between 2005 and 2008, aiming at emphasizing the effect of the limiting factors upon the production components and the melliferous resources of the foreign sunflower hybrids, as well as risk management resulting in productions that have positive economic effects. The sunflower production components are identified according to the specific hybrid, sowing time and density, seed quality, tillage and preceding crop, crop technology and supplementary pollination.

The climatic conditions of the year 2007 (prolonged drought and excessive temperatures) considerably affected the sunflower production components. Under these circumstances, the sowing time and hybrid precocity led to a wide variation in the seed production for the tested hybrids. The highest productions were achieved in the case of sowing in the first decade of April, i.e. an average production of 2,350 kg/ha per experiment. Sowing in the last decade of March resulted in an average production of 2,110 kg/ha for the respective hybrids. Sowing after 18 April resulted in an average production of 1,000 kg/ha, with important variations between the 20 tested hybrids.

**STUDIU COMPARATIV ASUPRA CALITĂȚII RECOLTEI LA SPECII
DIN GENUL *TRITICUM* L.**

**COMPARATIVE STUDY REGARDING YIELD QUALITY IN
TRITICUM L. SPECIES**

MARIA TOADER, GH.V. ROMAN

Cuvinte cheie: calitatea recoltei, specii ale genului *Triticum*

Key words: yield quality, *Triticum* species

SUMMARY

The paper presents the results of research performed in 2004-2007 period on Moara Domnească Experimental Field, near Bucharest, regarding chemical composition and yield quality of caryopsides belonging to some species of genus *Triticum*: *Triticum aestivum* ssp. *spelta*, *Triticum monococcum* ssp. *monococcum*, *Triticum turgidum* ssp. *dicoccum*, *Triticum aestivum* ssp. *vulgare*.

Research distinguished the following chemical composition of *Triticum aestivum* ssp. *spelta* grains: moisture between 10.49 and 11.40% and the dry matter content between 88.60 și 89.21%, from which: protein between 15.51 and 15.76%; wet gluten between 29.52 and 31.16%; starch between 64.00 and 64.561%; lipids between 2.45 and 2.63%; fibre between 2.37 and 2.71%; ash between 2.02 and 2.40% and between 471 and 475 seconds for the Falling Number. By comparison, *Triticum monococcum* ssp. *monococcum* grains were distinguished through: protein between 16.99 and 17.46%, wet gluten between 30.25 and 30.26%, and the Falling Number between 325 and 379 seconds. *Triticum turgidum* ssp. *dicoccum* grains distinguished through a protein content between 17.30 and 17.36%; gluten between 29.43 and 30.23%, and the Falling Number between 316 and 320 seconds. By comparison, wheat grains present a protein content between 12.01 and 12.20%; wet gluten between 25.37 and 28.78%; starch between 65.45 and 66.31%; lipids between 2.37 and 2.62%; cellulose between 1.85 and 2.09%; ash between 1.21 and 1.68% and between 247 and 272 seconds for Falling Number.

**INFLUENȚA AGROFONDULUI ȘI A DESIMII DE SEMĂNAT ASUPRA
CALITĂȚII PRODUCȚIEI LA ARAHIDE (*ARACHIS HYPOGEA* L.)
CULTIVATE PE HALDELE DE CENUȘĂ IRIGATĂ**

**INFLUENCE OF THE FERTILIZER BACKGROUND AND SEEDING
DENSITIES ON THE PEANUTS QUALITY YIELD (*ARACHIS HYPOGEA*
L.) CULTIVATED ON IRRIGATED ASH DEPOSITS**

EMILIA CONSTANTINESCU, L. OLARU, DORINA BONEA

Cuvinte cheie: arahide, halde de cenușă, spațiu de nutriție, agrofond, proteină

Key words: peanuts, ash deposits, nutrition space, background, protein

SUMMARY

By confronting the peanut vegetation requirements with the soil and climate conditions of the ash deposits that partially can be improved by accessible means, we came to the conclusion that this species can grow properly in such conditions.

In supporting this idea there has been taken in consideration the thermal regime, sunshine, texture and the high permeability of the deposited material. Also, there has been taken into account the plant density and the degree of covering the soil by vegetation that are favorable features in order to alleviate pollution and the ash drift.

The experimented plant densities varied between 80.000 and 200.000 plants per hectare. The Tamburesti crop was experimented that has proven the most suitable to the peanut crop kinds that were previously experimented.

The trial unfolded on two fertilizer backgrounds (manure 15 t/ha + N₁₀₀P₁₀₀) and only one chemical fertilizer N₁₀₀P₁₀₀.

The average yields emphasize the superiority of the 200.000 plants per hectare density variant with an average yield of 3.200 kg/ha with a yield output of 900 kg, respectively 39 % that was very significant over the control of 80.000 plants per hectare.

**CERCETĂRI PRIVIND PARTICULARITĂȚILE MORFOLOGICE ȘI
BIOLOGICE ALE SPECIEI *TRIGONELLA COERULEA* L. ÎN
CONDIȚIILE CAMEREI CLIMATIZATE (FITOTRON)**

**RESEARCH ON MORPHOLOGICAL AND BIOLOGICAL
PECULIARITIES OF *TRIGONELLA COERULEA* L. SPECIES UNDER
CLIMATIC CHAMBER CONDITIONS**

ALINA MARIA TRUȚA

Cuvinte cheie: sulcină albastră, morfologie, biologie

Key words: blue fenugreek, morphology, biology

SUMMARY

The main objective of the research was to study, in controlled environment conditions, the morphology and biology of a less common species of agricultural crops – blue fenugreek (*Trigonella coerulea* L.), with the aim to evaluate the adaptability of the species on the natural conditions of Southern Romania.

Trigonella coerulea plants emerged on 25th of April, respectively 7 days after sowing, accumulating 28.19 GDD ($\Sigma t > 10^{\circ}\text{C}$).

First true leaf appeared on 4th of May, at an accumulation of 31.45 GDD ($\Sigma t > 10^{\circ}$ after emergence), and after another 45 days, respectively on 6th of June, the inflorescence appeared, corresponding to an accumulation of 285.18 GDD. Flowering began on 12th of June, at the accumulation of 341.24 GDD, and the first seeds formed after 29th of July (537.1 GDD), and until full maturity was accumulated about 281 GDD.

**CERCETĂRI PRIVIND COMPORTAREA HIBRIZILOR DE PORUMB
PIONEER ÎN CONDIȚIILE PRELUVOSOLULUI BRUN ROȘCAT DIN
N-E BUCUREȘTIULUI**

**RESEARCHES CONCERNING PIONEER MAIZE HYBRID BEHAVIOR
UNDER THE CONDITION OF RED BROWN PRELUVOSOIL FROM THE
NORTH - EAST PART OF BUCHAREST**

M. GÎDEA, IRINA ZAVALSCHI, C. RADU, C. CIONTU, I. CIOCĂZAN,
D.I. SĂNDOIU

Cuvinte cheie: epocă de semănat, densitate de semănat, hibrid porumb, rezervă de apă
Keywords: seeding time, density of seeding, maize hybrid

SUMMARY

As a result of climate changes appeared in the general climate evolution during the last years, of extreme temperatures and long droughts recorded, of the ununiform rainfalls distribution, in order to obtain stable productions, the problem of crop technologies adaptation to the new environment conditions is more and more discussed.

Maize comes on the 3rd position as importance among world cultivated crops, because it is cultivated on 147 million ha and produces 3,587 kg/ha in average.

In this context, in the agricultural year 2005-2006, a threefactorial experiment was organized within the Experimental Field of Agrotechnics Department in order to test the behavior of some maize hybreds from Pioneer Company under the conditions of Moara Domnească red brown preluvosoil, in case of anticipated seeding.

As a result of our research work, we noticed that the anticipated seeding at the date of March 20 compared to the recommended period (April 1st – 20th) has determined production gains in case of all tested hybrids. These gains have been higher in case of belated hybrids.

**CERCETĂRI PRIVIND INFLUENȚA UNOR FACTORI BIOLOGICI ȘI
TEHNOLOGICI ASUPRA PRODUCȚIEI ȘI CALITĂȚII CARTOFULUI,
ÎN CONDIȚIILE ECOLOGICE DIN CÂMPIA MOLDOVEI, PENTRU O
AGRICULTURĂ DURABILĂ**

**RESEARCH REGARDING THE INFLUENCE OF BIOLOGICAL AND
TEHNOLOGICAL FACTORS, CONCERNING PRODUCTION AND
QUALITY OF POTATO, IN ECOLOGICAL CONDITIONS OF
MOLDAVIAN PLAIN FOR A SUSTAINABLE AGRICULTURE**

GEANINA DIANA (DONȚU) BOTNAR, CRISTINA LOREDANA DANALACHE

Cuvinte cheie: cartof, fertilizare, desime, soi

Keywords: potato, fertilization, density, cultivar

SUMMARY

The aim of the research is to establish the effects of different guys manorial about the production of potato and quality of the tubers. Among objective he is established the influence density of plant to different kinds of potato, about the production and quality of the tubers. Another objective of experimentations is noticed the behavior of different kinds of potato in the climateric conditions, from the zone of the Moldavian Plain.

**POTENȚIALUL DE PRODUCȚIE AL UNOR HIBRIZI DE FLOAREA
SOARELUI TESTAȚI ÎN PERIOADA 2002-2004 LA CENTRUL DE
TESTARE A SOIURILOR COGEALAC**

**CROP POTENTIAL OF SOME SUNFLOWER HYBRIDS AT COGEALAC
VARIETIES TESTING CENTER DURING 2002-2004**

N. CODREA

Cuvinte cheie: hibrid, testare, producție, floarea soarelui

Key words: hybrid, testing, production, sunflower

SUMMARY

Sunflower is one of the important oil plants cultivated in Romania, Dobrogea being a region with adequate climate and soil for it. The climate is continental temperate of type B.S.s.x. (by KOPPEN) and the soils are of chernozem type. Cogevalac Varieties Testing Center is located in the middle part of Dobrogea, near the Black Sea Coast.

The experiments were performed in years 2002, 2003, and in 2004 for four hybrids of sunflower obtained at I.C.D.A.Fundulea, such as: Select, Favorit, Jupiter and Neptun.

The testing results show that sunflower hybrids gave good and very good production, and the seeds content of oil was high, about 50%. Their behaviour at diseases and pest was good, all hybrids showing high resistance to *Plasmopara helianthi* and *Sclerotinia sclerotiorum*. Favorit, Jupiter and Neptun hybrids proved to be the most resistant to *Orobancha cumana* every year the frequency to its attack was zero while the other hybrid was affected in different percentage.

In conclusion, in Dobrogea conditions, ICDA Fundulea hybrids potential production was very good, both in seeds and in high percentage of oil content.

**CERCETĂRI PRIVIND COMPORTAREA A DOUĂ SOIURI DE ORZ ÎN
CÂMPIA BRĂILEI ÎN ANUL AGRICOL 2006-2007**

**RESEARCH CONCERNING BEHAVIOUR OF TWO BARLEY TYPES
UNDER CLIMATIC CONDITION OF BRAILA PLAIN IN THE
AGRICULTURAL YEAR 2006 -2007**

DANIELA TRIFAN, GABRIELA ALINA CIOROMELE,
ANA-MARIA POPA

Cuvinte cheie: orz, producție, soi, măsurători biometrice

Keywords: barley, crop, type, biometrics measures

SUMMARY

The researches are based a comparative study of two barley types cultivated in a farm from Brăila Plain, in the agricultural year 2006 – 2007.

The observation during the vegetation period of the barley types: Dana and Miraj, were: the density of arising plants, the resistance of plants over the winter, and the biometrics measures (ears density/m², the leght of the plants, the leght of the ear and the number of beans per ear), and the yield per hectare. The arising plants percent was from 70% to 85% and the resistance of plants over the winter was lower, as well as the density of the plants decreased up to approximately 50% in the spring.

**ESTIMAREA RATEI DE TRANSFER A METALELOR GRELE DIN SOL
ÎN SEMINTELE DE IN OLEAGINOS**

**ESTIMATION OF UPTAKE RATE OF HEAVY METALS FROM THE
SOIL TO SEEDS OF OILSEED FLAX**

S. MUNTEAN, M. LEGRAS, J.M. LLORENS, M. DUDA,
D. VARBAN, S. TAIBI

Cuvinte cheie: metale grele, in oleaginos

Key words: heavy metals, oilseed flax

SUMMARY

This research aims to model the migration of heavy metals from soil to Flax oilseeds at different development stages. Following a three-year study, we have developed a mathematical model which enables us to evaluate risk options in the management of urban wastes, taking into account the agricultural practice, physico-chemical soil properties.

