

Plenary Lectures

SALT RESISTANCE OF CROPS – A TOOL TO COMBAT SOIL SALINITY	15
S. SCHUBERT	
SOIL SCIENCE - NANOSCIENCE - ASTROSCIENCE: A NOVEL VIEW ON THE SOIL HISTORY AND PRESENT	16
Z. FILIP	
LABILE ORGANIC CARBON IN SOME DRAINED SOILS OF NORTH-EASTERN POLAND	17
B. KALISZ, A. LACHACZ	

Agrochemistry and Plant Nutrition

RECYCLING NUTRIENTS CONTAINED IN BIOFUEL PRODUCTION BYPRODUCTS: LAND APPLICATION OF THIN STILLAGE FROM ETHANOL PRODUCTION.....	21
K. D. ALOTAIBI, J. SCHÖENAU	
EFFECTIVENESS OF ASH DERIVED FROM DISTILLERS GRAIN AND MEAT & BONE MEAL AS PHOSPHORUS FERTILIZER.....	22
K. D. ALOTAIBI, J. SCHÖENAU, T. FONSTAD	
ASSESSMENT OF MAIZE SENSITIVITY TO ZINC USING PHYTOXKIT TEST	23
A. BARAN, C. JASIEWICZ	
CURRENT SITUATION IN AGRICULTURE IN THE CZECH REPUBLIC	24
M. BUDŇÁKOVÁ, J. HUŠEK, J. BALÍK	
POTASSIC NUTRITION AFFECTING THE CHEMICAL COMPOSITION AND CUP QUALITY OF <i>COFFEA</i> <i>ARABICA</i>	25
J. M. CLEMENTE, H. E. P. MARTINEZ, L. C. ALVES	
IRON TRANSFER BETWEEN COMPONENTS OF THE HEAVY METAL POLLUTED ENVIRONMENT.....	26
T. CZECH, F. GAMBUŠ, J. WIECZOREK	
AGROCHEMICAL SOIL TESTING - BASE FOR RATIONAL PLANT NUTRITION AND ENVIRONMENT PROTECTION.....	27
P. ČERMÁK	
EFFECT OF FERTILIZATION ON YIELD AND NUTRIENT ACCUMULATION OF WHEAT AND BARLEY.....	28
J. ČERNÝ, J. BALÍK, M. KULIÁNEK, F. VAŠAK	
NUTRITION OF OILSEED RAPE BY NITROGEN.....	29
L. DUCSAY, L. VARGA, P. VARGA	
EFFECT OF NITROGEN FERTILIZER SOURCE AND BIOFERTILIZATION ON PRODUCTIVITY OF SUGAR BEET IN SANDY SOIL OF EGYPT.....	30
H.G.M. GEWEIFEL, E.I. EL-SARAG	
IMPROVING SUGAR BEET PRODUCTIVITY IN SANDY SOIL OF EGYPT.....	31
H.G.M. GEWEIFEL	
OBSERVED AND SIMULATED DEPLETION OF MINERAL NITROGEN BY WINTER WHEAT FROM SOIL PROFILE	32
J. HABERLE, P. SVOBODA	

