

**Department of Agrochemistry, Soil Science, Microbiology  
and Plant Nutrition  
Faculty of Agronomy  
Mendel University in Brno**

Czech Ministry of Agriculture  
Central Institute for Supervising and Testing in Agriculture  
Plant Nutrition Commission of the Plant Production division, Czech Academy of Agricultural Sciences  
Czech Society of Soil Science  
Czechoslovak Society of Microbiology  
Dept. of Agroenvironmental Chemistry and Plant Nutrition, Czech University of Life Sciences Prague  
Dept. of Agrochemistry and Plant Nutrition, Slovak University of Agriculture in Nitra  
Dept. of Agricultural Chemistry, University of Agriculture in Krakow  
Dept. of Applied Plant Biotechnologies, University of South Bohemia in České Budějovice

# SOIL, PLANT AND FOOD INTERACTIONS

Mendel  
University  
in Brno

Faculty  
of Agronomy

**6 – 8 September 2011**



## DETAILED PROGRAMME

## **TUESDAY, 6<sup>TH</sup> September 2011**

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**08:30 – 09:30    REGISTRATION OF PARTICIPANTS, POSTER INSTALLATION**

*LOCATION: BUILDING “Q”, MENDEL UNIVERSITY IN BRNO*

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**09:30 – 10:00    OPENING CONFERENCE**

*LOCATION: BUILDING “Q”, LECTURE HALL “Q 01”, MENDEL UNIVERSITY IN BRNO*

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**10:00 – 12:20    PLENARY LECTURES**

*LOCATION: BUILDING “Q”, LECTURE HALL “Q 01”, MENDEL UNIVERSITY IN BRNO*

**10:00 – 10:40** ..... **S. SCHUBERT**  
**SALT RESISTANCE OF CROPS – A TOOL TO COMBAT SOIL SALINITY**

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**10:40 – 11:00    COFFEE BREAK**

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**11:00 – 11:40** ..... **Z. FILIP**  
**MICROBIOLOGY, SOIL SCIENCE, AND NANOSCIENCE: A NOVEL VIEW ON THE HISTORY  
AND PRESENT OF SOIL**

**11:40 – 12:20** ..... **M. SÁŇKA**  
**INPUTS OF TOXIC ELEMENTS IN SOIL – ECOTOXICOLOGICAL AND LEGISLATIVE VIEW**

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**12:20 – 13:30    POSTER SECTION**

*LOCATION: BUILDING “Q”, MENDEL UNIVERSITY IN BRNO*

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**13:30 – 15:00    LUNCH**

*LOCATION: BUILDING “O” - CANTEEN, MENDEL UNIVERSITY IN BRNO*

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## AGROCHEMISTRY AND PLANT NUTRITION

LOCATION: BUILDING "Q", LECTURE HALL "Q 01", MENDEL UNIVERSITY IN BRNO

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### 15:00 – 18:00 MEETINGS IN SESSIONS

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15:00 – 15:20..... M. BUDŇÁKOVÁ, J. HLUŠEK, J. BALÍK  
*CURRENT SITUATION IN AGRICULTURE IN THE CZECH REPUBLIC*

15:20 – 15:40..... P. ČERMÁK  
*AGROCHEMICAL SOIL TESTING - BASE FOR RATIONAL PLANT NUTRITION  
AND ENVIRONMENT PROTECTION*

15:40 – 16:00..... M. MARKOVIC ET AL.  
*SOIL ACIDITY AND PHOSPHORUS STATUS IN NORTHERN BOSNIA AND THEIR  
IMPROVEMENT BY AGROMELIORATIONS*

16:00 – 16:20..... J. MATULA  
*APPROACH TO CONTROL PHOSPHORUS LEVELS IN SOILS FROM AGRICULTURAL AND  
ENVIRONMENTAL ASPECTS*

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### 16:20 – 16:40 COFFEE BREAK

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16:40 – 17:00..... R. GAJ  
*NUTRIENT MANAGEMENT IN NORTH-CENTRAL EUROPE - A THREAT TO THE BALTIC SEA*

