



Italian Society for Agronomy

51st National conference



Agriculture and food availability in 2050

Botanical garden – via Orto Botanico, 15 - Padova

19 - 21 September 2022

PROGRAM

Monday 19 September 2022

08:30 - 09:30 **Participants registration**

09:30 - 10:00 **Opening of the 51st Conference of the Italian Society for Agronomy**

Prof. Maurizio Borin – President of the Organizing Committee - University of Padova

Prof. Paolo Sambo – Vice Rector of the University of Padova

Prof. Gianni Barcaccia – Head of Department of Agronomy, Food, Natural resources, Animals and Environment (DAFNAE)

Dr. Sergio Giordani – Mayor of Padova

Prof. Michele Perniola – President of the Italian Society for Agronomy (SIA)

10:00-12:00 **1st Plenary session - Agriculture and food availability in 2050: vision from Italian scientific societies**

Chair: *Prof. Luca Bechini* – University of Milan

10:00-10:20 Economic impact of EU policies on farms and the agri-food sector in Italy (Prof. Davide Viaggi – AIEAA)

10:20-10:40 The role of soil microbiota in fertility maintenance (Prof. Sergio Casella – SIMTREA)

10:40-11:00 Food quality and integral enhancement of resources (Prof. Anna Lante – SISTAL)

11:00-11:20 Crops for feed vs food: which role for animal productions in 2050 (prof. Giovanni Bittante – ASPA)

11:20-11:40 Plant breeding for sustainable agriculture: The impact of genetic innovations on the future of agriculture (prof. Gianni Barcaccia e prof.ssa Margherita Lucchin – SIGA)

11:40 – 12:30 Discussion

12:30-15:00 **Lunch and optional guided tour of the Botanical Garden**

15:00 - 17:00 **Session 1 - 2050 perspective: how to increase the yield?**

Chair: *Dr. Antonio Pulina* – University of Sassari

Oral presentations

| Hour | Authors | Title |
|-------------|---|--|
| 15:00-15:20 | <i>Cammarano D., Jamshidi S., Hoogenboom G., Ruane A.C., Niyogi D., Ronga D.</i> | Climate change impacts on processing tomato production |
| 15:20-15:40 | <i>Ferrero F., Tabacco E., Rolando G., Pasinato S., Borreani G.</i> | How production intensity could affect sustainability and milk quality in dairy farm |
| 15:40-16:00 | <i>Panozzo A., Reubens B., Pardon P., De Swaef T., Coudron W., Vamerali T., Verheyen K.</i> | The effect of tree rows on yield of grain crops: a meta-analysis on agroforestry systems in temperate climates |
| 16:00-16:20 | <i>Capo L., Reyneri A., Blandino M.</i> | The role of seed applied biostimulant, hybrid and starter fertilization on maize early vigor and grain yield |
| 16:20-16:40 | <i>De Santis M.A., Capo L., Giuzio L., Tozzi D., Meloni R., De Vita P., Troccoli A., Pecchioni N., Reyneri A., Flagella Z., Blandino M.</i> | Spectral phenotyping of bread and durum wheat grown in North and South Italy in response to N and S fertilization strategies for yield, quality and sustainability |

16:40-17:00 Discussion

17:00-18:00 **SIA PhD thesis award** (*Prof. Michele Perniola*)

Dr. Federica Carucci (University of Foggia) - Agronomic strategies for sustainable management of durum wheat cultivation in Mediterranean area.

Dr. Sebastiano Andrea Corinzia (University of Catania) - Modelling of bioenergy crops on marginal lands.

Dr. Marco Mancini (University of Florence) - Agronomic techniques for precision management of field crops.