This study concerns two locations, each with different pedological characteristics and which had been previously treated with organic materials. At each location, two different varieties of oilseed flax were grown (A and B).

The first site, G in Normandy, received sewage sludge in agronomic doses until 1998. At the second site, H in the Paris region, the polluted area was irrigated with waste water via a sewage outfall from the early years of the 20th century until 1999, while in the unpolluted area of the H site (used as a control for this study) integrated management has been used.

Each site was divided into two areas for cultivation of the two varieties of Flax.

Soil samples were taken at three different depths (0-25 cm, 25-50 cm and 50-75 cm), during four stages of flax growth (seed, growth, flowering, ripening), and from the plants themselves.

**STUDIU DE PIAȚĂ PRIVIND PROCURAREA ȘI UTILIZAREA
PLANTELOR MEDICINALE ȘI AROMATICE**

**MARKET ANALYSIS REGARDING MEDICINAL AND SPICE PLANTS
PROVISION AND USE**

A.GH. BĂȘA, GH.V. ROMAN, V. ION, LENUȚA IULIANA EPURE, MARIA TOADER

Cuvinte cheie: studiu de piață, plante medicinale, plante aromatice

Key words: market analysis, medicinal plants, spice plants

SUMMARY

To know how medicinal and spice plants are obtained and used in Romania, market analysis was carried out by using questionnaires with 26 questions. The total number of interviewed persons was 515 from all over the country.

By analysing the questionnaires, it resulted that almost people (99%) use medicinal and spice plants through different forms and in about half of cases all the family members use them. Even more then 80% of people buy medicinal and spice plants from different stores, about 50% of people use these plants from the spontaneous flora and about 30% of them grow the plants in their gardens.

Usually, people use medicinal and spice plants for treating different illness and usually they associate these plants with honey. Also, the majority of people declare that they know about organic products, but only 40% of them buy organic products obtained from medicinal and spice plants, and only 25% would pay higher prices for organic products.

**STUDII PRIVIND TEHNOLOGIA DE CULTIVARE SI UNELE ASPECTE
HISTOANATOMICE LA INUL MIXT (*LINUM USITATISSIMUM L.*)
CULTIVAT ÎN DOBROGEA**

**STUDIES REGARDING THE CULTIVATION TECHNOLOGY AND A
FEW HISTO-ANATOMICAL ASPECTS OF COMMON FLAX (*LINUM
USITATISSIMUM L.*) CULTIVATED IN DOBROGEA**

LILIANA PANAITESCU, RODICA BERCU

Cuvinte cheie: studii histoanatomice, plante textile

Key words: histo-anatomical studies, textile plants

SUMMARY

The paper was inspired by the fact that, over the last years, the field of textile plants has been reconsidered in the context of an international crisis of resources and energy. Dobrogea is a favorable area for common flax and oil flax. In the common flax, technical length is between 30-35 cm and can be used both for oil production and fiber extraction.

The research was realized on a group of flax plants belonging to a mixed variety recommended for cultivation in Dobrogea. Studies were done regarding the culture conditions and the applied technology. At the same time, the possible structural modifications of the common flax stem (*Linum usitatissimum L.*) were rendered evident.

The climate modifications determined changes in the culture structure. The place of plants no longer cultivated was not taken by other plants in the culture structure, thus the plant variety is a poor one. Many farmers gave up cultivating soybean and sugar beet, focusing on two-three cultures only: wheat, corn and an oleaginous plant (sunflower or rape). The reasons are connected firstly to the lack of water, due to the destruction of the irrigation systems.

Oil flax (*Linum usitatissimum L.*) is a typically xerophilous plant (Zamfirescu et al., 1965). It is known that the technological factors, the climate and the soil influence the technological characteristics of flax stems. In this regard, transversal and longitudinal histo-anatomical studies were done in order to determine the shape, length and other aspects of the fibrous sclerenchyma.

This paper is trying to attract attention to the possibility of introducing a greater number of other plants adapted to the specific climatic conditions in the Dobrogea crop structure, as well as the reorientation of processing possibilities and crop reevaluation.

**CERCETĂRI PRIVIND BIOLOGIA ȘI PRODUCTIVITATEA CULTURII
INTERCALATE PORUMB-FASOLE ÎN CONDIȚIILE SISTEMULUI DE
AGRICULTURĂ ECOLOGICĂ**

**RESEARCH REGARDING BIOLOGY AND PRODUCTIVITY OF MAIZE-
BEAN INTERCROPPING IN THE ECOLOGICAL AGRICULTURE
SYSTEM**

ELENA MIRELA POPESCU

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

Key words: intercropping, maize, common bean, ecological agriculture

SUMMARY

Conventional agriculture, especially in its modern forms, modifies landscapes and damages ecosystems, inclusive biodiversity at all levels. Thus, a viable alternative for the conventional agriculture would be ecological agriculture that must be regarded like an integrant part of the sustainable development strategies.

Agricultural practices can contribute both to the obtaining of rentable and superior quality yields and environmental conservation through elimination of 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. The essential condition for intercropping succes is the different agricultural crops interdependence in the growing and development process, determined by biological particularities.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**INFLUENȚA FERTILIZĂRII ȘI A DESIMII PLANTELOR ASUPRA
PRODUCȚIEI DE ACHENE ȘI ULEI LA CÂȚIVA HIBRIZI DE
FLOAREA-SOARELUI CULTIVAȚI ÎN CONDIȚIILE ECOLOGICE DIN
CÂMPIA JIJIEI**

**INFLUENCE OF FERTILIZATION AND PLANT DENSITY ON
ACHENE AND OIL PRODUCTION, WITHIN SOME SUNFLOWER
HYBRIDS IN ECOLOGICAL CONDITIONS OF JIJIA PLAIN**

CRISTINA DANALACHE, S. IFRIM, GEANINA (DONTU) BOTNAR, C.I. AIRINEI

Cuvinte cheie: floarea-soarelui, desime, fertilizare, soia

Key words: sunflowers, density, fertilization, soja

SUMMARY

The work proposes to determine the influence of different doses of fertilization, about the production of akenes and oils to the sunflower, as well as the influence of different densities on sowing

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**PRETABILITATEA GRÂULUI SPELTA LA SISTEMUL DE
AGRICULTURĂ ECOLOGICĂ**

**THE PRETABILITY OF WHEAT SPELT IN ECOLOGICAL
AGRICULTURE SYSTEM**

OANA OFELIA GHEOLȚAN, GEORGETA OROIAN,
CRISTINA MARIA NEAG, G. MORAR

Cuvinte cheie: spelta, agricultură, ecologie, producții

Key words: spelt wheat, agriculture, ecology, production

SUMMARY

Triticum aestivum ssp. *spelta* (spelta wheat) is a cultivated to obtain alimentary products and ecological meadows. Its physiological, rudimentary and resists to bad conditions of vegetation determined its enlargement and greater surfaces. There were tested different fertilizers and foliar fertilizers specific for ecological agriculture in order to stimulate production and several quality features (protein and gluten contents).

**EVOLUȚIA PROFILULUI PRODUCȚIILOR VEGETALE ÎN
JUDEȚUL CONSTANȚA SUB IMPACTUL FACTORILOR EXTERNI
EXPLOATAȚIEI**

**EVOLUTION OF THE VEGETAL PRODUCTION PROFILE IN
CONSTANTA COUNTY UNDER THE INFLUENCE OF FACTORS
EXTERNAL TO THE EXPLOITATION**

LILIANA PANAITESCU

Cuvinte cheie: evoluție, producții vegetale, exploatație

Key words: evolution, vegetal production, exploitation

SUMMARY

The changes that occurred the crops structure in Constanta county. In the last years, on the Constanta county territory some changes happened regarding the structure crop. The events of December 1989 marked including this area. It has a decrease not only the efficiency on the surface unit but the rate of some crops and the changes is not very encouraging. The increase rate of grains told about the extensive agriculture with simple crops structures with few plants which did not require best technology, production or capitalization of production. The crops as sugar beat, soy bean, flax are completely missing from crop structure. The water and fertilizers insufficiency, the destroying of processing factories, the market missing are some of the reasons for these changes.

**ASPECTE PRIVIND ECOLOGIZAREA TEHNOLOGIEI DE CULTIVARE
A HAMEIULUI (*HUMULUS LUPULUS* L.)**

**ASPECTS CONCERNING ECOLOGICAL HOP CULTIVATION
TECHNOLOGY**

M.M. DUDA, D.I. VÂRBAN, S. MUNTEAN, O. NEGREA

Cuvinte cheie: hamei, tehnologie ecologică, extract *Tagetes patula*

Key words: hop, ecological technology, *Tagetes patula* extract

SUMMARY

In order to obtain agricultural products as "clean" as possible and less polluted with pesticides, a new series of methods for plant protection against weeds, diseases and mechanical, physical or biological pests is being tested. In this paper we present some results regarding the reduction of the pesticide utilization in the hop cultivation technology.

For the maintenance of the reduced weeding, without herbicides, we recommend the application of some mechanical tillage of the soil from within the hop rows, hilling and rehillage of the hop rows.

One of the most efficient methods to prevent the sickening of plants is the selection, at the plantation constitution, of the hop varieties that are resistant or tolerant to diseases or pests.

For the ecological rebuttal of the hop pests at USAMV Cluj-Napoca we obtained encouraging results based on a leaf extract from the French marigolds (*Tagetes patula*) variety.

**CORELAȚII ÎNTRE CAPACITATEA DE PRODUCȚIE ȘI ELEMENTELE
DE PRODUCTIVITATE ALE ACESTEIA ÎN CONDIȚII DIFERITE DE
APROVIZIONARE CU APĂ**

**CORRELATION BETWEEN PRODUCTION CAPACITY AND
PRODUCTIVITY ELEMENTS IN DIFFERENT WATER SUPPLYING
CONDITIONS**

DORINA BONEA, VIORICA URECHEAN, EMILIA CONSTANTINESCU

Cuvinte cheie: capacitate de producție, elemente de productivitate, desimea plantelor

Key words: production capacity, productivity elements, plant density

SUMMARY

Generally, the correlations are known as an interdependency phenomenon between two or more characters of an organism. The different values of the production correlations and the productivity elements determine a certain productivity element in certain environmental conditions. The present paper presents the correlations between the grain yield and the main productivity elements with 14 hybrids of corn of FAO 401-500 group, grown at SCDA Șimnic in irrigated and nonirrigated conditions, that is two plant densities (40000 and 60000 plants per hectare). With nonirrigated conditions, the grain yield positively correlated with the number of ear per plant with both plant densities and the average mass of the ear with the 40000 plants/hectare density. With irrigated conditions, grain yield was correlated with the number of ear per plant and the average mass of the ear with both plant densities, and with the plant height with the 60000 plants/hectare density.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CERCETĂRI PRIVIND CONSUMUL DE APĂ LA CULTURA DE
FLOAREA-SOARELUI**

**RESEARCH CONCERNING WATER CONSUMPTION IN THE
SUNFLOWER CROP**

C.V. POPESCU

Cuvinte cheie: bilanțul apei în sol, irigație, consum de apă, floarea soarelui

Keywords: soil water balance, irrigation, water consumption, sunflower crop

SUMMARY

Research has been carried out ON the sunflower crop in irrigated and rain-fed conditions on the reddish preluvosoil of the Research and Development Agricultural Station „SIMNIC”. Water consumption of the sunflower crop was determined through the water balance theoretical methods.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

CONSUMUL DE APĂ LA CULTURA DE SOIA
THE WATER CONSUMPTION FOR SOYBEAN CROP

C.V. POPESCU, C. BORA, E. PETRESCU, C. POPESCU

Cuvinte cheie: bilanțul apei în sol, irigație, consum de apă, soia

Keywords: soil water balance, irrigation, water consumption, soybean crop

SUMMARY

Research has been carried out on the soybean crop in irrigated and rain-fed conditions on the reddish preluvosoil from the Research and Development Agricultural Station „ȘIMNIC”. The water consumption of the soybean crop was determined through the water balance theoretical methods.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CERCETĂRI PRIVIND BILANȚUL APEI ÎN SOLUL IRIGAT ȘI
NEIRIGAT LA CULTURA DE GRÂU**

**RESEARCH CONCERNING IRRIGATED AND RAIN-FED SOIL'S
WATER BALANCE FOR THE WHEAT CROP**

C.V. POPESCU

Cuvinte cheie: bilanțul apei în sol, irigație, consum de apă, grâu

Keywords: soil water balance, irrigation, water consumption, wheat crop

SUMMARY

Research has been carried out on the wheat crop in irrigated and rain-fed conditions on the reddish preluvosoil from the Research and Development Agricultural Station „SIMNIC”. Water consumption of the wheat crop was determined through the water balance theoretical methods.

