



32nd ANNUAL MEETING

SEPTEMBER 5-8, 2021

BOLOGNA - ITALY

Plesso di Agraria - University of Bologna



Under the auspices of



CHAIR OF THE MEETING

Federica Zanetti - University of Bologna - Italy

PROGRAM



Hybrid Conference Bologna, 5-8 September 2021

Venue: Plesso Agraria - University of Bologna
Viale G. Fanin 44
Bologna

Program

DAY 1 (SUNDAY - 05/09/2021)

- 16.00 Picking up at Savoia Regency Hotel
Via S. Donato, 159 - Bologna
- 16.20 Picking up at DISTAL
Viale Fanin, 44 - Bologna
- 16.30 Arrival at Cadriano experimental station
- 16.30 - 18.00 **PRESENTATION OF THE EXPERIMENTAL STATION ACTIVITIES
AND SHORT FIELD TOUR**
- 18.00 - 20.00 Welcome reception at Cadriano experimental station
- 20.15 Return to hotels - end of day 1

Room: AULA MAGNA

- 9.00 - 12.00 **MAGIC project event**
- 9.00 The MAGIC project
Efthymia Alexopoulou, CRES, MAGIC project coordinator
- 9.15 Development of genetic tools for rapid improvement of orphan biomass crops for marginal lands
Francesco Pancaldi, UW
- 9.40 An overview of industrial crops on European marginal lands
Danilo Scordia, UNICT
- 10.05 *Coffee break*
- 10.30 Utilization of industrial crops for the phytomanagement and remediation of heavy metal contaminated soils
Eleni Papazoglou, AUA
- 10.55 Integrated sustainability assessment of selected products from marginal land: from industrial crops to value chains and the assessment of impact
Nils Rettenmaier, IFEU
- 11.20 Biomass Production on Marginal Land: Mapping the Economic Feasibility Prospects for Multiple Value Chain
Lazaros Karaoglou, AUA
- 11.45 Wrap up session
- 12.00 - 13.00 *Lunch*

DAY 2 (MONDAY - 06/09/2021)

- 13.15 Starting time of
32th AAIC ANNUAL MEETING program
- 13.20 **Dr. Federica Zanetti** - AAIC President
Greetings and conference opening
- 13.25 **Prof. Giovanni Molari** - Director of DISTAL
Greetings from the DISTAL
- 13.30 **Prof. Luca Fontanesi** - Research delegate at DISTAL
Research activities at the Department of Agricultural and Food Sciences
- 13.45 **Prof. Fabio Fava** - FF University of Bologna & IT Representative in the BBI JU SRG and EU Bioeconomy Policy Forum
The Biobased industry in Europe and Italy: state of the art and perspectives
- 14.00 **Prof. Marisol T. Berti** - Editor in Chief of Industrial Crops and Products Journal
Presentation of the Congress Special Issue on ICP
- 14.10 - 14.30 *Short Break*
- 14.30 - 16.55 **Plenary Speakers**
- 14.30 **Nicola Di Virgilio** - EC DG AGRI (Belgium)
EU main policies for renewables
- 14.55 **Jack Grushcow** - CEO SmartEarth Camelina (Canada)
Moving Camelina from Novelty to Mainstream - Our 15 year Journey
- 15.20 **Giacomo Fanin** - Business Development Manager - Cerealdocks (Italy)
General perspective and potential opportunities of non-food crops in Italy from one national Agribusiness leader, Cereal Docks case
- 15.45 - 16.05 *Coffee Break*
- 16.05 **Alan Garosi** - Head of marketing at Fulgar (Italy)
Castor oil as an ingredient for the biobased textile: EVO by Fulgar
- 16.30 **Jean Luc Dubois** - R&D responsible at Arkema (France)
*Risk analysis of vegetable oils conversion to monomers.
Main lessons learned*
- 16.55 **Round table discussion**
- 17.05 - 17.20 *Short Break*

17.20 - 19.00 **POSTER PRESENTATION - SESSION 1**
(GENERAL CROPS AND PRODUCTS - MEDICINAL AND NUTRACEUTICAL PLANTS)
Chairs: **Prof. Ana Luisa Fernando / Prof. Diana Jasso de Rodríguez**

GENERAL CROPS AND PRODUCTS

- 17.20 - 17.23 P.1
Salvador Carlos-Hernández
LCA BASED STRATEGY FOR TELEMETRIC MONITORING OF AN
AQUAPONICS SYSTEM
- 17.23 - 17.26 P.2
Salvador Carlos-Hernández
PROSPECTIVE LIFE CYCLE ASSESSMENT OF A BASED ORANGE WAX
FUNGICIDE
- 17.26 - 17.29 P.3
María L. Flores-López
EDIBLE COATING BASED ON BLACK CHIA (SALVIA HISPANICA) SEED
MUCILAGE CONTAINING MYRTILLOCACTUS GEOMETRIZANS FRUIT
PHENOLIC EXTRACTS
- 17.29 - 17.32 P.4
María L. Flores-López
RHUS MICROPHYLLA LEAF EXTRACTION OBTAINED BY OHMIC
HEATING AND THEIR PHJSICOCHEMICAL CHARATERIZATION
- 17.32 - 17.35 P.5
María L. Flores-López
CHIA (SALVIA HISPANICA L.) SEED MUCILAGE-
CHITOOOLIGOSACCHARIDES BASED SYSTEM FOR ENCAPSULATION
OF β -GALACTOSIDASE
- 17.35 - 17.38 P.6
Jaqueline de Mattia
INDUSTRIAL PROCESSING OF SUGARCANE JUICE EXTRACTED
FROM DIFFERENT VARIETIES AIMING THE PRODUCTION OF ENERGY
DRINK
- 17.38 - 17.41 P.8
Anna Karova
PEST CONTROL APPROACHES IN ORGANIC CULTIVATION
OF OIL-BEARING ROSE (ROSA DAMASCENA MILL.)