18:00-21:00 **Welcome drink**

Tuesday 20 September 2022

9:00-11:00 **2nd Plenary session - Agriculture and food availability in 2050: vision from outside**

Chair: *Dr. Ilaria Piccoli* – University of Padova

9:00-9:30 A perspective of future U.S. agronomic production and practices (Prof. Scott Tubbs – University of Georgia)

9:30-10:00 Yara's roadmap for putting Europe's Farm to Fork Strategy into action (Dr. Marco Politeo – Yara)

10:00-10:30 Challenges and solutions for a global food security (Prof. Bruno Basso – Michigan State University)

10:30 – 11:00 Food security in the context of climate change: the road to 2050 (Dr. Marina Baldi – CNR-IBE)

11:00-11:30 **Coffee break**

11:30-13:00 **Session 2 - 2050 perspective: what to produce?**

Chair: *Prof. Teofilo Vamerali* – University of Padova

Oral presentations

| Hour | Authors | Title |
|-------------|--|---|
| 11:30-11:50 | <i>Bosi S., Oliveti G., Fakaros A., Negri L., Demontis A., Dinelli G.</i> | Strategies to reduce acrylamide content in wheat products: possible effects of genotype and fertilization |
| 11:50-12:10 | <i>Falcinelli B., Bravi E., Marconi O., Royo-Esnal A., Benincasa P.</i> | Elicitation effect of salinity on phenolic compounds, glucosinolates and antioxidant activity of <i>Camelina sativa</i> (L.) Crantz sprouts |
| 12:10-12:30 | <i>Soofizada Q., Pescatore A., Guerrini L., Vivoli R., Mancini M., Orlandini S., Napoli M.</i> | Nitrogen and sulfur fertilization effect on yield and asparagine content in 'Old' common wheat varieties |
| 12:30-12:50 | <i>Leoni F., Carlesi S., Moonen A.C.</i> | The legume choice determines crop production, nitrogen dynamics, weed control and economic viability of relay intercropping in a Mediterranean cereal based low-input cropping system |

12:50-13:00 Discussion

13:00-14:00 **Lunch**

14:00-15:00 **Poster session**

15:00-17:30 Assemblée ordinaria dei soci – Per i non soci possibile visita guidata dell'Orto Botanico

19:00 Ritrovo per partenza verso Villa Contarini – Prato della Valle

20:30 **Social dinner & Best poster award** (Villa Contarini)

Wednesday 21 September 2022

8:30-10:00 **Session 3 - 2050 perspective: how to produce better?**

Chair: *Prof. Antonio Berti* – University of Padova

Oral presentations

| Hour | Authors | Title |
|-------------|--|--|
| 08:30-08:50 | <i>Carucci F., Bregaglio S., Gagliardi A., Gatta G., Giuliani M.M.</i> | Farming practices for organic durum wheat grown in Mediterranean environment |
| 08:50-09:10 | <i>Fogliatto S., Milan M., Papandrea G., Vidotto F.</i> | A survey of weed distribution in Italian rice fields related to agronomic techniques |
| 09:10-09:30 | <i>Dal Ferro N., Mencaroni M., Fabbri G., Gottardo F., Morari F.</i> | What is the most promising BAT that reduces NH ₃ emissions from the agricultural sector? Results from embedding the spheres of sustainability into a Bayesian network |

| | | |
|-------------|--|---|
| 09:30-09:50 | <i>Pulina A., Cammarano D., Piseddu F., Deiana L., Cuboni M., Sassu A., Deidda A., Gambella F., Seddaiu G., Roggero P.P.</i> | Predicting the canopy nitrogen content of Mediterranean forage crops: a remote sensing approach |
| 09:50-10:10 | <i>Battisti M., Moretti B., Blandino M., Grignani C., Vindrola D., Martin M., Zavattaro L.</i> | Soil Olsen P and maize crop responses to phosphorus starter fertilisation |

10:10-10:20 Discussion

10:20-10:50 **Coffee break**

10:50-12:20 **Session 4 - 2050 perspective: where to produce?**

Chair: Dr. *Michela Farneselli* – University of Perugia

Oral presentations

| Hour | Authors | Title |
|-------------|--|--|
| 10:50-11:10 | <i>Corinzia S.A., Fragalà F., Famba S., Magaia E., Baglieri A., Cosentino S.L.</i> | Low-input crop management for small scale family farming of maize in semi-arid sub-Saharan Africa |
| 11:10-11:30 | <i>Fiorentini M., Schillaci C., Denora M., Zenobi S., Deligios P., Orsini R., Santilocchi R., Perniola M., Montanarella L., Ledda L.</i> | A machine learning modelling framework for durum wheat yield forecasting in Central-Southern Italy |
| 11:30-11:50 | <i>Pagani E., Zanetti F., Peroni P., Monti A.</i> | <i>Camelina sativa</i> an interesting oilseed crop for marginal lands |
| 11:50-12:10 | <i>Amaducci S., Ledda L., Fagnano M., Monteleone M., Morari F., Roggero P.P.</i> | <i>Agrivoltaic: challenges and opportunities for the farm and for the energy transition.</i> |

12:10-12:30 Discussion and **Closing of the 51st conference of the Italian Society for Agronomy**

12:45 Ritrovo in Prato della Valle e partenza per Legnaro

13:00-18:00 **Optional:** light lunch and field trip at the Experimental Farm “L.Toniolo”, Legnaro

During the field trip the following instruments will be showed by Ecosearch:

LI-6800 Portable Photosynthesis System; LI-600 Porometer/Fluorometer; LI870/7810 with Smart Chamber per SoilFlux (CO₂/CH₄); MC-100 Chlorophyll Concentration Meter Apogee MC-100; NDVI - Holland Scientific RapidSCAN; portable sensors Apogee for measurement of solar radiation/PAR, etc.; Multilevel sensors for soil moisture monitoring Drill&Drop Bluetooth – Sentek; Psychrometer and SapFlow in autonomous unit PSY1 e SFM1 - ICT International.

Scientific Committee

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Luca Bechini
Anna Dalla Marta
Michela Farneselli
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POSTERS

Session 1 - 2050 perspective: how to increase the yield?

1. *Allam M, Mancinelli R, Petroselli V, Atait M, Quintarelli V, Radicetti E.* Fertilizer source affects crop yield under different tillage practices: a meta-analysis.
2. *Caruso P, Scandurra A, Anastasi U, Cafaro V, Cosentino SL, Testa G.* Sicilian landraces of durum wheat in conventional and organic regime.
3. *Cozzolino E., Di Mola I., Ottaiano L., Nocerino S., Bottiglieri R., Maiello R., Marra R., Mori M.* Effects of Mulching Biofilms and Biostimulants Based on *Trichoderma* and *Ascophyllum nodosum* on Yield of Industrial Tomato
4. *De Santis MA, Cammarano D.* Optimizing sowing date, soil tillage and N nutrition to improve yield and quality stability of barley grown in Mediterranean environment.
5. *De Santis MA, Satriani A, De Santis F, Flagella Z.* Relationship between hyperspectral phenotyping and agronomic performance of two chickpea genotypes grown under different water and nitrogen supply.
6. *Di Mola I, Fiorentino N., Ottaiano L., Cozzolino E., Nocerino S., Todisco D., Mori M.* Productive response of three varieties of fiber hemp to nitrogen rate and sowing density
7. *Donham J, Migliorini P.* Agroecologia per la sicurezza alimentare, la nutrizione e l'agricoltura sostenibile
8. *Farneselli M, Bonciarelli U, Onofri A, Pannacci E, Tei F.* Productivity and stability of two-year rotations with winter wheat in long-term experiments.
9. *Gabbrielli M, Corti M, Bechini L.* Development of a cover crop frost damage simulation model.
10. *Ottaiano L., Di Mola I., Cozzolino E., Nocerino S., Pelosi M.E., Minoliti A., Pecorella I., De Vita P., Mori M.* Effect of Innovative Sowing on Wheat Yield and Weeds Control in Two Internal Area of Campania Region
11. *Petito M, Cantalamessa S, Pagnani G, Berti A, Pisante M.* Preliminary suitability analysis of cv. "Senatore Cappelli": effect of soil and topographic properties on yield variability.
12. *Padovan G, Masoni A, Bindi M, Mancini M, Ghiselli L, Benedettelli S, Staglianò N, Ferrise R.* Effects of different nitrogen and phosphorous fertilization on the grain filling dynamics of two bread wheat varieties, Verna and Bolero.
13. *Pornaro C., Macolino S.* Seeding time and rate effects on dhurrin content and yield of *Sorghum bicolor* (L.) Moench.
14. *Rinaldi M, Ciavarella F, De Santis AP, Morcone L, Manganiello C.* Broad bean productivity under conservation agriculture.
15. *Rossi A, Tavarini S, Angelini LG.* Linseed as opportunity for increasing cropping system diversification and resilience: the Sic-Oleat project experience.
16. *Rossi R, Costafreda-Aumedes S, Summerer S, Moriondo M, Leolini L, Cellini F, Bindi M, Petrozza A.* High-throughput plant phenotyping: a comparison of 2D- and 3D-imaging strategies for extracting architectural traits.
17. *Soofizada Q, Pescatore A, Atefi R, Orlandini S, Napoli M.* Evaluation of nitrogen and phosphorus response on yield traits of common wheat (*Triticum aestivum* L.) under different agro-climatic zone of Afghanistan.
18. *Tedone L, Manolio G, Schiavone D, De Mastro G.* Long term experiment durum wheat: effect of residue management and nitrogen nutrition in different rotation systems.
19. *Ventrella D, Parlavecchia M, Garofalo P, Perego A, Tucci V, Botta M, Campobasso I, Vonella AV, Giglio L, Fornaro F, Tadiello T, Marco Acutis M.* Modelling parametrization of a long term experiment based on wheat cultivation in Southern Italy.

Session 2 - 2050 perspective: what to produce?

20. *Alberghini B, Peroni P, Zanetti F, Haslam RP, Silvestre S, Da Costa A, Faure JD, Vecchi A, Monti A.* Exploring agronomic traits in *Camelina sativa* (L.) Crantz lines included in the UNTWIST project core collection.
21. *Barion G, Zannoni S, Di Stefano A, Panozzo A, Piotto S, Boscaro R, Lante A, Vamerali T.* Effects of seed pre-germination on free nutraceutical compounds in old italian open-pollinated maize varieties.
22. *Bassignana CF, Spagnolo S, Roatta F, Migliorini P.* Valorisation of heritage wheat and other underutilised crops in Piedmont for sustainable food systems.
23. *Barbera AC, Cavallaro V, Naselli E, Pellegrino A, La Rosa S, Spina A.* Effects of *Bradyrhizobium inoculum* and plant density on the productive characteristics of a sweet cultivar of *Lupinus albus* L.
24. *Benincasa P, Falcinelli B, Tosti G, Stagnari F, Del Carlo M, Oliva E., Scroccarello A., Sergi M., Trasmundi F., Galieni A.* Effects of wheat crop nitrogen availability on the phenolic content, pigment content and antioxidant activity of wheatgrass obtained from offspring grains.
25. *Boscaro R, Piotto S, Panozzo A, Barion G, Vamerali T.* Effect of foliar application of fertilizers and biostimulants on the growth and seed production of a male-sterile inbred line of maize.
26. *Corinzia SA, Crapio E, Scordia D, Testa G, Cosentino SL.* Biomass yield and morphology of giant reed clones from mutagenesis.
27. *Cozzolino E, Ciancolini A, Frangella M, Stevanella A, Raimo F, Enotrio T, Sicignano MR, Sifola MI, del Piano L.* Mater-Bi® mulching and drip fertigation increase yield and quality of flue-cured tobacco in the Tiber valley.
28. *Cozzolino E, del Piano L, Salluzzo A, Cuciniello A, Tallarita A, Caruso G.* Influence of fertilization programs on the antioxidant content of processing tomato fruits.
29. *D'Andrea L, Di Gennaro D, Fornaro F, Moscelli S, Preite A, Mastrorilli M.* Seed Productivity of Different Hemp Cultivars as New Nutritional Resources under Mediterranean Climate.
30. *Dal Cortivo C, Ferrari M, Panozzo A, Piotto S, Barion G, Boscaro R, Sella L, Vamerali T.* Reducing plant height of old wheat varieties through agronomic means under organic management.
31. *Danuso F, Baldini M, Dorigo G, Nassivera F, Iseppi L.* Bio-economic hemp crop modelling for the assessment of adaptation and economic sustainability.
32. *Distefano M, Steingass CB, Leonardi C, Schweiggert R, Mauro RP.* Yield and quality traits of cherry tomato as affected by the application of a plant-derived biostimulant.
33. *Falcinelli B, Bravi E, Marconi O, Royo-Esnal A, Benincasa P.* The effect of sprouting on phenolic compounds, glucosinolates and antioxidant activity of *Camelina sativa* (L.) Crantz.
34. *Frassinetti E, Trebbi G, Alpi M, Dinelli G, Marotti I.* Health-Beneficial Properties of Organically Grown Stinging Nettle (*Urtica dioica* L.).
35. *Guiducci M, D'Amato R, Businelli D, Falcinelli B, Tosti G.* Gas exchange, leaf characteristics and enzymatic activity in maize seedlings as affected by light spectrum and endogenous selenium content.
36. *Iacuzzi N, Leto C, Tuttolomondo T, Farruggia D, Bellone Y, Licata M.* Preliminary investigation on agronomic response of sugarcane accessions in Sicily.
37. *Marusig D, Sharma N, Petruzzellis F, Cucchiario S, Maset E, Brinks H, Delle Vedove G.* Random forest classification of protein crops with UAS multispectral data.
38. *Negri L, Fakaros A, Bosi S, Oliveti G, Dinelli G.* Evaluation of resilient cereals cultivation for future innovative food-supply chains: a case-study on millet and sorghum from Emilia Romagna region.
39. *Rinaldi M, Rascio A, De Santis AP, Ciavarella F, Manganiello C, Morcone L, De Santis G.* Irrigation Regimes in Quinoa: First Results.

40. *Scordia D, Gresta F, Oteri M, Santonoceto C, Chiofalo B.* Yield and quality traits of six white lupin genotypes grown in a Mediterranean area.
41. *Scordia D, Oteri M, Chiofalo B, Santonoceto C, Gresta F.* Comparing productivity and quality of different *Amaranthus* species in southern Italy.
42. *Sifola MI, del Piano L, Cozzolino E, Morra L.* Soil quality traits under a crop of dark fire-cured (Kentucky) tobacco as affected by organic fraction of municipal soil wastes compost and green manure.
43. *Tavarini S, Ragolini G, Rossi A, Angelini LG.* Land suitability assessment for linseed introduction in Tuscany based on a cultivar-specific phenological model.
44. *Tedone L, Di Venere D, Linsalata V, Ruta C, Pulvento C, De Mastro G.* Sustainable production of inulin in Mediterranean condition: cultivation of Jerusalem artichoke in organic farming in Apulia Region.

Session 3 - 2050 perspective: how to produce better?

45. *Atait M, Mancinelli R, Allam M, Petroselli V, Quintarelli V, Radicetti E.* Carbon flux as affected by different winter cover crops.
46. *Barbanti L, Calone R, Galeone G, Campagna G.* Enlarged row spacing to reduce manual weeding in organic sugar beet cultivation.
47. *Barbera AC, Naselli E, Iacono R, Milani M.* Productivity of maize (*Zea Mays* L.) irrigated with citrus wastewater treated by natural based solutions, first results.
48. *Bellini E, Argenti G, Dibari C, Stendardi L, Staglianò N, Confessore A, Nannucci L, Aquilani C, Moriondo M.* Use of Grasshopper® for pasture biomass maps at high spatial resolution.
49. *Berzuni S, Zanetti F, Facciolla E, Pagani E, Monti A.* Effect of the application of different beneficial microorganisms in the early growth stages of *Camelina sativa*.
50. *Bonamano A, Politeo M.* Atfarm: an online tool for the optimization of nitrogen fertilization strategies for crops.
51. *Bruno MR, Rana G, Ferrara RM, Cappelluti O, De Carolis G, Gaeta L, Modugno AF, Mastroianni M, Campi P.* Evaluation of continuous monitoring of peach (*Prunus persica* (L.) Batsch) growth in response to vapor pressure deficit in two specific time of the maturation.
52. *Carrera A, Pavoni M, Piccoli I, Boaga J, Cassiani G, Morari F.* Geophysical joint inversion approach for non-invasive soil compaction characterization.
53. *Ceccon P, Marraccini E.* Nine years of monitoring show that cover crops break down nitrates in leachates in a soybean-maize rotation.
54. *Chirilli C, Biafora A, Taran A, Benedettelli S, Migliorini P.* Effect of different mulching methods on agroecological weed management and crop development.
55. *Cirillo V, Esposito M, Lentini M, Russo C, Maggio A.* The effect of different weed communities on growth and yield of tender wheat (*T. aestivum*): an eco-physiological perspective.
56. *Clemente C, Rossi A, Foschi L, Ercolini L, Grossi N, Silvestri N, Tavarini S, Angelini LG.* Precision nitrogen management in camelina: preliminary results from a case study in Central Italy.
57. *Corti M, Mascherpa M, Pricca N, Fassa V, Cabassi G, Ragolini G.* Combining vegetation indices, crop height, and cover fraction to estimate maize aboveground biomass.
58. *Damatirca C, Moretti B, Battisti M, Fornasier F, Zavattaro L.* Crop residue and organic fertilisation mobilise phosphorus pools in agricultural soils.
59. *De Peppo M, Ragolini G, Carmagnola F, Corti M, Mayer A, Facchi A, Ortuani B, Bechini L, Nutini F, Crema A, Boschetti M.* Coherence assessment between satellite-based phenometrics and ARMOSA Crop model simulations for maize phenology estimation.
60. *Di Mola I, Cozzolino E., Ottaiano L., Pelosi M.E., Nocerino S., Ilan Y., Rippa M., Mormile P., Mori M.* Effect of heating panels on earliness and characteristics of the production of cherry-tomato.

61. *Ercolini L, Berton A, Grossi N, Di Gennaro SF, Silvestri N.* A simple method to estimate weed density by using high-resolution RGB images.
62. *Farruggia D, Iacuzzi N, Di Miceli G, Tuttolomondo T, Vultaggio L, La Bella S.* Foliar treatment with calcium and nitrogen improves production parameters in Sicilian oregano.
63. *Gagliardi A, Carucci F, Giuliani MM, Perniola M, Denora M, Brunetti G, De Mastro F, Salerno C, Berardi G, Gatta G.* Emerging Contaminants (CECs) content in soil irrigated with treated wastewater.
64. *Maglione G, Bellino A, Vitale E, Polimeno F, Baldantoni D, Arena C, Vitale L.* Is the liquid fraction of livestock wastes a suitable nutrient source for hydroponicsystems?
65. *Maglione G, Vitale E, Polimeno F, Arena C, Vitale L.* Iodine does not enhance the stress tolerance but affects the chemical composition of lettuce plants grown under salt stress.
66. *Marraccini E, Fellet G, Contin M, Dalla Costa L, Delle Vedove G, De Nobili M, Marchiol L, Zuliani F, Ceccon P.* Ecosystem services provided by 20-years-old biomass stands before termination in Northern Italy.
67. *Marraccini E, Rizzo D, Combaud A, Ritz S, Paulus C, Vidric V, Böttinger S, Gallmann E, Crook M, Misiewicz P, Alberti G, Cipriani G, Vizzotto G, Ceccon P.* LATEST: an Erasmus+ Project on local-focused agtech education for successful agricultural transitions.
68. *Martelli A, Di Tullio M, Rivoli M, Monaco S, Orlandini S, Verdi L, Dalla Marta A, Altobelli F.* Sentinel-2 data processing tool for AquaCrop: water requirements assessment on rice under drip irrigation.
69. *Martinengo S, Schiavon M, Santoro V, Said-Pullicino D, Romani M, Celi L, Martin M.* The need to redefine phosphorus availability to paddy rice.
70. *Meloni R, Farbo A, Reyneri A, Borgogno-Mondino E, Colombatto P, Blandino M.* Maize water stress monitoring by Sentinel 2 spectral indices.
71. *Nikolic N, Romani M, Miniotti E, Sgariboldi S, Vidotto F, Fogliatto S, Papandrea G, Masin R.* Employing the correct duration of stale seedbed in rice.
72. *Pagani E, Zanetti F, Facciolla E, Monti A.* Camelina and pea intercropping for weed control in organic farming.
73. *Pandino G, Scavo A, D'Anna T, Scarso G, Mantineo M, Salvagno E, Salicola SA, Pesce GR, Formenti C, Ierna A, Lombardo S, Mauromicale G.* Effect of cardoon mulching on weed pressure and productive performance in an 'early' potato crop.
74. *Panozzo A, dos Santos Neto A, Piotto S, Boscaro R, Barion G, Mezzalira G, Furlan L, Vamerali T.* Screening of wheat varieties for shade tolerance within a specialized poplar orchard for future implementation in agroforestry farming systems.
75. *Pescatore A, Beshah YB, Orlandini S, Vivoli R, Napoli M.* Selenium biofortification of winter wheat (*Triticum aestivum* L.).
76. *Petroselli V, Radicetti E, Palomba I, Allam M, Atait M, Quintarelli V, Mancinelli R.* Processing tomato has affected by Barrier and Curzate in different soil fertilization.
77. *Piccoli I, Grillo F, Furlanetto I, Ragazzi F, Obber S, Bonato T, Meneghetti F, Ferlito J, Saccardo L, Morari F.* Liquid digestate fraction application might sustain winter wheat production improving the Nitrogen use efficiency.
78. *Piccoli I, Sartori F, Polese R, Berti A.* Evidence of declining carbon dynamics after 5 decades of different crop residue management.
79. *Piotto S, Panozzo A, Pasqualotto G, Carraro V, Barion G, Mezzalira G, Furlan L, Anfodillo T, Vamerali T.* The impact of alley-cropping on growth of poplars and yield of annual intercrops vs. conventional farming.
80. *Popolizio S, Stellacci AM, Barca E, Giglio L, Castellini M.* Investigating the effects of soil management in a long-term experiment in southern italy: preliminary results for the assessment of the soil hydraulic properties using the beerkan estimation of soil transfer parameter (BEST) methodology.
81. *Pulina A, Giannini V, Bertora C, Mula L, Patteri G, Carta M, Roggero PP.* The role of compost in mitigating soil greenhouse gases emissions from cardoon cropping systems.

82. *Radicetti E, Quintarelli V, Petroselli V, Allam M, Mancinelli R.* Weed community evolution in durum wheat - potato rotation after 4-year of organic and mineral fertilization.
83. *Raimondi G, Maucieri C, Borin M.* Are compost and digestate able to increase the soil organic carbon in a short time?
84. *Riefolo C, D'Andrea L.* A preliminary study of industrial hemp response to nitrogen fertilization using hyperspectral analysis
85. *Riefolo C, D'Andrea L.* An example of proximal plant sensing with hyperspectral analysis for precision irrigation of apricot.
86. *Rinaldi M, Ciavarella F, Giuliani MM, Gagliardi A, Carucci F, Nardella L, Soldo A, Gammino M, Buono V, Riezzo E, De Mastro G, Gatta G.* Processing tomatoes irrigated with treated wastewater: the RIUSIAMO Project.
87. *Ruggieri S, Rinaldi M, De Santis AP, Ciavarella F, Balenzano A, Palmisano D, Mattia F, Grassi R, Satalino G.* Soil tillage ground data for validating tillage change maps identified by remote sensed data.
88. *Scavo A, Abbate C, La Cara C, Fontanazza S, Formenti C, Salicola SA, Salvagno E, Pesce GR, Pandino G, Lombardo S, Anastasi U, Mauromicale G.* Intercropping of wheat and subterranean clover to enhance soil quality and reduce weed pressure.
89. *Sitzmann T, Zavattaro L, Moretti B, Grignani C, Oberson A.* Close contact between vermicompost and mineral fertilizers in soil improves an early uptake of mineral phosphorus by ryegrass.
90. *Tibaldi C, Alpi M, Frassinetti E, Dinelli G, Marotti I.* Legume based rotation in low input agricultural systems: sustainability aspects, agronomic traits and nutritional features.
91. *Tosti G, Falcinelli B, Farneselli M.* Sustainable intensification in organic agriculture through the use of intercropping, cover crops and biostimulants: the GO.BIO project.
92. *Tramacere LG, Sbrana M, Ricci A, Mazzoncini M, Antichi D.* Can shading affect Nitrogen fixation of forage legume swards? An assessment of B-value through the ^{15}N natural abundance method
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Session 4 - 2050 perspective: where to produce?

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96. *Calia C, Pulvento C, Ruta C, Tedone L, Stea D, De Mastro G.* Influence of biostimulants on legume crops in Mediterranean environments.
97. *Carillo P.* Durum wheat tolerance mechanisms to salinity in the Mediterranean climate change hotspot.
98. *Carucci F, Gagliardi A, Nardella E, Gatta G, Giuliani MM.* Effect of preceding crops on organic processing tomato grown in Mediterranean environment.
99. *Ciaramella BR, Piccitto A, Calcagno S, Patanè C, Cosentino SL, Testa G.* Tolerance of safflower to different concentrations of heavy metals polluted soil.
100. *Cirillo V, Lentini M, Ruggiero A, Esposito M, Maggio A.* Fucoïdants application induces positive morpho-physiological traits for increased drought tolerance in tobacco.
101. *Colovic M, Albrizio R, Yu K, Todorovic M, Cantore V, Montesano FF, Stellacci AM.* Hyperspectral vegetation indices to assess water and nitrogen status of sweet maize crop.
102. *Delfine S, Velikova VB.* Water availability and yield of spearmint cultivated in inland areas of Southern Italy.

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105. *Longo M, Dal Ferro N, Polese R, Morari F.* Increasing agronomic performance under shallow water table: is there an optimal depth?
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108. *Pannacci E, Onofri A, Monni V, Farneselli M, Tei F.* Effects of LED light spectrums on *Erigeron canadensis* L. germination and growth.
109. *Peroni P, Zegada-Lizarazu W, Mastroberardino R, Monti A.* Potential of biostimulants to increase *Sorghum bicolor* biomass production and phytoremediation efficiency.
110. *Ragolini G, Tavarini S, Mantino A, Angelini LG.* Assessing land suitability to sunflower (*Helianthus annuus* L.) cultivation in Tuscany using APSIM to predict yield potential and stability.