Lucrări științifice, U.S.A.M.V.B., Seria A, Vol. LI, 2008

**BILANȚUL APEI ÎN SOLUL IRIGAT ȘI NEIRIGAT LA CULTURA DE
PORUMB**
**IRRIGATED AND RAIN-FED SOIL WATER BALANCE FOR THE CORN
CROP**

C. BORA, C.V. POPESCU, C.A. ROȘCULETE, E. PETRESCU

Cuvinte cheie: bilantul apei in sol, irigație, consum de apa, porumb

Key words: soil water balance, irrigation, water consumption, corn crop

SUMMARY

Research has been carried out on the corn crop in irrigated and rain-fed conditions on the eddish preluvosoil from the Research and Development Agricultural Station SIMNIC - CRAIOVA. Water consumption of the corn crop was determined through the water balance theory methods.

**VIGOAREA SEMINTEL, ÎNSUȘIRE CARE INFLUENȚEAZĂ
REZISTENȚA LA FACTORII MAI PUȚIN FAVORABILI DE PĂSTRARE
ȘI CULTURĂ LA *LOLIUM PERENNE***

**SEED VIGOUR, APPROPRIATION WHICH INFLUENCES RESISTANCE
TO LESS FAVOURABLE STORAGE AND CULTIVATION AGENTS FOR
*LOLIUM PERENNE***

FLORINA PALADA, C. BĂRBULESCU

Cuvinte cheie: vigoare, samanță, calitate, germinație, teste de laborator, condiții de păstrare

Key words: vigor, seed, quality, germination, laboratory tests, storage conditions

SUMMARY

The *Lolium perenne* seeds vigor, as a complex appropriation of great practical importance, situates a big number of agent under the permanent influence is under the permanent influence of a large number of agent. They act directly and sometimes simultaneous and with different intensity. The intensity of these agents upon the seeds' vigor is strongly influenced by the specific conditions met during the forming, aging, and preserving them. An important part of these agents can be controlled by humans.

A great importance concerning the preservation of seed vigor during the storage period is represented by ensuring the proper keeping conditions in a controlled environment with low temperature and humidity, seed vigor maintains for a longer period of time, whereas in bad conditions the seeds vigor is weathering in a short period of time, leading to an accelerate aging and of almost complete lost of germination in most *Lolium perenne* breeds studied.

MECANIZAREA AGRICULTURII ȘI MEDIUL INCONJURĂTOR

AGRICULTURAL ENGINEERING AND THE ENVIRONMENT

A. MITROI

Cuvinte cheie: mecanizarea agriculturii, energia și mediul, emisii poluante, poluarea solului, poluarea apei din sol

Key words: agricultural engineering, energy and the environment, polluting emissions, soil pollution, water soil pollution

SUMMARY

The mechanized execution of the works is also accompanied by the pollutant effects. As in other domains, the utilization of fossil fuels, especially diesel oil, by the tractor engines, by the self-propelled machines engines and by the equipment engines for transport, affect global environment because of greenhouses gas emissions, especially because of CO₂ emission. The emissions affect local environment, too. Based on personal research, different ways for diminution of specific consuming of diesel oil, and thees, the decrease of the emissions are made evident. The works performed on field cause, in certain conditions, soil and the water soil pollution by exaggerated soil compaction by the hard equipments wheels, by fuels and mineral oils leakages, by ununiform distribution of fertilizers and pesticides because of the reduced precision machines. Pollutant effects can be reduced. On the other hand, mechanization can contribute decisively to obtain ecological advantages by making available the adequate technical tools for the application of unpolluting technologies for agricultural crops, like the systems for minimum tillage und precision farming.

**UTILIZAREA SURSELOR NEPOLUANTE DE ENERGIE ÎN PROCESE
DE USCARE A PRODUSELOR AGRICOLE ȘI HORTICOLE**

**USE OF POLLUTION FREE ENERGY FORMS FOR AGRICULTURAL
AND HORTICULTURAL PRODUCTS IN DRYING PROCESSES**

C. MARINESCU, A. MITROI, NICOLETA-ALINA UDROIU,
CLAUDIA CALINESCU, VASILICA POPA-UDREA

Cuvinte cheie: energii regenerabile, uscare solară, reducerea emisiilor poluante

Key words: renewable energy, solar drying, reduced pollution

SUMMARY

The pollution of global environment is induced, for the drying installations of agricultural products that use fossil energy, indirectly by consuming electric energy provided by plants that use fossil fuels as primary energy source; or directly heating the drying agent by burning the fossil fuels. In these cases, every kilogram of evaporated water from the dried product corresponds to an equivalent quantity of CO₂. The solar drying installation uses photovoltaic conversion of solar energy leading to a non-polluting drying process and to the obtaining of superior dried products. The photovoltaic system serves for activating the fans and correlates the level of solar radiation intensity with the heating agent temperature. Research made with the tunnel solar drying installation, with photovoltaic activation, when drying agricultural and horticultural products, pointed out the advantages of the installation and the drying process regarding environmental protection and the quality of the dried products.

**CONSUMUL DE ENERGIE ȘI CALITATEA PRODUSELOR
LA CONSERVAREA PRIN REFRIGERARE A CEREALELOR**
**CONSUME OF ENERGY RELATED TO QUALITY OF PRODUCTS
FOR COLD PRESERVATION OF CEREALS**

D.G. EPURE, VASILICA POPA-UDREA, A. MITROI, D. IONESCU

Key words: cold preservation of cereals, increasing of quality of cereals, environmental protection

Cuvinte cheie: conservarea prin refrigerare a cerealelor, creșterea calității cerealelor, protejarea mediului

SUMMARY

Preservation of cereals using low temperatures do not permit to develop the phenomena of self warm and self heat of bulk grains which have a high level of moisture content, decrease the breath activity of grains and prevent growing of micro-organisms, spiders and insects. The research permit to analyze of performance of equipments used for cold preservation of cereals, specifically consumes of electrical energy, ecological implication of use of electrical energy which have been produced into electrical power plant which use as primary source of energy the fossils combustibles, the influence of technical parameters to the quality of preservation process. The equipment for cold preservation of grains used for research has a frigorific machine and adequate tools for measurements. The technological flow contends also the equipments for pre-cleaning of grains for impurities. The goal of research is to evaluate how the special technology used for cold preservation of grains complains the request about the quality of product, and also to evaluate the possibilities to extend that technology at the national level for preservation of cereals using low temperatures.

**IMPLICAȚII ECOLOGICE ALE TEHNOLOGIILOR DE MECANIZARE
POSTRECOLTARE LA CEREALE**

**ECOLOGICAL IMPLICATIONS OF POST HARVEST TECHNIQUES
FOR CEREALS**

S. DOVEN, A. MITROI, D.G. EPURE, VASILICA POPA-UDREA

Cuvinte cheie: uscare cereale, consum de energie, emisii echivalente de CO₂

Keywords: cereals drying, energy consumption, equivalent CO₂ emissions

SUMMARY

For the purpose of conserving the cereals, various mechanized works related to cleaning, drying, storing shall be applied, all the latter being accompanied by a large number of transportation and handling works. For most of the aforementioned works, the use of electromotors is based on energy consumption. Depending on the primary sources of energy, which are used for the production of the electric power, as delivered within the network, any electric power consumption is associated with a certain quantity equivalent to CO₂. The main pollution risk of the global environment is indirectly expressed, through the emissions from the production of electric power. In the event of the use of the drying installations, not only electric power is used, but also the fossil fuels, propane or liquefied natural gases, and when the latter are burned, a great amount of CO₂ as well as other greenhouse gases appear. Based on a number of research, there have been established the CO₂ emissions, as related to the drying processes, and there have been identified the possibilities to lower the specific consumptions of electric power and implicitly the changes of reducing the polluting emissions, especially through the configuration of the material and drying agent flows. One special part is played by the recirculation of the drying air and thus the recovery of a significant part of the energy.

**CORELAȚIA ÎNTRE TURAȚIA MOTORULUI, PUTEREA MOTORULUI
ȘI CONSUMUL DE COMBUSTIBIL PENTRU REDUCEREA ACESTUIA**
**CORRELATION BETWEEN REVOLUTION ENGINE, POWER ENGINE
AND FUEL CONSUMPTION FOR ITS DECREASING**

I. SĂRĂCIN

Cuvinte cheie: motor, reducere, regim de turație

Key words: engine, reduction, revolution regime

SUMMARY

Increasing the Diesel fuel price, used as a fuel for the functioning of the agricultural machine engines, obliges to take an action to reduce the quantities of consummated fuel respective the reduction of the price of the agricultural works respectively. Without the thermal engines that lead to reducing fuel consumption or of the possibilities of using boil fuel in this chemical engines functioning most easily, efficient by and everyone to do it is the method of using the correct revolution regime of the engine and using its full power, in the zone in that the fuel consumption is minimum or almost minimum.

**INFLUENȚA UNOR INSUȘIRI ALE SOLULUI ASUPRA UZURII PRIN
FRECARĂ A BRAZDARELOR DE PLUG**
**THE INFLUENCE OF SOME SOIL FEATURES UPON FRICTION WEAR
OF PLOUGH FURROWS**

G. ȘTEFAN

Cuvinte cheie: brazdar, plug, sol

Key words: furrow, plough, soil

SUMMARY

The soil, as the main productive mean in agriculture, influences the intensity of wear process at plough furrows; thus, its features such as texture, structure, bulk density, porosity, compaction degree etc. determine the durability of plough furrows. In the present work-paper are revealed some aspects regarding the way in which soil has influenced the plough furrows wear process. Determination concerning this process have been made at three farms, located in different soil conditions, belonging to Braila, Calarasi, Buzau area county.

**ASPECTE FIZICO-MECANICE SI ECONOMICE ALE FIABILITATII
BRAZDARELOR DE PLUG LA FERMELE SC SEMAKO SRL, SC
MARETU SRL SI SC AGRISAN SRL**

**PHYSICAL, MECHANICAL AND ECONOMIC ASPECTS OF
RELIABILITY FOR PLOUGH FURROWS AT SC SEMAKO SRL, SC
MARETU SRL AND SC AGRISAN SRL FARMS**

G. ȘTEFAN

Cuvinte cheie: fiabilitate, brazdare, consum motorina

Key words: reliability, furrows, diesel oil consumption

SUMMARY

The reliability, respectively the probability of an agrary machine not to spoil in a certain period and certain environment and using conditions, can be expressed through some specific indicators, such as: good functioning time, repairability, maintainence, the piece falling. Starting with these aspects, observations have been made upon those reliability indicators in the SC Semako SRL, SC Maretu SRL and SC Agrisdan SRL farms. Also, the diesel oil consume has been calculated, when worn furrows were used, in comparison with new furrows using.

Lucrări științifice, U.S.A.M.V.B., Seria A, Vol. LI, 2008

**CERCETARI PRIVIND STUDIUL BIODIVERSITĂȚII
HETEROPTERELOR DIN AGROECOSISTEMELE DE GRAU, PORUMB
ȘI SOIA**

**RESEARCH REGARDING THE STUDY OF BIODIVERSITY OF
HETEROPTERA FAUNA FROM WHEAT, CORN AND SOYBEAN AGRO-
ECOSYSTEMS**

I. ROȘCA, RADA ISTRATE

Cuvinte cheie: Biodiversitate, specii cheie, agroecosistemul culturilor grâu, porumb și soia

Key words: Biodiversity, key species, agro ecosystem of wheat, corn and soybean crop

SUMMARY

Amazing evolution, from the last period of chemical treatments against pests and diseases, reflected through treated areas and quantity of used pesticides, together with the interest of more people joined in actions referring to protect environmental conservation, aspect included in countries legislation, resulted in increased interest for the study of effects of different technologies of control pests and diseases on useful fauna from different agroecosystems. A comparative study is done between wheat and corn biocoenoses, taking into consideration the heteropterous fauna. The role of these insects in wheat and corn agroecosystems is discussed.