COSTS AND REVENUES OF PHOSPHORIC POTASSIUM NUTRITION OF GRASSLAND.....	33
I. HOLUBEK, A. MIKAC	
IMPACTS OF LIMING WITH DOLOMITE ON THE WHEAT YIELD.....	34
D. ILKIC, M. RASTUA, G. DREZNER, K. KARALIĆ, R. SUDAR	
TWO-PHASE HYDROPONICS – A FEASIBLE TOOL IN THE ASSESSMENT OF ALUMINIUM MOBILITY.....	35
M. JAKL, J. JAKLOVÁ DYTRTOVÁ, I. KUNEŠ, J. SZÁKOVÁ	
THE USE OF DIGESTATE AS AN ALTERNATIVE SOURCE OF NUTRIENTS IN THE GROWING MEDIUM IN THE CULTIVATION OF POTTED CHRYSANTHEMUM FROM “MULTIFLORA”	36
L. KAPLAN, P. TLUSTOŠ, J. SZÁKOVÁ, J. NAJMANOVÁ, J. HABART	
EVALUATION OF LIMING AND EXTRACTION METHOD IMPACT ON EXCHANGEABLE CATIONS DETERMINATION	37
K. KARALIC, Z. LONCARIC, B. POPOVIC, V. KOVACEVIC, D. KEROVEC	
IMPACT OF K FERTILIZER ON TURMERIC (<i>CURCUMA LONGA</i>) IN INCEPTISOLS.....	38
P. K. KARTHIKEYAN, M. RAVICHANDRAN, E. SOKOLOWSKI	
INFLUENCE OF THE SPRING VETCH ON THE PROTEIN CONTENT IN THE OAT GRAIN.....	39
K. KLIMA, B. WIŚNIEWSKA-KIELIAN	
PRODUCTION OF MANURE IN DIFFERENT SYSTEMS OF ANIMAL HOUSING.....	40
J. KLÍR, J. DOSTÁL, L. HAJZLEROVÁ	
EFFECT OF FOLIAR FERTILIZATION WITH SELECTED MICROELEMENTS ON SOME HEALTH- PROMOTING COMPOUNDS IN LAMB’S LETTUCE.....	41
A. KOLTON, A. BARAN, P. STRZETELSKI, R. WOJCIECHOWSKA	
IMPACTS OF LIMING AND FERTILIZATION WITH PHOSPHORUS AND POTASSIUM ON SOIL STATUS.....	42
V. KOVACEVIC, M. RASTUA, M. JOSIPOVIC, Z. LONCARIC	
THE EFFECT OF FOLIC APPLICATION OF MG-TITANIT FERTILIZER ON WINTER WHEAT PHYTOMASS.....	43
P. KOVÁČIK, M. VICIAN, M. SKAVINSKY, J. MAREČEK	
THE IMPACT OF FLUID FERTILIZER INJECTION (CULTAN) ON WINTER WHEAT GRAIN QUALITY CHARACTERISTICS	44
O. KOZLOVSKÝ, J. BALÍK, O. SEDLÁŘ, L. PEKLOVÁ, K. KUBEŠOVÁ	
CHANGES IN DIFFERENT SULFUR FRACTIONS AFTER LONG TERM FERTILIZING.....	45
M. KULJANEK, J. ČERNÝ, J. BALÍK, F. VAŠÁK, O. SEDLÁŘ	
EFFECT OF HABITAT CONDITIONS AND THE LEVEL OF CROP MANAGEMENT ON THE YIELD AND SIZE OF VEGETATION INDICES OF SELECTED WINTER RAPE CULTIVARS	46
B. KULIG, A. OLEKSY, J. STARON, A. SZMIGIEL, T. ZAJAC, A. KLIMEK-KOPYRA	
EFFECT OF PIG SLURRY, FARMYARD MANURE AND N, P AND K MINERAL FERTILIZERS APPLICATION ON THE YIELD OF SPRING BARLEY.....	47
E. KUNZOVÁ, P. ŠREK	
APPLICATION OF MINERAL FERTILIZER IN THE RIDGE IN POTATO CULTIVATION	48
H. KUSÁ, P. RUŽEK	