- 17.41 - 17.44 P.12
Emilia Mihaylova
AERIAL MULTISPECTRAL IMAGING TO DISCRIMINATE BETWEEN DIFFERENT GENOTYPES OF COMMON WINTER WHEAT
- 17.44 - 17.47 P.13
Roberta Paris
BY-PRODUCTS FROM INDUSTRIAL HEMP INFLORESCENCES
- 17.47 - 17.50 P.14
Mariana Petkova
SOLANACEAE PLANTS GROWTH-PROMOTING AND ANTIFUNGAL ACTIVITIES OF TWO ENDOPHYTIC YEAST STRAIS
- 17.50 - 17.53 P.15
Slaveya Petrova
GENOTYPE REACTION OF SORGHUM SPECIES TOWARDS ALLELOPATHIC INFLUENCE OF SOME TYPICAL WEEDS
- 17.53 - 17.56 P.16
Nikolina Shopova
EFFECT OF MICROORGANISMS ON THE GROWTH OF TOMATO SEEDLINGS
- 17.56 - 17.59 P.17
Nikolina Shopova
HERBICIDE CONTROL OF THE WEEDS IN TOMATO (SOLANUM LYCOPERSICUM L.)
- 17.59 - 18.02 P.18
Krasimira Uzunova
USE OF PCA (ANALYSIS OF THE MAIN COMPONENTS) IN WHEAT CULTIVATION UNDER UNCONVENTIONAL CONDITIONS
- 18.02 - 18.05 P.19
Ciro Vasmara
THERMO-KOH PRE-TREATMENT AND CO-DIGESTION WITH PIG SLURRY IMPROVE METHANE YIELD AND DIGESTATE QUALITY FROM GIANT REED (Arundo Donax L.)
- 18.05 - 18.08 P.21
Flavia Fulvio
CHARACTERIZATION AND COMPARISON OF ESSENTIAL OIL COMPOSITION FROM 11 CANNABIS SATIVA GENOTYPES FROM TWO CULTIVATION SEASONS

MEDICINAL AND NUTRACEUTICAL PLANTS

- 18.08 - 18.11 P.22
Mattia Alpi
SAFFRON AQUAPONICS CULTIVATION TECHNIQUES:
PRODUCTIVITY EVALUATION
- 18.11 - 18.14 P.23
Luciana Gabriella Angelini
COMPOSITION AND ANTIFUNGAL ACTIVITY OF THE ESSENTIAL OILS
HYDRODISTILLED FROM THREE ACCESSIONS OF PASTINOCELLO
CARROT
- 18.14 - 18.17 P.24
Violina
PHYTOREMEDIATION POTENTIAL OF VETIVER GRASS
(CHRYSOPOGON ZIZANIOIDES L.)
- 18.17 - 18.20 P.25
María L. Flores-López
COMPOSITION AND BIOLOGICAL PROPERTIES OF RHUS
MICROPHYLLA AND MYRTILLOCACTUS GEOMETRIZANS FRUIT
EXTRACTS
- 18.20 - 18.23 P.26
Maria Lourdes Diaz Jimenez
STABILITY ENHANCEMENT OF GARLIC-ALLICIN BY ENCAPSULATION
IN ORGANIC AND INORGANIC MATRICES
- 18.23 - 18.26 P.27
Félix Martín
SETTING UP PRELIMINARY TESTS TO PROVE THE EFFECT OF
COCONUT FATTY ACID AS AN APHID REPELLENT IN PEPPER
- 18.26 - 18.29 P.28
Elettra Frassinetti
NEW PERSPECTIVE FOR THE GREEN ROOF SECTOR: SEDUM SPP.
COVERING ACCESSIONS WITH BIOMEDICAL APPLICATIONS
- 18.29 - 18.32 P.29
Adelina Harizanova
THE EFFECT OF THE PREDECESSOR AND THE NITROGEN RATE
ON THE PRODUCTIVITY AND THE ESSENTIAL OIL CONTENT OF
CORIANDER (*CORIANDRUM SATIVUM L.*) IN SOUTH-EAST BULGARIA