**CERCETARI PRELIMINARE PRIVIND ELABORAREA SCHEMEI
PRIVIND STUDIUL ORGANISMELOR NETINTA IN CULTURILE
MODIFICATE GENETIC**

**PRELIMINARY RESEARCH REGARDING STUDYING SCHEMA OF
NON TARGET ORGANISMS IN GENETICALLY MODIFIED CROPS**

I. ROȘCA

Cuvinte cheie: Biodiversitate, specii cheie, agroecosistemul culturilor modificate genetic

Key words: Biodiversity, key species, agro ecosystem of genetically modified crops

SUMMARY

Possible impact of GMOs crops on the trophic chains in agrocoenosis is of concern to farmers, policy makers and to organizations and societies interested in environmental conservation. Based on the experiences which were done during the last 8 years, in Romania, in different GMO crops which have offered to us the possibility to observe if there is some influence of this new technology on surface fauna captured in pitfall traps or on existing fauna on plants, or fauna captured in Yellow Sticky Traps (Pherocone AM traps) in field, if there are any changes in composition and the abundance of "key species" in agro-system, we present a proposed framework for evaluating possible non-target insect effects of GMO crops. The "Sørensen" index of similarity seems to be the most suitable to evaluate the differences between compared fields. After those years, we believe that in the future research it has to be taken into consideration for soil *Lumbricus terrestris* "Common Earthworm" an anecic worm, but it is difficult to take representative samples from the soil during the summer or in dry soil. In respect to epigeic fauna, captured in pitfall traps, it has to be registered Myriapoda (*Iulus terrestris* and *Lithobius forficatus*), spiders (*Philodromus* sp., species from family Opilionidae, *Salticus* sp., from Lycosidae, *Pardosa* sp. etc.), ground beetle (Carabidae-*Harpalus pubescens*, *H. griseus*, *H. zabroides*, *H. distinguendus*, *Pterostichus vulgaris*, *P. cupreus*, *P. melas*, *Carabus coriaceus* and *C. cancelatus*, *Amara aenea* etc.), tiger beetles-Cicindelidae, and rove beetles-Staphylinidae. On plants it has to be registered, spiders from Arachnida, Coleoptera-Coccinellidae, Heteroptera-Nabidae and Anthocoridae, Neuroptera-Chrysopa sp., etc. On Yellow Sticky Traps there have to be registered, lady beetles-Coleoptera, Coccinellidae, true bugs-Heteroptera, Nabidae and Anthocoridae, lacewings-Neuroptera, Chrysopa sp., flower flies-Syrphidae etc. It presents the reasons for choosing these species, or group of species, as representative for survey possible appearing of any changes in composition and the abundance of an agro-ecosystem. A similitude of fauna from corn fields analysed in the last years was emphasised by value of Sorensen index, very closed to the identity of the fauna.

**STUDII DE BIODIVERSITATE ÎN DIFERITE SISTEME ECOLOGICE DE
CULTIVARE A TERENURILOR AGRICOLE**

**STUDIES OF BIODIVERSITY IN DIFFERENT ECOLOGICAL SYSTEMS
OF CULTIVATING AGRICULTURAL TERRAINS**

SIMION ENUȚĂ

•
Cuvinte cheie: biodiversitate, sistem, ecologic
Key words: biodiversity, system, ecological

•
SUMMARY

As a result of processing and analysing the data we have drawn the following conclusions regarding the biodiversity from the vegetal associations that we have studied as well as the influence of the agricultural practices applied on these:

1. The two ecological systems of cultivating the land (wheat, maize) present some difference in the structure of biocoenosis, both from the qualitative point of view and from the quantitative one due to the preceding plant.
2. The maize culture presents the greatest diversity due to the conditions of biotope which are favorable to the development of invertebrate groups and to the constancy of food resources.
3. Within the agro-forest belt we can register a high abundance of invertebrate groups due to the lack of human interference in adjusting the quantitative structure of the communities of organisms. The tree line appears thus as being much more diverse when it comes to pedofauna in comparison to the system of cultivating the wheat and the maize.

**SPECTRUL AFIDOFAGILOR IMPLICAȚI ÎN REDUCEREA
POPULAȚIILOR DE ACYRTHOSIPHON PISUM HARR. DIN CULTURA
DE MAZĂRE**

**APHIDOPHAG SPECTRUM INVOLVED IN *ACYRTHOSIPHON PISUM*
HARR. POPULATIONS REDUCTION FROM PEA CULTURE**

EMILIA VASILE, P. PAȘOL, GR. MĂRGĂRIT

Cuvinte cheie: paraziți, prădători, păduchele verde al mazării

Key words: parasites, predators, pea green louse

SUMMARY

High pesticides consumption in last years has led to intensive pollution of the soil and environment.

By pesticide supplanting or diminished of the used quantities, we try to make through knowledge and protection specific aphidophagues of the *Acyrtosiphum pisum* Harr. pest (pea green louse).

The use of the natural entomophagues in aphids spread limitation on pea gives the possibility to avoid the risk of the populations resistant to insecticides.

The experiment concerning predators and parasite insect species present on aphid colonies on pea was effected in experimental field of Moara Domenasca in years 2000, 2001, 2002.

Associated entomophagues to the aphid species present on pea advent classical orders recognized like aphidophags: *Coleoptera-Coccinellidae*, *Neuroptera-Chrysopidae*, *Diptera-Syrphidae* (predators) and *Hymenoptera* (parasite).

8 entomophags were identified, 6 predators species (*Chrysoperla carnea* Steph, *Chrysopidae-Neuroptera*; *Coccinella septempunctata* L., *Coccinella quatordecimpunctata* L., *Adalia bipunctata* L., *Adonia variegata* Goeze, *Coccinellidae-Coleoptera*; *Episyrphus balteatus* Deg., *Syrphidae-Diptera*) and 2 parasite species (*Aphidius ervi* Hal., *Praon volucae* Hal., *Aphidiidae-Hymenoptera*). An important role in grub and adult pea green louse destructions is played by the *Coccinella septempunctata* L. predator.

STRATEGII UTILIZATE ÎN CONTROLUL INSECTELOR LA CULTURA CARTOFULUI

STRATEGIES USED FOR INSECT CONTROL IN POTATO CULTURE

I. OROIAN

Cuvinte cheie: insecte, gândac de Colorado cartof, strategii, pesticide, SILWETL-77

Key words: insects, Colorado beetle, potato, strategies, pesticides, SILWETL-77

SUMMARY

Different measures are used for protecting potato crops against parasite species aiming at reducing the initial biological reserves, or rate of multiplication and infection, or both. The trials were performed in 2007, in Câmpenești, county of Cluj. The following insecticides were tested: BULLDOCK 25 EC, CALYPSO 400 SC, CONFIDOR 200 SL, KARATE ZEON, MOSPILAN 20 SP, NURELLE D 50/500, and VICTENON 50 WP. The Colorado beetle, *Leptinotarsa decemlineata*, is the most harmful mite of the potato culture. During the years which advantage the growing and development of this mite, the population reaches alarming levels up to 112 larvae/plant, when the culture may be compromised. For fighting against this mite, chemical treatments are compulsory. The best results were obtained with the following products: Calypso 480 SC – 80 mL/ha; Confidor 200 SC – 160 mL/ha. The use of the superspreader SILWET L-77, in doses of 0.1 L/ha, determined the increase of the biological efficacy of all insecticides used in fight against Colorado beetle. The superspreader SILWET L-77, used for the insecticides: Calypso 480 SC – 80 mL/ha and Confidor 200 SC – 160 mL/ha, led to 100% efficacy. The biological efficacy of the insecticides used for the fight against *Leptinotarsa decemlineata* species can be increased up to 9.8% using their mixtures with SILWET L-77.

**DINAMICA POPULAȚIILOR DE TRIPȘI (*HELIOTHRIPS
HAEMORROIDALIS*) AI GĂLBENELELOR ÎN SERELE DE LA
STAȚIUNEA TINERILOR NATURALIȘTI, DIN LOCALITATEA
TIMIȘOARA, JUDEȚUL TIMIȘ**

**EVOLUTION OF THE THRIPS POPULATIONS (*HELIOTHRIPS
HAEMORROIDALIS*) IN THE MARIGOLD IN THE GREENHOUSES
OF THE YOUNG NATURALISTS' STATION, FROM TIMIȘOARA
LOCALITY, TIMIȘ DISTRICT**

CRISTINA ZEPA, I. PĂLĂGEȘIU, LAVINIA MICU

Cuvinte cheie: tripsul plantelor de seră, spații protejate, dinamica populațiilor

Key words: greenhouse plant thrips, protected areas, population evolution

SUMMARY

In the marigold crop of the protected areas it must pay attention must be paid to the weather conditions and humidity, as well as the the behaviour of that plant to the pests and diseases. One of the most important pests which produces the biggest damage to the marigold crops from the greenhouses is the greenhouse plants thrips (*Heliothrips haemorrhoidalis*).

In the West side of the country there are a few investigations concerning this insect. That because the paper emphasizes some experimental data about the bioecology and evolution of the pests in the marigold crop from the protected areas.

Knowing the peculiarities of the thrips populations contributes to establishing the best moment in applying the treatments against this pest in the marigold crop in the protected areas.

**OBSERVAȚII PRIVIND ACȚIUNEA PRODUSULUI OLEOSAN A PG
FAȚĂ DE UNELE INSECTE DĂUNĂTOARE DIN AGROECOSISTEMUL
POMICOL**

**OBSERVATIONS REGARDING THE ACTION OF OLEOSAN A PG
PRODUCT UPON SEVERAL PESTS FROM THE FRUIT-GROWING
AGROECOSYSTEM**

MINODORA TUDOSE, I. GEAMĂN, V. JINGA, M. POPESCU,
C. GUTUE, IONELA DOBRIN, VLAD FULVIA FLORICA

Cuvinte cheie: insectă, Oleosan A PG, combatere, insecticid, săpun, săruri de potasiu, acizi grași

Key words: insect, Oleosan A PG, control, insecticide, soap, potassium salts, fatty acids

SUMMARY

The Oleosan A PG product is part of the group of soaps with potassium salts and fatty acids, known for their insecticide action. Upon the insects, it acts as a contact insecticide with fast action, destroying the cellular membrane.

The paper presents the action of Oleosan A PG product on several pests (*Dysaphis plantaginea* Pass., *Hyphantria cunea* Drury) in laboratory - field testing and introducing it in the integrated control schemes applied to apple tree culture.

Used in a concentration of 1%, the mortality rate of the larva $L_1 - L_2$ *Hyphantria cunea* Drury was of 82%, and for *Dysaphis plantaginea* Pass. the efficiency was of 70,52%. The concentration of 1,5% ensures an efficiency of 93,68 % for *Dysaphis plantaginea* Pass., without a phytotoxicity effect.

**ASPECTE PRIVIND INFLUENȚA CONDIȚIILOR
AGROMETEOROLOGICE ASUPRA RISCURILOR FITOSANITARE
EMERGENTE PENTRU PRINCIPALELE CULTURI AGRICOLE DIN
ROMÂNIA**

**ASPECTS OF INFLUENCE OF AGROMETEOROLOGICAL
CONDITIONS OVER THE EMERGING PHYTOSANITARY RISKS IN
ROMANIA'S MAIN CROPS**

ANCA AMUZESCU, ELENA MATEESCU, D. ALEXANDRU

Cuvinte cheie: variabilitatea condițiilor agroclimatice, agrobiocenoză, risc fitosanitar emergent, siguranță nutrițională

Key words: variability of agroclimatic conditions, agrobiocenosis, emerging phytosanitary risk, nutrition safety

SUMMARY

In Romania, environmental variability brought about by global climate change plays an important part in the transformation of both structure of natural ecosystems and agrobiocenoses. Obvious modifications in the habitat parameters influence the activity and spreading of organisms, and generally the biosphere distribution and functioning.

Romania has lately seen, on restricted areas, a series of new and complex organisms that can possibly grow into severe crop-damaging factors: *Aspergillus flavus*, *Gaeumannomyces graminis*, *Septoria nodorum*, *Diuraphis noxia*, *Verticillium sp.* etc. This paper aims to assess the effects of climatic change with the view of zoning the level of risk caused by new pathogenic species affecting winter wheat, maize, and sunflower crops across Muntenia and Oltenia. Seventeen weather stations with long and uninterrupted series of meteorological and phenological observations have been selected to this purpose. The analysis covered a 44-year interval, from 1961 to 2004, also including the reference interval 1961-1990. There were analyzed and processed data on thermal and hydric resources within the reference areas, in correlation with every pathogenic factor peculiarities regarding the emergence and progress of attacks in the vegetation season. After having determined the frequency by risk levels, the most vulnerable areas were found out as well as spatial distribution (GIS maps) of major risks across the two agricultural regions.

Taking care of the population's nutrition safety is a major responsibility of all the people who work in / collaborate with the complex agroalimentary system and risks should be dealt with even from the starting point – the field wherein raw material grows (beans/seeds, vegetables, etc.) In this sense, crops should benefit by integrated solutions and high-performance phytosanitary protection technologies to enable safe and quality yields. Modern phytosanitary management should be grounded on multidimensional approach, including forecasts on the dynamics of pest attacks and risk levels, starting from Romania's agroclimatic conditions.