EFFECT OF MINERAL FERTILISER AND DIGESTATE APPLICATION ON SOIL PROPERTIES AND YIELD AND CHEMICAL COMPOSITION OF KOHLRABI	49
T. LOŠÁK, J. HLUŠEK, A. ZATLOUKALOVÁ, D. TŮMOVÁ, I. TUMA, M. SZOSTKOVÁ, L. POSPIŠILOVÁ, A. MARTENSSON	
BIO-SLUDGE APPLICATION AND ITS IMPACT ON QUALITY OF MALTING BARLEY AND SUGAR BEET	50
J. MAREČEK, M. FIKSELOVÁ, M. KAČANIOVÁ, M. LIŠKOVÁ	
CONTENT OF SACCHARIDES AND VITAMIN C IN POTATO TUBERS STORED UNDER CONTROLLED ATMOSPHERE	51
J. MAREČEK, M. FIKSELOVÁ, M. KAČANIOVÁ, M. LIŠKOVÁ	
SOIL ACIDITY AND PHOSPHORUS STATUS IN NORTHERN BOSNIA AND THEIR IMPROVEMENT BY AGROMELIORATIONS	52
M. MARKOVIĆ, I. KOMJENOVIC, V. KOVACEVIC, Z. LUKAC	
INCREASED CORKY ROOT DISEASE IN TOMATOES AT INCREASING NITROGEN LEVEL AND PH OF THE SOIL-SUBSTRATE	53
A. MARTENSSON	
APPROACH TO CONTROL PHOSPHORUS LEVELS IN SOILS FROM AGRICULTURAL AND ENVIRONMENTAL ASPECTS	54
J. MATULA	
INTERCROPPING OF OATS AND PEA AS AFFECTED BY INTERCROPPING RATIO AND NITROGEN FERTILIZATION	55
R. NEUGSCHWANDTNER, H. P. KAUL	
INTERACTION BETWEEN INDICATORS OF DRY MATTER STATUS AND NITROGEN NUTRITION EFFICIENCY IN THE WINTER WHEAT	56
O. NIKOLIĆ, M. SORRELLS, M. JELIĆ, I. DJALOVIC, M. PAVLOVIC	
THE CONTENT OF RISK ELEMENTS AND NUTRIENTS IN ASHES AFTER BIOMASS COMBUSTION AND THEIR POTENTIAL USE	57
P. OCHÉCOVÁ, P. TLUSTOŠ, J. SZÁKOVÁ, J. HABART	
INFLUENCE OF SOWING DATE AND AGROTECHNICAL LEVELS ON THE GRAIN YIELD AND SIZE OF SELECTED VEGETATION INDEXES OF SELECTED VARIETIES OF WINTER WHEAT	58
A. OLEKSY, M. KOŁODZIECZYK, A. SZMIGIEL, K. BOGDAN, K. PYZIAK	
EFFECT OF DIFFERENT NPK TREATMENTS ON SWEET CORN EARS	59
F. OROSZ	
THE YIELD AND QUALITY OF WINTER OILSEED RAPE IN THE SYSTEM OF NITROGEN FERTILIZER INJECTION (CULTAN)	60
L. PERLOVÁ, J. BALÍK, O. KOZLOVSKÝ, O. SEDLÁŘ, K. KUBEŠOVÁ	
ABSCISIC ACID AS A ROOT SIGNAL: DOES IT CONTRIBUTE TO SALT RESISTANCE OF MAIZE?	61
B. PITANN, A. N. SHAMIZAD, S. SCHUBERT	
LEAF ANATOMICAL PLASTICITY OF COFFEE TREES AFFECTED BY ZINC SUPPLY	62
Y. POLTRONIERI, H. E. P. MARTINEZ, M. C. VENTRELLA, P. R. CECÓN, J. M. CLEMENTE	
STATUS OF PLANT AVAILABLE PHOSPHORUS AND POTASSIUM (AL-METHOD) IN THE EASTERN CROATIA	63
D. RASIĆ, M. SEPUĆ, M. ANDRIŠIĆ, B. KOMESAROVIC, V. KOVACEVIC	

ZINC AS A PLANT NUTRITIONAL PROBLEM IN THE EASTERN CROATIA	64
M. RASTIJA, V. KOVAČEVIĆ, D. SIMIĆ, D. RASTIJA	
USE OF NITROGEN FERTILIZERS WITH UREASE INHIBITOR IN NUTRITION OF WINTER RAPE.....	65
P. RUŽEK, H. KUSA, R. VAVERA	
ELEMENTARY AND SULPHATE SULPHUR IN THE NUTRITION OF BROCCOLI.....	66
P. RYANT, E. DOLEŽELOVÁ	
EFFECT OF ORGANIC MANURE, PHOSPHORUS AND MICRONUTRIENTS APPLICATIONS ON SOIL FERTILITY IMPROVEMENT AND WHEAT PRODUCTION OF OLD LAND	67
A.I.E. SALWA	
INFLUENCE OF LOCALLY APPLIED NITROGEN FERTILIZERS ON GRAIN YIELD AND ITS FORMATION OF SPRING BARLEY	68
O. SEDLÁŘ, O. KOZLOVSKÝ, L. PEKLOVÁ, K. KUBEŠOVÁ, Š. ŠIEJBALOVÁ	
REGULATION OF SOIL MINERAL NITROGEN BY UREASE AND NITRIFICATION INHIBITORS IN WINTER WHEAT	69
P. SLAMKA, O. LOŽEK, E. HANÁČKOVÁ	
NEW TYPE OF FERTILISER VLADAP AND VLADAS WITH QUICK RELEASABLE NITROGEN.....	70
M. SMATANOVÁ	
FERTILIZATION EFFECTS ON MAIZE AND SOYBEAN YIELDS	71
B. STOJIC, V. MIKOC, D. PETOSIĆ	
BORON – INDISPENSABLE MICRO NUTRIENT IN SUNFLOWER (<i>HELIANTHUS ANNUUS</i> L.) NUTRITION	72
P. ŠKARPA	
SOIL AS POSSIBLE SOURCE OF WATER POLLUTION.....	73
S. TORMA, G. BARANČIKOVÁ, J. MAKOVNÍKOVÁ, Š. KOCO	
SOIL AND PLANT RELATIONSHIPS OF OLIVE GROVES IN WEST ANATOLIA REGION OF TURKEY	74
H. S. TURAN, T. PEKCAN, E. AYDOĞDU, H. ÇOLAKOĞLU	
EFFECT OF 5-AMINOLEVULINIC ACID AND MINERAL NUTRITION IN PENTAKEEP FERTILIZER IN USED IRRIGATION WATER ON YIELD AND QUALITY OF SWEET PEPPER	75
L. VARGA, O. LOŽEK, P. SLAMKA, L. DUCSAY	
PHOSPHORUS BALANCE IN LONG-TERM FIELD EXPERIMENTS	76
F. VAŠÁK, J. ČERNÝ, M. KULJANEK, J. BALÍK	
SOYBEAN DI-NITROGEN FIXATION AFFECTING PHOTOSYNTHESIS AND SEED QUALITY CHARACTERS	77
J. VOLLMAHN, T. SATO, H. WALTER, P. SCHWEIGER, H. WAGENTRISTL	
INFLUENCE OF NITROGEN, PHOSPHORUS AND POTASSIUM FERTILIZATION ON WINTER WHEAT YIELD.....	78
Ž. VUKOBRATOVIĆ, B. BERTIĆ, V. VUKADINOVIĆ, M. VUKOBRATOVIĆ	
SULFUR DYNAMICS IN PADDY SOILS.....	79
C. WEDDÉ, Y. ZHANG, G. WELP, H. W. SCHJERER	

ACCUMULATION OF FREE AMINO ACIDS IN <i>THLASPI CAERULESCENS</i> AND <i>ARABIDOPSIS HALLERI</i> AS RESPONSE TO STRESS CADMIUM EXPOSURE	80
V. ZEMANOVÁ, J. NAJMANOVÁ, V. URBANOVÁ, J. TRUNCOVÁ, D. PAVLÍKOVÁ	

Soil Health and Soil and Food Microbiology

CATION EXCHANGE EQUILIBRIUM INVOLVING ALUMINUM IN SOME ACID SOILS OF KARNATAKA, INDIA	83
B.C. DHANANJAYA, K. SUDHIR, H.M. CHIDANANDAPPA, Y. VISHWANATHIA SHETTY, R. SIDDARAMAPPA, V.M. SHILPASHREE	
PH AND ELECTROLYTE EFFECTS ON CHARGE CHARACTERISTICS IN SELECTED ACID SOILS OF KARNATAKA, INDIA	84
B.C. DHANANJAYA, K. SUDHIR, H.M. CHIDANANDAPPA, Y. VISHWANATHIA SHETTY, R. SIDDARAMAPPA, V.M. SHILPASHREE	
EFFECT OF ORGANIC MATERIALS ON THE DISTRIBUTION OF ZINC FRACTIONS IN SOILS OF KARNATAKA STATE, INDIA	85
H.M. CHIDANANDAPPA, B.C. DHANANJAYA, R. SIDDARAMAPPA	
IMPACT OF DIFFERENT ORGANIC MATERIALS ON DTPA - EXTRACTABLE ZINC STATUS IN SOILS OF KARNATAKA, INDIA	86
H.M. CHIDANANDAPPA, B.C. DHANANJAYA, R. SIDDARAMAPPA	
THE POTENTIAL RESPIRATION - THE EVALUATION OF SOIL ORGANIC MATTER IN THE REGION OF UHERSKÉ HRADIŠTĚ	87
J. FOUKALOVÁ, M. BRTNICKÝ, M. STROBLOVÁ, J. ZÁHORA, E. POKORNÝ	
REMEDIATION POSSIBILITIES OF SOILS CONTAMINATED WITH PCB	88
H. JAVORSKÁ, R. KALISZOVÁ	
PRESENCE OF MICROORGANISMS IN SHEEP MILK PRODUCTS	89
M. KAČÁŇOVÁ, J. LEJKOVÁ, L. HLEBÁ, J. POCHOP, M. FIKSELOVÁ, J. MAREČEK, M. MELLEN	
PROPOLIS AND ITS ANTIMICROBIAL EFFECTS	90
M. KAČÁŇOVÁ, J. LEJKOVÁ, M. MELICH, V. KŇAZOVICKÁ, M. FIKSELOVÁ, J. MAREČEK	
IMPACT OF HEAVY METALS ON SOILS AND PLANTS IN MASHAVERA RIVER LOWLAND, GEORGIA	91
B. KALANDADZE, L. MATCHAVARIANI	
IMPORTANT GROUPS OF MICROORGANISMS IN RAW GOAT MILK AND FRESH GOAT CHEESES DETERMINED DURING LACTATION	92
L. KALIOTKA, M. NĚMCOVÁ, J. PŘICHYSTALOVÁ	
EFFECT OF ACIDIFICATION ON SOIL MICROBIAL ACTIVITY IN ALPINE MEADOW	93
A. KINTL, I. TŮMA, J. ZÁHORA, P. HOLUB	
SOIL HEALTH-BASIC ATTRIBUTION OF SOIL CONSERVATION	94
J. KOBZA	
MONITORING OF SOME TRACE ELEMENTS AND ORGANIC MATTER QUALITY IN SELECTED SOIL TYPES	95
M. KONEČNÁ, L. POSPÍŠILOVÁ, P. ŠKARPA	

CHANGES OF SELECTED SOIL PARAMETERS AFTER APPLICATIONS OF DRIED MANURE AND SAWDUST	96
P. KOVÁČIK, M. JANČICH	
CHEMICAL LOAD OF AGRICULTURAL SOILS IN THE CZECH REPUBLIC AND ITS IMPACT ON PLANTS QUALITY	97
L. KUBÍK	
CARBON AND NITROGEN MICROBIAL TRANSFORMATION ALONG A PLUVIOMETRIC GRADIENT IN MEDITERRANEAN REGION	98
I. NOVOSÁDOVÁ, J. ZÁHORA, H. FIŠEROVÁ, J. D. RUIZ-SINOGA	
MONITORING OF AGRICULTURAL SOILS IN THE CZECH REPUBLIC – PERSISTENT ORGANIC POLLUTANTS (POPS) IN SOILS AND PLANTS	99
Š. POLÁKOVÁ	
QUALITY OF AGRICULTURAL SOILS AFTER SEWAGE SLUDGE APPLICATION	100
Š. POLÁKOVÁ	
DECARBOXYLASE ACTIVITY TEST OF THE GENUS <i>ENTEROCOCCUS</i> ISOLATED FROM GOAT MILK AND CHEESE	101
J. PRICHYSTALOVÁ, M. NĚMCOVÁ, L. KALIOTKA	
INPUTS OF TOXIC ELEMENTS IN SOIL – ECOTOXICOLOGICAL AND LEGISLATIVE VIEW	102
M. SÁNKÁ	
APPLICATION OF SOIL AMENDMENTS AND LEAF AREA OF SELECTED SPECIES	103
M. STRAKOVÁ, E. JANKŮ, J. STRAKA	
DEGRADABILITY OF SOIL ORGANIC MATTER AS A PRECONDITION FOR MICROBIAL ACTIVITY IN SOIL	104
E. STROSSER, J. PETERKA, J. NĚMCOVÁ	
SOIL ORGANIC MATTER AND EFFECT OF LONG TERM APPLICATION OF COMPOST PRODUCT IN SUGARCANE PLANTING AREA	105
H. TAN, L. ZHOU, R. XIE, M. HUANG	
HYGIENIC DEGREE OF SOIL IN THE ENVIRONMENTALLY LOADED REGIONS OF HUMENNÉ, STRÁŽSKE AND VRANOV NAD TOPLIOU	106
J. TOMÁŠ, J. ČERÝ, T. TÓTIL, J. ÁRVAY, L. LAHUČKÝ, S. ČERYOVÁ	
EFFECT OF MICROBIAL ACTIVITY IN THE SOIL OF ALPINE MEADOW ON THE TRANSFORMATION OF CARBON	107
I. TUMA, J. ZÁHORA, A. NAWRATH, P. HOLUB	
THE EFFECT OF LIME APPLICATION ON THE MOBILITY OF CADMIUM, ZINC AND LEAD IN HEAVILY CONTAMINATED SOILS	108
S. VONDRÁČKOVÁ, P. TLUSTOŠ, J. SZÁKOVÁ, J. NAJMANOVÁ, L. JAKOUBKOVÁ	
SOIL RESPIRATION AND MICROBIAL TRANSFORMATION OF NITROGEN IN THE ACIDIFIED SOIL OF ALPINE MEADOW	109
J. ZÁHORA, I. TUMA	
EFFECT OF <i>RHIZOBIUM</i> INOCULATION AND FOLIAR APPLICATION OF MINERAL FERTILIZER ON NODULATION IN FIELD PEA (<i>PISUM SATIVUM</i> L.)	110
T. ZAJÁČ, A. KLIMEK-KOPYRA, A. OLEKSY, A. ŠIKORA	