17:00 – 17:20..... M. KULHÁNEK ET AL.  
*CHANGES IN DIFFERENT SULFUR FRACTIONS AFTER LONG TERM FERTILIZING*

17:20 – 17:40..... B. PITANN, A. N. SHAHZAD, S. SCHUBERT  
*ABSCISIC ACID AS A ROOT SIGNAL: DOES IT CONTRIBUTE TO SALT RESISTANCE OF MAIZE*

17:40 – 18:00..... A. BARAN, C. JASIEWICZ  
*ASSESSMENT OF MAIZE SENSITIVITY TO ZINC USING PHYTOTOXKIT TEST*

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### 18:00 – 19:00 POSTER SECTION

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LOCATION: BUILDING "Q", MENDEL UNIVERSITY IN BRNO

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### 19:00 – 24:00 GALA DINNER

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# Soil Health and Soil and Food Microbiology

LOCATION: BUILDING "Q", LECTURE HALL "Q 02", MENDEL UNIVERSITY IN BRNO

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## 15:00 – 17:40 MEETINGS IN SESSIONS

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15:00 – 15:20 ..... J. KOBZA  
*SOIL HEALTH-BASIC ATTRIBUTION OF SOIL CONSERVATION*

15:20 – 15:40 ..... Š. POLÁKOVÁ  
*MONITORING OF AGRICULTURAL SOILS IN THE CZECH REPUBLIC – PERSISTENT ORGANIC POLLUTANTS (POPS) IN SOILS AND PLANTS*

15:40 – 16:00 ..... M. KONEČNÁ, L. POSPÍŠILOVÁ, P. ŠKARPA  
*MONITORING OF SOME TRACE ELEMENTS AND ORGANIC MATTER QUALITY IN SELECTED SOIL TYPES*

16:00 – 16:20 ..... H.M. CHIDANANDAPPA, B.C. DHANANJAYA, R. SIDDARAMAPPA  
*EFFECT OF ORGANIC MATERIALS ON THE DISTRIBUTION OF ZINC FRACTIONS IN SOILS OF KARNATAKA STATE, INDIA*

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## 16:20 – 16:40 COFFEE BREAK

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16:40 – 17:00 ..... J. TOMÁŠ ET AL.  
*HYGIENIC DEGREE OF SOIL IN THE ENVIRONMENTALLY LOADED REGIONS OF HUMENNÉ, STRÁŽSKE AND VRANOV NAD TOPĽOU*

17:00 – 17:20 ..... L. KUBÍK  
*CHEMICAL LOAD OF AGRICULTURAL SOILS IN THE CZECH REPUBLIC AND ITS IMPACT ON PLANTS QUALITY*

17:20 – 17:40 ..... H. JAVORSKÁ, R. KALISZOVÁ  
*REMEDIATION POSSIBILITIES OF SOILS CONTAMINATED WITH PCB*

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## 17:40 – 19:00 POSTER SECTION

LOCATION: BUILDING "Q", MENDEL UNIVERSITY IN BRNO

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## 19:00 – 24:00 GALA DINNER

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**WEDNESDAY, 7<sup>TH</sup> September 2011**

## **Agrochemistry and Plant Nutrition**

*LOCATION: BUILDING "Q", LECTURE HALL "Q 01", MENDEL UNIVERSITY IN BRNO*

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### **09:00 – 12:20 MEETINGS IN SESSIONS**

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**09:00 – 09:20..... J. VOLLMANN ET AL.**  
***SOYBEAN DI-NITROGEN FIXATION AFFECTING PHOTOSYNTHESIS AND SEED QUALITY CHARACTERS***

**09:20 – 09:40..... H. S. TURAN ET AL.**  
***SOIL AND PLANT RELATIONSHIPS OF OLIVE GROVES IN WEST ANATOLIA REGION OF TURKEY***

**09:40 – 10:00..... J. ČERNÝ ET AL.**  
***EFFECT OF FERTILIZATION ON YIELD AND NUTRIENT ACCUMULATION OF WHEAT AND BARLEY***

**10:00 – 10:20..... P. SLAMKA, O. LOŽEK, E. HANÁČKOVÁ**  
***REGULATION OF SOIL MINERAL NITROGEN BY UREASE AND NITRIFICATION INHIBITORS IN WINTER WHEAT***

**10:20 – 10:40..... O. KOZLOVSKÝ ET AL.**  
***THE IMPACT OF FLUID FERTILIZER INJECTION (CULTAN) ON WINTER WHEAT GRAIN QUALITY CHARACTERISTICS***