- 18.32 - 18.35 P.30
Dennise Anahí Carrillo-Lomelí
FLOURENSIA MICROPHYLLA: EFFECTS OF ULTRASOUND ASSISTED EXTRACTION ON PHENOLIC COMPOUNDS, ANTIOXIDANT AND ANTIFUNGAL ACTIVITY OF PHENOLIC EXTRACT
- 18.35 - 18.38 P.31
Juliana Navarro Rocha
CULTIVATION OF AROMATIC-MEDICINAL PLANTS, A MEETING POINT BETWEEN RESEARCH AND SOCIAL INCLUSION
- 18.38 - 18.41 P.32
Juliana Navarro Rocha
WORMWOOD CANDIAL VARIETY ESSENTIAL OIL YIELD UNDER CULTIVATION IN ARAGÓN, SPAIN
- 18.41 - 18.44 P.33
Valtcho D. Zheljazkov
ALLELOPATHIC EFFECTS OF JUNIPER ESSENTIAL OILS ON SEED GERMINATION AND SEEDLING GROWTH OF SOME WEED SEEDS
- 18.44 - 18.47 P.34
Mariyana Shishkova
OPPORTUNITIES FOR SUSTAINABLE PRODUCTION OF ROSA DAMASCENA THROUGH APPLICATION OF THE PRINCIPLES OF BIOECONOMY - A CASE STUDY FROM PLOVDIV REGION
- 18.47 - 18.50 P.35
Valtcho D. Zheljazkov
ANTIMICROBIAL ACTIVITY AND ALLELOPATHIC EFFECTS OF ESSENTIAL OILS ON SEED GERMINATION OF BARLEY
- 18.50 - 18.53 P.36
Ali Baghdadi
IMPACT OF HARVESTING TIME ON PHYTOCHEMICAL CONSTITUENT AND ANTIOXIDANT PROPERTIES OF SWEET BASIL VARIETIES
- 18.53 - 18.56 P.37
Diana Jasso de Rodríguez
FLOURENSIA RETINOPHYLLA: AN OUTSTANDING PLANT, FROM NORTHERN MÉXICO WITH ANTIBACTERIAL ACTIVITY
- 18.56 - 18.59 P.38
Roberta Paris
CANNABIS MEDICA NAZIONALE - CAMED: INNOVATION AND ENHANCEMENT OF THE PRODUCTION OF MEDICAL CANNABIS PLANT MATERIAL FOR NATIONAL DEMANDS AND NEW VARIETAL CONSTITUTION FOR PHARMACEUTICAL USE

8.00 - 12.20 **STUDY TOUR**

- 8.00 Picking up at Savoia Regency Hotel
Via S. Donato, 159 - Bologna
- 8.10 Picking up at DISTAL
Viale Fanin, 44 - Bologna
- 8.15 Departure to **Ferrari Museum** (Maranello)
- 9.15 Arrival to Maranello & Visit of Ferrari Museum
- 11.00 Departure from Maranello
- 12.20 - 13.00 Arrival in Conference Venue and *quick lunch*

Room: AULA MAGNA

13.00 - 14.40 **Concurrent scientific sessions**

GENERAL CROPS AND PRODUCTS

Chair: Prof. **Ana Luisa Fernando**

13.00 - 13.20 **Luigi Pari (Keynote Speaker)**

A PROTOTYPE TO CREATE SUBSURFACE WATER RETENTION SYSTEM (SWRS) TO FACE CLIMATE CHANGE: FIRST ASSESSMENT OF WORK PERFORMANCE

13.20 - 13.32 **Marisol T Berti**

CAN FORAGE SORGHUM TYPES BE GROWN AS FEEDSTOCK FOR BIOENERGY IN NORTHERN LATITUDES?

13.32 - 13.44 **Maha Elbana**

PRODUCTION OF CACTUS PEAR CROP UNDER WATER AVAILABILITY/DROUGHT CONDITIONS AND ITS IMPACT ON FRUIT PHYTOCHEMICAL CHARACTERISTICS

13.44 - 13.56 **Leandro Gomes**

PROSPECTS OF CULTIVATING GIANT REED (*Arundo donax* L.) AND SWITCHGRASS (*Panicum virgatum* L.) IN SOILS CONTAMINATED WITH HEAVY METALS - BRIDGING BIOENERGY AND BIOMATERIALS PRODUCTION WITH ECOLOGICAL REMEDIATION

- 13.56 - 14.08 **Mariusz Jerzy Stolarski**
HOW DOES THE DOUBLE HARVEST OF PERENNIAL HERBACEOUS CROPS IN ONE YEAR AFFECTS THE BIOMASS YIELD AND ITS QUALITY?
- 14.08 - 14.40 Questions & Answers

Room: AULA 3

- 13.00 - 14.40 **Concurrent scientific sessions**
MEDICINAL AND NUTRACEUTICAL PLANTS
Chair: Prof. **Diana Jasso de Rodríguez**
- 13.00 - 13.20 **Dimitrios Argyropoulos (Keynote)**
UNLOCKING THE POTENTIAL OF DATA-DRIVEN RESEARCH AND INNOVATION IN MEDICINAL PLANT VALUE CHAIN
- 13.20 - 13.32 **Dimitrios Argyropoulos**
CURRENT RESEARCH ON DRYING OF MEDICINAL AND AROMATIC PLANTS (MAPs) BELONGING TO LAMIACEAE FAMILY
- 13.32 - 13.44 **María J. Pascual-Villalobos**
CHARACTERIZATION OF BIOACTIVE VOLATILE BASED PRODUCTS AND ITS EFFICIENCY IN APHID POPULATION CONTROL ON A PEPPER CROP
- 13.44 - 13.56 **Hristo Djugalov**
CONTENTS OF CERTAIN MACRO, MICRO ELEMENTS AND BIOLOGICALLY ACTIVE SUBSTANCES IN THE FRUIT OF THE GOJI BERRY VARIETIES (LYCIUM BARBARUM L.)
- 13.56 - 14.08 **Rumyana Georgieva**
USE OF SOME PRODUCTS FOR FOLIAR APPLICATION FOR IMPROVING THE PRODUCTIVITY, QUALITY AND ESSENTIAL OIL CONTENT OF CORIANDER SEEDS (CORIANDRUM SATIVUM L.) UNDER SOUTH-EASTERN BULGARIA CONDITIONS