**CERCETĂRI PRIVIND INTERRELAȚIILE DINTRE
MICROORGANISMELE MICOFLOREI ASOCIATE CU PREZENȚA
BLACK POINT PE SEMINȚELE DE GRÂU**

**STUDIES ON INTERRELATIONSHIP BETWEEN MICROORGANISMS
ASSOCIATED WITH WHEAT BLACK POINT MICOFLORA**

BEATRICE IACOMI, C. GHEORGHIȘ

Cuvinte cheie: grâu, black point, micoflora semințelor, interrelații

Key words: wheat, black point, seed micoflora, interrelationship

SUMMARY

Black point appears as a black or brown discoloration starting from the embryo and occupies, sometimes, more than 50% of the kernel surface. It occurs from grain filling to harvest and can be a problem in areas receiving heavy rainfall during the early stages of kernel development. Black point can result in reduced grain quality and value in most countries where these cereals are grown. The disease reduces the commercial grade of wheat causing economic losses to producers (grains with black-point symptoms are more difficult to market). Black pointed kernels had also an adverse effect on the quality of the flour, semolina and their products. Discoloration of germ and bran associated with this kernel infection is also a detriment to production of germ and breakfast cereals.

The pathogens more frequently associated with it are *Alternaria alternata*, *Cochliobolus sativus* and other fungi such as *Fusarium graminearum*, *F. moniliforme*, *F. proliferatum*, *F. semitectum*, *Curvularia lunata*, *C. pallescens*, *Cladosporium cladosporioides*, *Drechslera halodes*, *D. spicifera*, *Nigrospora oryzae*, *Trichothecium roseum* and *Epicoccum*.

There has been little research to explain the interrelationships between the pathogenic and saprophytic species from black point micoflora. Our aim was to identify these relationships, which is fundamental to our understanding of disease development and management. Also, although saprophytic fungi may interact with pathogens, there is no evidence that such interactions could account for the black point frequency. Selected strains of antagonistic species were assessed to act as biocontrol agents, their activity being tested *in vitro*. This research shows that the strongest antagonist against pathogenic fungi involved in wheat black point kernels proved to be *Trichoderma viride*.

**CERCETĂRI PRIVIND PATOLOGIA ȘI ANATOMIA SEMINȚEI-
EXTENSIA CARIOPSA DE GRÂU**

**RESEARCH REGARDING THE PATHOLOGY AND ANATOMY OF THE
SEED- THE EXTENSION OF WHEAT KERNEL**

STELICA CRISTEA, MIHAELA GEORGESCU,
NELIANA PĂTRAȘCU, O. GROZA, L. ION

Cuvinte cheie: grâu, cariposa, patogen

Key words: wheat, kernel, pathogen

SUMMARY

Researches counted in the determination of pathogen agents which produce kernels characteristically specks with impact on their anatomical structures.

The biological material was represented by wheat kernels and the cultivars were Boema, Serina, Flamura 85 and Dropia. The main fungus discovered in the apical part of the seeds was *Fusarium* spp. In the conditions of the year 2007, the black-point attack occurred because of the pathogen complex *Alettrnaria alternata* and *Stemphylium* spp. The frequency of black-piont attack was minimal (2-4%).

In longitudinal sections through wheat kernels (the Serina cultivar analyzed in 2007), the fungus mycelium did affect the embryo germinations.

In those conditions, the ecological factors of 2007 in the south of the country, and with the complex involved in black-point disease, we did not determine a negative influence of moisture on seed germination.

**CONTRIBUȚII LA STUDIAREA *IN VITRO* A UNOR CIUPERCI
PATOGENE**

**CONTRIBUTIONS TO *IN VITRO* RESEARCH OF PATHOGENOUS
FUNGI**

EMILIA BRÎNDUȘA ȘCHIOPU, T. ȘCHIOPU

Cuvinte cheie: *Alternaria dauci* f.sp. *solani*, *Alternaria alternata* f.sp. *lycopersici*, medii de cultura

Key words: *Alternaria dauci* f.sp. *solani*, *Alternaria alternata* f.sp. *lycopersici*, culture environment

SUMMARY

Research has followed the influence of different artificial culture environments on the growth and sporulation of the species *Alternaria dauci* f.sp. *solani* and *Alternaria alternata* f.sp. *lycopersici*. The two pathogens produce the disease called alternariosis, one of the most damaging in tomato crops. Seven culture environments have been tested, known as standard environments or as substrata that may favour the sporulation of some fungus species: taps water-agar, PDA (potato-glucose-agar), Czapek-agar, wheat (flour)-agar, malt (extract)-agar, Sabouraud-glucosis-agar and L environment.

The sporulation of *Alternaria alternata* f.sp. *lycopersici* does not raise problems on the standard culture environments, but it is often difficult to acquire spores as inoculation type for *in vitro* and *in vivo* tests in *Alternaria dauci* f.sp. *solani*.

As a result, the experiences have aimed to find a culture environment that favours the sporulation of this species.

NOI DESCOPERIRI PRIVIND MORFOLOGIA SPECIEI *ALTERNARIA DAUCI* F.SP. *SOLANI*

NEW DEVELOPMENTS REGARDING MORPHOLOGY OF *ALTERNARIA DAUCI* F.SP. *SOLANI*

EMILIA BRÎNDUȘA ȘCHIOPU

Cuvinte cheie: *Alternaria dauci* f.sp. *solani*, conidii, septe

Key words: *Alternaria dauci* f.sp. *solani*, conidias, septa

SUMMARY

The pathogen *Alternaria dauci* f.sp. *solani* causes the disease called leaf blight or tomato alternariosis and may occur in any growing stage, on leaves, stalks and fruit with a damage degree of up to 48-50 %.

Research of some authors has highlighted very big conidias of *Alternaria dauci* f. sp. *solani* on natural substratum, with a characteristic thread-like extension of 30-150 μm long, that disappears on the culture environment, the conidias being smaller. Conidias are 12-25 x 120-296 μm , 'beaked', muriform, dark in colour, solitary or in chains of two (in pure culture), with 9-11 cross-cutting septa and with a few longitudinal or oblique septa.

Research brings about important contributions and novelty for literature as regards the characterization of the micelium and the conidias of this pathogen.

**STUDIUL CONDIȚIILOR DE CREȘTERE (pH, T°C) A PATOGENILOR
ALTERNARIA DAUCI F.SP. SOLANI ȘI ALTERNARIA ALTERNATA F.SP.
LYCOPERSICI CU IMPORTANȚĂ MAJORĂ ÎN MANAGEMENTUL
BOLII**

**STUDY OF GROWTH CONDITIONS (pH, T°C) IN ALTERNARIA
DAUCI F.SP. SOLANI AND ALTERNARIA ALTERNATA F.SP.
LYCOPERSICI PATHOGENS OF MAJOR IMPORTANCE IN DISEASE
MANAGEMENT**

T. ȘCHIOPU, EMILIA BRÎNDUȘA ȘCHIOPU

Cuvinte cheie: *Alternaria dauci* f.sp. *solani*, *Alternaria alternata* f.sp. *lycopersici*, temperatura, pH
Key words: *Alternaria dauci* f.sp. *solani*, *Alternaria alternata* f.sp. *lycopersici*, temperature, pH

SUMMARY

The pathogen fungi *Alternaria dauci* f.sp. *solani* and *Alternaria alternata* f.sp. *lycopersici* trigger the disease called alternaria leaf spot and this can occur in all growth stages, on leaves, stalks and fruit, with an attack degree of up to 48-50%, especially in the beginning of the vegetation and in crops where there have been no treatments against blight.

Our research aimed to determine at first the temperature and pH values of growth and development for the two pathogens.

Knowing these two parameters is of great importance in disease management, the application periods of different treatments to prevent the occurrence of alternaria leaf spot being accurately determined.

**METODA DE FILTRARE LENTĂ – ALTERNATIVĂ ÎN COMBATEREA
CIUPERCII PATOGENE *BOTRYTIS CINEREA* ÎN SERE**

**METHOD OF SLOW FILTRATION – ALTERNATIVE IN
CONTROLLING THE PATHOGEN FUNGUS *BOTRYTIS CINEREA* IN
GREENHOUSES**

T. ȘCHIOPU, EMILIA BRÎNDUȘA ȘCHIOPU, M. GÎDEA

Cuvinte cheie: *Botrytis cinerea*, filtrare lentă

Key words: *Botrytis cinerea*, slow filtration

SUMMARY

The pathogen fungus *Botrytis cinerea* causes the disease called grey mould in tomatoes. This manifests on all plant organs: leaves, leafstalk, stalk, flowers, fruits. The most damaging is the attack on green fruits, that manifests as grey, watery spots, that extend starting with the infected peduncle and covered with a fuzzy growth, white at first and then grey, specific. On seeds, the fungus initially produces light grey, not so visible diffuse spots. Then, under abundant moisture, the spots extend and cover with a dense, grey efflorescence, made of characteristic conidiophores and conidias characteristic. Finally, the germinative ability of the seed is inhibited.

The method of slow filtration has been tested both for viruses, bacteria and for the pathogen *Alternaria dauci* f.sp. *solani*, with very good results, succeeding in preventing and abating the damage they cause.

**REZULTATE PRIVIND COMBATEREA BOLILOR FOLIARE ALE
GRÂULUI PRIN TRATAMENTE CHIMICE**

**RESULTS REGARDING THE CONTROL OF FOLIAR DISEASES OF
WHEAT BY CHEMICAL TREATMENTS**

I.V. POP, F. CHIȚORAN

Cuvinte cheie: grâu, combatere, boli foliare

Key words: wheat, control, foliar diseases

SUMMARY

Foliar diseases, especially powdery mildew caused by *Blumeria graminis* and septoria tritici blotch produced by *Septoria tritici*, are important diseases of bread wheat in the district Prahova of Romania. For the control of the pathogens, two experiments were carried out, in the practical environmental conditions of two farms. At 27 April and, respectively, 4 May, treatments with seven fungicides were performed. As a result, the attacks were reduced significantly, on the surfaces treated by six fungicides, the leaves F (flag leaf), -1, -2, -3 and, sometimes, -4, being, practically, symptomless, whereas in the control variant 50-100% of leaf surfaces were covered with powdery mildew pustules and septoria flecks (see table 2). The differences between treated and nontreated variants were visible over 49 days after fungicide application, the results being applicable in commercial wheat crops.

**CERCETĂRI PRIVIND MODIFICĂRILE CONȚINUTULUI DE
PROTEINĂ BRUTĂ DIN GRÂUL DEPOZITAT, ÎN URMA INFESTĂRII
CU *RHIZOPERTA DOMINICA***

**RESEARCH CONCERNING THE CHANGES IN RAW PROTEIN
CONTENT IN STORED WHEAT AFTER INFESTATION BY
*RHIZOPERTA DOMINICA***

LAVINIA MICU, D. PETANEC, I. PĂLĂGEȘIU, FLORINA RADU

Cuvinte cheie: grâu, infestare, *Rhizoperta dominica*, modificări, proteină brută

Key words: wheat, infestation, *Rhizoperta dominica*, modifications, crude protein

SUMMARY

From the nutritional point of view, protein substances represent the most important share of a wheat grain composition. The richer wheat is in protein substances, the richer it is in gluten, and wheat bread-making features depend a lot on gluten amount and quality. *Rhizoperta dominica* is one of the most destructive insect pests that attack grains in farm and commercial storehouses. Research was aimed at changing the raw protein content in the wheat grains infested by *Rhizoperta dominica*. Results of bio-chemical analyses carried out with the help of the KJELDAHL method will be shared to all the interested farmers, bread-making producers, and high education institutions. Quantitative changes of total nitrogen were monitored on 5 sample variants infested with 25, 50, 75, and 100 items of *Rhizoperta dominica*. As a result of measurements, we noted significant quantity differences depending on the number of insects the wheat sample was infested with, as well as by the attack duration – a week or a month, depending on the case.