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### **10:40 – 11:00 COFFEE BREAK**

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**11:00 – 11:20..... H.G.M. GEWEIFEL, E.I. EL-SARAG**  
***EFFECT OF NITROGEN FERTILIZER SOURCE AND BIOFERTILIZATION ON PRODUCTIVITY OF SUGAR BEET IN SANDY SOIL OF EGYPT***

**11:20 – 11:40..... H. KUSÁ, P. RŮŽEK**  
***APPLICATION OF MINERAL FERTILIZER IN THE RIDGE IN POTATO CULTIVATION***

**11:40 – 12:00..... T. LOŠÁK, ET AL.**  
***EFFECT OF MINERAL FERTILISER AND DIGESTATE APPLICATION ON SOIL PROPERTIES AND YIELD AND CHEMICAL COMPOSITION OF KOHLRABI***

**12:00 – 12:20..... A. MÅRTENSSON**  
***INCREASED CORKY ROOT DISEASE IN TOMATOES AT INCREASING NITROGEN LEVEL AND pH OF THE SOIL-SUBSTRATE***

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## **12:20 – 13:30 POSTER SECTION**

*LOCATION: BUILDING "Q", MENDEL UNIVERSITY IN BRNO*

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## **13:30 – 15:00 LUNCH**

*LOCATION: BUILDING "O" - CANTEEN, MENDEL UNIVERSITY IN BRNO*

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## **15:00 – 16:40 MEETINGS IN SESSIONS**

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**15:00 – 15:20** ..... *P. RYANT, E. DOLEŽELOVÁ*  
*ELEMENTARY AND SULPHATE SULPHUR IN THE NUTRITION OF BROCCOLI*

**15:20 – 15:40** ..... *P. K. KARTHIKEYAN, M. RAVICHANDRAN, E. SOKOLOWSKI*  
*IMPACT OF K FERTILIZER ON TURMERIC (CURCUMA LONGA) IN INCEPTISOLS*

**15:40 – 16:00** ..... *I. HOLÚBEK, A. MIKAČ*  
*COSTS AND REVENUES OF PHOSPHORIC POTASSIUM NUTRITION OF GRASSLAND*

**16:00 – 16:20** ..... *KLÍR, J., DOSTÁL, J., HAJZLEROVÁ, L.*  
*PRODUCTION OF MANURE IN DIFFERENT SYSTEMS OF ANIMAL HOUSING*

**16:20 – 16:40** ..... *K. D. ALOTAIBI, J. SCHOENAU*  
*RECYCLING NUTRIENTS CONTAINED IN BIOFUEL PRODUCTION BYPRODUCTS:*  
*LAND APPLICATION OF THIN STILLAGE FROM ETHANOL PRODUCTION*

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## **16:40 – 17:30 POSTER SECTION**

*LOCATION: BUILDING "Q", MENDEL UNIVERSITY IN BRNO*

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# Soil Health and Soil and Food Microbiology

LOCATION: BUILDING "Q", LECTURE HALL "Q 02", MENDEL UNIVERSITY IN BRNO

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## 09:00 – 11:20 MEETINGS IN SESSIONS

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09:00 – 09:20..... J. ZÁHORA, I. TŮMA  
*SOIL RESPIRATION AND MICROBIAL TRANSFORMATION OF NITROGEN  
IN THE ACIDIFIED SOIL OF ALPINE MEADOW*

09:20 – 09:40..... I. NOVOSÁDOVÁ ET AL.  
*CARBON AND NITROGEN MICROBIAL TRANSFORMATION ALONG A PLUVIOMETRIC  
GRADIENT IN MEDITERRANEAN REGION*

09:40 – 10:00..... I. TŮMA ET AL.  
*EFFECT OF MICROBIAL ACTIVITY IN THE SOIL OF ALPINE MEADOW  
ON THE TRANSFORMATION OF CARBON*

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## 10:00 – 10:20 COFFEE BREAK

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10:20 – 10:40..... H.M. CHIDANANDAPPA, B.C. DHANANJAYA, R. SIDDARAMAPPA  
*IMPACT OF DIFFERENT ORGANIC MATERIALS ON DTPA - EXTRACTABLE  
ZINC STATUS IN SOILS OF KARNATAKA, INDIA*