DAY 3 (TUESDAY - 07/09/2021)

14.08 - 14.20 **Diana Jasso de Rodríguez**
ANTIOXIDANT AND ANTIPROLIFERATIVE ACTIVITIES OF
FLOURENSIA SPP

14.20 - 14.40 Questions & Answers

14.40-15.00 *Coffee Break*

Room: AULA MAGNA

15.00-16.30 **Concurrent scientific sessions**
GENERAL CROPS AND PRODUCTS
Chair: Prof. **Ana Luisa Fernando**

15.00 - 15.12 **Mariusz Jerzy Stolarski**
SHORT ROTATION WOODY CROPS AS A SOURCE OF BIOACTIVE
COMPOUNDS

15.12 - 15.24 **Manuel Cantó-Tejero**
ANISEED ESSENTIAL OIL BOTANICAL INSECTICIDES FOR THE
MANAGEMENT OF THE LETTUCE APHID

15.24 - 15.36 **Carolina Rodrigues**
PECTIN EXTRACTION FROM OPUNTIA SPP. CLADODES: PROCESS
OPTIMIZATION AND CHARACTERIZATION

15.36 - 15.48 **S. Joseph Asadauskas**
BIO-DERIVED FEEDSTOCKS FOR NATURAL DEEP EUTECTIC
SOLVENTS

15.48 - 16.00 **Ewelina Olba-Zięty**
ECONOMIC ANALYSIS OF THE PRODUCTION OF SUPERCRITICAL
EXTRACT CONTAINING BIOACTIVE SUBSTANCES FROM POPLAR

16.00 - 16.30 Questions & Answers

Room: AULA 3

- 15.00 -16.30 **Concurrent scientific sessions**
MEDICINAL AND NUTRACEUTICAL PLANTS
Chair: Prof. **Diana Jasso de Rodríguez**
- 15.00 - 15.12 **Heriberto Torres Moreno**
SEASONAL EFFECT ON THE ANTIPROLIFERATIVE AND
ANTIINFLAMMATORY ACTIVITIES OF BURSERA MICROPHYLLA
- 15.12 - 15.24 **Susana Fisher**
BIOACTIVE COMPOUNDS IN FRUITS OF WILD MAQUI IN DIFFERENT
RIPENING STAGES AND ENVIRONMENTS
- 15.24 - 15.36 **Ilaria Marotti**
AGRONOMIC AND NUTRACEUTICAL CHARACTERISTICS OF
STINGING NETTLE GROWN UNDER ORGANIC FARMING IN ITALIAN
ENVIRONMENTS
- 15.36 - 15.48 **Eugenia Mazzara**
MICROWAVE-ASSISTED EXTRACTION OF HEMP (CANNABIS SATIVA
L.) TO RECOVER THREE VALUABLE FRACTIONS (ESSENTIAL OIL,
PHENOLIC COMPOUNDS AND CANNABINOIDS): A CENTRAL
COMPOSITE DESIGN OPTIMIZATION STUDY
- 15.48 - 16.00 **Alan Taylor**
HEMP FUNGICIDE SEED TREATMENTS TO CONTROL DAMPING-OFF
- 16.00 - 16.30 Questions & Answers
- 16.30-16.45 *Short Break*

Room: AULA MAGNA

16.45 - 18.03 **POSTER PRESENTATION - SESSION 2**
(OILSEEDS - FIBERS AND CELLULOSIC CROPS - NATURAL RUBBER AND RESIN)
Chair: **Dr. Hussein Abdel-Haleem / Dr. Efthymia Alexopoulou**
Dr. Sam Wang

OILSEEDS

- 16.45 - 16.48 P.39
Efthymia Alexopoulou
CRAMBE - WHICH VARIETY FITS BEST IN GRECE?
- 16.48 - 16.51 P.40
Giulio Balestrierio
COMPOSITION IN FATTY ACIDS AND TOTAL POLYPHENOLIS IN
DIFFERENT GENOTYPES OF CANNABIS SATIVA L.
- 16.51 - 16.54 P.41
Sara Berzuini
CAMELINA A CASH COVER CROP FOR THE MEDITERRANEAN
REGION: PRELIMINARY RESULTS FROM THE 4CE-MED PROJECT
- 16.54 - 16.57 P.42
Petar Čanak
CAMELINA GERMINATION UNDER OSMOTIC STRESS - TREND LINES,
TIME-COURSES AND CRITICAL POINTS
- 16.57 - 17.00 P.43
Sarah Chen
TOWARDS AUTOMATING EARLY VIGOR RATINGS FOR BRASSICA
PLANTS
- 17.00 - 17.03 P.45
Flavia Fulvio
IDENTIFICATION OF A FAD2 POINT MUTATION PUTATIVELY
RESPONSIBLE FOR HIGH OLEIC SEED OIL PHENOTYPE IN AN EMS-
MUTAGENIZED MILK THISTLE POPULATION
- 17.03 - 17.06 P.46
Adelina Garapova
FATTY ACID COMPOSITION OF THE OIL FROM EXPRESS-SUN®
SUNFLOWER HYBRIDS, DEPENDING ON SOIL FERTILITY
- 17.06 - 17.09 P.47
Hristofor Kirchev
OIL CONTENT AND YIELD OF TRIBENURON-METHYL RESISTANT
SUNFLOWER HYBRIDS IN CONDITIONS OF DIFFERENT SOIL
NUTRITION