**PRETABILITATEA UNOR SOIURI DE CARTOFI DIN GRUPE DIFERITE
DE PRECOCITATE LA APLICAREA TRATAMENTELOR
FITOSANITARE CU PRODUSE ECOLOGICE**

**PRETABILITY OF SEVERAL POTATO CULTIVARS FROM DIFFERENT
PRECOCITY GROUPS AT PHYTOSANITARY TREATMENTS
APPLICATION WITH ECOLOGICAL PRODUCTS**

I. BRAȘOVEAN, V. FLORIAN, I. OROIAN

Cuvinte cheie: pretabilitate, produse ecologice, cartof

Key words: pretability, ecological products, potato

SUMMARY

The final goal of the PhD thesis is to achieve an integrated control of the pathogens agents in potato cultures in the context of ecological agriculture. Within the experiences organized in experimental fields in 2 locations, there were taken into study 12 potato cultivars with different precocity. Within the experiences there were organized 12 treatments with omologated ecological products and treatments with special foliar fertilizers with a toxic effect upon the pathogens. In all the variants, there were followed cultivars pretability; testing several new products; the effects of treatment appliance with foliar fertilizers; identification of other natural products in controlling the diseases; the study of corelations and interdependency between climatic, technological factors and also manifestation and the evolution of the diseases.

**ELABORAREA UNOR SISTEME PENTRU MANAGEMENTUL
PROTEC IEI INTEGRATE A SPECILOR DE SÂMBUROASE ÎN
CONTEXTUL AGRICULTURII DURABILE**

**ELABORATION OF SOME SYSTEMS TO INTEGRATED PROTECTION
MANAGEMENT OF STONE FRUIT TREES CONTROL IN
SUSTAINABLE AGRICULTURE**

I. GEAMĂN, FULVIA-FLORICA VLAD, V. JINGA, MINODORA TUDOSE,
IONELA DOBRIN, C. GUTUE

Cuvinte cheie: management, protecție integrată, specii sâmburoase

Key words: management, integrated protection, stone fruit trees

SUMMARY

The paper is aimed at promoting new systems for disease management in stone fruit trees species culture through uses of some phytosanitary techniques and products by of low impact on the environment and human health, that contribute to durable agriculture development and harvest quality.

Integrated control actions must keep by following general organization criteria: pathogens knowledge in the respective area at last 2-3 years; culture specific (nursery, young plantation), and pathogen specific, adequate control techniques and measures choice; treatments applied with phytosanitary products only at warning, etc.

Research was performed on peach, plum and sweet-cherry species in localities Bucharest and Moara Domneasca, in the climatic year 2007. The signalized pathogens for wich prevention and controlling measures were taken: *Plum pox virus*, *Pseudomonas syringae* pv. *syringae*, *Taphrina deformans*, *Monilinia laxa*, *Polystigma rubrum*, *Stigmina carpophila*, *Cytospora cincta*, *Stereum purpureum*.

**DIVERSITATEA ȘI ANALIZA GENETICĂ A ȘAPTE CULTIVARE DE
ECHINACEA PURPUREA REALIZATĂ CU AJUTORUL ANALIZELOR
MORFOLOGICE ȘI RAPD**

**GENETIC RELATIONSHIPS AND DIVERSITY OF SEVERAL
ECHINACEA PURPUREA CULTIVARS BY MEANS OF RAPD AND
MORPHOLOGICAL ANALYSES**

DELIA BANGA, M. ARDELEAN

Cuvinte cheie: *Echinacea*, diversitate, RAPD

Key words: *Echinacea*, diversity, RAPD

SUMMARY

The genus *Echinacea* is comprised of nine species, which are perennial, herbaceous plant native from eastern North America. *Echinacea angustifolia*, *Echinacea pallida* and *Echinacea purpurea* showed an obvious pharmacological potential Bauer and Wagner [2]. In addition to its possible medicinal uses, *Echinacea* genus has obvious ornamental potential. The increasing popularity of *Echinacea* products has led to the expansion of commercial growing of these species to meet the expanding demand for plant material. This study used random amplified polymorphic DNA markers to determine the genetic relationships among the seven *Echinacea purpurea* cultivars, to evaluate the level of diversity at the molecular level of each of the six cultivars, and to compare accessions of each cultivar available from different sources. Pairwise similarity matrices were generated using Jaccard's coefficient of similarity. All procedures were performed using NTSYS-pc 2.1. According to the generated dendrogram, at the molecular level, the cultivars are split in two distinct categories. The phenotypic variation of traits of interest in breeding and industry was most evidently expressed in two accessions of *Echinacea purpurea* separated by the RAPD analysis in a distinct group.

**STUDIUL CROMOZOMULUI 7B, INFLUENȚA ACESTUIA ASUPRA
CONȚINUTULUI DE PROTEINĂ ȘI A PRODUCȚIEI, PRIN UTILIZAREA
UNOR LINII RECOMBINANTE DE SUBSTITUȚIE**

**EFFECTS OF 7B CHROMOSOME ON GRAIN PROTEIN CONTENT AND
PRODUCTION USING RECOMBINANT SUBSTITUTION LINES OF
WHEAT**

ELENA-LAURA CONTESCU, C.MARINCIU, N.N. SĂULESCU

Cuvinte cheie: cromozom, proteină, linii recombinante, producție

Key words: chromosome, protein content, recombinant lines, yield

SUMMARY

Increasing wheat grain concentration is desirable in order to meet the requirements of bread-making industry, but protein concentration tends to be negatively correlated with yield.

We studied the effect of chromosome 7B from F26-70 on protein content, yield, and yield components, by testing 45 recombinant substitution lines derived from the cross Favorit//Favorit/F26-70 (7B) in 2005-2007, in field trials, with and without nitrogen fertilization.

Genes located on chromosome 7B of line F26-70 had significant effect on grain protein concentration and protein content per kernel of recombinant substitution lines, but not on grain yield.

In the conditions of our trials, protein content was negatively associated with the grain yield only in a dry year without nitrogen fertilization. Association of high protein content with earliness was significant in three out of four conditions.

The interaction between RSLs and nitrogen fertilization was not significant, suggesting that the high protein gene(s) on chromosome 7B might be useful at a wide range of nitrogen availability.

Preliminary results show: genes located on 7B chromosome of F26-70 in breeding for increased grain protein concentration, without significantly reducing grain yield.

Further studies will be required to estimate the effects of 7B chromosome in a modern genetic background, in more high yielding environments are necessary to confirm the real breeding value of this chromosome.

**EFECTE CITOGENETICE INDUSE DE TRATAEMNTUL CU ACID 2,4-D
LA SPECIA *PAPAVER SOMNIFERUM***

**CYTOGENETIC EFFECTS INDUCED BY TREATMENT WITH
ACID 2.4 - D AT *PAPAVER SOMNIFERUM* SPECIES**

ANA - MARIA POPA, C. LEONTE

Cuvinte cheie: mac, acid 2.4-D, mutații, aberații cromozomiale

Keywords: opium poppy, acid 2.4-D, mutations, chromosomal aberrations

SUMMARY

Our study shows some changes in *Papaver somniferum* at the division cells from the radicular apex, as the result of the treatment used with acid 2.4 - D. One noticed a decrease of the mitotic index in the variants analysed. The percentage of ana-telophases with aberration decreased slightly in the variants treated with mutagen substance. The treatment with acid 2.4 - D in the concentrations 0.01%, 0.02%, 0.03% and 0.04% for 6 hours of on opium poppy radicular meristems were expressed by chromosomal mutations, especially in ana-telophases: bridge, thick bridge, multiple bridges, chromatic material expulsed and fragment, retarded and expulsed chromosomes, interphases with micronuclei.

Mutations are changes of the genetic, physiological and biochemical equilibrium of the species; they influence its efficiency negatively. Mutants can have however, important features that can be used in the improvement programmes of the respective species.

**CERCETĂRI PRIVIND SEGREGAREA CARACTERELOR ÎN
GENERAȚIA F2 A UNOR HIBRIZI DE FASOLE DE GRĂDINĂ
(*PHASEOLUS VULGARIS L*)**

**RESEARCH REGARDING THE SEGREGATED CHARACTERS IN F2
GENERATION OF SOME GARDEN BEAN HYBRIDS
(*PHASEOLUS VULGARIS L*)**

DANIELA TRIFAN, C. LEONTE, ALINA GABRIELA CIOROMELE

Cuvinte cheie: hibrizi de fasole de gradina, *Phaseolus vulgaris* L

Keywords: garden bean hybrids, *Phaseolus vulgaris* L

SUMMARY

The scope of the research was to study the segregated characters of 10 garden bean hybrids, for the lenght, shape, colour of pods, as well as the number of pods per plant, the number of beans per pod, the colour of beans and the protein content of the pods and of the beans. The genetic variability of the quantitative characters in the F2 hybrids was middling to great, with following values: from 9 ± 4 pods per plant for Lingua di Fuoco ♀ x Carson ♂ hybrid to 22 ± 6 for Inka ♀ x Carson ♂ hybrid; from 3,5 beans per pod for Jutta ♀ x Carson ♂ to 7,3 beans per pod for Lingua di Fuoco ♀ x Jutta ♂. The hybrids were studied from the stand point of quality of the crop and we determined the protein content in the pods of the technical maturity and the protein content in beans of the physiological maturity. The maximum values were obtained for Lingua di Fuoco ♀ x Jutta ♂ (25.8% proteins in the beans) and for Lingua di Fuoco ♀ x Carson ♂ (2,9% proteins in the pods).

GENETICA, AMELIORAREA ȘI BIOTEHNOLOGIA CAISULUI ÎN ROMÂNIA

GENETICS, BREEDING AND BIOTECHNOLOGY OF APRICOT IN ROMANIA

VIORICA BĂLAN, VALERICA TUDOR, ELENA TOPOR,
MIHAELA CORNEANU

Cuvinte cheie: *Prunus armeniaca*, ereditate, variabilitate genetică, genitor, descendent, cultivar, adaptabilitate, stres biotic, boli, calitatea fructului, culturi *in vitro*, embriocultură

Key words: *Prunus armeniaca*, heredity, genetic variability, genitor, descendent, cultivar, adaptability, biotic stress, diseases, fruit quality, vitroculture, embryoculture

SUMMARY

A new program of breeding and genetic studies concerning the qualitative and quantitative characteristics of the apricot-tree was developed between 1986 and 2006.

Cytoplasmatic heredity, crossbreeding and physical mutagenesis contribute to reduced tree vigour, spur branches, as well as to improved resistance to *Stigmina carpophilla*. Genetic transgressions make possible the achievement of new biological forms with spur branches, later blossoming than the genitors, early ripening of the fruit, good resistance to frost and freezing, resistance to *Cytospora cincta* and *Stigmina carpophilla*, high content in dry soluble substance, total sugar and vitamin C. Character dominance can be foreseen for the very early ripening and for the ovate shape of the fruit. Segregation in F₁ in the rate 3:1 or 1:1 makes possible the selection of round or oval shaped fruit, the former being preferred. The increased content in soluble dry substance and vitamin C in the backcross generation can provide support for a new program of apricot breeding.

The reproductive barriers might be overcome by using biotechnological methods after hybridization of *Prunus armeniaca* x *Prunus persica*, or *Prunus persica* x *Prunus armeniaca*, for saving immature embryos, which often abort in interspecific hybridization because of nutritional non-compatibility.

Genetic progress, of the fruit quality characteristics can be obtained by backcross methods and physical mutagenesis with the mutagen agent ⁶⁰Co 3000R. Electrophoretic investigation revealed the cryoresistance of peroxydases. Within the improvement program carried out between 1983-2006, the following varieties were validated: 'Rareș', 'Valeria', 'Carmela', 'Viorica', 'Nicușor', 'Adina', 'Alexandru', 'Bucovina', 'Siret', 'Atractiv', 'Dacia', 'Excelsior', 'Favorit', 'Comandor', 'Olimp', from S.C.D.P Băneasa, and 'Tudor', 'Traian', 'Cristal', 'Danubiu', 'Aurăș', 'Fortuna', 'Orizont', 'Amiral', 'Augustin', from S.C.D.P Constanța.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**STUDIU PRIVIND PRODUCTIVITATEA UNOR HIBRIZI NOI DE
TOMATE**

**STUDIES ON THE PRODUCTIVITY OF CERTAIN NEW HYBRIDS OF
TOMATOES**

FLORINA ULEANU, A. MIHĂESCU, RALUCA BOȘTINARU

Cuvinte cheie: tomate, soiuri, hibrizi, creștere, productivitate

Key words: tomatoes, hybrids, growth, productivity

SUMMARY

Tomatoes have made the object of some vast studies, being an important chapter to all the specialists. This paper refers to the behaviour of 4 new tomato hybrids comparative with Arletta, already grown under glass in Romania.

**CONTRIBUȚII PRIVIND STUDIUL ASOCIAȚIEI DE GROHOTIȘURI
ACINO ALPINI-GALIAM ANISOPHYLLI BELDIE 1967 (SYN.
CALAMINTHA BAUMGARTENII-GALIAM ANISOPHYLLUM BELDIE
1967; *ACINO-GALINETUM ANISOPHYLLI* NOM. MUT. PROPOS COLDEA
1991) ÎN BAZINUL SUPERIOR AL LUNCAVĂȚULUI**

**CONTRIBUTIONS TO THE STUDY OF DETRITUS ASSOCIATION *ACINO*
ALPINI-GALIAM ANISOPHYLLI BELDIE 1967 (SYN. *CALAMINTHA*
BAUMGARTENII-GALIAM ANISOPHYLLUM BELDIE 1967; *ACINO-*
GALINETUM ANISOPHYLLI NOM. MUT. PROPOS COLDEA 1991) IN THE
UPPER BASIN OF THE LUNCAVĂȚ RIVER**

MARIANA NICULESCU

Cuvinte cheie: bazin superior, asociație vegetală, clasă, ecologie, corologie, fizionomia și compoziția floristică, impact antropic, grohotiș

Key words: upper basin, vegetal association, class, ecology, corology, physiognomy and floristical composition, anthropic impact, detritus

SUMMARY

The territory under research is located along the upper basin of the Luncavăț River, as part of the Capatanii Mountains.

The present paper aims at presenting the one detritus association: Ass. *Acino alpini-Galium anisophylli* Beldie 1967 (Syn. *Calamintha baumgartenii-Galium anisophyllum* Beldie 1967; *Acino-Galietum anisophylli* nom. mut. propos Coldea 1991).

This endemic association is poorly represented in the survey area. It develops on detritus areas and calcareous rocks in the sub-alpine layer. Such phytocenoses were analyzed at Piscul Stanei Batrane, Pietrele Gauriciului and Muchia Casariei, the only place of Mesozoic limestone. The association is relatively new for Capatanii Mountains and Oltenia. It was described at Bucegi Mountains (Beldie 1967), Tarcu, Godeanu and Cernei Mountains (Boscaiu, 1971), Rodnei Mountains (Coldea, 1990), and Piatra Craiului Mountains (Mihaiescu, 2000). In phytocenoses at Muchia Casariei and Pietrele Gauriciului, there was noticed the high abundance-dominance value of the *Saxifraga paniculata* species, and this made us enclose it in a facies nova with the *Saxifraga paniculata*.

**ASOCIAȚII VEGETALE RUDERALE DIN ALIANȚA *ARCTION LAPPAE*
TX. 1937 EM. SISS. 1946 ÎNTÂLNITE PE VALEA RÂMEȘTI
(M-ȚII. CĂPĂȚÂNII)**

**RUDERAL PLANT COMMUNITIES OF *ARCTION LAPPAE* TX. 1937 EM.
SISS. 1946 ALLIANCE IN THE RÂMEȘTI VALLEY
(CĂPĂȚÂNII MOUNTAINS)**

MARIANA NICULESCU, ȘT.A. CIUPITU, PAULA CISMARU,
MOLDOVEANU FLORENTINA

Cuvinte cheie: asociație vegetală ruderală, clasă, ecologie, corologie, fizionomia și compoziția floristică, vale, dendrogramă

Key words: ruderal plants communities, class, ecology, corology, phytionomy and floristical composition, valley, dendrogram

SUMMARY

The territory under research is located along of the Râmesci Valley, an important tributary to the Luncavăț River. As for the ruderal vegetation, in the hilly floor, on deserted fields, in the margins of the roads, one can find edified phytocoenoses of *Sambucus ebulus*, *Urtica dioica*, *Tussilago farfara* etc. Phytocoenoses of *Urtica dioica* are found in the trash, in forest cuts, close to the sheepfold. On degraded, rocky or sand-rocky, humid fields there vegetate mesophyle phytocoenoses of *Tussilago farfara*. The present paper aims at presenting the three ruderal plant communities:

Sambucetum ebuli (Kraiser 1926) Felföldy 1942, *Tussilaginetum farfarae* Oberd. 1949 (Syn. *Poo-Tussilaginetum* Tx. 1931) and *Urticetum dioicae* Steffen 1931 (Turenschi 1966). For the plants communities *Tussilaginetum farfarae* Oberd. 1949 (Syn. *Poo-Tussilaginetum* Tx. 1931) we gave a special attention to the calculation of the quantitative index *Bray-Curtis* and to performing the dendrograms, by using the Group-Average method (UPGMA) in the program SYN-TAX 2000.

**PARTICULARITĂȚILE COMPOZIȚIEI FLORALE ALE UNEI PAJIȘTI
DE *ARRHENATHERUM ELATIUS* DIN ZONA MOARA DOMNEASCĂ
(JUDEȚUL ILFOV)**

**PECULIARITIES OF AN *ARRHENATHERUM ELATIUS* LAWN IN
FLORAL COMPOSITION OF MOARA DOMNEASCĂ AREA
(ILFOV DISTRICT)**

MHAELA IOANA GEORGESCU, ELENA SĂVULESCU, D. ȘTEFAN

Cuvinte cheie: ecologie, condiții locale, specii caracteristice

Key words: ecology, local conditions, characteristic species

SUMMARY

The lawn of Moara Domnească area is composed mainly of *Arrhenatherum elatius*, *Poa pratensis* and *Dactylis glomerata* plants. This type of lawn is specific to the moist and fertile soils. But, as a reflection of the local soil and climate condition and according to their ecological requirements, many associate species are xeromesophytes. Among them there are: *Anchusa ochroleuca*, *A.officinale*, *Reseda lutea*, *Echium vulgare*, *Cynodon dactylon*, *Falcaria vulgaris* etc.

CERCETĂRI PRIVIND BIOLOGIA SPECIEI *XANTHIUM STRUMARIUM*
RESEARCH REGARDING THE BIOLOGY OF *XANTHIUM*
***STRUMARIUM* SPECIES**

M. GÎDEA, MĂDĂLINA ECATERINA CUCU

Cuvinte cheie: biologia buruienilor, temperatură și durată de germinare, perioadă de păstrare

Key words: weed biology, temperature and incubation period for germination, storage period

SUMMARY

Weeds annually determine production losses ranging between 15 and 20% of production potential and the lack of efficient weed management measures may lead to crop compromise.

The application of some efficient weed management strategies, meeting the requirements of a durable agriculture system, requires that these measures to be applied taking into account the peculiarities of each plot concerning weeding grade but mainly weeding spectrum.

Weeds have specific growing and development features and it is not possible to establish a unique weed control strategy universally available.

Xanthium strumarium is one of problem weed species, which, due to their biological peculiarities, create problems to farmers both by weeding grade and the increased amount of produced biomass but especially by the moment when it appears determining difficulties in the application of weed control measures.

This paper presents the research work results concerning germination temperature and length under optimal conditions and the level of accumulated biomass in comparison with corn and sunflower crops.

**INFLUENȚA DOZELOR DE AZOT ȘI FOSFOR APLICATE ÎN SISTEM
NEIRIGAT ȘI IRIGAT ASUPRA PROCESELOR FIZIOLOGICE LA
HIBRIDUL DE PORUMB MINERVA**

**IRIGATED INFLUENCE THE DOSES OF NITROGEN AND
PHOSPHOROUS DOSES APPLIED TO THE IRIGATED AND NON
IRIGATED SYSTEM ON PHYSIOLOGICAL PROCESSES IN THE
MINERVA CROP HYBRID**

OLIMPIA PANDIA

Cuvinte cheie: hibrid, sistem irigat, neirigat, îngrășăminte chimice, procese fiziologice

Key words: hybrids, irrigated systems, non-irrigated, chemical fertilizers, physiological processes

SUMMAARAYA

In our country, maize crop (culture) occupies an important area of arable land and it represents one of the main cereal crops because of its importance in nourishment, feeding the animals and in industry.

The demographic growth of the population as well as the animal effectives imposed an extension of crop areas and a growth of production/ area; these two aspects were possible by an intensification of maize crop by using chemical fertilizers and irrigation systems.

Because maize culture is the most extended culture in the world, not only in our country, research into discovering new productive and qualitative hybrids has been performed, for human beings, animals and also industry, and different properties and processes were had in view. The present work enumerates some of the physiological processes which take place in the case of Minerva maize hybrid and the interaction between hybrids within the irrigated and non-irrigated crop, as well as the application of NP fertilizers.

**NOI DATE PRIVIND PARAZITOFAUNA DE MONOGENE LA
ALBURNOIDES BIPUNCTATUS (CYPRINIDAE) DIN BAZINUL
SOMEȘULUI**

**NEW DATA CONCERNING MONOGENEAN PARASITOFAUNA IN
ALBURNOIDES BIPUNCTATUS (CYPRINIDAE) FROM SOMEȘ BASIN**

MALA-MARIA STAVRESCU-BEDIVAN, F. AIOANEI

Cuvinte cheie: *Alburnoides bipunctatus*, octomacride, microhabitat branhial, distribuție spațială, interacțiune negativă

Key words: *Alburnoides bipunctatus*, octomacrids, branchial microhabitat, spatial distribution, negative interaction

SUMMARY

The current paper brings into attention the host-parasite relationship, starting from the specification that, the following inconsistency has occurred in a previous study carried out by the authors: 13 specimenes which have been catalogoued as *Alburnus alburnus* actually belong to the closely related cyprinid *Alburnioides bipunctatus*. Since the biological material is re-examined, the initial data set suffers some changes. Yet, the conclusion we reach, i.e. the two monogenean species *Paradiplozoon alburni* and *Octomacrum europaeum* are into competition manifested by negative interaction, stays valid. Instead, we withdraw the statement according to which *Alburnus alburnus* represents a host for *Octomacrum europaeum*, the paper also specifying some criteria which have led to the misidentification of the fish species.

The study also contains information about the preference of the adult monogenean stages for fixing on some branchial arches of the host and the epidemiological parameters calculated for the existing sample.

**CERCETĂRI PRIVIND UNELE ASPECTE DE ECOLOGIE ALE
MICROHABITATULUI BRANHIAL LA *LEUCISCUS CEPHALUS*
(CYPRINIDAE)**

**RESEARCH REGARDING SOME ECOLOGICAL ASPECTS OF
BRANCHIAL MICROHABITAT IN *LEUCISCUS CEPHALUS*
(CYPRINIDAE)**

MALA-MARIA STAVRESCU-BEDIVAN

Cuvinte cheie: distribuția spațială, microhabitat, analize statistice, *Leuciscus cephalus*, Copepoda

Key words: spatial distribution, microhabitat, statistic analysis, *Leuciscus cephalus*, Copepoda

SUMMARY

The current paper analyzes, from an ecological perspective, the branchial microhabitat in cyprinid *Leuciscus cephalus*, fish host for the copepod *Lamproglana* sp. In November 2006, we sampled 43 chub specimens by electrofishing from Ilva Mică River (Bistrița Năsăud county) and collected a total of 89 adult stages of *Lamproglana* sp. (prevalence 67.44%). We discuss the parasite affinity for a particular site location from the branchial microhabitat (first branchial arch, dorsal zone, posterior/internal hemibranch) and also epidemiologic parameters. The statistic Student-*t* test was used to demonstrate the global equal charge of both branchial cavities (right and left) and to reveal the symmetry of infection.

**ASPECTE PRIVIND OPORTUNITĂȚI ACTUALE
DE PĂSTRARE A PATRIMONIULUI NATURAL ȘI CULTURAL
ÎN JUDEȚUL MARAMUREȘ**

**ASPECTS REGARDING PRESENT CONSERVATION OPPORTUNITIES
FOR THE NATURAL AND CULTURAL HERITAGE
IN MARAMUREȘ COUNTY**

MIRELA COMAN, CRISTINA BIG, GEORGETA IUGA

Cuvinte cheie: spațiu izolat, agricultură durabilă, centru de informare asupra patrimoniului rural

Key words: isolated area, sustainable agriculture, information centre for rural heritage

SUMMARY

The work presents the results of the research made in the frame of the project called „Dig where you live” (2005-2007). A partnership was realized between the Social-Cultural Foundation for Democracy „I.U.G.A.” and Mayoralty of Șisești commune, Maramureș County. As we know, the unique natural and cultural heritage of the Maramureș region represents a significant contribution brought as a dowry by our country to the European Union, but the reduced ability to cope with the competition on the agricultural products of the European Union’s market puts the inherited agricultural practice under the question sign.

The detailed analysis of the environment, the agricultural practices and the social-cultural life in Șurdești village, Șisești commune, Maramureș County, was used to set up an “Information Centre for Rural Heritage of Maramureș”. In the frame of they project we aimed, as well, to set up links with other regions in which the practise sustainable agriculture and environmental protection is a main objective for the community, such as The Regional National Park from Lorraine – France.

The unfavourable conditions for practising agriculture during the last years in our country, together with the fully loaded political environment, have serious consequences for the rural population.

**UTILIZAREA TEHNOLOGIEI DE ÎNCĂLZIRE ECOLOGICĂ,
BIOGENETICĂ, DE TIP LEXIN ÎN ROMÂNIA (I)**

**ON THE USE OF THE ECOLOGIC, BIOGENETIC HEATING SYSTEM
OF LEXIN TYPE IN ROMANIA (I)**

MIRELA COMAN, G. TARO, R. POP, PAULA POP,
T. NĂFOREANU, ALEXANDRA SÂNGEORZAN

Cuvinte cheie: tehnologie de încălzire de tip Lexin, microclimat, aeromicrofloră

Key words: Lexin heating technology, micro-climate, microbial loading of air

SUMMARY

The work presents the results obtained in the frame of an applicative research contract upon the use of ecological, biogenetic heating technology of Lexin kind, in consideration of using it in Romania in different domains of activity.

For the climatic conditions of our country, we proposed and performed a measurement program in the following fields: electric expenditure, climatic, microbial loading of air, effects over plants, effects over pets and prolusions over general health and comfort status of human being. In this work we present the results obtained for the micro-climate measurements, effects over plants and over microbial loading of air from the room in which we used this type of heating system.

In the rely of this research, we are in right to affirm that the Lexin type heating technology has benefic effects over preserving the homogeneity of the micro-climate conditions, over growth of plants and assures an easily growth of hygiene of medium in which this technology acts.

**INFLUENȚA ACTIVITĂȚII DE CREȘTERE A PĂSĂRILOR ÎN SISTEM
INDUSTRIAL LA S.C. AVI TOP S.A., JUD. IAȘI ASUPRA MEDIULUI**
**INFLUENCE OF INDUSTRIAL POULTRY PRODUCTION SYSTEM
FORM S.C. AVI TOP S.A., IAȘI DISTRICT UPON THE ENVIRONMENT**

NINETA RIZEA, R. LĂCĂTUȘU, VIRGINIA CATRINA, RODICA LAZĂR, I.
RĂȘNOVEANU, VENERA MIHAELA STROE, MONICA MIHAELA ALDEA

Cuvinte cheie: impact de mediului, sol, apă, aer, gunoi păsări

Key words: environmental impact, soil, water, air, poultry litter

SUMMARY

Share Company S.C. AVI TOP S.A., Iași district deals with rearing, slaughtering and delivery of poultry products having a maximum output capacity of 3,030,000 birds/year.

For the company to fulfil the demands of integrated pollution, prevention and control and to obtain environmental integrated permit, a team from RISSA Bucharest has conducted environmental studies.

The paper presents the influence of industrial poultry production system from S.C. AVI TOP S.A., Iasi district upon the environment, taking in consideration the harvesting of samples and laboratory analyses. In our study we have analysed soils, water and air from inside the company, fresh and mineralised poultry litter, control soil, soil on which poultry litter was applied and soil which poultry litter was stored.

**CONTRIBUȚII LA CUNOAȘTEREA PATOLOGIEI STURIONULUI
NORD AMERICAN *POLYODON SPATHULA* CRESCUT ÎN HELEȘTEE**

**CONTRIBUTIONS TO KNOWLEDGE THE PATHOLOGY OF NORTH
AMERICAN STURGEON, *POLYODON SPATHULA* REARED IN PONDS**

CECILIA BUCUR, DANIELA RADU, MIOARA COSTACHE, S. STĂNCIOIU

Cuvinte cheie: *Polyodon spathula*, heleștee, patologie

Key words: *Polyodon spathula*, ponds, pathology

SUMMARY

A team of researchers achieved 15 years of study regarding the ichthyo-pathological amount of North American sturgeon *Polyodon spathula* (Walbaum 1972) – *Acipenseriformes* order, *Polyodontidae* family, native from the Mississippi stream, which was brought in to the Fish Culture Research and Development Center Nucet – Dambovita between years 1992 – 1999 towards acclimatization and rearing in ponds. CCDP Nucet is located in the south part of Romania, 60 km north from Bucharest, on the course of the Ilfov brook, one of the Dambovita river tributaries.

Although *Polyodon* was reared in polyculture, a low incidence of infectious-contagious morbidity was observed.

The parasitological analysis shows the presence of 20 parasitic species belonging to the following systematic groups: Fungus (1), Protista (17), Arthropod (2), with a seasonal varying infestation, that records a contraction in fauna number and complexity along with advanced.

Unspecific morbidities was the only one that brought losses in the fish stock, due to the trauma produced by “cannibalism phenomena” that appear at the intensive rearing of *Polyodon* fry and fingerlings) and high temperatures, situated outside of optimum physiologic convenience (for 2 ears *Polyodon*).

**CERCETĂRI PRIVIND ALIMENTAȚIA LARVELOR DE NISETRU
(*ACIPENSER GULDENSTAEDTI* – BRANDT, 1833), CRESCUTE ÎN
SISTEM SUPERINTENSIV**

**RESEARCH CONCERNING FEEDING OF RUSSIAN STURGEON FRY
(*ACIPENSER GULDENSTAEDTI* – BRANDT, 1833), REARED IN A
SUPERINTENSIVE SYSTEM**

D. OPREA, L. OPREA

Cuvinte cheie: *Acipenser guldenstaedti*, hrană vie, furaj, sisteme deschise, troci

Keywords: *Acipenser guldenstaedti*, live diet, forage, open systems, troughs

SUMMARY

The study was made on Russian sturgeon fry at the age of 16 – 45 days post hatch. It was analyzed the possibility to progressively adapt the fry from a live diet (represented by *Tubifex* species) feeding to a protean forage feeding, towards abatement losses because of dietary changing.

The experiment was carried out in three variants with three replications. In the first variant, the fry were fed exclusively with a live diet, respectively *Tubifex species*; in the second variant, was experimented the progressively adapt of fry from a live diet to a feeding represented exclusively by a commercial forage with a protean content of 55.5 %; in the third variant, the fry were exclusively feed with forage.

In all three variants, the feeding of fry was carried out in 6 daily ratios.

At the end of the experiment, the results were as follows: in the first variant, the survival rate, and final body mass were 70.5% and 6.9 g/ex respectively; in the second variant, the survival rate, and final body mass were 67% and 5.7 g/ex respectively; in the third variant, the survival rate, and final body mass were 41% and 3.1 g/ex respectively.

CONTRIBUȚII LA ÎMBUNĂȚIREA METODEI DE PRODUCERE A CLADOCERELOR, ÎN SCOPUL ASIGURĂRII HRANEI VIE, NECESARE CREȘTERII JUVENILILOR DE CRAP (*CYPRINUS CARPIO* - L. 1758)

CONTRIBUTIONS TO IMPROVE THE PRODUCTION METHOD FOR CLADOCERANS, TO INSURE LIVING BATE NECESSARY FOR THE GROWTH OF YOUNG TROUGHTS OF CARP (*CYPRINUS CARPIO* - L. 1758)

SILVIA VLADOIU, MIOARA COSTACHE, CECILIA BUCUR,
N. MARICA, G. VASILESCU

Cuvinte cheie: Cladocere, hrană vie, juvenil

Key words: Cladocerans, Live food, juvenile

SUMMARY

In this workpaper the main purpose was the realizing of some cladocerans for the purpose of providing living food for the juvenile period of the culture carp. The aim was to realize the following aspects: the development of a proper tehnology for the supervised culture of these organisms; determinating the base optional levels; realising a system for food dosage to obtain a bigger production.

The initiation of the cladocer cultures was realized in four plexiglas decanters with a useful volume of 230 litres each. The growth of the dafnies was realised in two reinforced concrete pools (with a water volume of 120 cube meters/pool), in an open space. For the cladoceran culture from the decanter was used the infusion of mess provender nutriment forage feed, faeces less yeast ferment fodder forage provender and stable stall garbage.

The wet biomass obtained on the entire exploiting period was 21.7 kg and 25.3 kg.

The food was totally used for the growth of young carps.

**MONITORIZAREA ȘI PREVENIREA ZOONOZELOR PRIN
UTILIZAREA SISTEMULUI TRASABILITĂȚII ȘI HACCP**
**MONITORING AND PREVENTION STRATEGIES OF ZOONOTIC
DISEASES USING TRACEABILITY AND HACCP SYSTEMS**

CLAUDIA DIMA, P. NICULIȚĂ, MONA POPA, AMALIA MITELUȚ

Cuvinte cheie: zoonoze, monitorizare, trasabilitate, HACCP

Key words: zoonosis, monitoring, traceability, HACCP

SUMMARY

Zoonosis represents a special and at the same time very important topic, for public health assurance. The importance of zoonosis is determined by many factors, which comprise at the same time, certain criteria for zoonotic diseases in the category of high priority events in whole monitoring system for transmissible diseases.

Zoonosis is main concern in food safety policy for food of animal origin. The present paper aims to describe the importance of traceability and HACCP system on monitoring and prevention strategies of these.

**AGRICULTURA – FACTOR DE DEZVOLTARE DURABILĂ A
MEDIULUI RURAL ÎN JUDEȚUL TELEORMAN**
**AGRICULTURE-ON-GOING DEVELOPING FACTOR OF RURAL
ENVIRONMENT IN TELEORMAN COUNTY**

PAULA PETRICĂ, VALENTINA TUDOR, ADINA BURCEA

Cuvinte cheie: agricultura, dezvoltare durabilă, mediul rural, județul Teleorman

Key words: agriculture, on-going development, rural environment, Teleorman county

SUMMARY

By analysing the current situation in the agricultural sector in Teleorman county, we can infer the necessity of speeding up the processes of restructure and modernization in the rural environment, considering their economic and social importance for ensuring an integrated and on-going economic development. The most important disfunction of the agricultural sector in Teleorman county is that the general agricultural activity of the county does not match the “natural offer” of the territory which is quasihomogenous in this area.

Consequently, we underline that in the process of the on-going rural development of Teleorman county agricultural relaunch plays an important role, in this respect, seeking to promote an agriculture with a multifunctional role and a powerful direct influence in the rural environment.

MODELE DE AGRICULTURĂ ECOLOGICĂ ÎN CONTEXT EUROPEAN

MODELS OF ORGANIC AGRICULTURE IN EUROPEAN CONTEXT

MIRELA RUSALI

Cuvinte cheie: agricultură ecologică, dezvoltare durabilă, diversificare ocupațională

Key words: organic agriculture, sustainable development, employment diversification

SUMMARY

The paper provides an analysis of the organic agriculture developments, either in Romania, or in UE-25 member states, based on available statistics from the pre-accession period, investigating major trends related to the organic agricultural areas, livestock structure, productions and farms, aiming at assessing the sector's potential in European context.

Organic agriculture can have an important contribution to the sustainable development of the rural areas, due both to the favorable conditions in Romania for the organic production - mainly in the mountain zones - and, in the European context, to the potential market of the EU member states and their growing demand for certified organic products. However, added to the standards and criteria required by the legal norms concerning organic agriculture, the commercialization of organic products is restricted by certain factors, such as: the lack of local markets for organic products, higher prices of these goods and low internal income, lack of information to the consumers and their education concerning the quality and the advantages of the organic foodstuffs. Although having a continuous growing trend during the last years, organic agriculture is still a reduced sector and needs for development a political and financial support substantiated by adequate specific measures.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

HAZARDELE ȘI RISCURILE LOCALE, REGIONALE ȘI GLOBALE
LOCAL, REGIONAL AND GLOBAL HAZARDS AND RISKS

CAMELIA SLAVE

Cuvinte cheie: hazarde naturale, modificari climatice, dezvoltare durabilă

Key words: natural hazards, climatic changes, sustainable development

SUMMARY

The purpose of this paper is to present some natural and local hazards due by permanent climatic changes. These hazards are influencing as they resulted in many persons. It consisted as last years this hazards had demonstrate extremes on the earth's surface.

Lucrări științifice, U.Ș.A.M.V.B., Seria A, Vol. LI, 2008

**CONCEPTUL DE DEZVOLTARE DURABILĂ ÎN CONTEXTUL
GLOBAL ACTUAL**

**SUSTAINABLE DEVELOPMENT CONCEPT IN THE CURENT
GLOBAL FRAME**

CAMELIA SLAVE

Cuvinte cheie: dezvoltare durabila, resurse naturale

Key words: sustainable development, natural resource

SUMMARY

Sustainable development is the one that satisfies the requirements of the present and does not compromise the possibilities of future generations. Sustainable development has a moral component which assures a relation between generations. The paper presents some of this aspect.