10:40 – 11:00..... B.C. DHANANJAYA ET AL.  
*CATION EXCHANGE EQUILIBRIUM INVOLVING ALUMINUM IN SOME  
ACID SOILS OF KARNATAKA, INDIA*

11:00 – 11:20..... J. PŘICHYSTALOVÁ, M. NĚMCOVÁ, L. KALHOTKA  
*DECARBOXYLASE ACTIVITY TEST OF THE GENUS ENTEROCOCCUS ISOLATED  
FROM GOAT MILK AND CHEESE*

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## 11:20 – 13:30 POSTER SECTION

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LOCATION: BUILDING "Q", MENDEL UNIVERSITY IN BRNO

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## 13:30 – 15:00 LUNCH

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LOCATION: BUILDING "O" - CANTEEN, MENDEL UNIVERSITY IN BRNO

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## POSTER SECTION

### Agrochemistry and Plant Nutrition

LOCATION: BUILDING "Q", MENDEL UNIVERSITY IN BRNO

1. .... K. D. ALOTAIBI, J. SCHOENAU, T. FONSTAD  
*EFFECTIVENESS OF ASH DERIVED FROM DISTILLERS GRAIN AND MEAT &  
BONE MEAL AS PHOSPHORUS FERTILIZER*
2. .... J. M. CLEMENTE, H. E. P. MARTINEZ; L. C. ALVES  
*POTASSIC NUTRITION AFFECTING THE CHEMICAL COMPOSITION AND  
CUP QUALITY OF COFFEA ARABICA*
3. .... L. DUCSAY, L. VARGA, P. VARGA  
*NUTRITION OF OILSEED RAPE BY NITROGEN*
4. .... H.G.M. GEWEIFEL  
*IMPROVING SUGAR BEET PRODUCTIVITY IN SANDY SOIL OF EGYPT*
5. .... J. HABERLE, P. SVOBODA  
*OBSERVED AND SIMULATED DEPLETION OF MINERAL NITROGEN  
BY WINTER WHEAT FROM SOIL PROFILE*
6. .... D. ILJIC ET AL.  
*IMPACTS OF LIMING WITH DOLOMITE ON THE WHEAT YIELD*
7. .... M. JAKL ET AL.  
*TWO-PHASE HYDROPONICS – A FEASIBLE TOOL IN THE ASSESSMENT  
OF ALUMINIUM MOBILITY*
8. .... L. KAPLAN ET AL.  
*THE USE OF DIGESTATE AS AN ALTERNATIVE SOURCE OF NUTRIENTS IN THE GROWING  
MEDIUM IN THE CULTIVATION OF POTTED CHRYSANTHEMUM FROM "MULTIFLORA"*
9. .... K. KARALIC ET AL.  
*EVALUATION OF LIMING AND EXTRACTION METHOD IMPACT  
ON EXCHANGEABLE CATIONS DETERMINATION*
10. .... K. KLIMA, B. WIŚNIEWSKA-KIELIAN  
*INFLUENCE OF THE SPRING VETCH ON THE PROTEIN CONTENT IN THE OAT GRAIN*
11. .... A. KOŁTON ET AL.  
*EFFECT OF FOLIAR FERTILIZATION WITH SELECTED MICROELEMENTS  
ON SOME HEALTH-PROMOTING COMPOUNDS IN LAMB'S LETTUCE*