- 17.09 - 17.12 P.48
Marina Marcheva
MUTAGENESIS AS TOOL FOR ENHANCEMENT OF FATTY ACID COMPOSITION OF RAPESEED (BRASSICA NAPUS L.)
- 17.12 - 17.15 P.49
Marina Marcheva
DIVERSITY OF POTENTIAL AND QUALITY OF CAMELINA (CAMELINA SATIVA) FOR HEALTHY FOODS AND BIO-ECONOMY
- 17.15 - 17.18 P.52
Luigi Pari
CAMELINA ON MARGINAL LAND: A CULTIVATION TRIAL ON STEEP SLOPE IN ITALY
- 17.18 - 17.21 P.53
Noemi Codina
WHO'S BEST? A FIELD TRIAL WITH 10 CAMELINA VARIETIES TO STUDY THEIR ADAPTATION TO SEMIARID MEDITERRANEAN CONDITIONS
- 17.21 - 17.24 P.54
Federica Zanetti
CAMELINA (CAMELINA SATIVA L. CRANTZ) A NEW OILSEED CROP FOR MEDITERRANEAN AND BALKAN EUROPEAN CLIMATES
- 17.24 - 17.27 P.55
Ana Luisa Fernando
PHYTOREMEDIATION POTENTIAL OF DIFFERENT OIL CROPS IN HEAVY METALS CONTAMINATED SOILS
- 17.27 - 17.30 P.56
Roque Evangelista
COMPARATIVE PROCESSING OF WILD-TYPE PENNYCRESS AND LIGHT-COLORED COVERCRESS TM SEEDS
- 17.30 - 17.33 P.57
Aritz Royo-Esnal
DOES SOWING PATTERN AFFECT THE COMPETITIVE ABILITY OF CAMELINA (CAMELINA SATIVA (L.) CRANTZ) AGAINST WEEDS?
- 17.33 - 17.36 P.58
Federica Zanetti
UNCOVER MORPHO-PHYSIOLOGICAL DIVERSITY IN CAMELINA (CAMELINA SATIVA L. CRANTZ) UNDER DIFFERENT ENVIRONMENTAL CONDITIONS IN EUROPE
- 17.36 - 17.39 P.59
Emilia Mihaylova
PHENOLOGY OF BRASSICA NAPUS L. FROM REMOTE SENSING DATA

FIBERS AND CELLULOSIC CROPS

- 17.39 - 17.42 P.61
Ana Luisa Fernando
UNDERSTANDING THE POTENTIAL OF KENAF (HIBISCUS CANNABINUS L.) IN SOILS CONTAMINATED WITH HEAVY METALS IN MOZAMBIQUE
- 17.42 - 17.45 P.62
Michał Krzyżaniak
LIFE CYCLE ASSESSMENT OF SUPERCRITICAL EXTRACT OBTAINED FROM POPLAR BIOMASS
- 17.45 - 17.48 P.63
Emilia Mihaylova
LASER RADIATION TO STIMULATE TOBACCO GROWTH
- 17.48 - 17.51 P.64
Walter Zegada-Lizarazu
POTENTIAL SOC ACCUMULATION OF TWO FIBER CROPS
- 17.51 - 17.54 P.65
Eleni G. Papazoglou
COULD RAMIE BE AN ALTERNATIVE CROP FOR REMEDIATION OF CONTAMINATED SOILS IN SOUTH EUROPE?

NATURAL RUBBER AND RESIN

- 17.54 - 17.57 P.66
M. Engracia Carrión
IDENTIFICATION OF NEW POLYPHENOLS IN LEAF OF GUAYULE AND ITS HYBRIDS
- 17.57 - 18.00 P.67
M. Mercedes García-Martínez
GUAYULE RESIN AND PORMENORIZED GUAYULIN CONTENT BY NEAR-INFRARED SPECTROSCOPY (NIR)
- 18.00 - 18.03 P.68
Juana Rozalén
COMPARISON OF ACCELERATED SOLVENT EXTRACTION EQUIPMENT'S FOR RESIN AND RUBBER DETERMINATION IN GUAYULE STEM

Room: AULA MAGNA

- 9.00-12.00 **Workshop**
"National and EU perspectives on non-food crops, circular and biobased economy"
(Moderator: **Dr. Federica Zanetti**, UNIBO)
- 9.00 **Giorgio Matteucci** (Director of CNR Bioeconomy Unit, Italy)
Potential and possible limitations of non-food crops for a circular bioeconomy in the EU
- 9.20 **Giorgio Testa** (SIA executive committee member)
The relevance of non-food crops in Italy: the perspective of the Italian Society for Agronomy (SIA)
- 9.30 **Ákos Kristóf** (Head of Unit - Hungarian Ministry of Agriculture)
The BIOEast Initiative: challenges and opportunities for non-food crops
- 9.50 **Marina Montedoro** (Regional director of Coldiretti)
Actual and future regional policies for the development of the biobased economy and non-food crops
- 10.10 - 10.30 *Coffee Break*
- 10.30 **Andrea Monti** (UNIBO, Italy, BECOOL project coordinator)
Advanced results from the BECOOL (Brazil-EU Cooperation for Development of Advanced Lignocellulosic Biofuel) project
- 10.50 **Efthymia Alexopoulou** (CRES, Greece, GOLD project coordinator)
The GOLD project: Bridging the gap between phytoremediation solutions on growing energy crops on contaminated Lands and clean biofuel production
- 11.10 **Ana Luisa Fernando** (FCT-UNL, Portugal, MEDIOPUNTIA project coordinator)
The MediOpuntia project: Promoting cactus plantation on large scale in marginal lands of Mediterranean countries
- 11.30 **Andreas Kiessel** (University of Hohenheim, Germany, GRACE project coordinator)
Progress and interim results of the BBI demo project GRACE
- 11.50 Final roundtable discussion
- 12.00 - 13.00 *Lunch*

Room: AULA MAGNA

- 13.00-14.36 **Concurrent scientific sessions**
OILSEEDS
Chair: Dr. **Hussein Abdel-Haleem**
- 13.00- 13.12 **Barbara Alberghini**
SCREENING OF SPECIALIZED METABOLITES IN SIX CAMELINA VARIETIES
- 13.12- 13.24 **Efthymia Alexopoulou**
LONG-TERM FIELD SCREENING TRIALS FOR CAMELINA IN GREECE
- 13.24- 13.36 **Luigi Pari**
SWATHING AS A SUITABLE ALTERNATIVE FOR HARVESTING CAMELINA
- 13.36- 13.48 **Christina Eynck**
A LONG TIME COMING: DEVELOPMENT OF THE HERBICIDE RESISTANT CAMELINA CULTIVAR SES1154HR
- 13.48- 14.00 **Aritz Royo-Esnal**
WINTER WEED SUPPRESSION CAPACITY OF CAMELINA (CAMELINA SATIVA (L.) CRANTZ)
- 14.00- 14.12 **James V Anderson**
ANALYSIS OF MOLECULAR MECHANISMS ASSOCIATED WITH LOW TEMPERATURE INDUCED FREEZING TOLERANCE AND FLORAL COMPETENCE IN CAMELINA SATIVA
- 14.12- 14.24 **Hussein Abdel-Haleem**
GENETIC DIVERSITY AND POPULATION STRUCTURE OF USDA COLLECTION BRASSICA JUNCEA POPULATION
- 14.24- 14.36 Questions & Answers

Room: AULA 3

- 13.00-14.32 **Concurrent scientific sessions**
FIBERS AND CELLULOSIC CROPS
Chair: Dr. **Efthymia Alexopoulou**
- 13.00 - 13.20 **Francesco Mirizzi (Keynote)**
OVERVIEW AND PERSPECTIVES ON THE HEMP FIBRE VALUE CHAIN
IN EUROPE
- 13.20 - 13.32 **Dilpreet Bajwa**
BIOBASED PLASTICIZER AND CELLULOSE NANOCRYSTALS IMPROVE
MECHANICAL PROPERTIES OF POLYLACTIC ACID COMPOSITES
- 13.32 - 13.44 **João Pires**
CHARACTERIZATION OF CHITOSAN BIOFILMS REINFORCED
WITH NANOCELLULOSE EXTRACTED FROM DIFFERENT
LIGNOCELLULOSIC BIOMASSES
- 13.44 - 13.56 **Ciro Vismara**
GIANT REED HYDROLYSATE FOR SINGLE CELL OIL PRODUCTION
BY OLEAGINOUS YEASTS LIPOMYCES STARKEYI AND
RHODOSPORIDILOBOLUS AZORICUS
- 13.56 - 14.08 **Dilpreet Bajwa**
ENHANCING UV-SHIELDING AND MECHANICAL PROPERTIES OF
POLYLACTIC ACID NANOCOMPOSITES BY ADDING LIGNIN COATED
CELLULOSE NANOCRYSTALS
- 14.08 - 14.20 **Francesco Pancaldi**
GROWING NOVEL PERENNIAL BIOMASS CROPS ON MARGINAL
LANDS: CHALLENGES FOR PLANT BREEDING
- 14.20 - 14.32 Questions & Answers
- 14.36-14.50 *Short Break*

Room: AULA MAGNA

- 14.50-16.15 **Concurrent scientific sessions**
OILSEEDS
Chair: Dr. **Hussein Abdel Haleem**
- 14.50 - 15.02 **Mukhlesur Rahman**
OILSEED BREEDING PROGRAM AT NORTH DAKOTA STATE UNIVERSITY
- 15.02 - 15.14 **Russ W. Gesch**
IMPROVING PENNYCRESS ESTABLISHMENT THROUGH EARLIER CORN HARVEST
- 15.14 - 15.26 **Liv S. Severino**
CASTOR MEAL FOR ANIMAL FEEDING AND CONTROLLING NEMATODES STUDIES IN PROGRESS
- 15.26 - 15.38 **Federica Zanetti**
SAFFLOWER (CARTHAMUS TINCTORIUS L.) A MULTIPURPOSE OILSEED CROP FOR THE MEDITERRANEAN REGION
- 15.38 - 15.50 **Nesho Neshev**
AMELIORATIVE BIOSTIMULANT APPLICATION AT SUNFLOWER HYBRIDS TREATED WITH INAPPROPRIATE HERBICIDES
- 15.50 - 16.15 Questions & Answers

Room: AULA 3

- 14.50-16.20 **Concurrent scientific sessions**
NATURAL RUBBER AND RESIN
Chair: Dr. **Sam Wang**
- 14.50 - 15.10 **Evan Sproul (Keynote)**
SUSTAINABILITY ASSESSMENT OF PRODUCING GUAYULE RUBBER WITH COPRODUCTS
- 15.10 - 15.22 **Olivier Taugourdeau**
ADAPTING INDUSTRIAL CROPS TO URBAN BROWNFIELDS: THE FRENCH GUAYULE CASE
- 15.22 - 15.34 **Jose Antonio Reche-Vilches**
COLD RESISTANCE OF GUAYULE CULTIVATED IN CASTILLA-LA MANCHA, SPAIN

DAY 4 (WEDNESDAY - 08/09/2021)

- 15.34 - 15.46 **Amandine Rousset**
COMPOSITION OF GUAYULE RESIN
- 15.46 - 15.58 **Hussein Abdel-Haleem**
GUAYULE, A PROMISING BIOFUEL AND BIOPRODUCTS CROP
- 15.58 - 16.20 Questions & Answers
- 16.20 - 16.40 *Coffee Break*

Room: AULA MAGNA

- 16.40 - 17.30 **Concurrent scientific sessions**
FIBERS AND CELLULOSIC CROPS
Chair: Dr. **Efthymia Alexopoulou**
- 16.40 - 16.52 **Efthymia Alexopoulou**
HOW THE IRRIGATION AFFECTS THE MISCANTHUS YIELDS IN THE DRY MEDITERRANEAN REGION
- 16.52 - 17.04 **Danilo Scordia**
SOIL WATER AVAILABILITY ON BIOMASS YIELD AND WUE OF PERENNIAL GRASSES IN A SEMIARID AREA
- 17.04 - 17.16 **Eleni G Papazoglou**
TOLERANCE TO AND ACCUMULATION OF CADMIUM IN THREE BAST FIBER CROPS
- 17.16 - 17.30 Questions & Answers

Room: AULA 3

- 16.40 - 17.42 **Concurrent scientific sessions**
NATURAL RUBBER AND RESIN
Chair: Dr. **Sam Wang**
- 16.40 - 16.52 **Francisco Miguel Jara**
GUAYULE: ALTERNATIVE CROP FOR SEMI-ARID REGIONS IN SPAIN
- 16.52 - 17.04 **Sophia Alami Tazi**
IMPLEMENTATION GAPS FOR THE BUILDING OF A SUSTAINABLE BIOECONOMY VALUE CHAIN. LESSONS FROM GUAYULE CASE IN OCCITANIA

DAY 4 (WEDNESDAY - 08/09/2021)

- 17.04 - 17.16 **Guayente Latorre**
IMPROVING GUAYULINS SELECTIVE EXTRACTION
- 17.16 - 17.28 **Daniel Alberto Zuniga Vazquez**
OPTIMAL DESIGN OF GUAYULE AND GUAR SUPPLY CHAINS FOR THE AMERICAN SOUTHWEST
- 17.28 - 17.40 **Sam Wang**
IRRIGATION EFFECTS ON SEASONAL GROWTH AND RUBBER PRODUCTION OF DIRECT-SEEDED GUAYULE
- 17.40 - 17.50 Questions & Answers

Room: AULA MAGNA

17.50-19.00 *Closing and Award Ceremony*

20.00-23.00 *Gala Dinner*
at Savoia Regency Hotel



TIMETABLE

<p style="text-align: center;">DAY 1 SUNDAY 05/09/2021</p>	<p style="text-align: center;">DAY 2 MONDAY 06/09/2021</p>
<p>16.00</p> <p>WELCOME RECEPTION & PRESENTATION OF THE EXPERIMENTALE STATION ACTIVITIES AND SHORT FIELD TOUR</p> <p>20.00</p>	<p style="background-color: #008000; color: white; text-align: center;">AULA MAGNA</p> <p style="background-color: #d3d3d3; text-align: center;">MAGIC EVENT</p> <p>09.00</p> <p style="background-color: #ffff00; text-align: center;">Lunch</p> <p>12.00 13.00</p> <p style="background-color: #008000; color: white; text-align: center;">AULA MAGNA</p> <p style="background-color: #add8e6; text-align: center;">OPENING SESSION</p> <p>14.10 14.30</p> <p style="background-color: #ffff00; text-align: center;">Short break</p> <p style="background-color: #add8e6; text-align: center;">PLENARY SESSION</p> <p>15.45 16.05</p> <p style="background-color: #ffff00; text-align: center;">Coffee break</p> <p style="background-color: #add8e6; text-align: center;">PLENARY SESSION</p> <p>17.05 17.20</p> <p style="background-color: #ffff00; text-align: center;">Short break</p> <p style="background-color: #add8e6; text-align: center;">Poster presentation Session 1</p> <p>19.00</p>

TIMETABLE

DAY 3 TUESDAY 07/09/2021

08.00	STUDY TOUR Motorvalley : Ferrari - Museum	
12.00	Lunch	
13.00	AULA MAGNA	AULA 3
	GENERAL CROPS AND PRODUCTS (oral presentations)	MEDICINAL AND NUTRACEUTICAL (oral presentations)
14.40	Coffee break	
15.00	GENERAL CROPS AND PRODUCTS (oral presentations)	MEDICINAL AND NUTRACEUTICAL (oral presentations)
16.30	Short break	
16.45	Poster presentation Session 2	
18.03		

DAY 4 WEDNESDAY 08/09/2021

	AULA MAGNA	AULA 3
09.00	<i>Workshop</i> National and EU perspectives on non-food crops, circular and biobased economy	
12.00	Lunch	
13.00	AULA MAGNA	AULA 3
	OIL SEED (oral presentations)	FIBER AND CELLULOSIC CROPS
14.36	Short break	
14.50	OIL SEED (oral presentations)	NATURAL RUBBER AND RESIN (oral presentations)
16.20	Coffee break	
16.40	FIBER AND CELLULOSIC CROPS	NATURAL RUBBER AND RESIN (oral presentations)
17.50		
19.00	CLOSING & AWARD CEREMONY	

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CAMELINA GERMINATION UNDER OSMOTIC STRESS - TREND LINES, TIME-COURSES AND CRITICAL POINTS

Petar Čanak¹, Federica Zanetti², Bojana Vujošević¹, Zlatica Miladinov¹, Dušan Stanisavljević¹, Milan Mirosavljević¹, and Ana Marjanović Jeromela¹

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Camelina [*Camelina sativa* (L.) Crantz] is native species of Eurasia, which is gaining interest worldwide due to its better cold, heat, and drought tolerance, and less susceptibility to disease and pests than oilseed rape (*Brassica napus* L.). Furthermore, studies conducted in Canada and USA reported that as far as yield is concerned, camelina could be competitive against other Brassicas. Water shortage during germination is one of the major constraints that induces irregular and delayed seed germination and emergence, leading to poor plant establishment. Camelina has relatively low water requirement and high tolerance to drought, at all stages of development, even at germination and early seedling growth. Aiming at understanding the response of camelina germination under osmotic stress and the identification of critical soil moisture levels for successful establishment, two spring cultivars, developed at the Institute of Field and Vegetable crops Novi Sad, were compared (NS Slatka and NS Zlatka) under 9 levels of osmotic stress, ranging from 0 MPa to -1.6 MPa. Seeds were kept at 20°C and 8/16 h light/dark cycle. Osmotic potential of solution was obtained by using polyethylene glycol. Seeds were considered germinated when radicle was at least 2-mm-long. Germination was surveyed daily, while final germination was determined when no germinated seeds were recorded for 3 consecutive d, or after 15 d of incubation. Results showed that that both cultivars did not decrease germination under mild and medium osmotic stress levels of (i.e., <-0.6 MPa). Higher levels of osmotic stress induced significant germination decrease in both cultivars, with NS Zlatka being the most sensitive one. Significant increase on germination speed was noticed at -0.4 MPa. A significant interaction G x OS interaction was surveyed with NS Zlatka having quicker germination in the control (0 MPa) and under the mildest level of osmotic stress (-0.4 Mpa). When osmotic stress was increased a significant bi-linear trend for both cultivars was surveyed. The inflection points were detected at -1.15 and -1.18 MPa, in NS Slatka and NS Zlatka, respectively, with trend in germination rapidly declining after this level. Furthermore, the estimated osmotic potentials for completing stopping germination were -1.45 and -1.46 Mpa, for NS Slatka and NS Zlatka, respectively. MPa. Time to 50% germination showed also a significant bi-linear trend in response to osmotic potential, but in the opposite direction than the one observed in germination. Inflection points were recorded at -0.77 MPa and -0.78 MPa for NS Slatka and NS Zlatka, respectively. After those points, time to 50% of germination increased rapidly. Number of d for initiating germination progressively increased with the decrease of osmotic potential. In control condition (0MPa) and under the mildest level of osmotic stress (-0.2 MPa), germination began the first day after incubation, with NS Zlatka having a more rapid start. Under more severe stress level (-0.8 MPa) germination began after 2 d, and only NS Slatka fulfilled its germination potential, but both cultivars reached 90% of germination. Under higher osmotic stress levels germination was postponed for a few days and maximum germination was obtained later. At -1.6 MPa camelina didn't germinate. Camelina confirmed to withstand high levels of drought stress at germination and could be considered a more suitable option than oilseed rape on marginal lands, or areas with irregular precipitation.

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