12. .... **V. KOVACEVIC ET AL.**  
**IMPACTS OF LIMING AND FERTILIZATION WITH PHOSPHORUS AND  
POTASSIUM ON SOIL STATUS**
13. .... **P. KOVÁČIK ET AL.**  
**THE EFFECT OF FOLIC APPLICATION OF MG-TITANIT FERTILIZER  
ON WINTER WHEAT PHYTOMASS**
14. .... **B. KULIG ET AL.**  
**EFFECT OF HABITAT CONDITIONS AND THE LEVEL OF CROP MANAGEMENT  
ON THE YIELD AND SIZE OF VEGETATION INDICES OF SELECTED WINTER RAPE CULTIVARS**
15. .... **E. KUNZOVÁ, P. ŠŘEK**  
**EFFECT OF PIG SLURRY, FARMYARD MANURE AND N, P AND K MINERAL  
FERTILIZERS APPLICATION ON THE YIELD OF SPRING BARLEY**
16. .... **J. MAREČEK ET AL.**  
**BIO-SLUDGE APPLICATION AND ITS IMPACT ON QUALITY OF MALTING  
BARLEY AND SUGAR BEET**
17. .... **J. MAREČEK ET AL.**  
**CONTENT OF SACCHARIDES AND VITAMIN C IN POTATO TUBERS STORED  
UNDER CONTROLLED ATMOSPHERE**
18. .... **R. NEUGSCHWANDTNER, H. P. KAUL**  
**INTERCROPPING OF OATS AND PEA AS AFFECTED BY INTERCROPPING  
RATIO AND NITROGEN FERTILIZATION**
19. .... **O. NIKOLIC ET AL.**  
**INTERACTION BETWEEN INDICATORS OF DRY MATTER STATUS AND  
NITROGEN NUTRITION EFFICIENCY IN THE WINTER WHEAT**
20. .... **P. OCHECOVÁ ET AL.**  
**THE CONTENT OF RISK ELEMENTS AND NUTRIENTS IN ASHES AFTER  
BIOMASS COMBUSTION AND THEIR POTENTIAL USE**
21. .... **A. OLEKSY ET AL.**  
**INFLUENCE OF SOWING DATE AND AGROTECHNICAL LEVELS ON THE GRAIN  
YIELD AND SIZE OF SELECTED VEGETATION INDEXES  
OF SELECTED VARIETIES OF WINTER WHEAT**
22. .... **F. OROSZ**  
**EFFECT OF DIFFERENT NPK TREATMENTS ON SWEET CORN EARS**

23. .... **L. PEKLOVÁ ET AL.**  
**THE YIELD AND QUALITY OF WINTER OILSEED RAPE IN THE SYSTEM**  
**OF NITROGEN FERTILIZER INJECTION (CULTAN)**
24. .... **Y. POLTRONIERI ET AL.**  
**LEAF ANATOMICAL PLASTICITY OF COFFEE TREES AFFECTED BY ZINC SUPPLY**
25. .... **D. RASIC ET AL.**  
**STATUS OF PLANT AVAILABLE PHOSPHORUS AND POTASSIUM (AL-METHOD)**  
**IN THE EASTERN CROATIA**
26. .... **M. RASTIJA ET AL.**  
**ZINC AS A PLANT NUTRITIONAL PROBLEM IN THE EASTERN CROATIA**
27. .... **P. RŮŽEK, H. KUSÁ, R. VAVERA**  
**USE OF NITROGEN FERTILIZERS WITH UREASE INHIBITOR IN NUTRITION**  
**OF WINTER RAPE**
28. .... **O. SEDLÁŘ ET AL.**  
**INFLUENCE OF LOCALLY APPLIED NITROGEN FERTILIZERS ON GRAIN YIELD**  
**AND ITS FORMATION OF SPRING BARLEY**
29. .... **M. SMATANOVÁ**  
**NEW TYPE OF FERTILISER VLADAP AND VLADAS WITH QUICK RELEASABLE NITROGEN**
30. .... **B. STOJIC, V. MIKOC, D. PETOSIC**  
**FERTILIZATION EFFECTS ON MAIZE AND SOYBEAN YIELDS**
31. .... **P. ŠKARPA**  
**BORON – INDISPENSABLE MICRO NUTRIENT IN SUNFLOWER (HELIANTHUS ANNUUS L.)**  
**NUTRITION**
32. .... **S. TORMA ET AL.**  
**SOIL AS POSSIBLE SOURCE OF WATER POLLUTION**
33. .... **L. VARGA ET AL.**  
**EFFECT OF 5-AMINOLEVULINIC ACID AND MINERAL NUTRITION IN**  
**PENTAKEEP FERTILIZER IN USED IRRIGATION WATER ON YIELD**  
**AND QUALITY OF SWEET PEPPER**
34. .... **F. VAŠÁK ET AL.**  
**PHOSPHORUS BALANCE IN LONG-TERM FIELD EXPERIMENTS**

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- 35. .... Ž. VUKOBRATOVIĆ ET AL.**  
***INFLUENCE OF NITROGEN, PHOSPHORUS AND POTASSIUM FERTILIZATION***  
***ON WINTER WHEAT YIELD***
- 36. .... CH. WEDDE ET AL.**  
***SULFUR DYNAMICS IN PADDY SOILS***
- 37. .... V. ZEMANOVÁ ET AL.**  
***ACCUMULATION OF FREE AMINO ACIDS IN *THLASPI CAERULESCENS****  
***AND *ARABIDOPSIS HALLERI* AS RESPONSE TO STRESS CADMIUM EXPOSURE***

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## Poster Section

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### Soil Health and Soil and Food Microbiology

*LOCATION: BUILDING "Q", MENDEL UNIVERSITY IN BRNO*

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**38. .... T. CZECH, F. GAMBUŠ, J. WIECZOREK**  
***IRON TRANSFER BETWEEN COMPONENTS OF THE HEAVY METAL***  
***POLLUTED ENVIRONMENT***

**39. .... B.C. DHANANJAYA ET AL.**  
***PH AND ELECTROLYTE EFFECTS ON CHARGE CHARACTERISTICS***  
***IN SELECTED ACID SOILS OF KARNATAKA, INDIA***

**40. .... J. FOUKALOVÁ ET AL.**  
***THE POTENTIAL RESPIRATION - THE EVALUATION OF SOIL ORGANIC***  
***MATTER IN THE REGION OF UHERSKE HRADISTE***

**41. .... M. KAČÁNIOVÁ, ET AL.**  
***PRESENCE OF MICROORGANISMS IN SHEEP MILK PRODUCTS***

**42. .... M. KAČÁNIOVÁ, ET AL.**  
***PROPOLIS AND ITS ANTIMICROBIAL EFFECTS***

**43. .... B. KALANDADZE, L. MATCHAVARIANI**  
***IMPACT OF HEAVY METALS ON SOILS AND PLANTS IN MASHAVERA***  
***RIVER LOWLAND, GEORGIA***

**44. .... L. KALHOTKA, M. NĚMCOVÁ, J. PŘICHYSTALOVÁ**  
***IMPORTANT GROUPS OF MICROORGANISMS IN RAW GOAT MILK***  
***AND FRESH GOAT CHEESES DETERMINED DURING LACTATION***

**45. .... A. KINTL ET AL.**  
***EFFECT OF ACIDIFICATION ON SOIL MICROBIAL ACTIVITY IN ALPINE MEADOW***

**46. .... P. KOVÁČIK, M. JANČICH**  
***CHANGES OF SELECTED SOIL PARAMETERS AFTER APPLICATIONS OF DRIED***  
***MANURE AND SAWDUST***

**47. .... Š. POLÁKOVÁ**  
***QUALITY OF AGRICULTURAL SOILS AFTER SEWAGE SLUDGE APPLICATION***

**48. .... M. STRAKOVÁ, L. JANKŮ, J. STRAKA**  
***APPLICATION OF SOIL AMENDMENTS AND LEAF AREA OF SELECTED SPECIES***

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- 49. .... H. TAN ET AL.**  
**SOIL ORGANIC MATTER AND EFFECT OF LONG TERM APPLICATION OF COMPOST PRODUCT IN SUGARCANE PLANTING AREA**
- 50. .... S. VONDRÁČKOVÁ ET AL.**  
**THE EFFECT OF LIME APPLICATION ON THE MOBILITY OF CADMIUM, ZINC AND LEAD IN HEAVILY CONTAMINATED SOILS**
- 51. .... T. ZAJĄC ET AL.**  
**EFFECT OF RHIZOBIUM INOCULATION AND FOLIAR APPLICATION OF MINERAL FERTILIZER ON NODULATION IN FIELD PEA (*PISUM SATIVUM* L.)**



***"Q" - BUILDING "Q", MENDEL UNIVERSITY IN BRNO, ZEMĚDĚLSKÁ 1, BRNO 613 00***

REGISTRATION OF PARTICIPANTS  
OPENING CONFERENCE  
PLENARY LECTURES  
MEETINGS IN SESSIONS  
POSTER SECTION  
COFFEE BREAKS

***"O" - BUILDING "O", CANTEEN, MENDEL UNIVERSITY IN BRNO, ZEMĚDĚLSKÁ 1, BRNO 613 00***

LUNCH

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## NOTES:

