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TOPIC 1
ENABLING SUSTAINABLE WHEAT PRODUCTION IN A BROAD CROPPING SYSTEM. I CROP MANAGEMENT, SOIL CONSERVATION AND HEALTH

P1 - Activating genomic resources to decipher biological nitrification inhibition (BNI) in wheat
Ana Laura Achilli *(1)* ***- Jennifer Ens*** *(1)* ***- Krystalee Wiebe*** *(1)* ***- Susanne Dreisigacker*** *(2)* ***- Harmeet Chawala*** *(3)* ***- Sean Walkowiak*** *(4)* ***- Curtis Pozniak*** *(1)*
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P2 - Evaluating Genotype-by-Treatment Interactions in Hexaploid and Durum Wheat under Combined Water and Nutritional Stresses
Delfina Barabaschi *(1)* ***- Elisabetta Mazzucotelli*** *(1)* ***- Francesca Desiderio*** *(1)* ***- Alessandro Tondelli*** *(1)* ***- Alice Povesi*** *(1)* ***- Luigi Cattivelli*** *(1)*
(1) Council for Agricultural Research and Economics (CREA), Research Centre for Genomics and Bioinformatics, Fiorenzuola d'Arda, Italy

P3 - A comparison of innovation systems to enable public-private collaboration in wheat breeding
Lauren Benoit *(1)* ***- Mark Brock*** *(2)* ***- Josh Cowan*** *(3)* ***- Derek Freitag*** *(4)* ***- Adam Meyer*** *(5)* ***- Cami Ryan*** *(6)* ***- Curtis Pozniak*** *(1)*
(1) University of Saskatchewan, Crop Development Centre, Saskatoon, Canada - (2) Shepherd Creek Farms, Management, Staffa, Canada - (3) Grain Farmers of Ontario, Research and Innovation, Guelph, Canada - (4) Bayer Crop Science Canada, Unit E, Guelph, Canada - (5) Ontario Ministry of Agriculture, Food and Agri-Business, Research and Knowledge Management, Guelph, Canada - (6) Bayer Crop Science Canada, Industry Affairs and Sustainability, Calgary, Canada

P4 - Genetic differences in wheat nitrogen use efficiency are explained by radiation interception under contrasting nitrogen availabilities
Fabián Carrasco *(1)* ***- Daniel Calderini*** *(2)*
(1) Universidad Austral de Chile, Graduate School, Valdivia, Chile - (2) Universidad Austral de Chile, Instituto de Produccion y Sanidad Vegetal, Valdivia, Chile

P5 - From Maximum to Economically Optimal Yield and quality: Nitrogen Management Strategies for Winter Wheat in Flanders, Belgium
Bram Vervisch *(1)* ***- Jonas Claeys*** *(1)* ***- Jill Dillen*** *(2)* ***- Veerle Derycke*** *(3)* ***-Sofie Landschoot*** *(3)* ***- Jean-Pierre Pellissier*** *(2)*
(1) Inagro, Arable Crops, Roesalre, Belgium - (2) Soil Service of Belgium, Research, Heverlee, Belgium - (3) Ghent University, Department of Plants and Crops, Bottelare, Belgium

P6 - Effect of Biostimulant Application at Different Growth Stages on Wheat Grain Morphology
Jurica Duvnjak *(1)* ***- Josip Stanic*** *(2)* ***- Velimir Mladenov*** *(3)* ***- Valentina Spanic*** *(1)*
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P7 - Phenology-environment interactions drive critical period growth and yield in near isogenic wheat lines
Bonnie Flohr *(1)* ***- James Hunt*** *(2)* ***- Kate Maddern*** *(3)*
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P8 - Enhancing Durum Wheat Drought Resilience and Soil Fertility through Microbial Biostimulants and Wheat–Clover Intercropping Systems
Noemi Gatti *(1)* ***- Moez Maghrebi*** *(1)* ***- Matteo Spada*** *(2)* ***- Alessandra Salvioli di Fossalunga*** *(1)* ***- Marco Laiolo*** *(3)* ***- Stefano Maruccia*** *(3)* ***- Massimo Blandino*** *(3)* ***- Valentina Fiorilli*** *(1)* ***- Stefania Astolfi*** *(2)* ***- Gianpiero Vigani*** *(1)*
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P9 - Bread Wheat Varietal Mixtures Enhance Yield Stability and Grain Quality in Variable Environments

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P10 - Fragmented consensus: industry challenges in defining sustainable wheat

Nicolas Giordano *(1)* ***- Victor Sadras*** *(2)* ***- Terry Griffin*** *(3)* ***- Katherine Nelson*** *(4)* ***- Aastha Gautam*** *(1)* ***- Stephen Welch*** *(1)* ***- Mary Guttieri*** *(1)* ***- Hande McGinty*** *(5)* ***- Nirmal Gelal*** *(5)* ***- Carlos Bonini Pires*** *(6)* ***- Aryan Dalal*** *(5)* ***- Kelsey Andersen Onofre*** *(7)* ***- Jean Ribert Francois*** *(8)* ***- Deborah Kohl*** *(3)* ***- Trevor Hefley*** *(9)* ***- Pascal Hitzler*** *(5)* ***- Romulo Pisa Lollato*** *(1)*

P11 - Asymmetric day-night CO_2 enrichment and arbuscular mycorrhizal fungus synergistically alter crop growth and physiology in wheat/fababean intercropping

Xinhua He *(1)*

(1) Shanxi Agr U/Sichuan Agr U, Univ Western Australia/UC Davis, Taiyuan/Chengdu, China

P12 - Assessing the Economic Benefits of Blast-Resistant Wheat Varieties Adoption in Bangladesh: A Cost Efficiency Approach

Khaled Hasan Bappy *(1)* ***- Hasneen Jahan*** *(1)* ***- Mohammad Ariful Islam*** *(2)* ***- Pawan Kumar Singh*** *(3)*

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P13 - The Yield and Quality of Winter Wheat Grain under Different Sowing and Nitrogen Management Strategies: A Case Study in Northeastern Poland

Krzysztof Jankowski *(1)* ***- Krzysztof Lachutta*** *(1)*

(1) University of Warmia and Mazury in Olsztyn, Department of Agrotechnology and Agribusiness, Olsztyn, Poland

P14 - Conservation Agriculture for Sustainable Wheat Production under the Soil–Climate Conditions of Uzbekistan

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P15 - Growth dynamics and nitrogen utilization characteristics of a wheat line with biological nitrification (BNI) inhibition capacity

Miu Koga *(1)* ***- Akari Tanaka*** *(1)* ***- Ping An*** *(2)* ***- Satoshi Tobita*** *(3)* ***- Tadashi Yoshihashi*** *(4)* ***- Guntur Venkata Subbarao*** *(5)* ***- Masahiro Kishii*** *(4)* ***- Taiken Nakashima*** *(6)* ***- Hayato Maruyama*** *(6)* ***- Junichi Kashiwagi*** *(6)*

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P16 - Genomic Selection for Seedling Traits and Grain Yield to Maximize Productivity under Conservation Agriculture in Bread Wheat

Manjeet Kumar *(1)* ***- Rajbir Yadav*** *(1)* ***- Kiran gaikwad*** *(1)* ***- Prashanth babu*** *(1)* ***- Nasreen Saifi*** *(1)* ***- Shiv Kumar Singh*** *(1)* ***- Kunal Kumar*** *(1)*

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P17 - Integrated Biological and Chemical Control Strategies for the Management of Mycotoxin Contamination in Wheat Cropping Systems under Different Tillage Regimes

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P18 - Wheat productivity is often limited by drought and nutrient deficiency, particularly in Mediterranean environments
Ilaria Marcotuli *(1)* ***- Sara Muciaccia*** *(1)* ***- Davide Caranfa*** *(1)* ***- Cristian Forestan*** *(2)* ***- Marco Maccaferri*** *(2)* ***- Matteo Bozzoli*** *(2)* ***- Agata Gadaleta*** *(1)*
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P19 - Thinking outside the row – investigating alternate spatial arrangements in wheat cropping
Frank Mazzone *(1)* ***- James Hunt*** *(1)* ***- Juan Wang*** *(1)* ***- Mohammad Pourkheirandish*** *(1)* ***- James Manson*** *(2)*
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P20 - From knowledge to practice:
The economic assessment of improved varieties adoption in the case of wheat
Meryem Moulim *(1)* ***- Abdelali Laamari*** *(2)*
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P21 - A multidimensional framework for selecting soft wheat varieties in dryland environments integrating productivity, nitrogen use efficiency, stability and economic performance
Qudratullah Soofizada *(1)* ***- Antonio Pescatore*** *(1)* ***- Simone Orlandini*** *(1)* ***- Marco Napoli*** *(1)*
- (1) Department of Agriculture, Food, Environment and Forestry, University of Florence - Department of Agriculture, Food, Environment and Forestry, Firenze, Italy

P22 - Sensory profiles of wheat: Suitability for resilient production and consumer acceptance
Olawale Olalekan *(1)* ***- Julia Darlison*** *(1)* ***- Nikwan Shariatipour*** *(1)* ***- Karin Wendin*** *(2)* ***- Marcus Johansson*** *(2)* ***- Tina Henriksson*** *(3)* ***- Thomas Björklund*** *(4)* ***- Firuz Odilbekov*** *(3)* ***- Mahbubjon Rahmatov*** *(1)* ***- Eva Johansson*** *(1)*
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P23 - Remote sensing -based evidence from farmers' fields on how wheat benefits cropping systems
Pirjo Peltonen-Sainio *(1)* ***- Lauri Jauhiainen*** *(1)*
(1) Natural Resources Institute Finland LUKE, Field crop production, Helsinki, Finland

P24 - Perennial wheat and perennial cereals: grain and forage yield
Valentin Picasso *(1)*
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P25 - Timing Matters: Sowing Date Modulates Winter Wheat Agronomic Optimum Plant Density
Luiz Otavio Pradella *(1)* ***- Romulo Pisa Lollato*** *(1)*
(1) Kansas State University, Agronomy, Manhattan, United States

P26 - Enhancing Spring Wheat Adaptation in Northern Sweden Through Early Maturity, Yield Potential and Quality Improvement
Mahbubjon Rahmatov *(1)* ***- Firuz Odilbekov*** *(2)* ***- Johanna Fonskov*** *(2)* ***- Pernilla Vallenback*** *(2)* ***- Olawale Olalekan*** *(1)* ***- Mohammed Elsafy*** *(1)*
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P27 - Optimizing wheat agronomic inputs in the humid Midsouth region of the United States
Tyson Raper *(1)*

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P28 - Evaluating Planting Strategies and Varietal Canopy Architecture for Maximizing Winter Wheat Yield

Wallas da Silva (1) - ***Maninder Pal Singh*** (1)
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P29 - Restorative biostimulants as a strategic tool for drought resilience and resource efficiency in durum wheat systems

Matteo Spada (1) - ***Moez Maghrebi*** (2) - ***Giulia Quagliata*** (1) - ***Eleonora Coppa*** (1) - ***Roberto Ruggeri*** (1) - ***Francesco Rossini*** (1) - ***Gianpiero Vigani*** (2) - ***Stefania Astolfi*** (1)
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P30 - Primer crops to improve wheat productivity in high soil strength sandy soils

Wendy Vance (1) - ***Richard Bell*** (2) - ***David Minkey*** (3) - ***Roger Armstrong*** (4) - ***Nigel Wilhelm*** (5) - ***Yash Dang*** (6)
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P31 - Impact of fungicide strategies on yellow rust (Puccinia striiformis) and yield in winter wheat cultivars in Belgium

Derycke Veerle (1) - ***Kevin Dewitte*** (1) - ***Sofie Landschoot*** (1) - ***Joos Latré*** (2)
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P32 - Optimizing disease management and economic performance of winter wheat through varietal choice, application timing and variety mixtures under Flemish conditions

Bram Vervisch (1) - ***Jonas Claeys*** (1) - ***Sarah Bossuyt*** (1) - ***Veerle Derycke*** (2)
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P33 - A High Tillering QTn.mst-6B Allele Can Increase Productive Tillers And Yield Under High-Biomass Spring Wheat Cultivars Grown In Rainfed Environments

Mei-Ling Wong (1) - ***Jason Cook*** (1)
(1) Montana State University, Department of Plant Sciences & Plant Pathology, Bozeman, United States

P34 - Productivity and identification of high-yielding genotypes of perennial grain crops in rainfed farming conditions of South-Eastern Kazakhstan

Rauan Zhapayev (1) - ***Gulya Kunypiyaeva*** (2) - ***Aliya Alimzhanova*** (1) - ***Alexey Morgounov*** (3)
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P35 - The effects of strigolactone on the tiller formation in wheat

Min Zhu (1)
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P36 - Slow-release nitrogen fertilizer optimizes the vertical distribution of root systems and soil nutrients in the middle and later stage of wheat

Xinkai Zhu (1)
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TOPIC 2
ENABLING SUSTAINABLE WHEAT PRODUCTION IN A BROAD CROPPING SYSTEM. II PHENOMICS, ENVIROMICS, CROP MODELLING, DIGITAL AGRICULTURE

P37 - DiPredict – AI based optimization of selection under drought stress in wheat breeding
Muhammad Afzal [(1)]
[(1)] *Martin-Luther University Halle-Wittenberg, Institute of Agricultural and Nutritional Sciences, Halle (Saale), Germany*

P38 - Use of non-supervised clustering to classify wheat phenology
Patricia Arizo-García [(1)] **- *Enric Cruzado-Campos*** [(1)] **- *Sergio Castiñeira-Ibáñez*** [(2)] **- *Daniel Tarrazó-Serrano*** [(2)] **- *Alberto San Bautista*** [(1)]
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P39 - Image-based classification of cereal breeding trial plots in Martonvasar
Judit Banyai [(1)] **- *Gyorgy Balassa*** [(2)] **- *Monika Cseplo*** [(1)] **- *Klara Meszaros*** [(1)] **- *Peter Miko*** [(1)]
[(1)] *HUN-REN ATK, Researh center, Martonvasar, Hungary* - [(2)] *AGRON Analytics, Ltd., Budapest, Hungary*

P40 - AgroTwin: An Intelligent System for Winter Wheat Mapping, Growth Forecasting, and Decision Support
Mahendra Bhandari [(1)] **- *Ramana Math*** [(1)] **- *Ashutosh Tiwari*** [(1)] **- *Lei Zhao*** [(1)] **- *Vardan Urutyan*** [(2)] **- *Shannon Baker*** [(3)] **- *Juan Landivar*** [(1)] **- *Yuri Calil*** [(4)] **- *Banjamin Ghansah*** [(1)] **- *Jose Landivar-Scott*** [(1)] **- *Carla Naylor*** [(4)]
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P41 - Combining genomics, phenomics and phenotyping analysis to better characterize durum and bread wheat varieties under multi-environmental trials
Matteo Bozzoli [(1)] **- *Cristian Forestan*** [(1)] **- *Martina Bruschi*** [(1)] **- *Sandra Stefanelli*** [(1)] **- *Francesco De Sario*** [(1)] **- *Anna Giulini*** [(2)] **- *Matteo Ruggeri*** [(3)] **- *Davide Meriggi*** [(3)] **- *Edoardo Bartoccetti*** [(4)] **- *Sridapa Udupa*** [(5)] **- *Preben Klarskov Hansen*** [(6)] **- *Humberto Fanelli Carvalho*** [(7)] **- *Julio Isidro y Sánchez*** [(7)] **- *Fiona Doohan*** [(8)] **- *Lisa Black*** [(9)]
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P42 - NIRS-based models in Wheat Breeding: Potential and Challenges!
Pranvera Berisha [(1)] **- *Hermann Bürstmayr*** [(1)]
[(1)] *BOKU, University of Natural Resources and Life Sciences, Department of Agricultural Sciences, Institute of Crop Breeding and Genomics, Tulln an der Donau, Austria*

P43 - Development of a Decision Support System for Precision Agriculture in Soria: From uncertainty to Variable Rate-Nitrogen prescription maps in Wheat fields.
Enric Cruzado-Campos [(1)] **- *Patricia Arizo-García*** [(1)] **- *Sergio Castiñeira-Ibáñez*** [(2)] **- *Daniel Tarrazó-Serrano*** [(2)] **- *Constanza Rubio*** [(2)]
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P44 - Characterizing Wheat GxE Interactions via Factor Analytic Models and Climate Covariates for Cross Performance Prediction in Unobserved Environments.
Mitchell Eglinton [(1)] **- *Lee Hickey*** [(1)] **- *Ben Hayes*** [(1)] **- *Karine Chenu*** [(1)] **- *Eric Dinglasan*** [(1)] **- *Alison Kelly*** [(1)] **- *Bertus Jacobs*** [(2)]

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P45 - Temporal QLT mapping of canopy height using UAV-based phenotyping in bread wheat

Fabio Fania [1] **- Salvatore Esposito** [2] **- Damiano Puglisi** [1] **- Patrizio Spadanuda** [3] **- Abelardo Montesinos-López** [4] **- Osval A. Montesinos-López** [4] **- Paolo Vitale** [5] **- José Crossa** [6] **- Pasquale De Vita** [1]

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P46 - Explainable AI uncovers genomic regions associated with wheat yield prediction within a multimodal deep learning model

Rohini Trivedi [1] **- David Edwards** [1] **- Monica Furaste Danilevicz** [1]

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P47 - Managing for upside in a variable climate: envirotyping wheat yield frontiers

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P48 - Scaling law links plant growth variation to grain yield in wheat stands

Guy Golan [1] **- François Vasseur** [2] **- Yongyu Huang** [3] **- Kenan Tan** [3] **- Victor Sadras** [4] **- Cyrille Violle** [2] **- Thorsten Schnurbusch** [3]

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P49 - Genomic Prediction in Wheat: using Random Regression Models for Stability with Genotype-Specific Phenology Derived Environmental Covariates

Lucia Gutierrez [1] **- Pablo Sandro** [2] **- Rishap Dhakal** [2] **- Guillermo Sniadower** [3] **- Pablo Gonzalez-Barrios** [3]

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P50 - Applications of Drone-Based High-Throughput Phenotyping in Wheat Variety Evaluation

Nicolas Vuille-dit-Bille [1] **- Simon Treier** [1] **- Juan M. Herrera** [1]

[1] Agroscope, Production technology and cropping systems, Nyon, Switzerland

P51 - Relationships between UAV-derived vegetation indices, grain yield and plant height in wheat genotypes across growth stages and seasons

Vesna Kandić Raftery [1] **- Irina Marina Stević** [2] **- Nataša Ljubičić** [3] **- Dušan Urošević** [1] **- Maša Buđen** [4] **- Miloš Pajić** [5]

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P52 - Precision phenotyping of transpiration profiles and vegetation indices reveals importance of early response to drought in winter wheat

Solmaz Khosravi [1] **- Ahmed Elkhouly** [2] **- Eliyeh Ganji** [2] **- Andrea Matros** [3] **- Udo Seiffert** [3] **- Muhammad Afzal** [1] **- Andreas Maurer** [1] **- Sebastian Warnemünde** [2] **- Andreas Stahl** [2] **- Gwendolin Wehner** [2]

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P53 - Phenome-Emphasis - the French plant phenomic infrastructure
Jacques Le Gouis *(1)* ***- Tania Rougier*** *(1)* ***- Bertrand Muller*** *(2)*
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P54 - UAV Image-Based High-Throughput Phenotyping for Wheat Breeding: From Single Rows to Yield Plots
Ali Lotfi *(1)* ***- Steve Shirtliffe*** *(1)* ***- Adam Carter*** *(1)*
(1) University of Saskatchewan, University of Saskatchewan/Plant Sciences, Saskatoon, Canada

P55 - High-throughput stomatal phenotyping provides novel selection targets for stress-resilient wheat
Mahmoud Mabrouk *(1)* ***- Nicholas Russell*** *(1)* ***- Emilio Villar Alegria*** *(1)* ***- Tien-Cheng Wang*** *(1)* ***- Jui-An Liang*** *(2)* ***- Fang-Jin Wu*** *(2)* ***- Yunfeng Huang*** *(3)* ***- Benjamin Wittkop*** *(4)* ***- Rod Snowdon*** *(4)* ***- Lukas Förter*** *(4)* ***- Anna Moritz*** *(5)* ***- Eva Herzog*** *(5)* ***- Eliyeh Ganji*** *(6)* ***- Gwendolin Wehner*** *(6)* ***- Andreas Stahl*** *(6)* ***- Tsu-Wei Chen*** *(1)*
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P56 - FROM IMAGERY TO SELECTION: ADVANCING WHEAT BREEDING WITH UAV-BASED HIGH-THROUGHPUT PHENOTYPING
Ernandes Manfroi *(1)* ***- Victor Silva Signorini*** *(1)* ***- Ivana Sabljic*** *(1)* ***- Gustavo Mazurkievicz*** *(1)* ***- Francisco Saccol Gnocato*** *(1)* ***- Juan Ignacio Severo*** *(2)*
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P57 - AI-BASED SYSTEM TO SUPPORT SUSTAINABLE AGRICULTURE AND CEREAL SUPPLY CHAIN
Carmen Manganiello *(1)* ***- Giovanni Laidò*** *(1)* ***- Anna Maria Mastrangelo*** *(1)* ***- Donatella Bianca Maria Ficco*** *(1)* ***- Salvatore Colecchia*** *(1)* ***- Antonio Troccoli*** *(1)* ***- Valeria Menga*** *(1)* ***- Clara Fares*** *(1)* ***- Vanessa De Simone*** *(1)* ***- Maki Habib*** *(2)* ***- Chiara Sammarco*** *(3)* ***- Antonio Padovano*** *(3)* ***- Daniela Marone*** *(1)*
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P58 - Satellite-derived nitrogen nutrition index for precision fertilization in durum wheat: agronomic, economic and environmental performance
Carolina Fabbri *(1)* ***- Antonio Delgado*** *(2)* ***- Lorenzo Guerrini*** *(3)* ***- Marco Napoli*** *(1)*
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P59 - Evaluation of Photosynthetic Traits Across Various Hexaploid Wheat Genotypes
Preety Rani *(1)* ***- Mamrutha HM*** *(2)* ***- Zeenat Wadhwa*** *(3)* ***- Rinki khobra*** *(3)* ***- Vanita Pandey*** *(3)* ***- Yogesh Kumar*** *(3)* ***- Ratan Tiwari*** *(3)*
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P60 - Magnetic resonance imaging (MRI) for wheat grain phenotyping and beyond
Hardy Rolletschek *(1)* ***- Iaroslav Plutenko*** *(2)* ***- Christian Hänig*** *(2)* ***- Ljudmilla Borisjuk*** *(1)*
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P61 - Cross-Sensor Phenotyping Reveals Key Traits for Yield-Based Drought Tolerance in Wheat
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P62 - A Lightweight Semi-Automated Framework for Wheat Spike Segmentation and Spike-Level Phenotyping

Firozeh Solimani [(1)] **- *Nida Mushtaq*** [(1)] **- *Fabio Fania*** [(1)] **- *Salvatore Colecchia*** [(1)] **- *Giovanni Laido*** [(1)] **- *Nicola Pecchioni*** [(1)]

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P63 - Differential Antioxidative and Molecular Responses among Winter Wheat Genotypes: Implications for Precision Crop Management

Katarina Šunić Budimir [(1)] **- *Rosemary Vuković*** [(2)] **- *Velimir Mladenov*** [(3)] **- *Valentina Španić*** [(1)]

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P64 - Integrating OJIP kinetics and gas exchange traits to screen for drought tolerance in Wheat

Vishnukiran Thuraga [(1)] **- *Mahbubjon Rahmatov*** [(1)] **- *Lan Yuzhou*** [(1)] **- *Firuz Odilbekov*** [(2)] **- *Jonathan Cope*** [(3)] **- *Eva Johansson*** [(1)] **- *Aakash Chawade*** [(1)]

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P65 - From Climate Data to Durum Wheat Cultivar Selection: An AI-based Interpretable Decision-Support Framework

Walter Vieri [(1)] **- *Nastasiya F. Grinberg*** [(2)] **- *Andreina Belocchi*** [(3)] **- *Donatella Paffetti*** [(4)] **- *Matteo Buti*** [(4)]

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P66 - Disentangling genetic and environmental control of photosynthetic nitrogen dynamics in wheat canopies

Emilio Villar Alegria [(1)] **- *Nicholas J. Russell*** [(1)] **- *Tsu-Wei Chen*** [(1)]

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P67 - Rapid detection of wheat frost at seedling Stage using UAV based phenotyping

duoxia wang [(1)] **- *lei li*** [(1)] **- *shuaipeng fei*** [(1)]

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P68 - High-Throughput Phenotyping and QTL Analysis of Wheat Stomatal Density Enabled by Portable Microscopy and Deep Learning

yonggui xiao [(1)] **- *yidan jia*** [(1)] **- *shuaipeng fei*** [(1)] **- *lei li*** [(1)]

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P69 - Future climate threatens Australian wheat yield and quality

Zixiong Zhuang [(1)] **- *Emi Tanaka*** [(1)] **- *Richard Trethowan*** [(2)] **- *Danielle Way*** [(1)]

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P70 - Utilizing High-Throughput Phenotyping to Identify Metribuzin Tolerance in Winter Wheat

Melinda Zubrod [(1)] **- *Andrew Herr*** [(1)] **- *Pia Spychalla*** [(2)] **- *Ian Burke*** [(1)] **- *Arron Carter*** [(1)]

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TOPIC 3
CARBON FOOTPRINT OF WHEAT PRODUCTION: TOWARD A REDUCTION OF GREENHOUSE GAS EMISSIONS

P71 - Developing Nitrogen-Efficient Wheat Using Biological Nitrification Inhibition (BNI) Technology for Sustainable Production in the Indo-Gangetic Plains
Pradeep Kumar BHATI *(1)* **- *Manish kumar Vishwakarma*** *(1)* **- *Narain Dhar*** *(1)* **- *B M Prasanna*** *(2)*
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P72- Increasing the protein use efficiency of the MAGIC-WHEAT-Population WM-800
Ben Kohnert *(1)*
(1) Martin-Luther-Universität Halle-Wittenberg, Institute of Agricultural and Nutritional Sciences, Halle Saale, Germany

P.73 - CO_2 Footprint of the Wheat Value Chain from Farmers to Mills and Bakers
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TOPIC 4
EXPLORING WHEAT DIVERSITY, EVOLUTION AND GENETIC RESERVOIRS

P74 - Controlling wheat – rye interspecific crossability for Wheat and Triticale improvement
Bacon Antoine *(1)* **- *Sourdille Pierre*** *(1)* **- *Pitarch Anaïs*** *(1)* **- *Partier Anne*** *(1)* **- *Choulet Frederic*** *(1)* **- *Sakuma Shun*** *(2)* **- *Vautrin Sonia*** *(3)*
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P75 - An automated untargeted metabolomics analysis platform for large-scale samples and its application in wheat polyploidization research
Min Ao *(1)* **- *Zhitao Tian*** *(1)*
(1) National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Huazhong Agricultural University, Wuhan, China

P76 - Assessment of in situ wild emmer wheat genome evolution over long-term periods
Dana Bar-Zvi *(1)* **- *Cathy Melamed-Bessudo*** *(1)* **- *Dikla Lifshitz*** *(2)* **- *Einav Mayzlish-Gati*** *(2)* **- *Avraham A. Levy*** *(1)*
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P77 - Seed germination and seedling establishment in durum wheat: the role of heterosis and its influence in stress tolerance
Sara Belcapo *(1)* **- *Elise Rethoré*** *(2)* **- *Francesca Desiderio*** *(3)* **- *Nusrat Ali*** *(2)* **- *Lun Jing*** *(2)* **- *Clara Le Tennier*** *(2)* **- *Sandrine Jaguelin*** *(2)* **- *Eric Nguema-Ona*** *(2)* **- *Ignacio Ezquer*** *(1)*
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P78 - Wheat polyploidization - genome shock or business as usual?
Peter Civan *(1)* **- *Meriem Banouh*** *(1)* **- *Jerome Salse*** *(1)*
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P79 - Integrated Analyses of the Vrn-B1 Locus Reveal Structural Variations and Novel Allelic Diversity in Triticum spp.
Ida Colella *(1)* **- *Giuseppina Angione*** *(2)* **- *Salvatore Esposito*** *(3)* **- *Francesco Sestili*** *(1)* **- *Dominique Stephanie Hirsz*** *(4)* **- *Bethan Kate Soanes*** *(4)* **- *Laura Dixon*** *(4)* **- *Pasquale De Vita*** *(5)*
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P80 - Investigation of phenotypic and gene expression response to different vernalization regimes.
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P81 - Beyond Green Revolution Rht Genes: Candidate Loci Influencing Growth in Durum Wheat
Giuseppina Angione *[1]* ***- Concetta Lotti*** *[1]* ***- Salvatore Esposito*** *[2]* ***- Fabio Fania*** *[3]* ***- Damiano Puglisi*** *[3]* ***- Ida Colella*** *[4]* ***- Angelica Giancaspro*** *[1]* ***- Philippa Borrill*** *[5]* ***- Pasquale De Vita*** *[3]*
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P82 - Screening and Genetic Dissection of Common Bunt Resistance in a Diverse Wheat Panel
Claire Simone Ferreira *[1]* ***- Albrecht Serfling*** *[1]* ***- Andreas Stahl*** *[1]*
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P83 - Genetic Dissection of Root Architectural and Biomass Traits in Durum Wheat Landraces Using Rhizotron Experiments
Genet Atsbeha Fiseha *[1]* ***- Muhammad Awais Farooq*** *[1]* ***- Congying Zhou*** *[1]* ***- , Martina Bruschi*** *[1]* ***- Manar Makoul*** *[2]* ***- Francisco Pinto*** *[3]* ***- Chunyi Liu*** *[1]* ***- Xinying Z heng*** *[1]* ***- Cristian Forestan*** *[1]* ***- Matteo Bozzoli*** *[1]* ***- Matthew Reynolds*** *[3]* ***- Rod J S nowdon*** *[4]* ***- Enrico Noli*** *[1]* ***- Silvio Salvi*** *[1]* ***- Eric Ober*** *[5]* ***- Roberto Tuberosa*** *[1]* ***- Marco Maccaferri*** *[1]*
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P84 - Investigating the relationship between grain morphology and polysaccharide content in ancient and modern wheats
Mathilde Francin-Allami *[1]* ***- David Legland*** *[1]* ***- Axelle Bouder*** *[1]* ***- Sabine Martin*** *[2]* ***- Lucie Le Bot*** *[1]* ***- Sylvie Durand*** *[1]* ***- Lèna Brionne*** *[1]* ***- Amélie Bresson*** *[2]* ***- Clément Dubiton*** *[2]* ***- Camille Alvarado*** *[1]* ***- Angelina D'orlando*** *[1]* ***- Xavier Falourd*** *[1]* ***- Richard Sibout*** *[1]* ***- Christine Girousse*** *[2]* ***- Catherine Ravel*** *[2]* ***- Anne-Laure Reguerre*** *[1]* ***- Anne-Laure Chateigner-Boutin*** *[1]*
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P85 - Mutation Burden in Wheat Germplasm: It Is Time to Address This Genetic Cost
Yong-Bi Fu *[1]*
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P86 - Recent winter wheat cultivars from N.A.R.D.I. Fundulea possess a rare combination of high grain yield and good grain protein concentration
Serban Gabriela *[1]* ***- Marinciu Cristina Mihaela*** *[1]* ***- Galit Indira*** *[1]* ***- Mandea Vasile*** *[1]* ***- Vasilescu Silviu*** *[1]* ***- Saulescu N. Nicolae*** *[1]*
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P87 - Harnessing Untapped Genetic Diversity in Indian Dwarf Wheat (Triticum sphaerococcum) for Climate Resilience and Nutritional Enhancement

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P88- Dissecting the Root Growth Angle QTLome in tetraploid Wheat (Triticum turgidum ssps) as a Key Component of Drought Stress Resilience

Alessio Gaudino *(1)* ***- Muhammad Awais Farooq*** *(1)* ***- Martina Bruschi*** *(1)* ***- Manar Makoul*** *(2)* ***- Francisco Pinto*** *(3)* ***- Chunyi Liu*** *(1)* ***- Enrico Noli*** *(1)* ***- Matthew Reynolds*** *(4)* ***- Pasquale De Vita*** *(5)* ***- Nicola Pecchioni*** *(5)* ***- Rod J Snowdon*** *(2)* ***- Silvio Salvi*** *(1)* ***- Eric Ober*** *(4)* ***- Roberto Tuberosa*** *(1)* ***- Marco Maccaferri*** *(1)*

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P89 - Characterization of α-Gliadin amplicons and identification of celiac disease epitopes in Spanish wheat landraces.

Marta Gavilán-Camacho *(1)* ***- María H Guzmán-López*** *(1)* ***- Miriam Marín-Sanz*** *(1)* ***- Rosa Morcuende*** *(2)* ***- Juan B. Arellano*** *(2)* ***- Francisco Barro*** *(1)*

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P90 - Semi-dwarf Italian durum wheats: Thirty-five years of breeding progress under a changing Mediterranean climate

Rosella Motzo *(1)* ***- Simona Bassu*** *(1)* ***- Marco Dettori*** *(2)* ***- Gianluca Carboni*** *(3)* ***- Lucia Mameli*** *(3)* ***- Francesco Giunta*** *(1)*

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P91 - Induced Mutant Lines as a Source of Phenotypic Variability for Bread Wheat (Triticum aestivum L.) Improvement

Svetlana Glogovac *(1)* ***- Dragana Trkulja*** *(1)* ***- Dragana Miladinović*** *(1)* ***- Milan Mirosavljević*** *(2)* ***- Igor Vukelić*** *(1)* ***- Ankica Kondić-Špika*** *(1)*

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P92 - The Complete Chloroplast Genome of Triticum araraticum Reveals a Mismatch in the Origin of Georgian Zanduri Wheat (T. timopheevii)

Mari Gogniashvili *(1)* ***- Natia Tepnadze*** *(2)* ***- Nana Kunelauri*** *(1)* ***- Assaf Distelfeld*** *(3)*

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P93 - Dynamics of repetitive DNA sequences over the course of evolution and intraspecific divergence of tetraploid goat-grass species Aegilops biuncialis Vis.

Maida Jazmin Gonzalez Franco *(1)* ***- Olga Razumova*** *(1)* ***- Viktoria Sokolova*** *(1)* ***- Anna Yurkina*** *(1)* ***- Viktoria Voronezhskaya*** *(1)* ***- Daniil Ulyanov*** *(1)* ***- Mikhail Divashuk*** *(1)* ***- Ekaterina Badaeva*** *(1)*

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P94 - Influence of the root system in the performance of wheat under sustainable systems - TRigoSost

Carla Guijarro-Real *(1)* ***- María Ángeles Morales-Céspedes*** *(1)* ***- Patricia Giraldo*** *(1)*

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P95 - Digitalize wheat haplotype block diversity towards cost-efficient genotyping and knowledge integration

Wenxi Wang *(1)* ***- Zihao Wang*** *(1)* ***- Zhengzhao Yang*** *(1)* ***- Zhe Chen*** *(1)* ***- Zhaoxing Yu*** *(1)* ***- Xiaoming Xie*** *(1)* ***- Siqi Chen*** *(1)* ***- Jianxia Niu*** *(1)* ***- Huiru Peng*** *(1)* ***- Zhongfu Ni*** *(1)* ***- Qixin Sun*** *(1)* ***- Weilong Guo*** *(1)*

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P96 - Accumulation of ph1 (zip4-5B) and ph2 (msh7-3D) mutations fails to boost homoeologous recombination in hexaploid wheat
Camille Haquet *(1)* **- *Isabelle Nadaud*** *(1)* **- *Azahara C. Martin*** *(2)* **- *Maria-Dolores Rey*** *(2)* **- *Asma Ben Bouslah*** *(1)* **- *Carus John-Bejai*** *(3)* **- *Graham Moore*** *(2)* **- *Pierre Sourdille*** *(1)*
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P97 - Exploring seasonality in wheat through alternative growth habits
Dominique Hirsz *(1)* **- *Beth Soanes*** *(1)* **- *India Lacey*** *(2)* **- *Harry Taylor*** *(3)* **- *Laura Dixon*** *(1)*
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P98 - Molecular characterization of introgressions from Thinopyrum ponticum conferring stem solidness in Canadian Wheat.
Sandra Ibellow *(1)* **- *Martha Bonilla-Bentancourt*** *(1)* **- *Carlos Erazo*** *(1)* **- *Pierre Hucl*** *(1)* **- *Adam Carter*** *(1)*
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P99 - Multiple modes of chromosome elimination during hybrid embryogenesis in the subfamily wide hybridization of wheat, oat, and Pennisetum species
Takayoshi Ishii *(1)*
(1) Tottori University, International Platform for Dryland Research and Education, Tottori, Japan

P100 - Genome-wide association study of male reproductive traits reveals a novel locus in Aegilops tauschii
Hiroyuki Kakui *(1)* **- *Moeko Okada*** *(2)* **- *Wei Guo*** *(3)* **- *Yoshihiro Matsuoka*** *(4)*
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P101 - A trait-customized Wheat (*Triticum aestivum L.*) core-collection provides sources of resistance against powdery mildew (*Blumeria graminis*) for its use in pre-breeding
Sandip Kale *(1)* **- *Stefanie Lueck*** *(2)* **- *Dimitar Douchkov*** *(2)* **- *Jochen Reif*** *(2)*
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P102 - The Impact of Transposable Elements on Homeolog Expression Drives Adaptation in Bread Wheat
Khalil Kashkush *(1)*
(1) Ben-Gurion University, Ben-Gurion University, Beer-Sheva, Israel

P103 - Activating the global potential of the Australian Grains Genebank with open data, digital tools and AI
Gabriel Keeble-Gagnere *(1)* **- *Kerrie Forrest*** *(1)* **- *Debbie Wong*** *(1)* **- *Don Isdale*** *(1)* **- *Luisa Teasdale*** *(1)* **- *James O'Dwyer*** *(1)* **- *Mahdi Rahimi*** *(1)* **- *Kenny Yu*** *(1)* **- *Kanak Jain*** *(1)* **- *Frank Su*** *(1)* **- *Parampreet Kaur*** *(1)* **- *Shiva Azizinia*** *(1)* **- *Irene Van den Berg*** *(1)* **- *Sivakumar Sukumaran*** *(1)* **- *Sally Norton*** *(1)* **- *Matthew Hayden*** *(1)*
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P104 - Discovery of Stem Rust Resistance in a Wheat Wild Relative Using Bulked Segregant Analysis Sequencing
Madison Kist *(1)* **- *Valentyna Klymiuk*** *(1)* **- *Curtis Pozniak*** *(1)*
(1) Crop Development Centre, University of Saskatchewan, Saskatoon, Canada

P105 - Population structure and genetic diversity of Japanese wheat collection assessed by genome-wide genotyping and gene targeted sequencing
Shoya Komura *(1)* **- *Haruki Nakamura*** *(2)* **- *Nobuyuki Mizuno*** *(1)* **- *Yutaka Sato*** *(1)* **- *Tsuyoshi Tanaka*** *(3)* **- *Goro Ishikawa*** *(1)* **- *Fuminori Kobayashi*** *(1)*
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P106 - Genomic analysis of Thinopyrum spp. introgressions on durum wheat 7AL arm via flow-sorted chromosome sequencing

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P107 - Winter survival in Iceland explained by population structure in Nordic winter wheat germplasm

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P108 - Stability of grain yield and protein content in winter wheat under varying production conditions

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P109 - Wheat Genetic Background Selection: A Core Prerequisite for Wide Hybridization and Efficient Utilization of Agropyron cristatum 6P Elite Genes

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P110 - Breeding for Better Durum: Enhancing Defense Against Fusarium Headblight Disease

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P111 - Variability of grain yield and quality in winter wheat accessions from the Croatian gene bank released over 60-year period

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P112 - Yield and Yield Components Evaluation in a Subset of Genotypes from the Global Durum Panel (GDPv1) Under Drought and Normal Rainfall Conditions

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P113 - Genome-wide association study of root morphology traits in a collection of durum wheat cultivars and landraces

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P114 - Epigenomic dynamics and changes in chromosomal architecture during synthetic wheat formation

Messerer Maxim *(1)* ***- McKenzie Neil*** *(2)* ***- Juhasz Angela*** *(3)* ***- Horsnell Richard*** *(4)* ***- Lan Yuxuan*** *(5)* ***- Gundlach Heidrun*** *(1)* ***- Gardiner Laura*** *(5)* ***- Kamal Nadia*** *(6)* ***- Lang Daniel*** *(1)* ***- Martin Azahara*** *(2)* ***- Goodwin Sara*** *(7)* ***- McCombie Richard*** *(7)* ***- Regulski Michael*** *(7)* ***- Martienssen Rob*** *(7)* ***- Moore Graham*** *(2)* ***- Mayer Klaus F X*** *(1)* ***- Hall Anthony*** *(5)* ***- Spannagl Manuel*** *(1)* ***- Bevan Michael*** *(2)*

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P115 - Morphological and Genetic Diversity in Serbian Wheat Germplasm

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P116 - The indigenous, traditional Georgian wheat species, disease-resistant and healthy food

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P117 - Integration of molecular cytogenetic techniques and SNP genotyping to identify the genomic loci associated with Aegilops speltoides derived leaf rust resistance gene

Niranjana Murukan *(1)* ***- Ragini R*** *(1)* ***- Malavika N Shal*** *(1)* ***- Navpreet Kaur Sekhon*** *(1)* ***- Priyanka Agarwal*** *(1)* ***- Chetna Chugh*** *(1)* ***- Prachi Yadav*** *(1)* ***- Niharika Mallick*** *(1)* ***- SK Jha*** *(1)* ***- SMS Tomar*** *(1)* ***- Vinod .*** *(1)*

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P118 - Exploring the regulatory mechanisms of hybrid incompatibilities in synthetic hexaploid wheat by transcriptome analysis

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P119 - Linking aneuploidy, meiotic irregularities and fertility to phenology in synthetic octoploid wheat derived from Triticum turgidum and Aegilops columnaris

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P120 - Unlocking Global Wheat Diversity through the Panphenome

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P121 - Potential of traditional Spanish wheat varieties for organic farming and end-use quality analysis

José Palma *(1)* ***- Laura Pascual*** *(1)* ***- Elena Benavente*** *(1)* ***- Patricia Giraldo*** *(1)*

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P122 - Potential of traditional Spanish wheat varieties for organic farming and end-use quality analysis

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P123 - QTL mapping for seminal root traits in Meridiano × Kyperunda durum wheat RIL population

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P124 - Uncovering Alien Defences: Detecting Rust Resistance Introgressions in Wheat Using High-Density SNP Arrays and Segmentation

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P125 - High-Resolution Genomics Enables Rapid Gene Discovery in Aegilops longissima

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P126 - Identification and mapping of Hessian fly resistance genes in elite spring bread wheat genotypes

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P127 - Differential Phosphorus Acquisition Strategies in Triticum turgidum ssp. durum: Plant Nutritional Insights for Future Breeding

Tobias Reineke *(1)* ***- Steffen Parl*** *(1)* ***- Mahdi Jalali*** *(1)* ***- Mirriam Chishala Chibesa*** *(2)* ***- Raphael Tiziani*** *(2)* ***- Salvatore Esposito*** *(3)* ***- Tanja Mimmo*** *(2)* ***- Pasquale De Vita*** *(3)* ***- Jakob Santner*** *(1)*

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P128 - Australian donors based wheat nested association mapping population enhanced genetic diversity for stripe rust adult plant resistance in high yielding cultivars from eastern africa and south asia

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P129 - Defining the juvenile-to-adult phase transition in wheat revealed its diversification among spring wheat varieties

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P130 - Evaluation, validation and mapping of unknown leaf and stripe rust resistances from wheat genetic resources

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P131 - Genome Assemblies and Comparative Genomics of 18 Aegilops Species Reveal Evolutionary Dynamics in Diploid and Polyploid Wild Wheat Relatives

Hamna Shazadee *(1)* ***- Tara Edwards*** *(2)* ***- Madeleine Lévesque-Lemay*** *(2)* ***- Chunfang Zhang*** *(3)* ***- Jennifer Ens*** *(4)* ***- Frank M. You*** *(3)* ***- Curtis J. Pozniak*** *(4)* ***- Sylvie Cloutier*** *(2)*

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P132 - Integrating High-Throughput Genomics and Advanced Bioinformatics to Rationalize and Enhance Utilization of Wheat Genetic Resources from the National Genebank of India

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P133 - Watkins wheat landraces: a treasure of stripe rust resistance alleles identified using multi-model association analyses

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P134 - Unlocking adaptive genetic diversity in Mediterranean durum wheat using genome-wide association analysis

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P135 - Identification of novel genes for early heading from wild emmer wheat collected in Israel

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P136 - Global diversity of arabinoxylans, alkylresorcinols and phenolic acids in 180 rye (Secale cereale L.) accessions: implications for functional food innovation

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P137 - Phenotypic Characterization of Serbian Bread Wheat Landraces for Breeding-Relevant Traits

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P138 - A spike length QTL co-localizing with TaERF-A1 shows pleiotropic effects on plant height and agronomic traits

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P139 - A Balkan Durum Wheat Panel for Resistance to Mosaic and Streak Viruses under Climate Change

Ana Velimirović *(1)* **- *Yu Cai*** *(2)* **- *Heike Lehnert*** *(3)* **- *Jelena Zindović*** *(1)* **- *Zoran Jovović*** *(1)* **- *Novo Pržulj*** *(4)* **- *Marco Maccaferri*** *(5)* **- *Giacomo Mangini*** *(6)* **- *Mariella Matilde Finetti-Sialer*** *(6)* **- *Jitendra Thakur*** *(7)* **- *Gordana Lastovicka Medin*** *(8)* **- *Dragan Perović*** *(2)*

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P140 - Yield Performance of Synthetic-derived Winter Wheat Lines in the U.S. Southern Great Plains

Qingwu Xue *(1)* **- *Shuyu Liu*** *(2)* **- *Jackie Rudd*** *(1)* **- *Amir Ibrahim*** *(3)* **- *Shannon Baker*** *(1)* **- *Jason Baker*** *(1)* **- *Kirk Jessup*** *(1)*

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P141 - Deleterious Mutational Load Across Wheat Evolution: From Wild Diploid Progenitors to Hexaploid Bread Wheat
Peter Zhurbenko (1) **- *Avraham Levy*** (1)
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P142 - An Anarchist's Guide to Public/Private Collaborations
William Zorrilla (1)
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TOPIC 5
WHEAT GENOMES AND PANGENOMES

P143 - Annotation Is the New Bottleneck in Plant Genomics: Frame-Sensitive Detection of CDS Discrepancies with CDScompare, Applied to Hexaploid Wheat
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P144 - Towards Developing a Pangenome and Haplotype Catalogue for Yield and Yield Related Traits in Wheat
Anu Chitikineni (1) **- *Yan Huang*** (1) **- *Chengzhi Jiao*** (2) **- *Yongchao Hao*** (2) **- *Kefei Chen*** (3) **- *Dion Bennett*** (4) **- *Zhonghua Chun*** (5) **- *Richard Harper*** (6) **- *Liu Xin*** (7) **- *Reyazul Rouf Mir*** (1) **- *Rajeev Varshney*** (1)
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P145 - Studing fusarium head blight resistance in durum wheat through snp-based linkage analysis
Pasqualina Colasuonno (1) **- *Ilaria Marcotuli*** (1) **- *Maria Simone*** (1) **- *Davide Caranfa*** (1) **- *Stefania Lucia Giove*** (1) **- *Rita Milvia De Miccolis Angelini*** (1) **- *Agata Gadaleta*** (1)
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P146 - Genetic Variation and Association Mapping Studies in Elite Spring Bread Wheat Genotypes for Yield and Other Agronomic Traits under Irrigated and Rainfed Environments
Zakaria El Gataa (1) **- *Rania Gamal*** (2) **- *Wuletaw Tadesse*** (3)
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P147 - QTL mapping of Fusarium head blight resistance in durum wheat using near-isogenic lines
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P148 - Identification and Analysis of the TCP Gene Family in Wheat
Zhan Gao (1)
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P149 - Genome assembly and annotation of bread wheat and synthetic hexaploid wheat lines as a resource for structural variation analysis and leaf rust resistance gene discovery
Bosen Jia (1) **- *Sylvie Cloutier*** (2) **- *Frank You*** (2) **- *Tara Edwards*** (1) **- *Chi Dawn*** (1) **- *Chunfang Zheng*** (1) **- *Madeleine Lévesque-Lemay*** (1) **- *Brent McCallum*** (3) **- *Colin Hiebert*** (3) **- *Leslie Bezte*** (3) **- *Elsa Reimer*** (3) **- *Curt McCartney*** (4) **- *Curtis Pozniak*** (5) **- *Joel Ens*** (5)
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P150 - *De-novo* annotation of the wheat pangenome reveals complexity and diversity of the hexaploid wheat pan-transcriptome

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P151 - Transposable Element Exaptation as a Source of Gene Innovation in Bread Wheat

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P152 - Use of AI in wheat databases: overview and prospects

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P153 - High-Resolution Mapping of the 5B-7B Reciprocal Translocation in Wild Emmer Wheat via De Novo Assembly

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P154 - k-mer based approaches to exploit haplotypes and introgressions from genebank collections

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P155 - From k-mers to candidates: Dissecting structural diversity and novel resistance haplotypes at the wheat Yr47/Lr52 locus

Bernice Waweru [1] **- Burkhard Steuernagel** [2] **- Rachel Goddard** [3] **- Ryan Joynson** [3] **- Isidore Ambroise Diouf** [4] **- Cristobal Uauy** [1]

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P156 - Bioinformatics Analysis of the ADK Gene Family in Wheat

LiYing Li [1] **- *ZhaoChangjiang Zhao*** [1]

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TOPIC 6
WHEAT FUNCTIONAL GENOMICS

P157 - Harnessing Skim-Sequencing for High-Throughput Genomic Analysis in Wheat and Wild Relatives

Laxman Adhikari [1] **- Jesse Poland** [1] **- Shuangye Wu** [2]

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P158 - Wheat genotype impacts plant responses to biosolutions
Claire Benezech *(1)* ***- Valentine Fontaine*** *(1)* ***- Louis-Valentin Meteignier*** *(1)* ***- Jean-Benoit Morel*** *(1)* ***- Marie-Emmanuelle Saint Macary*** *(2)*
(1) PHIM, University of Montpellier, Montpellier, France - (2) Frayssinet, fertilizers and biostimulants producer, Rouairoux, France

P159 - TaPIF3 integrates light and gibberellin responses to control chloroplast development and growth in wheat
Daisy Bown *(1)* ***- Ben Sibbett*** *(1)* ***- Lorraine E. Williams*** *(1)* ***- Peter Hedden*** *(2)* ***- Stephen G. Thomas*** *(3)* ***- Matthew J. Terry*** *(1)*
(1) School of Biological Sciences, University of Southampton, Southampton, United Kingdom - (2) Laboratory of Growth Regulators, Institute of Experimental Botany and Palacký University, Olomouc, Czech Republic - (3) Rothamsted Research, Rothamsted Research, Harpenden, United Kingdom

P160 - Current Progress and Future Perspective in Wheat Spatial Omics
Zhong-Hua Chen *(1)*
(1) The University of Adelaide, School of Agriculture, Food and Wine, Glen Osmond, Australia

P161 - Breaking the Silence: Understanding Recombination Suppression in Wheat Wild Gene Introgressions
Floriane Chéron *(1)* ***- Luxi Yan*** *(1)* ***- Isabelle Nadaud*** *(1)* ***- Pierre Sourdille*** *(1)*
(1) INRAE, GDEC, Clermont-Ferrand, France

P162 - Transcriptome Analysis Of Durum Wheat Under Heat Stress
Boris Demenou *(1)* ***- Saad En Naimani*** *(2)* ***- Matthieu Bogard*** *(2)*
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P163 - Assessing aquaporin phospho-regulation and drought response relationships in wheat
Joseph Esimu *(1)* ***- Annamaria De Rosa*** *(1)* ***- Samantha McGaughey*** *(1)* ***- Rose Zhang*** *(1)* ***- Alison Bentley*** *(2)* ***- Gonzalo Estavillo*** *(2)* ***- Jessica Hyles*** *(2)* ***- Caitlin Byrt*** *(1)*
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P164 - OPRIII-B1 copy number variation association with root system architecture (RSA) and growth dynamics in tetraploid wheat
Nikolay Govta *(1)* ***- Gal Shaked-Raz*** *(1)* ***- Hanan Sela*** *(1)* ***- Gilad Gabay*** *(2)* ***- Jorge Dubcovsky*** *(3)* ***- Tzion Fahima*** *(1)* ***- Tamar Krugman*** *(1)*
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P165 - Environment-Dependent Epigenetic Modulation of Stem Solidness in Wheat
Arpit Gaur *(1)* ***- Duncan Pantos*** *(1)* ***- Andrew Lehrenz*** *(1)* ***- Suchismita Mondal*** *(1)*
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P166 - Deciphering the transgressive yield in commercial cultivar ND5181 through the lens of transcriptional modules
Zhe Chen *(1)* ***- Qiuyuan Li*** *(1)* ***- Lingfeng Miao*** *(1)* ***- Danyang Zhao*** *(1)* ***- Yongming Chen*** *(1)* ***- Yanhong Liu*** *(1)* ***- Shiqi Chen*** *(1)* ***- Chenji Zhang*** *(1)* ***- Zhengzhao Yang*** *(1)* ***- Jie Liu*** *(1)* ***- Zhaorong Hu*** *(1)* ***- Yufeng Zhang*** *(1)* ***- Mingshan You*** *(1)* ***- Huiru Peng*** *(1)* ***- Zhongfu Ni*** *(1)* ***- Qixin Sun*** *(1)* ***- Jiewen Xing*** *(1)* ***- Weilong Guo*** *(1)*
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P167 - Integrating GWAS,Haplotype Mapping and Genomic Selection to Unlock the Diversity of Ancient Indian Dwarf Wheat (Triticum sphaerococcum)for Biotic,Abiotic Stresses,Nutrition and Nitrogen use efficiency
Farkhandah Jan *(1)* ***- Mukesh Rathore*** *(1)* ***- Nikita Aggarwal*** *(1)* ***- Mahpara Bashir*** *(1)* ***- Pawanjeet Kaur*** *(1)* ***- Rohit Kumar*** *(1)* ***- Mohd Anwar Khan*** *(1)* ***- Sundeep Kumar*** *(2)* ***- Anu Chitikineni*** *(3)* ***- Rajeev K Varshney*** *(3)* ***- Reyazul Rouf Mir*** *(3)*
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Genomic Resources, New Delhi, India - [3] Murdoch University - Perth Campus: Murdoch University, Centre for Crop & Food Innovation (CCFI), Perth, Australia

P168 - Refining the candidate region of a major gene Ymhk responsible for resistance to wheat yellow mosaic virus

Kenji Kawaguchi *[1]* ***- Takehiro Ohki*** *[2]* ***- Kazumitsu Onishi*** *[3]* ***- Koichi Hatta*** *[4]* ***- Fuminori Kobayashi*** *[5]* ***- Toshiharu Shuri*** *[4]*

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P169 - Dynamic atlas of histone modifications and gene regulatory networks in endosperm of bread wheat

Yuqi Li *[1]* ***- Chao He*** *[1]* ***- Siteng Bi*** *[1]* ***- Chengxiang Song*** *[1]* ***- Heping Zhang*** *[1]* ***- Xintong Xu*** *[1]* ***- Qiang Li*** *[1]* ***- Sulaiman Saeed*** *[1]* ***- Wei Chen*** *[1]* ***- Chunjie Zhao*** *[1]* ***- Caixia Lan*** *[1]* ***- Handong Su*** *[1]* ***- Hailiang Mao*** *[1]* ***- Wenhao Yan*** *[1]*

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P170 - Investigating the Regulatory Mechanism of VRN2 and VRN3 in Mediating Adaptation to Photoperiod and Vernalization in Wheat (Triticum aestivum L)

Ankui Liu *[1]*

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P171 - The investigation of genetic control of leaf senescence in wheat

Yalin Liu *[1]* ***- Chris Buckley*** *[1]* ***- Mike Haydon*** *[1]*

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P172 - QTL Mapping for Sulfur Utilization Efficiency Traits in Wheat Seedlings

Long Teng Ma *[1]* ***- Jia Li Li*** *[1]* ***- Ying Hua Su*** *[1]* ***- Yan Zhao*** *[1]*

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P173 - Breeding Implications of Wheat Tiller-1 (WT-1) in Optimizing Tiller Architecture and Yield Potential

Rizwana Maqbool *[1]* ***- Ragupathi Nagarajan*** *[2]* ***- Mutti Jasdeep*** *[3]* ***- Kulvinder Gill*** *[4]*

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P174 - TaRCR1-A enhances wheat regeneration by modulating cytokinin levels via CKX activation

Hui Meng *[1]* ***- Ke Xin Gao*** *[1]* ***- Liang-Zi Zhou*** *[1]* ***- Ying Hua Su*** *[1]*

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P175 - Investigating the Influence of Genomic Location: Gene Expression and Fusarium Head Blight Response in Wheat-Rye introgression lines.

Chidimma Gift Omenoba-Nee Ubah *[1]* ***- Ding Li*** *[2]* ***- Hans-Wilhelm Nuetzmann*** *[3]*

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P176 - Deciphering Iron Uptake and Mobilisation Pathways in Hexaploid Wheat Through Functional Genomics

Ajay Kumar Pandey *[1]*

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P177 - Identification of novel resistance loci to Septoria tritici blotch (STB) in winter wheat using Genome-Wide Association Mapping
Dominika Piaskowska *(1)* ***- Urszula Piechota*** *(1)* ***- Magdalena Radecka-Janusik*** *(1)* ***- Piotr Słowacki*** *(1)* ***- Paweł Czembor*** *(1)*
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P178 - Spatial transcriptomic dissection of floral meristem fate in multi-ovary and single-ovary wheat
Yue Qu *(1)* ***- Cong Tan*** *(2)* ***- Guilherme V. Yoshikawa*** *(1)* ***- Scott A. Boden*** *(1)*
(1) Adelaide University, School of agricultural, food and wine, Adelaide, Australia - (2) BGI, BGI Research, Shenzhen, China

P179 - From Triticeae to Avenae: Translational Dissection of the miR156/SPL and VRN Modules to fine-tune flowering in Hexaploid Oat
Mehtab Singh *(1)* ***- Sharanaya Tripathi*** *(1)* ***- Arvind Ambalatharasan*** *(1)* ***- Rajvinder Kaur*** *(1)* ***- Jaswinder Singh*** *(1)*
(1) McGill University, Plant Science, Montreal, Canada

P180 - Genome-wide association analysis of wheat core collection based on grain protein content
Jae-Han Son *(1)* ***- ChanHyun Choi*** *(1)* ***- Myoung-Goo Choi*** *(1)* ***- Jun-Seok Choi*** *(1)* ***- Myoung-Hui Lee*** *(1)* ***- Min-Ju Kim*** *(1)* ***- Chon-Sik Kang*** *(1)*
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P181 - SQUAMOSA Promoter Binding-Like (SPL) Proteins interact with Pullulanase to Regulate Starch Metabolism in Wheat
Sharanya Tripathi *(1)* ***- Zhou Zhou*** *(2)* ***- Arvind Ambalatharasan*** *(1)* ***- Mehtab Singh*** *(1)* ***- Rajvinder Kaur*** *(3)* ***- Jaswinder Singh*** *(1)*
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P182 - TaERE gene improves shoot regeneration and transformation efficiency in wheat
Xin Yu Wang *(1)* ***- Feng Jie Liu*** *(1)* ***- Liang-Zi Zhou*** *(1)* ***- Ying Hua Su*** *(1)*
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P183 - Telomere-to-telomere genome assembly reveals the genomic architecture of disease resistance and yield coordination in elite wheat YM33
Yating Wang *(1)*
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P184 - Consideration on the design of inflorescence for high yield potential of wheat
Yi Peng Wang *(1)* ***- Liang-Zi Zhou*** *(1)* ***- Ying Hua Su*** *(1)*
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P185 - Genetic and molecular dissection of brassinosteroid-regulated plant architecture in barley
Shunlin Zhang *(1)*
(1) Murdoch University, Murdoch University, Perth, Australia

P186 - A Spatial Transcriptomic Atlas of Early Wheat Spike Development
Xiang Zhang *(1)* ***- Liang-Zi Zhou*** *(1)* ***- Ying Hua Su*** *(1)*
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P187 - Multi-omics analyses uncover regulatory networks governing flavonoid biosynthesis in Triticum aestivum
Yueqi Zhang *(1)* ***- Wei Chen*** *(1)*
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TOPIC 7
INNOVATIVE WHEAT BREEDING

P188 - The Establishment of the First Speed Breeding Facility in Central Asia and Fine-Tuning of Its Protocol
Aibek Abduakassov *(1)* **- *Kanat Yermekbayev*** *(1)*
(1) Zhetysu university named after Iliyas Zhansugurov, Laboratory of Molecular genetics and genomics, Taldykorgan, Kazakhstan

P189 - Phenological adjustment: a tool for developing advanced durum wheat lines adapted to Chile Mediterranean rainfed areas
Christian Alfaro Jara *(1)* **- *Marcela Opazo*** *(2)* **- *Felipe Rubilar*** *(3)* **- *Iván Matus*** *(4)* **- *Dalma Castillo*** *(4)*
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P190 - Wheat: staple and strategic crop in Uzbekistan
Oybek Amanov *(1)* **- *Diyor Juraev*** *(1)* **- *Sherzod Dilmurodov*** *(1)* **- *Nurzod Boysunov*** *(1)*
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P191 - Gibberellin-responsive dwarfing gene Rht13 reduces plant height and internodal length to enhance grain yield and drought tolerance in wheat
Muhammad Arslan Khalid *(1)* **- *Zulfiqar Ali*** *(1)* **- *Rizwana Maqbool*** *(1)*
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P192 - Improving Lr34 Adult Plant Rust Resistance in Wheat
Saeid Babaei *(1)* **- *Peng Zhang*** *(2)* **- *Smriti Singh*** *(2)* **- *Rohit Mago*** *(1)* **- *Evans Lagudah*** *(1)* **- *Ming Luo*** *(1)* **- *Michael Ayliffe*** *(1)*
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P193 - Genomic prediction of stem structural biomass uncovers productivity trade-off under Mediterranean climate
Simeon Ntawuguranayo *(1)* **- *Roy Sadeh*** *(1)* **- *Molla Geb Taye*** *(1)* **- *Hanan Sela*** *(2)* **- *Ittai Herrmann*** *(1)* **- *Zvi Peleg*** *(1)* **- *Roi Ben-David*** *(3)*
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P194 - CRISPR/Cas9-mediated mutagenesis of the RING-type E3 ubiquitin ligase, TaGW2, in the elite Canadian cultivar AAC Brandon increases grain size and weight but reduces total grain number per plant
Andriy Bilichak *(1)* **- *Louie Lopos*** *(1)* **- *Zhen Yao*** *(1)* **- *Curt McCartney*** *(2)* **- *Brent McCallum*** *(1)* **- *Sean Walkowiak*** *(3)* **- *Santosh Kumar*** *(4)* **- *Lovemore Malunga*** *(1)*
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P195 - Introgression and in-field validation of stem solidness from Thinopyrum ponticum into adapted Canadian hexaploid wheat germplasm
Martha Liliana Bonilla Betancourt *(1)* **- *Pierre Hucl*** *(1)* **- *Carlos Erazo*** *(1)* **- *Curtis Pozniak*** *(1)* **- *Adam Carter*** *(1)*
(1) University of Saskatchewan, Plant Science, Saskatoon, Canada

P196 - Advancing Fusarium Head Blight Resistance in Wheat: Genetic Gains and Genomic Selection Strategies
Charlotte Brault *(1)* **- *Emily Conley*** *(1)* **- *Andrew Read*** *(2)* **- *Harsimardeep Gill*** *(1)* **- *Sarah Blecha*** *(2)* **- *Andrew Green*** *(3)* **- *Karl Glover*** *(4)* **- *Jason Cook*** *(5)* **- *Ruth Dill-Macky*** *(6)* **- *Jason Fiedler*** *(7)* **- *James Anderson*** *(1)*

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P197 - Genomic strategies to accelerate genetic gain in wheat (Wheatboost)

Thomas Brown *(1)*

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P198 - John Innes Centre - Wheat Transformation and Gene Editing

Valentina Buffagni *(1)* **- *Mark A. Smedley*** *(1)* **- *Macarena Forner*** *(1)* **- *Simon Grffiths*** *(1)* **- *Sadiye Hayta*** *(1)*

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P199 - Advances in Wheat Genetics in Brazil – 1991 to 2025

Eduardo Caierão *(1)*

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P200 - Combining GRF–GIF–Enhanced Cas9 Editor Plants and a Virus-based gRNA Delivery for Functional Gene Validation in Durum Wheat

Francesco Camerlengo *(1)* **- *Ambra Viviani*** *(1)* **- *Lorenzo Calzini*** *(1)* **- *Alberto Tassinari*** *(1)* **- *Zitong Yu*** *(2)* **- *Eduard Akhunov*** *(2)* **- *Silvio Salvi*** *(1)* **- *Roberto Tuberosa*** *(1)* **- *Marco Maccaferri*** *(1)*

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P201 - Synergistic Application of Speed Breeding for Genetic Studies and Cultivar Release in Wheat (Triticum aestivum L.)

Jin-Kyung Cha *(1)* **- *Hyeonjin Park*** *(1)* **- *Youngho Kwon*** *(1)* **- *So-Myeong Lee*** *(1)* **- *Woo-Jae Kim*** *(1)* **- *Jong-Hee Lee*** *(1)*

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P202 - Optimisation of genetic gain for two negatively correlated traits: the case study of winter bread wheat yield and grain protein content.

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P203 - Adaptation and Quality Traits of Winter Durum Wheat Cultivars Developed in Martonvásár over the Last Decade

Mónika Csépl *(1)* **- *Katalin Puskás*** *(1)* **- *Marianna Rakszegi*** *(1)* **- *Klára Mészáros*** *(1)* **- *Judit Bányai*** *(1)* **- *Andrea Uhrin*** *(1)* **- *Péter Mikó*** *(1)* **- *Gyula Vida*** *(1)*

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P204 - Evaluating genetic variability and biometric indicators in bread wheat varieties: Implications for modern selection methods

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P205 - Implementation of Multi-Trait Rapid-Cycle Recurrent Genomic Selection in Canadian Wheat Breeding

Carlos Erazo Melo *(1)* **- *Jordan Ubbens*** *(2)* **- *Martha Bonilla Betancourt*** *(1)* **- *Adam Carter*** *(1)*

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P206 - Responding to Yr15 Virulence to Strengthen Wheat Resistance

Isabel Faci *(1)* ***- Diane G.O. Saunders*** *(1)*
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P207 - A pan proteome of wheat and its use for breeding

Longin Friedrich *(1)* ***- Steige Kim*** *(1)* ***- El Hassouni Khaoula*** *(1)* ***- Tenzer Stefan*** *(2)* ***- Sielaff Malte*** *(2)*
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P208 - SNP genotyping with large, intermediate and small marker panels in hexaploid wheat

Martin Ganal *(1)* ***- Joerg Plieske*** *(1)* ***- Eva Grafahrend-Belau*** *(1)* ***- Karolina Greziak*** *(1)* ***- Dagmar Kulosa*** *(1)* ***- Naser Poursarebani*** *(1)* ***- Thomas Gross*** *(1)* ***- Heike Molenaar*** *(1)* ***- Heike Gnad*** *(1)*
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P209 - Stem elongation phase as a key trait to improve grain number and yield: Preliminary results from BC4 lines with similar anthesis dates but advancing beginning of stem elongation

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P210 - Seven Decades of Global Impact: CIMMYT's End-to-End Framework for Accelerating Bread Wheat Breeding

Velu Govindan *(1)* ***- Zerihun Tadesse*** *(1)* ***- Pradeep Bhati*** *(1)*
(1) International Maize and Wheat Improvement Center (Mexico), Global wheat program, Texcoco, Mexico

P211 - Major-Effect QTLs and Validated Markers for Improving Stripe Rust Resistance in Wheat Breeding

Mohammad Waris Haider *(1)* ***- Jaspal Kaur*** *(2)* ***- Ritu Bala*** *(2)* ***- Puja Srivastava*** *(2)* ***- Dinesh Kumar Saini*** *(3)* ***- Parveen Chhuneja*** *(4)*
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P212 - Improving Genomic Prediction Accuracy for Wheat Stem Sawfly Resistance in Winter Wheat

Mik Hammers *(1)* ***- Zachary J. Winn*** *(1)* ***- Katherine Frels*** *(2)* ***- Punya Nachappa*** *(3)* ***- R. Esten Mason*** *(1)*
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P213 - Haplotype-based Autoencoders for Dimensionality Reduction and Haplotype Block Effect Estimation

Philipp Heilmann *(1)* ***- Matthias Frisch*** *(1)* ***- Carola Zenke-Philippi*** *(1)*
(1) Justus Liebig University, Institute of Agronomy and Plant Breeding II, Giessen, Germany

P214 - Plant-plant interactions and canopy complexity in winter wheat

Lina Hempel *(1)* ***- Nicholas Russell*** *(1)* ***- Tsu-Wei Chen*** *(1)*
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P215 - The ARCs Spring wheat breeding program for the dryland winter rainfall region of the Western Cape.

Ian Heyns *(1)*
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P216 - Molecular overview of Eastern Canadian winter wheat germplasm for agronomic, quality and disease resistance traits using KASP and STS markers

Gavin Humphreys *(1)* ***- Bijendra Khadka*** *(1)* ***- Michel McElroy*** *(2)* ***- Tara Edwards*** *(1)* ***- Emma Hawthorn*** *(1)* ***- Helen Booker*** *(3)* ***- Ljiljana Tamburic-Ilincic*** *(4)* ***- Frank You*** *(1)* ***- Sylvie Cloutier*** *(1)*

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P217 - Smarter Cross Design for Modern Breeding

Julio Isidro *(1)* ***- Javier Fernández González*** *(1)* ***- Seifelden Maetwally*** *(1)*

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P218 - Identifying the genetic drivers of Wheat's endogenous Biological Nitrification Inhibition (BNI) capacity.

Iván Jáuregui *(1)* ***- Yvan Ngapout*** *(2)* ***- Simon Griffiths*** *(2)* ***- Hervé Vanderschuren*** *(3)*

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P219 - MosaicFarmAI: An innovative deep learning model for accurate genomic predictions in ultra-sparse field trials

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P220 - Diallel Analysis of Local Bread Wheat (Triticum aestivum L.) Cultivated in Uzbekistan

Diyor Juraev *(1)* ***- Oybek Amanov*** *(1)* ***- Sherzod Dilmurodov*** *(1)* ***- Aziz Nurbekov*** *(2)* ***- Nurzod Boysunov*** *(1)*

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P221 - INHERITANCE PATTERNS IN F_1 HYBRID GENERATIONS OF DURUM WHEAT

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P222 - Effect of Vrn1 and Rht8 genes on wheat performance in South Eastern Europe

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P223 - Pyramiding of alien genes for high grain Fe and Zn in bread wheat using marker assisted selection

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P224 - Western Canadian wheat breeding: the path ahead

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P225 - Root traits as Breeding Targets for Improved Nitrogen Use Efficiency in Durum Wheat

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P226 - DPFlow: A Flexible and Reproducible Pipeline for the Processing and Visualization of Multi-Sensor Drone Data for Wheat Breeding

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P227 - Powerful one-dimensional scan to detect heterotic quantitative trait loci

Guoliang Li *(1)* ***- Renate Schmidt*** *(1)* ***- Yusheng Zhao*** *(1)* ***- Jochen Reif*** *(1)* ***- Yong Jiang*** *(1)*
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P228 - Loss of Dicer-like 5 induces temperature-sensitive male sterility in wheat

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P229 - Covariance imputation integrates multi-platform genomic data in long-term breeding programs

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P230 - QTL for winter hardiness in western Canadian winter wheat (Triticum aestivum L.)

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P231 - Tracking Transgenes with Color: Evaluating RUBY as a Visual Marker in CRISPR-Edited Mutant Plants in triticum species

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P232 - Changes in Pannonian wheat spike architecture during the past 90 years

Milan Mirosavljević *(1)* ***- Vladimir Aćin*** *(1)* ***- Dragana Trkulja*** *(1)* ***- Sanja Mikić*** *(1)* ***- Ljiljana Brbaklić*** *(1)* ***- Krstina Aleksić*** *(1)* ***- Jovana Timić*** *(1)* ***- Bojan Jocković*** *(1)*
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P233 - Association mapping to identify loci associated with stripe rust adult plant resistance in hard winter wheat

Mushfique Arefin Mobin *(1)* ***- Rajat Sharma*** *(1)* ***- Brett F. Carver*** *(2)* ***- Kimberly Garland Campbell*** *(3)* ***- Mary Guttieri*** *(4)* ***- Paul St. Amand*** *(4)* ***- Amy Bernardo*** *(4)* ***- Guihua Bai*** *(5)* ***- Indira Priyadarshini Lakkakula*** *(1)* ***- Anju Maan Ara*** *(1)* ***- Maricelis Acevedo*** *(6)* ***- Meriem Aoun*** *(1)*
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P234 - Introgression and development of tetraploid durum wheat material integrating the common wheat QTL2D_wssmv and Sbm1 resistance loci against WSSMV and SBCMV mosaics

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P235 - Genetic basis of breeding gains in yield component traits in Nordic spring wheat

Keiko Nishioka *(1)* ***- Anja Karine Ruud*** *(1)* ***- Morten Lillemo*** *(1)*
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P236 - Identification of salt tolerant Maize-Wheat and Pearl millet-Wheat cybrid lines produced through in vitro fertilization system

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P237 - Effects of High Temperature Stress during Grain Filling on Yield and Grain Quality of Bread Wheat Genotypes

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P238 - Comparative Analysis of Durum Wheat Varieties with Different Breeding Origins Across Multiple Cultivation Systems: Insights into Nitrogen Metabolism Gene Expression

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P239 - TRANSFERRING RYE CHROMOSOME IN TO WHEAT USING TRITICALE AS BRIDGE SPECIES FOR LEAF RUST RESISTANCE

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P240 - Improving Glutenin Subunit Genotypes to Develop "K-ExtraStrong" Wheat for Strategic Blending

Hyeonjin Park *(1)* ***- Jin-Kyung Cha*** *(1)* ***- So-Myeong Lee*** *(1)* ***- Jin-Woo Bae*** *(1)* ***- Ye Rin An*** *(1)* ***- Woo-Jae Kim*** *(1)*
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P241 - Marker-assisted introgression of effective yellow rust (Pst) resistance loci into triticale

Piotr Słowacki *(1)* ***- Urszula Piechota*** *(1)* ***- Magdalena Radecka-Janusik*** *(1)* ***- Dominika Piaskowska*** *(1)* ***- Magdalena Pałuba*** *(1)* ***- Paweł Czembor*** *(1)*
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P242 - Integrating Genomic Selection and Biofortification to Improve Grain Nutritional Quality and Productivity in Wheat

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P243 - Innovations paving (half)-way towards hybrid wheat breeding

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P244 - Physiological diversity and trait composition in elite CIMMYT bread wheat: implications for yield potential, stress adaptation, and pre-breeding

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P245 - Integrating Grain Imaging for Deoxynivalenol (DON) Prediction using Fusarium-Damaged Kernel Assessment in Canadian Wheat

Yuefeng Ruan *(1)* **- *Samia Berraies*** *(1)* **- *Tinku Gautam*** *(1)* **- *Lin Li*** *(1)* **- *Ron Knox*** *(1)* **- *Christopher Sehn*** *(1)* **- *Brad Meyer*** *(1)* **- *Firdissa Bokore*** *(1)* **- *Curtis Pozniak*** *(2)* **- *Richard Cuthbert*** *(1)*

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P2436 - Biological Nitrification Inhibition in Wheat: from genetic integration to mechanistic understanding, field validation, and deployment pathways

Carolina Saint Pierre *(1)* **- *Hannes Karwat*** *(1)* **- *Veronica Guwela*** *(1)* **- *Tek B. Sapkota*** *(2)* **- *Gretchen M Gettel*** *(3)* **- *A. Stuart Grandy*** *(4)* **- *Guillermo S. Gerard*** *(1)* **- *Susanne Dreisigacker*** *(1)* **- *Kristian K Brandt*** *(5)* **- *Hans Thordal-Christensen*** *(5)* **- *Jawameer Hama*** *(6)* **- *Cecile Gubry-Rangin*** *(7)* **- *Paswel Marenya*** *(8)*

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P247 - Assessment of Tall and Short Plant Height Controlling Alleles on Wheat Adaptation and Yield Using Near-Isogenic Lines

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P248 - Power calculations for testing genetic correlation between pure- and mixture line effects in wheat breeding

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P2469 - Vision for hybrid wheat through key male trait integration: A path towards optimizing hybrid grain set

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P250 - Towards accelerating nitrogen use efficiency in five Australian wheat varieties through molecular breeding

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P251 - Replaying The Green Revolution in Wheat Landraces Through Advanced Gene Editing

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P252 - Toward Resilient Wheat Production: Stress Physiology and Disease Resistance in Hybrids

Valentina Spanic *(1)* **- *Katarina Šunić Budimir*** *(1)* **- *Jurica Duvnjak*** *(1)* **- *Ivan Varnica*** *(2)* **- *Goran Jukic*** *(2)* **- *Ivna Štolfa Čamagajevac*** *(3)* **- *Rosemary Vukovic*** *(3)* **- *Hrvoje Sarcevic*** *(4)*

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P253 - Decoding Wheat G×E Dynamics: Insights from Elite Germplasm and BNI (Biological Nitrification Inhibition) lines in Australia

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P254 - Genetic improvement of FHB and DON resistance by combining the Fhb1 gene with additional resistance QTL, and favorable morphological traits, in winter wheat population

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P255 - Decentralized wheat breeding pipeline: Serving the region from the hotspot

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P256 - Plasticity of source-sink dynamics contributes to wheat yield stability

Chen Tsu Wei *(1)* ***- Wang Tien-Cheng*** *(1)* ***- Moritz Moritz*** *(2)* ***- Mabrouk Mahmoud*** *(1)* ***- Villar Alegría Emilio*** *(1)* ***- Arinalp Burak*** *(1)* ***- Ganji Eliyeh*** *(3)* ***- Wittkop Benjamin*** *(4)* ***- Förter Lukas*** *(2)* ***- Herzog Eva*** *(2)* ***- Snowdon Rod*** *(2)* ***- Stahl Andreas*** *(3)*

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P257 - West and Central Africa Wheat Development Network (WECAWheat): Leveraging Partnerships for Wheat Transformation in Africa

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P258 - Why people don't prefer to do gamma irradiation mutation breeding using wheat seed

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P259 - Haplotype-Based Identification and Deployment of Rust Resistance Loci in Elite Wheat

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P260 - Unlocking the Genetic Potential of Central Asian Wheat through Molecular Breeding, Genomic Selection and Speed Breeding

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P261 - International Partnership and Investment on capacity building Enhanced Ethiopian Wheat Productivity

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P262 - Genomic prediction with haplotype blocks in wheat

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P263 - Multiplex Genome Editing Enables Simultaneous Improvement of Multiple Elite Traits in Wheat

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TOPIC 8
DEVELOPING CLIMATE-SMART WHEAT IN THE CONTEXT OF ABIOTIC STRESSES

P264 - Trehalose-mediated drought tolerance in breed wheat: Integrating biochmeical and physiological insights for resilience in arid environments

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P265 - From Farmers' Fields to Future Harvests: Yield and Quality Evaluation of New Wheat Varieties under Dry Season Conditions in Morocco

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P266 - Genomic and spectral signatures of PSII heat tolerance in cereals

Hanna Amoanimaa-Dede *(1)* **- *Joy Ojo*** *(1)* **- *Rebecca Thistlethwaite*** *(2)* **- *Li Li*** *(3)* **- *Robert Cope*** *(4)* **- *Beata Sznajder*** *(5)* **- *Richard M. Trethowan*** *(2)* **- *Owen K. Atkin*** *(6)* **- *Onoriode Coast*** *(1)*

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P267 - Genetic dissection of root architectural and biomass traits in rurum wheat landraces using rhizotron experiments

Genet Atsbeha Fiseha *(1)* **- *Muhammad Awais Farooq*** *(1)* **- *Congying Zhou*** *(1)* **- *Martina Bruschi*** *(1)* **- *Manar Makoul*** *(2)* **- *Francisco Pinto*** *(3)* **- *Chunyi Liu*** *(1)* **- *Xinyinh Zheng*** *(1)* **- *Cristian Forestan*** *(1)* **- *Matteo Bozzoli*** *(1)* **- *Matthew Reynolds*** *(3)* **- *Rod J Snowdon*** *(2)* **- *Enrico Noli*** *(1)* **- *Silvio Salvi*** *(1)* **- *Eric Ober*** *(4)* **- *Roberto Tuberosa*** *(1)* **- *Marco Maccaferri*** *(1)*

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P268 - Genomic *loci* for preharvest sprouting resistance in spring wheat (*Triticum aestivum L.*)

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P269 - Insights into the role of arbuscular mycorrhizal symbiosis in environmental stress tolerance of different durum wheat genotypes

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P270 - Hormonal and thermopriming of seeds impart acquired terminal heat stress tolerance through modulation of proteostasis in wheat Triticum aestivum L.

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P271 - Response to High Temperature Stress in Bread Wheat Genotypes: A Comparative Evaluation of Organic and Conventional Production Systems

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P272 - Introgression of Rye Chromosome Arm 1RS Enhances Climate Resilience in German Winter Wheat

Yeneneh Bekele-Reba [(1)] **- *Lorenz Bülow*** [(2)] **- *Anne Zaar*** [(3)] **- *Michael Koch*** [(4)] **- *Adalbert Bund*** [(5)] **- *Carsten Reinbrecht*** [(6)] **- *Jost Dörnte*** [(7)] **- *Hubert Kempf*** [(8)] **- *Josef Holzapfel*** [(8)] **- *Marco Stucke*** [(6)] **- *Jörg Plieske*** [(7)] **- *Lorenz Hartl*** [(5)] **- *Volker Mohler*** [(5)] **- *Stefan Streng*** [(6)] **- *Benjamin Stich*** [(9)] **- *Bernd Hackauf*** [(10)]

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P273 - Identification and functional characterization of Iron-binding Proteins of bread wheat using hierarchical computational approaches.

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P274 - Development and characterization of salt tolerant wheat variety through integrated breeding approaches

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P275 - Increased night temperature and seed rate effects on grain weight analysed by graphic-mathematical modelling the plastic and elastic growth during grain filling of wheat

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P276 - Remodeling of lipid metabolism in wheat anthers under high temperature stress

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P277 - Developing a high-throughput platform for anatomical phenotyping in plants

Yikeng Cheng *(1)*

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P278 - Developing a high-throughput platform for anatomical phenotyping in plants

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P279 - Cold acclimation induced freezing tolerance and recovery dynamics in winter and spring wheat cultivars

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P280 - Plant growth promoter Rhizobacteria-mediation for improving drought tolerance in spring bread wheat (Triticum aestivum).

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P281 - Farmer-Validated Performance of Climate-Resilient Bread Wheat Varieties Under Real Production Conditions: Breaking the Yield Ceiling in Moroccan Dryland Systems

Imane El ftouh *(1)* ***- Fatima ezzahra oudrhiri*** *(1)* ***- Ghizlane Diria*** *(1)* ***- Mona Taghouti*** *(1)* ***- Fatima Gaboun*** *(1)* ***- Rabha Abdelwahed*** *(1)*

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P282 - Genome-Wide Association Study for Identifying Drought-Tolerance MTAs Associated with Grain Yield and Related Traits in Spring Bread Wheat (Triticum aestivum L.)

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P283 - Improving variety registration to support climate-smart durum wheat in Morocco

Ghita El Yaagoubi *(1)* ***- Filippo Bassi*** *(2)* ***- Moha Ferrahi*** *(3)* ***- Loubna Belqadi*** *(1)*

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P284 - Characterization of genes to induce early flowering in spring wheat for escaping terminal heat stress

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P285 - Exploring genetic diversity for morpho yield traits and resistance potential for yellow rust and physiological aspects in bread wheat germplasm under rainfed condition of kohat

Mahnoor Feroze *(1)* **- *Tauheed Ali*** *(1)* **- *Ghazala Nawaz*** *(1)* **- *Muhammad Adnan*** *(1)* **- *Muhammad Ishaq*** *(2)*
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P286 - Genome-Wide Identification and Functional Characterization of Ta4CL Genes in Wheat: Key Roles in Salt Tolerance, Cold Acclimation, and Lignin Biosynthesis

Fatemeh Gholizadeh *(1)* **- *Tibor Janda*** *(1)*
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P287 - Linking root traits to nitrogen use efficiency in winter wheat

Luc Gujer *(1)* **- *Grace Ochieng*** *(1)* **- *Agim Ballvora*** *(1)* **- *Annaliese Mason*** *(1)*
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P288 - Roots Vertical Distribution and Physiological Characteristics in High-Yielding and Waterlogging-Tolerant Wheat

Wenshan Guo *(1)*
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P289 - Flowering time governs responses to temperature stress: seasonal shifts and asymmetry in wheat yield

Felicity Harris *(1)* **- *Pengcheng Hu*** *(2)* **- *Nectarios Costadopolous*** *(1)* **- *Corinne Celestina*** *(3)* **- *James Hunt*** *(3)* **- *Kenton Porker*** *(4)* **- *Rick Graham*** *(5)* **- *Blakely Paynter*** *(6)* **- *Hammad Khan*** *(7)* **- *Kelly Angel*** *(8)* **- *Matthew Tucker*** *(9)* **- *Victor Sadras*** *(10)*
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P290 - Integrated genome-wide association analysis of grain yield and adaptive traits in bread wheat across contrasting environments in the MENA region

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P291 - Non-histone deacetylation of TaAREB3 by TaHDA8 fine-tunes root elongation and drought resilience in wheat

Zehui Liu *(1)* **- *Qun Yang*** *(1)* **- *Mingming Xin*** *(1)* **- *Yingyin Yao*** *(1)* **- *Zhongfu Ni*** *(1)* **- *Qixin Sun*** *(1)* **- *Zhaorong Hu*** *(1)*
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P292 - Variation in weather conditions have significant effects on winter wheat flag leaf stomatal traits

Elena Ivandi *(1)* **- *Hanna Hõrak*** *(2)* **- *Reine Koppel*** *(1)* **- *Ebe Merilo*** *(2)* **- *Anne Ingver*** *(1)*
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P293 - Spatio-temporal dynamics of heat sensitivity: how reproductive developmental gradients govern wheat grain-set processes

Duo JIANG *(1)* **- *Olivier Turc*** *(1)* **- *Aurélien Ausset*** *(1)* **- *Denis Vile*** *(1)* **- *Boris Parent*** *(1)*
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P294 - Genomic breeding for heat tolerance at ICARDA

Hafssa Kabbaj *(1)* **- *Amadou Tidiane Sall*** *(2)* **- *ANNA Backhaus*** *(3)* **- *Rodomiro Ortiz*** *(4)* **- *ZAKARIA KEHEL*** *(5)* **- *Filippo Bassi*** *(1)*

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P295 - Physiological Basis of Spike Fertility Variation in Wheat

Hassan Karim *(1)* **- *Celia Rasines Gandarillas*** *(1)* **- *Roxana Savin*** *(1)* **- *Gustavo Slafer*** *(1)*

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P296 - Identification and validation of an important waterlogging QTL on chromosome 6A in spring wheat.

Anjali Khadka *(1)* **- *Anja Karine Ruud*** *(2)* **- *Tove Kristina Sundgren*** *(3)* **- *Tatiana Belova*** *(4)* **- *Morten Lillemo*** *(2)*

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P297 - Optimising critical periods to maximise resource availability and crop yields in south-eastern Australia

Kate Maddern *(1)* **- *Bonnie Flohr*** *(2)* **- *Neil Hart*** *(1)*

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P298 - Physiological drivers of yield variation between modern durum wheats and Senatore Cappelli under contrasting growing conditions

Sofia I. Marchese *(1)* **- *Gustavo A. Slafer*** *(1)* **- *Roxana Savin*** *(1)* **- *Santiago Tamagno*** *(1)*

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P299 - A water-saving drought survival strategy in a wheat TILLING mutant involves metabolic and phosphorylation reprogramming

Ryosuke Mega *(1)* **- *Shun-ichiro Hirata*** *(2)* **- *Kota Yamashita*** *(3)* **- *Hinano Takase*** *(3)* **- *Taishi Umezawa*** *(3)* **- *Yasuko Watanabe*** *(4)* **- *June-Sik Kim*** *(4)* **- *Tomoyuki Kosaka*** *(2)* **- *Akihiro Nieda*** *(2)* **- *Hisashi Tsujimoto*** *(5)*

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P300 - Mixing varieties mitigates early root competition in wheat under water and nutrient limitation

Germain Montazeaud *(1)* **- *Pierre Roumet*** *(1)* **- *Mickaël Lamboeuf*** *(2)* **- *Christian Jeudy*** *(2)* **- *Martin Ecarnot*** *(1)* **- *Lise Malicet-Chebbah*** *(1)* **- *Christophe Salon*** *(2)* **- *Hélène Freville*** *(1)*

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P301 - Black Glumes: A Genetic Trait That Enhances Dry Down in Wheat

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P302 - Identifying high-yielding and stable durum wheat genotypes using G × E analysis in climate change context.

Mackaye Moussa Hassane *(1)* **- *Sahar Bennani*** *(2)* **- *Fatima Gaboun*** *(2)* **- *Rachida Hassikou*** *(1)* **- *Ghizlane Diria*** *(2)* **- *Mohamed Amine Abdellaoui*** *(3)* **- *Mona Taghouti*** *(2)*

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P303 - Genetic analysis of root system architecture and waterlogging tolerance in the Japanese Wheat Core collection

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P304 - Sensitivity to heat stress of wheat O2-based gas exchange differs between leaves and spikes

Joy Ojo *(1)* ***- Hanna Amoanimaa-Dede*** *(1)* ***- Elena Dehnavi*** *(2)* ***- Rebecca Thistlethwaite*** *(3)* ***- Fiona Fogarty*** *(3)* ***- Richard M. Trethowan*** *(3)* ***- Owen K. Atkin*** *(4)* ***- Onoriode Coast*** *(1)*

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P305 - Bridging the Adoption Gap: Participatory Validation and Predictive Analytics Drive 100% Re-Adoption of Climate-Resilient Durum Wheat in Morocco

Fatima Ezzahra Oudrhiri *(1)* ***- Imane El Ftouh*** *(1)* ***- Fatima Gaboun*** *(2)* ***- Rabha Abdelwahed*** *(2)* ***- Ghizlane Diria*** *(2)* ***- Mona Taghouti*** *(3)*

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P306 - Unraveling Drought Stress Tolerance Mechanisms in Durum Wheat through RNA Sequencing Applications

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P307 - Genome wide association of fertility related traits in a collection of Spanish bread wheat landraces

Laura Pascual *(1)* ***- Andres Fernandez Borbolla*** *(1)* ***- Gabriel Coll*** *(1)* ***- Alvaro Carrasco Coquillat*** *(2)* ***- Marcos Cadarso*** *(1)* ***- Matilde Lopez-Feranndez*** *(1)* ***- Marina Martinez-Garcia*** *(1)*

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P308 - Dissecting heat-stress tolerance mechanisms in durum wheat (Triticum durum) germplasm under field conditions

Roshan Paudel *(1)* ***- Eder Groli*** *(2)* ***- Elisabetta Frascaroli*** *(1)* ***- Marco Maccaferri*** *(1)* ***- Karim Ammar*** *(3)* ***- Matteo Bozzoli*** *(1)* ***- Roberto Tuberosa*** *(1)*

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P309 - Large wheat rhizosheath size enhanced root growth, diverse bacterial communities, and yield in acidic soil with high Al^{3+} content.

Huyen T.T. Pham *(1)* ***- Jairo A. Palta*** *(2)* ***- Jiayin Pang*** *(3)* ***- Sasha N. Jenskin*** *(1)* ***- Pankaj K. Singh*** *(1)* ***- Kadambot H.M. Siddique*** *(2)*

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P310 - Characterization of Durum Wheat (Triticum turgidum L. ssp. durum) tolerance to drought and terminal heat stress under Moroccan Conditions

Oumaima Rachik *(1)* ***- Moha Ferrahi*** *(2)* ***- Loubna Belqadi*** *(3)* ***- Abdelghani Nabloussi*** *(2)* ***- Filippo Maria Bassi*** *(4)* ***- Hafssa Kabbaj*** *(4)*

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P311 - Yield-Determining Traits Responsible for Yield Penalties Across Contrasting Environments in Elite Wheat Germplasm

Celia Rasines Gandarillas *(1)* **- *Hassan Karim*** *(1)* **- *Gustavo A. Slafer*** *(1)* **- *Roxana Savin*** *(1)*

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P312 - Post-anthesis short heat waves in durum wheat do not compromise breeding efforts to increase β,β-carotenoid content in grains

María Dolores Requena Ramírez *(1)* **- *Cristina Rodríguez-Suárez*** *(1)* **- *Dámaso Hornero-Méndez*** *(2)* **- *Sergio G. Atienza*** *(1)*

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P313 - Validation of Major Genes and Identification of Novel Genomic Regions for Plant Height and Heading Date in a Durum Wheat RILs using GWAS

Lourdes María Martínez *(1)* **- *María Amparo Blanco Méndez*** *(1)* **- *Melisa Lorena Bustamante Cid*** *(2)* **- *Milena Montovio Mayor*** *(2)* **- *Daniela Russi*** *(3)* **- *Mariano Javier Beker*** *(4)* **- *Adelina Olga Larsen*** *(5)* **- *Carolina aint Pierre*** *(6)* **- *Pablo Federico Roncallo*** *(1)*

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P314 - Mapping of QTL for stable falling number in the winter wheat cultivar 'Ellvis'

Anja Karine Ruud *(1)* **- *Jon Arne Dieseth*** *(2)* **- *Susanne Windju*** *(2)* **- *Muath Alsheikh*** *(2)* **- *Yang Ennian*** *(3)* **- *Anne Kjersti Uhlen*** *(1)* **- *Morten Lillemo*** *(1)*

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P315 - Cascading Functional Water Balance Traits Enhance Wheat Grain Yield Under Terminal Drought

Roy Sadeh *(1)* **- *Roi Ben David*** *(2)* **- *Ittai Herrmann*** *(1)* **- *Zvi Peleg*** *(1)*

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P316 - Genotypic Variation in Wheat Under Individual and Combined Heat and Drought Stress

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P317 - Genome-Wide Association Study Reveals Major SNPs Associated with Pollen Viability and Spikelet Fertility in Wheat under Heat Stress

Abu Bakar Siddique *(1)* **- *Onusha Sharmita*** *(1)* **- *Zhong-Hua Chen*** *(2)* **- *Sergey Shabala*** *(3)* **- *Chenchen Zhao*** *(1)* **- *Meixue Zhou*** *(1)*

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P318 - Responding to a changing environment: capturing temperature regulation across wheat development

Beth Soanes *(1)* **- *Dominique Hirsz*** *(1)* **- *Sandra Reis*** *(1)* **- *Katrin Trnka*** *(1)* **- *Harry Taylor*** *(2)* **- *Martin Mascher*** *(1)* **- *Laura Dixon*** *(1)*

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P319 - *Flowerint Locus T4* delayed flowering and suppressed spikelet outgrowth in bread wheat (*Triticum aestivum*)

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P320 - Analyzing the Shift from Initial to Productive Tillers in Wheat (Triticum aestivum L.) under Terminal Heat Stress.

Anukriti Srivastava *(1)*
(1) Banasthali Vidyapith, Banasthali Vidyapith/Department of Bioscience and Biotechnology, Tonk, India

P321 - Physiological and Root Architectural Responses to Flowering-Stage Drought in a Wheat Line Carrying a Thinopyrum Group 3 Chromosome

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P322 - Climatic risk patterns for drought and heat stress in Spanish spring wheat: A phenology driven framework for breeding

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P323 - Are Winter Wheat Yields Warming Up?

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P324 - Wheat Physiology at CIMMYT – 55 Years' Legacy and the Way Forward

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P325 - EXPLICATING THE RELATIONSHIP BETWEEN STAY-GREEN CHARACTER, DROUGHT TOLERANCE, AND YIELD STABILITY IN PAKISTANI WHEAT GENOTYPES

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P326 - How will future climate change affect wheat yield and quality?

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P327 - Future-proof crops: uncovering effects of future climate stresses on root ideotypes and impact on wheat grain nutritional quality

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TOPIC 9
DISSECTING THE WHEAT-PATHOGEN AND PEST INTERACTION

P328 - Understanding Tilletia spp. population structure and virulence to support wheat resistance breeding

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P329 - CResWheat: Advancing Climate-Resilient Spring Wheat Breeding in the Nordic Region

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P330 - Characterizing racial diversity and virulence profiles of Puccinia graminis f. sp. tritici on durum wheat genotypes from the Mediterranean.

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P331 - Determination of Physiological Races of Puccinia striiformis f.sp. tritici in Iran

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P332 - Integrating Pest Management, Disease Resistance, Cadmium low uptake, and UAV Phenomics for Advancing Sustainable Wheat Production in Nordic Environments

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P333 - Identification of septoria nodorum blotch sensitivity genes in U.S. Great Plains hard winter wheat

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P334 - Addressing the Emerging Threat of Gout Fly (Chlorops pumilionis Bjerk.) to Sustainable Spring Wheat Production in Northern Europe

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P335 - Genetic Loci Underlying Resistance to Ustilago tritici in the Spring Wheat Variety Carberry

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P336 - GWAS analysis in an elite durum wheat panel uncovers stable QTLs for fusarium head blight (FHB) spike symptoms and deoxynivalenol (DON) content

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P337 - Phenotypic variation in disease pressure on wheat is driven by genetic variation in rust populations across different environments

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P338 - GWAS-guided Genomic Prediction for Enhanced Fusarium Head Blight Resistance in Durum Wheat

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P339 - Genetic dissection of leaf rust, yellow rust and STB resistance in biparental mapping populations from Triticum turgidum landraces x modern cultivars

Luca Ceccato *(1)* ***- Eugenia Carini*** *(1)* ***- Ambra Viviani*** *(1)* ***- Matteo Bozzoli*** *(1)* ***- Jad Novi*** *(2)* ***- Chunyi Liu*** *(1)* ***- Congying Zhou*** *(1)* ***- Paola Viola*** *(3)* ***- Michael Chocard*** *(3)* ***- Carlo Invernizzi*** *(3)* ***- Elisabetta Frascaroli*** *(1)* ***- Roberto Tuberosa*** *(1)* ***- Marco Maccaferri*** *(1)*

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P340 - Genomics-enabled wheat breeding to accelerate development of dwarf and common bunt resistant cultivars

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P341 - Genomic Insights into Leaf Rust Resistance: Leveraging Global Germplasm for Durum Wheat Improvement

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P342 - Wax Biosynthesis Genes and lncRNA Regulation in Durum Wheat Resistance to Fusarium Head Blight

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P343 - Purple pericarp wheat reduces host location, feeding efficiency, and progeny development of the granary weevil Sitophilus 40ranaries (L.)

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P344 - Genetic factors underlying non-host resistance in wheat against non-adapted powdery mildew

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P345 - Evaluation of yield and quality traits in moderately Fusarium head blight resistant Durum wheat lines

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P346 - Genome-wide association study of multiple disease resistances in Australia using a large-scale international wheat panel

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P347 - Absolute Quantification of Puccinia triticina in a Diverse Wheat Panel Using Droplet Digital PCR (ddPCR)

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P348 - Uncovering Novel Genetic Resistance to Fusarium Crown Rot in Watkins Wheat Landraces

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P349 - Dissecting the Genetic Architecture of Take-All Disease Resistance in Wheat Using Haplotype Analysis Based on Genome-Wide Association Studies

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P350 - Durum landraces as a valuable gene pool to uncover and map resistance to *Septoria tritici* blotch

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P351 - Identification of Rmg15, a novel wheat blast resistance gene derived from a Japanese wheat cultivar

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P352 - Genetic Dissection of Lesion Mimicry in Durum Wheat Identifies NLR and Receptor-Like Kinase Candidate Genes

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P353 - Cross-Species Association Mapping Reveals the Genetic Architecture of the Interaction Between Wheat and Its Powdery Mildew Pathogen

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P354 - Introgression of stripe rust adult-plant resistance from cv. Svevo into bread wheat cultivar.

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P355 - Climate Change and Pest Infestation Dynamics: AI-Driven Forecasting of Future Insect Complexes in Wheat Agroecosystems.

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P356 - FreeWheat: High-Resolution Genomics and Microphenomics of Nonhost Resistance to Rust and Mildew

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P357 - CONSEQUENCES OF MANAGEMENT PRACTICES ON DISTRIBUTION OF RUSSIAN WHEAT APHID, DIURAPHIS NOXIA, IN WHEAT PRODUCTION AREAS OF SOUTH AFRICA

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P358 - Genetic Diversity and Population Structure of Fusarium graminearum in the Northern Wheat Belt of India: A First-of-Its-Kind Study

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P359 - Genome-wide association study and Genomic prediction for stem rust resistance at the adult plant growth stage in elite spring bread wheat genotypes

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P360 - Tritordeum as a Habitat for the Development of the Rice Weevil Sitophilus oryzae L.—Analysis of Selected Properties of the Cereal Grains Determining Their Resistance Mechanisms

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P361 - Genetics of Spot Blotch Resistance in Wheat

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P362 - Deciphering the Genetic Architecture of Spot Blotch Resistance in Bread Wheat through Multi-environment ML-GWAS

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P363 - Effects on yield and seed composition of Puccinia striiformis f. sp. tritici inoculation of wheat near isogenic lines containing Yr9, Yr10, and Yr15 resistance genes

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P364 - Climate change alters the landscape of wheat fungal diseases and breeding in China

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P365 - Develop Durum Wheat with Fusarium Head Blight Resistance Adapted to the Northern Great Plains

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P366 - Characterizing seedling and adult-plant resistance to Puccinia striiformis f. sp. tritici via genome wide association study and RNA-Seq

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P367 - Metabolic Biological Basis Underlying Resistance to Fusarium Head Blight in Bread Wheat

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P368 - Identification of Genomic Regions and Durum Wheat Genotypes Associated with Yellow Rust Resistance Using a Subset of the Global Durum Panel (GDPv1) Under Inoculation and Field Conditions in Argentina

Juan Manuel Rivera (1) - Pablo E. Campos (2) - Diana Martino (1) - Lisardo Gonzalez (1) - Juan Pablo Edwards Molina (3) - Pablo Federico Roncallo (4)

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P369 - Effect of Pm3d/e chimeric gene on powdery mildew resistance of spring wheat (Triticum aestivum L.)

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P370 - Identification of resistance sources to Septoria Tritici Blotch (STB) in spring Bread Wheat of Icarda germplasm in Morocco

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P371 - Unraveling host-pathogen protein-protein interactions in wheat blast through in-silico docking and molecular dynamics simulations

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P372 - The survey of potential viral reservoirs in Ireland: what hides in pastures and arable margins?

Marta Niedzicka *(1)* ***- Louise McNamara*** *(1)* ***- Stephen Byrne*** *(1)*

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P373 - Tracing Hybridization Timing in Wheat Powdery Mildew through Historical Genomics

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P374 - Population Structure and Geographic Distribution of Puccinia graminis f. sp. tritici in Europe: Evidence for Continued Dominance of Clade IV-F

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P375 - A novel necrotrophic effector-receptor interaction in Parastagonospora nodorum-wheat pathosystem

Eiko Furuki *(1)* ***- Thomas C. Richardson*** *(1)* ***- Kasia Rybak*** *(1)* ***- Fiona Kamphuis*** *(1)* ***- Huyen Phan*** *(1)*

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P376 - Genetic insights into Durum Wheat resistance to WSSMV and SBCMV across France and Italy

Valentin Ribaut *(1)* ***- Matteo Bozzoli*** *(2)* ***- Yann Holtz*** *(1)* ***- Hélène Pidon*** *(1)* ***- Véronique Viader*** *(1)* ***- Michel Bonnefoy*** *(3)* ***- Morgane Ardisson*** *(1)* ***- Sylvain Santoni*** *(1)* ***- Faharidine Mohamadi*** *(3)* ***- Marco Maccaferri*** *(2)* ***- Jacques David*** *(1)*

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P377 - Virulence analysis of Polish isolates of the fungus Zymoseptoria tritici causing Septoria tritici blotch

Dominika Piaskowska *(1)* ***- Urszula Piechota*** *(1)* ***- Magdalena Radecka-Janusik*** *(1)* ***- Piotr Słowacki*** *(1)* ***- Paweł Czembor*** *(1)*

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P378 - Digital phenotyping and GWAS for enhanced detection and mapping of rust resistance genes in the OzWheat population

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P379 - Integrating NAM and CIM to Map Stripe Rust Resistance in Spring Wheat

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P380 - Discovery of Host Susceptibility Factors for Enhancing Fusarium Head Blight Resistance in Wheat

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P381 - Genome-wide association study reveals enriched diversity for Pratylenchus thornei resistance in Watkins' wheat landraces

Md. Tanbir Rubayet *(1)* **- *Bharat Garg*** *(2)* **- *Muhammad Rizwan*** *(2)* **- *Muthusamy Karthikeyan*** *(3)* **- *Subramaniam Geethanjali*** *(4)* **- *Madhav Pandit*** *(5)* **- *Jing Lin*** *(2)* **- *Jason Sheedy*** *(2)* **- *Sambasivam Periyannan*** *(2)*
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P382 - PGPR Priming and Reprogramming of Stress Crosstalk for Enhancing Resilience to Heat-Induced Spot Blotch Susceptibility in Wheat

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P383 - Integrating Avirulence Depletion and Pantranscriptomics to Identify Host-Specificity Factors in Blumeria graminis

Benedikt Schiestl *(1)* **- *Xinyi Liu*** *(1)* **- *Lukas Kunz*** *(2)* **- *Ralph Hückelhoven*** *(1)* **- *Marion Müller*** *(1)*
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384 - Rust resistance in a changing world as key for future cereal yields

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P385 - Activation of Exotic Wheat Genetic Resources for Disease Resistance

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P386 - Genome wide association studies and expression analyses identify candidate genes for spot blotch resistance in bread wheat

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P387 - Identification of stable and high-effect loci for durable leaf rust resistance in bread wheat through multi-environment Genome-Wide Association Mapping

Muhammad Ali Sher *(1)* ***- Shoaib Ur Rehman*** *(1)* ***- Mahmood Alam Khan*** *(1)* ***- Muhammad Abu Bakar Saddique*** *(1)* ***- Babar Farid*** *(1)* ***- Tauqeer Abbas1*** *(1)* ***- Humayun Raza*** *(2)*

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P388 - Development of a first comprehensive Near Isogenic line (NIL) series for stem rust resistance in a spring wheat background

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P389 - Exploring Triticale as a Novel Source for Wheat Blast Resistance

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P390 - Exploration of wheat lines with tolerance to Fusarium mycotoxin deoxynivalenol

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P391 - Tracking the evolution of Puccinia graminis f. sp. tritici and its impact on the resistance of wheat cultivars and breeding lines in South Africa

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P392 - Contrasting Wheat Resistances Shape Plant-to-Plant Field Spread of Foliar Disease in Cultivar Mixtures

Adrien Vial *(1)* ***- Valentina Rossi*** *(2)* ***- Åsa Lankinen*** *(3)* ***- Laura Grenville-Briggs Didymus*** *(3)* ***- Firuz Odilbekovs*** *(4)* ***- Tina Henriksson*** *(4)* ***- Aakash Chawade*** *(1)*

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P393 - Deciphering Spot Blotch Resistance in Wheat through Multi-Locus GWAS and Gene Expression Analysis

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P394 - Fusarium, Ergot, and Midge damage in Canadian Wheat across >30 Years and >250,000 Samples

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P395 - Mycotoxin profiles of Tritordeum grain after artificial spike inoculation with Fusarium culmorum W.G. Smith

Marian Wiwart *(1)* ***- Elżbieta Suchowilska*** *(1)* ***- Michael Sulyok*** *(2)* ***- Wolfgang Kandler*** *(2)* ***- Rudolf Krska*** *(2)*
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P396- Additive Effects of Key Environmental Factor Combinations Drive Wheat Powdery Mildew Incidence Across Growth Stages Under Climate Change

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P397 - Identification and cloning of a greenbug resistance gene from Aegilops tauschii

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P398 - Molecular identification and validation of an adult-plant stripe rust resistance gene in the wheat cultivar Chuanmai 62

Fangjie Yao *(1)* ***- Manyu Yang*** *(1)* ***- Ning Yang*** *(1)* ***- Jun Li*** *(1)* ***- Wuyun Yang*** *(1)* ***- Ennian Yang*** *(1)*
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P399 - Uncovering masked blast resistance genes through chromosome dosage manipulation in allohexaploid wheat

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P400 - Identification of stripe rust resistance loci in Gansu wheat landraces using genome-wide association analysis

Zhe Zhang *(1)* ***- Yu Zhang*** *(1)* ***- Ying Guo*** *(2)* ***- Ravi P. Singh*** *(1)* ***- Caixia Lan*** *(1)*
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P401 - Identification and dissection of seedling-stage resistance loci for Septoria tritici blotch (STB) in a Global collection of landraces representative of theTriticum turgidum ssps germplasm

Congying Zhou *(1)* ***- Genet Atsbeha Fiseha*** *(1)* ***- Jad B Novi*** *(2)* ***- Eleonora Cappelletti*** *(1)* ***- Chunyi Liu*** *(1)* ***- Matteo Bozzoli*** *(1)* ***- Agata Gadaleta*** *(3)* ***- Elisabetta Mazzucotelli*** *(4)* ***- Thierry Marcel*** *(5)* ***- Roberto Tuberosa*** *(1)* ***- Antonio Prodi*** *(1)* ***- Marco Maccaferri*** *(1)*

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TOPIC 10
WHEAT QUALITY, END-USE PROCESSING, NUTRITION AND HUMAN-HEALTH

P402 - Multi-locus GWAS for grain contents of eight minerals in bread wheat (Triticum aestivum L.)
Shoeb Ahmed *(1)* ***- Jitendra Kumar*** *(2)* ***- Rahul. Kumar*** *(1)* ***- Pushpendra K Gupta*** *(1)*
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P403 - Impact of Peptides to Improve Yield and Grain Quality in Wheat (Triticum aestivum L.)
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P404 - Endoplasmic reticulum stress remodelling by Lunapark proteins: A transcriptomic dissection in model and wheat plants
Muhammad Ali *(1)* ***- Carmen Mangas*** *(1)* ***- Verena Kriechbaumer*** *(1)*
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P405 - Development of a High Molecular Weight Glutenin Subunits master set from GLU-B1 locus
Francisco Andrade *(1)* ***- Juan B. Alvarez*** *(1)* ***- Carlos Guzmán*** *(1)*
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P406 - The Triticeae breeding research group: exploring innovative strategies to enhance grain carotenoid content in wheat
MD Requena-Ramírez *(1)* ***- C Rodríguez-Suárez*** *(1)* ***- E. Mazzucotelli*** *(2)* ***- D. Hornero-Méndez*** *(3)* ***- SG Atienza*** *(1)*
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P407 - Green Insecticidal Beads Based on Chitosan-Modified Tunisian Diatomaceous Earth and Thyme Essential Oil for the Control of Rhyzopertha dominica in Stored Durum Wheat seeds
Olfa Bachrouch *(1)* ***- Hager Ben Ghanem*** *(2)* ***- Lina Gayess*** *(1)* ***- Syrine Somrani*** *(2)* ***- Ghozlene Mekhloufi*** *(3)* ***- karima Horchani Ennaifer*** *(4)* ***- Arbi Amdouni*** *(5)* ***- Manef Abderraba*** *(6)*
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P408 - The ectopic expression of taexpa6 and the triple knock-out of tagw2 increase grain weight while maintaining quality traits (protein and phosphorus concentrations) in wheat
Lucas Vicentin *(1)* ***- Daniel Calderini*** *(2)*
(1) Universidad Austral de Chile, Graduate School, Valdivia, Chile - (2) Universidad Austral de Chile, Instituto de Produccion y Sanidad Vegetal, Valdivia, Chile

P409 - The Tetraploid Wheat Core Collection (TCC): a highly diverse, molecularly characterised germplasm resource assessed for developmental and health-related Quality Traits
Eugenia Carini *(1)* ***- Matteo Bozzoli*** *(1)* ***- Cristian Forestan*** *(1)* ***- Sandra Stefanelli*** *(1)* ***- Laura Gazza*** *(2)* ***- Luigi Cattivelli*** *(2)* ***- Elisabetta Mazzucotelli*** *(2)* ***- Maria Caboni*** *(1)* ***- Roberto Tuberosa*** *(1)* ***- Marco Maccaferri*** *(1)*
- (1) University of Bologna, Department of Agricultural and Food Sciences (DISTAL), Bologna, Italy - (2) CREA, Genomica e Bioinformatica, Fiorenzuola, Italy

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P410 - Re-evaluating the health-promoting potential of colored wheat using large-scale whole-grain bioactive profiling

Tiantian Chen *(1)* ***- Xue Gong*** *(2)* ***- Lei Zhi*** *(2)* ***- Jindong Liu*** *(2)* ***- Wenfei Tian*** *(2)* ***- Zhonghu He*** *(1)*

(1) Academy of Agricultural Sciences, College of Agronomy, Northwest A&F University, Yangling, China - (2) Chinese Academy of Agricultural Sciences, National Wheat Improvement Centre, Beijing, China

P411 - A Differentially Distributed Gene Cluster for Isorhamnetin Biosynthesis Identified in Wheat

Yuan hui Chen *(1)*

(1) Hubei Hongshan Laboratory, Huazhong Agricultural University, WUhan, China

P412 - Identification of QTL involved in heavy metal and trace element accumulation in durum wheat

Alexia Crézé *(1)* ***- Christophe Nguyen*** *(2)* ***- Jacques Le Gouis*** *(3)* ***- Matthieu Bogard*** *(1)* ***- Boris Demenou*** *(4)*

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P413 - Agronomic, quality and nutritional potential of modern bread wheat in Ireland

Sinead Dermody *(1)* ***- Fiona Doohan*** *(2)* ***- Susanne Barth*** *(1)*

(1) Teagasc, Oak Park, Crops Research Centre, Carlow, Ireland - (2) University College Dublin, School of Biology and Environmental Science, Science Centre, Dublin, Ireland

P414 - Viscoelastic Properties and Protein Functionality of High-Amylose Wheat Flour

Riley Smith *(1)* ***- Yong Cheng Shi*** *(1)* ***- Hulya Dogan*** *(1)*

(1) Kansas State University, Department of Grain and Food Science, Manhattan, United States

P415 - WheatRes: Assessing Genetic Diversity for Durum Wheat Quality in Spanish Landraces and Commercial Cultivars

Virginia Garcia-Calabres Marin *(1)* ***- Francisco Andrade*** *(1)* ***- Magdalena Izquierdo Julve*** *(2)* ***- Julio Isidro y Sánchez*** *(3)* ***- Jaime Nolasco Rodríguez-Vázquez*** *(4)* ***- Ignacio Solís*** *(4)* ***- Juan Bautista Alvarez*** *(1)* ***- Carlos Guzmán*** *(1)*

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P416 - Comparative analysis of wheat grain protein content: wet chemistry and NIR based methods

Christina Hagerty *(1)* ***- Gena Mahato*** *(2)* ***- Ryan Graebner*** *(3)* ***- Matthew Hunt*** *(3)* ***- Grayson Namdar*** *(2)* ***- Rachael Plunkett*** *(2)* ***- Daisy Wood*** *(3)* ***- Margaret Krause*** *(3)* ***- Surendra Singh*** *(4)* ***- Francisco Calderon*** *(3)*

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P417 - Enhancing Dietary Fiber in Wheat Through Arabinoxylan Improvement

Maria Itria Ibba *(1)* ***- Nayelli Hernandez-Espinosa*** *(1)* ***- Guillermo Gerard*** *(1)* ***- Susanne Dreisigacker*** *(1)*

(1) CIMMYT, Global Wheat Program, Texcoco, Mexico

P418 - Effect of the wheat bread-making gene on gluten protein fractions analyzed by high-performance liquid chromatography

Angeline Jacoby *(1)* ***- Chidimma Gift Omenoba-Nee Ubah*** *(1)* ***- Ansorie Maré*** *(2)* ***- Maryke Labuschagne*** *(1)*

(1) University of the Free State, Department of Plant Sciences, Bloemfontein, South Africa - (2) Agricultural Research Council, Vegetable, Industrial and Medicinal Plants (ARC-VIMP), Pretoria, South Africa

P419 - Twenty-year evaluation of baking quality traits in spring and winter wheat cultivars

Riinu Kaasik *(1)* ***- Reine Koppel*** *(2)* ***- Anne Ingver*** *(2)*

(1) Centre of Estonian Rural Research and Knowledge, Department of Plant Protection, Jõgeva, Estonia - (2) Centre of Estonian Rural Research and Knowledge, Department of Plant Breeding, Jõgeva, Estonia

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P420 - High-Throughput Prediction of Farinograph and Baking Traits in Hard Red Spring Wheat Using GlutoPeak Indices and Machine Learning: Fast-Track End-Use Quality Decisions

Simardeep Kaur *(1)* ***- Andrew Green*** *(2)* ***- Shahidul Islam*** *(2)*

(1) North Dakota State University (Visiting Scholar) and ICAR-Research Complex for North Eastern Hill Region, Umiam, Meghalaya 793103, India (On leave), Department of Plant Sciences, North Dakota State University, Fargo, United States - (2) North Dakota State University, Department of Plant Sciences, North Dakota State University, Fargo, United States

P421 - Micronutrient Density in European elite Wheat: Breeding Opportunities for Enhanced Iron and Zinc Nutrition

Lukas Kronenberg *(1)* ***- Lisa Konrad*** *(2)* ***- Mikayla Hug*** *(2)* ***- Naemi Heppner*** *(3)* ***- Nina Radmehr*** *(3)* ***- Andreas Hund*** *(4)* ***- Julie Tolu*** *(5)* ***- Isabelle Herter-Aeberli*** *(3)* ***- Matthias Wiggenhauser*** *(2)*

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P422 - Genome-Wide Association Study for Genetic Determinants of Phytic Acid Content and Mineral Bioavailability in Wheat (Triticum aestivum L.)

Rahul Kumar *(1)* ***- Anjali Verma*** *(1)* ***- Shoeb Ahmed*** *(1)* ***- Pushpendra K Gupta*** *(1)*

(1) Department of Genetics and Plant Breeding, Chaudhary Charan Singh University,, MEERUT, India

P423 - Effect of global warming on wheat grain and baking quality stability - Project CLIMABOUL (CLImat et quAlité BOULangère)

Anne-Laure Chateigner-Boutin *(1)* ***- Laïla Rodrigues De Araujo Alves Cruz*** *(2)* ***- Baptiste Vancostenoble*** *(3)* ***- Benoît Méléard*** *(3)* ***- Christine Girousse*** *(2)* ***- Catherine Ravel*** *(2)* ***- Valérie Lullien-Pellerin*** *(4)* ***- Luc Saulnier*** *(1)* ***- Jacques Le Gouis*** *(2)*

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P424 - Dynamic Profiling of Lipid Metabolism in Developing Wheat Grains

QianQian Li *(1)* ***- Ting Chen*** *(1)* ***- Guang Chen*** *(1)* ***- Qiang Li*** *(1)*

(1) Huazhong Agricultural University, College of Plant Science and Technology, WuHan, 中国

P425 - Dynamic Profiling of Lipid Metabolism in Developing Wheat Grains

QianQian Li *(1)* ***- Ting Chen*** *(1)* ***- Guang Chen*** *(1)*

(1) Huazhong Agricultural University, College of Plant Science and Technology, WuHan, China

P426 - Technological quality screening in wheat: Direct and indirect effects of gluten traits on bread volume

Ernandes Manfroi *(1)* ***- Gabriela Soster Santeti*** *(1)* ***- Viginia Cunha*** *(1)* ***- Luana Carolina do Prado Pabst*** *(1)* ***- Ivana Sabljic*** *(1)*

(1) GDM Seeds, Wheat Research, Passo Fundo, Brazil

P427 - Genome-Wide Identification and Expression Validation of Phytate Biosynthesis Genes in Wheat for Zn bioavailability

Rizwana Maqbool *(1)* ***- Muhammad Ahsan Khan*** *(1)* ***- Fatime Umar*** *(1)* ***- Muhammad Taseer Abbas Naqvi*** *(1)*

(1) University of Agriculture, Faisalabad, Plant Breeding and Genetics, Faisalabad, Pakistan

P428 - Multifunctional Roles of Sucrose Fatty Acid Esters in Flour- and Starch-Based Premix Foods

Takugi Murata *(1)* ***- Yuki Mitarai*** *(1)* ***- Tomosada Masuko*** *(1)*

(1) Mitsubishi Chemical Corporation, Food & Healthcare Group, KANAGAWA, Japan

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P429 - "Technological and Nutritional Impact of Emmer (Kavılca) Wheat Flour on Extruded Snack Products"

Arzu Özer *(1)* ***- Berrin Özkaya*** *(2)*

(1) Central Research Institute for Field Crops, Ankara University/Department of Food Engineering, Ankara, Turkey - (2) Ankara University/Department of Food Engineering, Ankara University/Department of Food Engineering, Ankara, Turkey

P430 - Exploring Dietary Fiber Enhancement in Wheat: Identification of High β-Glucan and Arabinoxylan Sources from Wild Relatives for Biofortification

Prexha Kapoor *(1)* ***- Sourav Panigrahi*** *(2)* ***- Upendra Kumar*** *(2)*

(1) Dept. of MBB, CCSHAU, Hisar, India - (2) Dept of Bioinformatics, MJPRU, Bareilly, India

P431 - Integrating Nutritional Quality Sensory Traits and Genetic Diversity for Multi-Trait Wheat Improvement

Olawale Olalekan *(1)* ***- Julia Darlison*** *(1)* ***- Nikwan Shariatipour*** *(1)* ***- Karin Wendin*** *(2)* ***- Marcus Johansson*** *(2)* ***- Tina Henriksson*** *(3)* ***- Thomas Björklund*** *(4)* ***- Firuz Odilbekov*** *(3)* ***- Eva Johansson*** *(1)* ***- Mahbubjon Rahmatov*** *(1)*

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P432 - Genetic Diversity, Fiber Composition and Quality Traits of European Spelt Wheat (Triticum aestivum ssp. spelta) for Sustainable Crop Improvement

Marianna Rakszegi *(1)* ***- Sándor Tömösközi*** *(2)* ***- Edina Jaksics*** *(2)* ***- Péter Mikó*** *(1)* ***- Ildikó Karsai*** *(3)* ***- András Cseh*** *(3)*

(1) HUN-REN Centre for Agricultural Research, Cereal Breeding Department, Martonvásár, Hungary - (2) Budapest University of Technology and Economics, Department of Applied Biotechnology and Food Science, Faculty of Chemical Technology and Biotechnology, Budapest, Hungary - (3) HUN-REN Centre for Agricultural Research, Molecular Breeding Department, Martonvásár, Hungary

P433 - Impact of xanthophyll esterification on carotenoid stability during bread-making in wheat and tritordeum

María Dolores Requena-Ramírez *(1)* ***- Cristina Rodríguez-Suárez*** *(1)* ***- Dámaso Hornero-Méndez*** *(2)* ***- Sergio G. Atienza*** *(1)*

(1) Spanish National Research Council, Institute for Sustainable Agriculture, Córdoba, Spain - (2) Spanish National Research Council, Instituto de la grasa/Department of Food Phytochemistry, Sevilla, Spain

P434 - Understanding the Effects of Global Warming on Wheat Grain to Improve the Stability of Breadmaking Quality.

Laïla Rodrigues De Araujo Alves Cruz *(1)* ***- Baptiste Vancostenoble*** *(2)* ***- Benoît Meleard*** *(2)* ***- Christine Girousse*** *(3)* ***- David Alvarez*** *(3)* ***- Lucie Le-Bot*** *(4)* ***- Sibille Perrochon*** *(3)* ***- Catherine Grand-Ravel*** *(3)* ***- Valérie Lullien-Pellerin*** *(5)* ***- Luc Saulnier*** *(4)* ***- Anne-Laure Chateigner-Boutin*** *(4)* ***- Jacques Le Gouis*** *(3)*

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P435 - Dissecting the genetic basis of carotenoid accumulation and esterification in an argentinean durum wheat collection using GWAS, evaluation of the carotenoid profile and KASP markers

María Amparo Blanco Méndez *(1)* ***- Lourdes María Martínez*** *(2)* ***- Anna Maria Mastrangelo*** *(3)* ***- Diana Martino*** *(4)* ***- Juan Manuel Rivera*** *(4)* ***- Juan Manuel Rodrigo*** *(2)* ***- Ana Clara Fernández*** *(2)* ***- Daniela Soresi*** *(2)* ***- Dámaso Hornero Méndez*** *(5)* ***- Sergio Gustavo Atienza*** *(6)* ***- Cristina Rodríguez Suárez*** *(6)* ***- Pablo Federico Roncallo*** *(2)*

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del Sur (UNS)-CONICET, Bahía Blanca, Argentina - (3) Council for Agricultural Research and Economics (CREA), Research Centre for Cereal and Industrial Crops, Foggia, Italy - (4) Buck Semillas S.A., La Dulce, Necochea, Argentina - (5) Consejo Superior de Investigaciones Científicas (CSIC), Instituto de la Grasa, Department of Food Phytochemistry, Sevilla, Spain - (6) Consejo Superior de Investigaciones Científicas (CSIC), Instituto de Agricultura Sostenible, Córdoba, Spain

P436 - Exploiting Paragon gamma-irradiation deletion population for grain nutritional and morphological traits.

Ajay Siluveru *(1)* ***- Alex Howard*** *(1)* ***- Simon Orford*** *(1)* ***- Workie Zegeye*** *(1)* ***- Darryl Playford*** *(1)* ***- Noam Chayut*** *(1)* ***- Jon Wright*** *(2)*

(1) *John Innes centre, Crop Genetics, Norwich, United Kingdom - (2) Earlham Institute, Research Faculty, Norwich, United Kingdom*

P437 - Exploiting gamma-irradiation mutant population for enhancing grain nutritional quality and nitrogen use efficiency.

Ajay Siluveru *(1)* ***- Alex Howard*** *(1)* ***- Simon Orford*** *(1)* ***- Workie Zegeye*** *(1)* ***- Noam Chayut*** *(1)* ***- Burkhard Steuernagel*** *(1)* ***- Jon Wright*** *(2)*

(1) John Innes centre, Crop Genetics, Norwich, United Kingdom - (2) Earlham Institute, Research Faculty, Norwich, United Kingdom

P438 - Multi-Environment Field Trials of a European Elite Wheat Panel Provide Insights into the Genetic Architecture of Falling Number Stability

Iulian Gabur *(1)* ***- Harmeet Chawla*** *(2)* ***- Sylvia Seddig*** *(3)* ***- Frank Ordon*** *(4)* ***- Holger Zetzsche*** *(4)* ***- Andreas Stahl*** *(4)*

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P439 - Tritordeum, an alternative cereal for breadmaking

Elżbieta Suchowilska *(1)* ***- Marian Wiwart*** *(1)* ***- Anna Szafrańska*** *(2)*

(1) University of Warmia and Mazury in Olsztyn, Department of Genetics, Plant Breeding and Bioresource Engineering, Olsztyn, Poland - (2) Prof. Wacław Dąbrowski Institute of Agricultural and Food Biotechnology – Stat, Department of Grain Processing and Bakery, Warszawa, Poland

P440 - Genotype × Agroecological Management Interactions Promote Rheological and Nutritional Quality of Durum Wheat in Mediterranean Mountains

Mona Taghouti *(1)* ***- Rajae Kallida*** *(2)* ***- Fatima Gaboun*** *(3)* ***- Miguel Sanchez-Garcia*** *(4)* ***- Nasserddine Louahdi*** *(5)* ***- Rola El Amil*** *(6)* ***- Ilaria Mazzoli*** *(7)* ***- Dubravska Kolarić Zatezalo*** *(8)* ***- Rachid Mrabet*** *(2)* ***- Filippo Bassi*** *(4)*

(1) INRA Morocco, Plant Breeding, Rabat, Morocco - (2) INRA, Agronomy, Rabat, Morocco - (3) INRA, bioinformatic, Rabat, Morocco - (4) ICARDA, breeding, Rabat, Morocco - (5) ITGC, Agronomy, Alger, Algeria - (6) LARI, breeding, Zahle, Lebanon - (7) Open Fields, agri-food, Parma, Italy - (8) PINS, development, Skrad, Croatia

P441- Accelerating wheat quality phenotyping: streamlined bioactive assays and NIR–machine learning prediction of processing quality

Wenfei Tian (1) - Zhonghu He (1)

(1) Chinese Academy of Agricultural Sciences (CAAS), Institute of Crop Sciences, Beijing, China

P442 - A simple way for wholegrain bakery products to be low-FODMAP

Aleksandra Torbica *(1)*

(1) Institute of Food Technology in Novi Sad, University of Novi Sad, Novi Sad, Serbia

P443 - Environmental and genetic determination of semolina Minolta b* value in winter durum wheat

Gyula Vida *(1)* ***- Katalin Puskas*** *(1)* ***- Monika Cseplo*** *(1)*

(1) HUN-REN Centre for Agricultural Research, Cereal Breeding Department, Martonvasar, Hungary

P444 - A high-quality bread wheat genome unravels adaptive evolution of wheat end-use quality

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Jijin Zhang *(1)* ***- Fei Lu*** *(1)* ***- Xinyou Cao*** *(2)*
(1) Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, beijing, China - (2) Crop Research Institute, Shandong Academy of Agricultural Sciences, Jinan, China

P445 - Identification of QTL for Alkylresorcinols in Wheat and Development of KASP Markers for Marker-Assisted Selection of Health-Promoting Varieties

Lei Zhi (1)
(1) College of Agronomy, Northwest A&F University, Yangling, China

4TH INTERNATIONAL WHEAT CONGRESS

IWC4 2026 - SELECTED ORAL TALKS

TOPIC 1
ENABLING SUSTAINABLE WHEAT PRODUCTION IN A BROAD CROPPING SYSTEM. I CROP MANAGEMENT, SOIL CONSERVATION AND HEALTH

P500 ORAL - Optimizing sulfur nutrition as a driver for iron homeostasis and grain safety in durum wheat
Eleonora Coppa *(1)* ***- Mutsumi Watanabe*** *(2)* ***- Moez Maghrebi*** *(3)* ***- Giulia Quagliata*** *(1)* ***- Alessandro Bruschini*** *(1)* ***- Rainer Hoefgen*** *(4)* ***- Gianpiero Vigani*** *(3)* ***- Stefania Astolfi*** *(1)*
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P501 ORAL - Proteome-informed breeding and management of nitrogen uptake and use efficiency across Australian broadacre wheat systems
Katharina Belt *(1)* ***- Samantha Harvie*** *(1)* ***- Hui Cao*** *(1)* ***- Samalka Wijeweera*** *(1)* ***- A. Harvey Millar*** *(1)*
(1) University of Western Australia, School of Molecular Sciences, Crawley, Australia

P502 ORAL - The Wheat Microbiome: Spatial and Genetic Drivers of Bacterial and Fungal Communities in European Wheat Systems
Minely Cerón-Bustamante *(1)* ***- Tancredi Caruso*** *(1)* ***- Cathal McCabe*** *(2)* ***- Stephen Carey*** *(2)* ***- Angela Feechan*** *(2)* ***- Marco Maccaferri*** *(3)* ***- Matteo Bozzoli*** *(3)* ***- Sophie Bouchet*** *(4)* ***- Justin Blancon*** *(4)* ***- Fiona Doohan*** *(1)*
(1) University College Dublin, School of Biology and Environmental Science and Earth Institute, Dublin, Ireland - (2) University College Dublin, School of Agriculture and Food Science, Dublin, Ireland - (3) Alma Mater Studiorum–Università di Bologna, Department of Agricultural and Food Sciences (DISTAL), Bologna, Italy - (4) UMR1095, GDEC, INRAE-Université Clermont-Auvergne, Clermont-Ferrand, France

P503 ORAL - Improving the performance of durum and winter wheat in intermediate areas of France through a combination of appropriate levers: lessons from 10 years of system experimentation in the Syppre network
Marie Estienne *(1)* ***- Loïc Viguier*** *(1)* ***- Domitille Jamet*** *(2)* ***- Matthieu LOOS*** *(2)* ***- Eva Deschamps*** *(1)* ***- Geoffroy Oudoire*** *(1)* ***- stéphane Cadoux*** *(2)* ***- Rémy Duval*** *(3)* ***- Clotilde Rouillon*** *(1)*
(1) Arvalis, Agronomy, Economy & environnement Service, Paris, France - (2) Terres Inovia, Agronomy, Economy & environnement departement, Thiverval-Grignon, France - (3) Institut technique de la betterave, research & developpement, Paris, France

P504 ORAL - Prospects for Enhancing Durum Wheat Productivity in Ethiopia: From Field to Market:
Wasihun Getahun *(1)*
(1) Ethiopian institute of Agricultural Research, Bishoftu Agricultural Research Center, Addis Ababa, Ethiopia

P505 ORAL - From Genes to the Rhizosphere: Harnessing Root–Microbiome Interactions to Improve Nitrogen Use Efficiency in Wheat
Maria Hernandez-Soriano *(1)* ***- Frederick James Warren*** *(2)* ***- Falk Hildebrand*** *(3)* ***- Simon Griffiths*** *(1)*
(1) John Innes Centre, Crop Genetics, Norwich, United Kingdom - (2) Quadram Institute, Food, Microbiome and Health, Norwich, United Kingdom - (3) Quadram Institute, Microbial Genomes, Strains and Evolution, Norwich, United Kingdom

P506 ORAL - Learning from Long-Term Data: How Rotation and Establishment Systems have Shaped Winter Wheat Performance in a Temperate Atlantic-influenced Region
Jack Jameson *(1)*
(1) Teagasc, Crop Science, Carlow, Ireland

P507 ORAL - Identifying High-Yield and High-Profit Cropping Systems for Sustainable Wheat Production in India – Evidence from Nationally Representative Household Survey
Vinita Kanwal *(1)* ***- Pankaj Kumar*** *(2)* ***- Sendhil Ramadas*** *(2)*
(1) Punjab Agricultural University, Department of Agricultural Economics, Ludhiana, India - (2) Pondicherry University, Department of Economics, Puducherry, India

P508 ORAL - Exploring novel planting strategies for sustainable improvement in wheat yield and profits
Maninder Pal Singh *(1)* ***- Patrick Copeland*** *(1)* ***- Wallas da Silva*** *(1)* ***- Paulo Arias*** *(1)* ***- Dennis Pennington*** *(1)* ***- Eric Olson*** *(1)*
(1) Michigan State University, Dept of Plant, Soil and Microbial Sciences, East Lansing, United States

4TH INTERNATIONAL WHEAT CONGRESS

IWC4 2026 - SELECTED ORAL TALKS

TOPIC 2
ENABLING SUSTAINABLE WHEAT PRODUCTION IN A BROAD CROPPING SYSTEM. II PHENOMICS, ENVIROMICS, CROP MODELLING, DIGITAL AGRICULTURE

P509 ORAL - Strategically Timed UAV Remote Sensing for Robust Wheat Yield Prediction: A Multi-year Study on Phenology-Aligned Machine Learning Dynamics

Shannon Baker *(1)* ***- Nafiul Islam*** *(2)* ***- Mahendra Bhandari*** *(3)* ***- Anjin Chang*** *(4)* ***- Amir MH Ibrahim*** *(5)* ***- Jinha Jung*** *(6)* ***- Juan Landivar*** *(3)* ***- Shuyu Liu*** *(2)* ***- Varenya Sri Mudumb*** *(2)* ***- Ritik Pokharel*** *(7)* ***- Jackie Rudd*** *(1)* ***- Jose Landivar Scott*** *(3)* ***- Thanos Gentemis*** *(2)*

(1) Texas A&M AgriLife Research, High Plains Research and Extension Center, Amarillo, United States - (2) Texas A&M University, Department of Soil and Crop Sciences, College Station, United States - (3) Texas A&M AgriLife Research, Corpus Christi, Corpus Christi, United States - (4) Michigan State University, Department of Biosystems and Agricultural Engineering, East Lansing, United States - (5) Texas A&M AgriLife Research, Texas A&M University, College Station, United States - (6) Purdue University, Lyles School of Civil and Construction Engineering, West Lafayette, United States - (7) Louisiana State University, Louisiana State University AgCenter, Baton Rouge, United States

P510 ORAL - Digitizing Wheat Variety Testing: Transitioning High-Throughput Phenotyping from Research to Regulatory Infrastructure

Alexis Comar *(1)* ***- Alexandra Bürgy*** *(1)* ***- Patrizia Zamberletti*** *(1)* ***- Jeremy Labrosse*** *(1)* ***- Jocelyn Gillet*** *(1)* ***- Adam Serghini*** *(1)* ***- Allison Poilance*** *(1)*

(1) Hiphen, Hiphen, Avignon, France

P511 ORAL - Spectral Fingerprinting of Wheat at Early Growth Stages Enables Accurate Grain Yield Prediction

C. Mariano Cossani *(1)* ***- Victor Sadras*** *(1)*

(1) SARDI-South Australian Research and Development Institute, PIRSA, URRBRAE, Australia

P512 ORAL - Multi-climatic plausibility testing of nitrogen-mitigation scenarios in wheat using crop models: a benchmarking workflow for digital agronomy

Francesca Degan *(1)* ***- Nathan Ortalo*** *(1)* ***- Donghao Xu*** *(2)* ***- Anna Strekalovskaya*** *(3)* ***- Chantal Hendriks*** *(4)* ***- Karin Nikolaus*** *(4)* ***- Marcos Lana*** *(5)* ***- Salim Belyazid*** *(3)* ***- Gerard Ros*** *(2)* ***- Mengru Wang*** *(2)* ***- Anaïs Bonnard*** *(6)* ***- Benoit Piquemal*** *(7)*

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P513 ORAL - Characterizing yield through wheat's perception of chronological progression: a multi-omics plant-time warping approach

Roth Lukas *(1)* ***- Herrera Juan M.*** *(2)* ***- Häner Lilia Levy*** *(2)* ***- Pellet Didier*** *(2)* ***- Fossati Dario*** *(2)* ***- Boss Mike*** *(3)* ***- Chen Xiaoran*** *(4)* ***- Nousi Paraskevi*** *(4)* ***- Volpi Michele*** *(4)*

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P514 ORAL - Synchronized plant–environment time series enable machine learning prediction of daily wheat transpiration from high-precision gravimetric lysimetry

Menachem Moshelion *(1)* ***- Nir Averbuch*** *(1)* ***- Shani Fridman*** *(1)*

(1) The Hebrew University of Jerusalem, Institute of Plant Sciences and Genetics in Agriculture, The Robert H. Smith Faculty of Agriculture, Food and Environment, Rehovot, Israel

P515 ORAL - Grain yield efficiency of dry land wheat in Israel: a high-resolution coupled crop-climate modeling approach

Ehud Strobach *(1)* ***- Avimanyu Ray*** *(1)* ***- Daniel Farhi*** *(1)* ***- Roi Ben-David*** *(2)*

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IWC4 2026 - SELECTED ORAL TALKS

TOPIC 03
CARBON FOOTPRINT OF WHEAT PRODUCTION: TOWARD A REDUCTION OF GREENHOUSE GAS EMISSIONS

P516 ORAL - Environmental Impacts of Precision Agriculture Adoption in Central Italy Wheat Production: A Comparative LCA

Claudia Camplone *(1)* **- *Maksims Feofilovs*** *(2)* **- *Lucia Rocchi*** *(1)* **- *Sara Allahverdiyeva*** *(2)* **- *Renzo Santi*** *(3)* **- *Luisa Paolotti*** *(1)* **- *Lorenzo Covarelli*** *(1)* **- *Francesco Romagnoli*** *(2)*

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P517 ORAL - Sucrose signalling: a new approach for reducing nitrogen inputs in wheat production?

Catherine Famelton *(1)* **- *Maria Oszvald*** *(2)* **- *Cara Griffiths*** *(3)*

(1) Rothamsted Research, Engineering Biology for Agriculture, Harpenden, United Kingdom - (2) SugaROX Ltd., -, Harpenden, United Kingdom - (3) SugaROX Ltd. and Rothamsted Research, Engineering Biology for Agriculture, Harpenden, United Kingdom

P518 ORAL - Improved carbohydrate accumulation drives wheat breeding progress and yield formation

Lukas Förter *(1)* **- *Andris Finkbeiner*** *(1)* **- *Andreas Stahl*** *(2)* **- *Tsu-Wei Chen*** *(3)* **- *Eva Herzog*** *(4)* **- *Benjamin Wittkop*** *(1)* **- *Rod J. Snowdon*** *(1)*

(1) Justus-Liebig-University, Department of Plant Breeding, Giessen, Germany - (2) Julius Kühn Institute, Institute for Resistance Research and Abiotic Stress Tolerance, Quedlinburg, Germany - (3) Humboldt University Berlin, Group of Intensive Plant Food Systems, Berlin, Germany - (4) Justus-Liebig-University, Biometry and Population Genetics, Giessen, Germany

P519 ORAL - Phenotyping nitrogen use efficiency for a new benchmark nutrient management regime in UK farms

Oorbessy Gaju *(1)* **- *Fred Wu*** *(1)*

(1) University of Lincoln, Lincoln Institute for Agrr-Food and Technology, Lincoln, United Kingdom

P520 ORAL - Carbon footprint of Brazilian wheat production under contrasting farm sizes

Vanderlise Giongo *(1)* **- *Álvaro Augusto Dossa*** *(1)* **- *Alexandre Ferreira do Nascimento*** *(1)* **- *Anderson Santi*** *(1)* **- *Adão da Silva Acosta*** *(1)* **- *André Júlio do Amaral*** *(1)* **- *Diego Inácio Patrício*** *(1)* **- *Osvaldo Vasconcellos Vieira*** *(1)* **- *Mônica da Silva Santana*** *(2)* **- *Eduardo Caierão*** *(1)*

(1) Brazilian Agriculture Research Corporation (Embrapa), Embrapa Wheat, Passo Fundo, Brazil - (2) Edmundo Gastal Agricultural Research and Development Support Foundation, Embrapa Wheat, Pelotas, Brazil

P521 ORAL - Carbon Footprint in Wheat Production: A Systematic Review and Multi-Method Meta-Analysis

Akhilraj M *(1)* **- *Priyanka Lal*** *(2)* **- *Sendhil Ramadas*** *(1)*

(1) Pondicherry University, Department of Economics, Puducherry, India - (2) ICAR-Indian Institute of Pulses Research, Social Science, Kanpur, India

P522 ORAL - Breeding Beyond the Plot: Leveraging Rotational Genetics to Improve Wheat Performance and Farming System Sustainability

Millicent Smith *(1)* **- *Shanice Van Haeften*** *(1)* **- *Stephanie Brunner*** *(1)* **- *Eric Dinglasan*** *(1)* **- *Mark Edward Fabreag*** *(1)* **- *Joe Eyre*** *(1)* **- *Celine Mens*** *(1)* **- *Ben Hayes*** *(1)* **- *Michael Udvardi*** *(1)* **- *Samir Alahmad*** *(1)* **- *Mitchell Eglinton*** *(1)* **- *Ryan McQuinn*** *(2)* **- *Merrill Ryan*** *(3)* **- *Sarah van der Meer*** *(1)* **- *Lee Hickey*** *(1)*

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IWC4 2026 - SELECTED ORAL TALKS

TOPIC 04
EXPLORING WHEAT DIVERSITY, EVOLUTION AND GENETIC RESERVOIRS

P523 ORAL - Genetic diversity characterization of Aegilops tauschii wide sequenced collection to unlock useful alleles left-behind by domestication and breeding

Matteo Bozzoli *(1)* **- *Martina Bruschi*** *(1)* **- *Pauline Thomelin*** *(2)* **- *Eric Ober*** *(2)* **- *Jesús Quiroz Chávez*** *(3)* **- *Kumar Gaurav*** *(3)* **- *Sanu Arora*** *(3)* **- *Cristobal Uauy*** *(3)* **- *Brande BJ Wulff*** *(4)* **- *Roberto Tuberosa*** *(1)* **- *Marco Maccaferri*** *(1)*

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P524 ORAL - Comprehensive Atlas of Wild Relative Introgressions Reveals Conserved Introgression Patterns and Massive Untapped Diversity in Wheat Genebanks

Surbhi Grewal *(1)* **- *Julie King*** *(1)* **- *Miguel Gonzalez-Sanchez*** *(2)* **- *Dan Smith*** *(2)* **- *Burkhard Steuernagel*** *(2)*

(1) University of Nottingham, Nottingham Wheat Research Centre, Loughborough, United Kingdom - (2) John Innes Centre, John Innes Centre, Norwich, United Kingdom

P525 ORAL - Genebank genomics provides a comprehensive genome diversity atlas of wheat

Max Haupt *(1)* **- *Hannah F Oertel*** *(2)* **- *Albert W Schulthess*** *(2)* **- *Samira El Hanafi*** *(2)* **- *Sandip M Kale*** *(3)* **- *Erwan Le Floch*** *(4)* **- *Axel Himmelbach*** *(5)* **- *Nils Stein*** *(5)* **- *Jochen Reif*** *(5)* **- *Martin Mascher*** *(1)*

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P526 ORAL - Mapping global wheat diversity through an Australian lens

Luisa Teasdale *(1)* **- *James O'Dwyer*** *(1)* **- *Kenny Yu*** *(1)* **- *Mahdi Rahimi*** *(1)* **- *Kanak Jain*** *(1)* **- *Frank Su*** *(1)* **- *Don Isdale*** *(1)* **- *Parampreet Kaur*** *(1)* **- *Debbie Wong*** *(1)* **- *Sally Norton*** *(1)* **- *Kerrie Forrest*** *(1)* **- *Gabriel Keeble-Gagnere*** *(1)* **- *Matthew Hayden*** *(1)*

(1) Agriculture Science & Technology, Agriculture Victoria, Melbourne, Australia

P527 ORAL - Mitochondrial hybridity in in vitro fertilization-generated maizewheat and pearl milletwheat cybrids drive important stable phenotypic variations

Kingsley Ikenna Ikpa-Agodo *(1)* **- *Rika Sugiura*** *(2)* **- *Nonoka Onda*** *(3)* **- *Aya Satoh*** *(3)* **- *Tety Maryenti*** *(3)* **- *Nasrein Mohamed Kamal*** *(4)* **- *Takashi Okamoto*** *(3)* **- *Benjamin Ewa Ubi*** *(4)* **- *Takayoshi Ishii*** *(4)*

(1) United Graduate School Of Agricultural Science, Tottori University, Tottori, Japan - (2) Graduate School Of Sustainability Science, Tottori University, Tottori, Japan - (3) Graduate School Of Sciences, Tokyo Metropolitan University, Tokyo, Japan - (4) International Platform For Dryland Research And Education, Tottori University, Tottori, Japan

P528 ORAL - Ancient grains illuminate the mosaic origin of domesticated wheat

Yael Lev-Mirom *(1)* **- *Assaf Distelfeld*** *(1)* **- *Valenyna Klymiuk*** *(2)* **- *Curtis Pozniak*** *(2)* **- *Sariel Hubner*** *(3)* **- *Tzion Fahima*** *(1)* **- *Ehud Weiss*** *(4)*

(1) University of Haifa, Institute of evolution, Haifa, Israel - (2) Crop Development Centre and Department of Plant Sciences, University of Saskatchewan, Saskatchewan, Canada - (3) MIGAL, University of Kiryat Shmona, Kiryat Shmona, Israel - (4) Martin (Szusz) Department of Land of Israel Studies and Archaeology, University of Bar-Ilan, Ramat Gan, Israel

P529 ORAL - Comparative analysis of exome sequencing data reveals convergent selection of durum and bread wheat

Lorenzo Pancaldi *(1)* **- *Paolo Callipo*** *(1)* **- *Matteo Bozzoli*** *(1)* **- *Roberto Tuberosa*** *(1)* **- *Eduard Akhunov*** *(2)* **- *Cristian Forestan*** *(1)*

- (1) University of Bologna, Department of Agricultural and Food Sciences (DISTAL), Bologna, Italy - (2) Kansas State University, Wheat Genetic Resources Center, Manhattan, United States

P530 ORAL - Long-term evolution of root architecture response to soil nitrogen management in tetraploid heat (Triticum durum)

Lengrand Salome *(1)* **- *Di Mattia Bartolo*** *(2)* **- *Collet Clothilde*** *(1)* **- *Giunti Michela*** *(2)* **- *Zhou Congying*** *(2)* **- *Atsbeha Genet*** *(2)* **- *Noli Enrico*** *(2)* **- *Carini Eugenia*** *(2)* **- *Bozzoli Matteo*** *(2)* **- *Forestan Cristian*** *(2)* **- *Draye Xavier*** *(1)* **- *Tuberosa Roberto*** *(2)* **- *Macaferri Marco*** *(2)*

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P531 ORAL - Digital characterization of chromosome centromeric haplotypes in polyploid wheat and their potential for breeding

Zihao Wang *(1)* **- *Zhaoyang Zhang*** *(2)* **- *Zhengzhao Yang*** *(2)* **- *Wenxi Wang*** *(2)* **- *Siqi Chen*** *(2)* **- *Jianxia Niu*** *(2)* **- *Xiaoming Xie*** *(2)* **- *Mingming Xin*** *(2)* **- *Yingyin Yao*** *(2)* **- *Zhaorong Hu*** *(2)* **- *Huiru Peng*** *(2)* **- *Zhongfu Ni*** *(2)* **- *Qixin Sun*** *(2)* **- *Weilong Guo*** *(2)*

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P532 ORAL - Unlocking Genetic Diversity for Climate-Resilient Durum Wheat Improvement

Meryem Zaim *(1)* **- *Noureddine El Haddad*** *(2)* **- *Andrea Visioni*** *(1)* **- *Miguel Sanchez-Garcia*** *(1)* **- *zakaria Kehel*** *(3)* **- *Amadou Tidiane Sall*** *(4)* **- *Rola El Amil*** *(5)* **- *Wasihun Lagesse*** *(6)* **- *Kachalla K. Mala Kachalla Mala*** *(7)* **- *Hajer Ben Ghanem*** *(8)* **- *Benjamin Kilian*** *(9)* **- *Filippo Maria Bassi*** *(10)*

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TOPIC 05
WHEAT GENOMES AND PANGENOMES

P533 ORAL - Tracing the origin of non-brittle rachis alleles in wheat

Emile Cavalet-Giorsa *(1)* **- *Thomas Wicker*** *(2)* **- *Simon Krattinger*** *(1)*

(1) KAUST, Plant Science Program, Thuwal, Saudi Arabia - (2) University of Zurich, Department of Plant and Microbial Biology, Zurich, Switzerland

P534 ORAL - Unlocking Long-Range Haplotype Diversity in Synthetic Hexaploid Wheat for Breeding

Fernando Delgadillo Galvan *(1)* **- *Jesus Quiroz Chavez*** *(1)* **- *Ana Backhaus*** *(2)* **- *Shifeng Cheng*** *(3)* **- *Christobal Uauy*** *(4)* **- *Susanne Dreisigacker*** *(1)*

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P535 ORAL - From reference transcriptome to pangenome transcriptional diversity: regulatory networks controlling kernel development in durum wheat

Cristian Forestan *(1)* **- *Lorenzo Pancaldi*** *(1)* **- *Rachel Rusholme-Pilcher*** *(2)* **- *Pavla Navratilova*** *(3)* **- *Salvatore Esposito*** *(4)* **- *Tiziana Sirangelo*** *(5)* **- *Elisabetta Mazzucotelli*** *(6)* **- *Monica Colombo*** *(6)* **- *Chiara Cappucci*** *(1)* **- *Jennifer Ens*** *(7)* **- *Harmeet Chawla*** *(8)* **- *Victor Llaca*** *(9)* **- *Gianluca Moretti*** *(10)* **- *Davide Scaglione*** *(10)* **- *Matteo Bozzoli*** *(1)* **- *Silvio Salvi*** *(1)* **- *Michele Morgante*** *(11)* **- *Manuel Spannagl*** *(12)* **- *Anthony Hall*** *(2)* **- *Luigi Cattivelli*** *(6)* **- *Curtis Pozniak*** *(7)* **- *Roberto Tuberosa*** *(1)* **- *Marco Maccaferri*** *(1)*

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P536 ORAL - An ecosystem of digital tools to solve the FAIR data problem in the pan-genome era

Kerrie Forrest *(1)* **- *Don Isdale*** *(1)* **- *James O'Dwyer*** *(1)* **- *Mahdi Rahimi*** *(1)* **- *Parampreet Kaur*** *(1)* **- *Debbie Wong*** *(1)* **- *Kenny Yu*** *(1)* **- *Luisa Teasdale*** *(1)* **- *Kanak Jain*** *(1)* **- *Frank Su*** *(1)* **- *Sally Norton*** *(1)* **- *Gabriel Keeble-Gagnère*** *(1)* **- *Matthew Hayden*** *(1)*

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P537 ORAL - Digitalized Map of Homologous Clusters across Poaceae Species Unveil the Complex Evolutional Trajectory of Genes in Triticeae

IWC4 2026 - SELECTED ORAL TALKS

Xiaoming Xie *(1)* ***- Yongming Chen*** *(1)* ***- Yuqi Zhang*** *(1)* ***- Zihao Wang*** *(1)* ***- Yibo Wang*** *(1)* *- Peng Zhao (1) - Huiru Peng (1) - Chaojie Xie (1) - Yingyin Yao (1) - Zhongfu Ni (1) - Qixin Sun (1) - Weilong Guo (1)*
(1) Wheat Genetics and Genomics Center, China Agricultural University, Beijing, China

P538 ORAL - Genomic Investigation of Wheat Genetic Improvement: Introgression, Disease Resistance, and Yield
Fei He He *(1)*
(1) NA, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China

P539 ORAL - The IWGSC RefSeq 3.0 and a bread wheat pangenome providing access to worldwide diversity
Lasserre-Zuber Pauline *(1)* ***- Rimbert Hélène*** *(1)* ***- Fengler Kevin*** *(2)* ***- Llaca Victor*** *(2)* ***- Buell Robin*** *(3)* ***- Hamilton John*** *(3)* ***- Johnson Catalina*** *(4)* ***- Gautier Véronique*** *(1)* ***- Debiton Clément*** *(1)* ***- Bouchet Sophie*** *(1)* ***- Saintenac Cyrille*** *(1)* ***- Benhamed Moussa*** *(5)* ***- Pereyra-Bistrain Leonardo*** *(5)* ***- Alaux Michael*** *(6)* ***- Choulet Frédéric*** *(1)* ***- Sourdille Pierre*** *(1)* ***- Stein Josh*** *(7)* ***- Eversole Kellye*** *(7)*
(1) INRAE, GDEC, Clermont-Ferrand, France - (2) Corteva Agriscience, Bioinformatics, Johnston, United States - (3) University of Georgia, Department of Crop & Soil Sciences, Athens, United States - (4) Colorado Parks and Wildlife, Colorado Parks and Wildlife, COLORADO, United States - (5) Université Paris-Saclay, Institute of Plant Sciences, ORSAY, France - (6) INRAE, URGI, Versailles, France - (7) IWGSC, IWGSC, EAU-CLAIR, United States

P540 ORAL - 10+ Wheat Genomes Project highlights that purifying selection on deleterious variants is shaped by the interactions between subgenomes and gene expression
Gwyneth Halstead-Nussloch *(1)* ***- Moeko Okada*** *(1)* ***- Georg Haberer*** *(2)* ***- Thomas Lux*** *(2)* ***- A S M Faridul Islam*** *(3)* ***- Masaomi Hatakeyama*** *(1)* ***- Roman Briskine*** *(1)* ***- Benjamen White*** *(4)* ***- Anthony Hall*** *(4)* ***- Curtis Pozniak*** *(5)* ***- 10+ Wheat Genome Project*** *(5)* ***- Manuel Spannagl*** *(2)* ***- Timothy Paape*** *(6)* ***- Kentaro K. Shimizu*** *(1)*
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TOPIC 06
WHEAT FUNCTIONAL GENOMICS

P541 ORAL - Revealing the role of IBH1 in brassinosteroid biosynthesis and signalling via CRISPR-Cas9 knockout in durum wheat
Chiara D'Attilia *(1)* ***- Marco Bonarrigo*** *(1)* ***- Mark Smedley*** *(2)* ***- Samuela Palombieri*** *(1)* ***- Valentina Buffagni*** *(3)* ***- Sadiye Hayta*** *(3)* ***- Stefania Masci*** *(1)* ***- Francesco Sestili*** *(1)*
(1) University of Tuscia, Department of Agriculture and Forest Sciences (DAFNE), Viterbo, Italy - (2) John Innes Centr, Department of Crop Genetics, Norwich, United Kingdom - (3) John Innes Centre, Department of Crop Genetics, Norwich, United Kingdom

P542 ORAL - k-mer-based GWAS in a wheat collection reveals novel and diverse sources of powdery mildew resistance
Benjamin Jaegle *(1)* ***- Yoav Voicheck*** *(2)* ***- Max Haupt*** *(3)* ***- Alexandros Sotiropoulos*** *(4)* ***- Kevin Gauthier*** *(5)* ***- Matthias Heuberger*** *(6)* ***- Esther Jung*** *(7)* ***- Gerhard Herren*** *(6)* ***- Victoria Widrig*** *(8)* ***- Rebecca Leber*** *(6)* ***- Yipu Li*** *(6)* ***- Beate Schierscher*** *(7)* ***- Sara Serex*** *(7)* ***- Maja Boczkowska*** *(9)* ***- Marta Puchta-Jasińska*** *(9)* ***- Paulina Bolc*** *(9)* ***- Nils Stein*** *(10)* ***- Boulos Chalhoub*** *(7)* ***- Beat Keller*** *(6)* ***- Javier Sanchez Martin*** *(11)*
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P543 ORAL - Cloning of diverse disease resistance genes from wild emmer wheat for breeding
Miaomiao Li *(1)* ***- Keyu Zhu*** *(1)* ***- Huaizhi Zhang*** *(1)* ***- Ping Lu*** *(1)* ***- Qiuhong Wu*** *(2)* ***- Yongxing Chen*** *(2)* ***- Guanghao Guo*** *(1)* ***- Gaojie Wang*** *(1)* ***- Lingli Dong*** *(1)* ***- Zhiyong Liu*** *(1)*
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IWC4 2026 - SELECTED ORAL TALKS

P544 ORAL - Rudimentary Basal Spikelet Formation in Wheat: The Tug-of-War Between Vegetative and Differentiation
Yunchuan Liu *(1)* ***- Sophie Carpenter*** *(1)* ***- Nikolai M. Adamski*** *(1)* ***- Maximillian Jones*** *(1)* ***- James Simmonds*** *(1)* ***- Katie Long*** *(2)* ***- Cristobal Uauy*** *(1)*
(1) John Innes Centre, Crop Genetics, Norwich, United Kingdom - (2) The Sainsbury laboratory, Cambridge University, Cambridge, United Kingdom

P545 ORAL - A TaKNOX1-TaAPO1-Rht1 feedback regulation orchestrates grain number and yield in wheat
Zhongyin Deng *(1)* ***- Qihang Chen*** *(1)* ***- Shuoxun Wang*** *(2)* ***- Yuqing Che*** *(1)* ***- Shaoshuai Liu*** *(1)* ***- Xiuzhi Wei*** *(1)* ***- Wanxin Xu*** *(1)* ***- Dada Cui*** *(1)* ***- Guoliang Chen*** *(1)* ***- Xinyu Zou*** *(1)* ***- Ziying Wang*** *(1)* ***- Tianhua Chen*** *(1)* ***- Shuaifeng Gen*** *(1)* ***- Xiangdong Fu*** *(2)* ***- Aili Li*** *(1)* ***- Long Mao*** *(1)*
(1) Chinese Academy of Agricultural Sciences, Institute of Crop Sciences, Beijing, China - (2) Chinese Academy of Sciences, Institute of Genetics and Developmental Biology, Beijing, China

P546 ORAL - Spatial transcriptomics of developing wheat seed reveals concentric gene expression zones and subgenome biased expression of key genes
Tori Millsteed *(1)* ***- David Kainer*** *(2)* ***- Robert Sullivan*** *(3)* ***- Xiaohuan Sun*** *(4)* ***- Ka Leung Li*** *(4)* ***- Likai Mao*** *(4)* ***- Arlie Macdonald*** *(2)* ***- Robert Henry*** *(1)*
(1) QAAFI, The University of Queensland, Brisbane, Australia - (2) ARC Centre of Excellence for Plant Success, The University of Queensland, Brisbane, Australia - (3) Queensland Brain Institute, The University of Queensland, Brisbane, Australia - (4) MGI Australia, MGI Tech, Brisbane, Australia

P547 ORAL - Grain Number Increase 2 (GNI2) improves floret fertility and enhances grain yield in wheat
Shun Sakuma *(1)* ***- Matteo Bozzoli*** *(2)* ***- Guy Golan*** *(3)* ***- Manar Makhoul*** *(4)* ***- Cristian Forestan*** *(2)* ***- Kenan Tan*** *(3)* ***- Ahmed Raza Khan*** *(3)* ***- Francesco De Sario*** *(2)* ***- Sara Milner*** *(2)* ***- Giuseppe Sciara*** *(2)* ***- Chuny Liu*** *(2)* ***- Elisabetta Frascaroli*** *(2)* ***- Fumitaka Abe*** *(5)* ***- Goetz Hensel*** *(6)* ***- Jia-Wu Feng*** *(7)* ***- Martin Mascher*** *(7)* ***- Karim Ammar*** *(8)* ***- Mikiko Kojima*** *(9)* ***- Masanori Okamoto*** *(9)* ***- Roberto Tuberosa*** *(2)* ***- Silvio Salvi*** *(2)* ***- Rod Snowdon*** *(4)* ***- Marco Maccaferri*** *(2)* ***- Thorsten Schnurbusch*** *(3)*
(1) Tottori University, Faculty of Agriculture, Tottori, Japan - (2) University of Bologna, Plant Genetics and Breeding Department of Agricultural and Food Sciences, Bologna, Italy - (3) Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Plant Architecture, Gatersleben, Germany - (4) Justus Liebig University Giessen, Department of Plant Breeding, Giessen, Germany - (5) NARO, Institute of Crop Science, Tsukuba, Japan - (6) Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Plant Reproductive Biology, Gatersleben, Germany - (7) Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Domestication Genomics, Gatersleben, Germany - (8) International Maize and Wheat Improvement Center (CIMMYT), Durum wheat breeding, Mexico City, Mexico - (9) RIKEN, Center for Sustainable Resource Science, Yokohama, Japan

P548 ORAL 366 - Green Be Gone: Transcription Factor NAC3 Regulates Wheat Senescence
Becca Testa *(1)* ***- Emilie Knight*** *(1)* ***- Edward Banbury*** *(1)* ***- Sophie Harrington*** *(1)* ***- Sadiye Hayta*** *(1)* ***- Mark Smedley*** *(1)* ***- David Seung*** *(2)* ***- Philippa Borrill*** *(1)*
(1) John Innes Centre, Crop Genetics Department, Norwich, United Kingdom - (2) John Innes Centre, Biochemistry & Metabolism Department, Norwich, United Kingdom

TOPIC 07
INNOVATIVE WHEAT BREEDING

P549 ORAL - Genomic breeding for dryland durum at ICARDA
Filippo Bassi *(1)* ***- Amadou Tidiane Sall*** *(2)* ***- Amit Gautam*** *(3)* ***- Hafssa Kabbaj*** *(1)* ***- Meryam Zaim*** *(1)* ***- Yaman Jabbour*** *(4)* ***- Wasihun Lagesse*** *(5)* ***- Rodomiro Ortiz*** *(6)* ***- Augusto Luis Becerra*** *(1)*
(1) ICARDA, na, Rabat, Morocco - (2) ISRA, Breeding, Saint Louis, Senegal - (3) ICARDA, Breeding, Amlaha, India - (4) GCSAR, Breeding, Aleppo, Syrian Arab Republic - (5) EIAR, Breeding, Debre Zeit, Ethiopia - (6) SLU, Genetics, Alnarp, Sweden

P550 ORAL - An AI-guided breeding toolkit for durable multi-disease resistance in wheat
Lee Hickey *(1)* ***- Seema Yadav*** *(1)* ***- Jingyang Tong*** *(1)* ***- Eric Dinglasan*** *(1)* ***- Dilani Jambuthenne*** *(1)* ***- Zerihun Tadesse*** *(2)* ***- Peter Dodds*** *(3)* ***- Melania Figueroa*** *(3)* ***- Jana Sperschneider*** *(3)* ***- Rohit Mago*** *(3)* ***- Meredith McNeil*** *(3)* ***- Shannon Dillon*** *(3)* ***- Ben Hayes*** *(1)*
(1) The University of Queensland, QAAFI, Brisbane, Australia - (2) CIMMYT, CIMMYT-Kenya, Kenya, Kenya - (3) CSIRO, CSIRO, Canberra, Australia

P551 ORAL - In vitro fertilization system with wheat, rice and maize gametes: Production of cytoplasmic hybrid between wheat and rice/maize across subfamily
Takashi Okamoto *(1)* ***- Tety Maryenti*** *(2)* ***- Nonoka Onda*** *(1)* ***- Aya Satoh*** *(1)* ***- Nowroz Farzana*** *(1)* ***- Shizuka Koshimizu*** *(3)* ***- Offiong Ukpong Edet*** *(4)* ***- Ryosuke Mega*** *(5)* ***- Kentaro Yano*** *(6)* ***- Takayoshi Ishii*** *(7)*

IWC4 2026 - SELECTED ORAL TALKS

(1) Tokyo Metropolitan University, Biological Sciences, Tokyo, Japan - (2) Universitas Indonesia, Mathematics and Natural Sciences, Depok, Indonesia - (3) National Institute of Genetics, Bioinformation and DDBJ Center, Mishima, Japan - (4) Tottori University, International Platform for Dryland Research and Education,, Tottoi, Japan - (5) Kobe University, Agricultural Science, Kobe, Japan - (6) WellGreen-i Co. Ltd., WellGreen-i Co. Ltd., Kanagawa, Japan - (7) Tottori University, Arid Land Research Center, Tottori, Japan

P552 ORAL - Integrative Platform for Accelerated Development of Wheat Varieties via Multiplex Genome Editing

Claudia Payacan-Ortiz *(1)* ***- Marco Montes de Oca*** *(1)* ***- Sebastian Castillo Castro*** *(1)* ***- Constanza Castro*** *(1)* ***- Ariel Gutierrez*** *(1)* ***- Francisca Castillo Castro*** *(1)*

(1) Neocrop Technologies, -, Valdivia, Chile

P553 ORAL - From haplotype-based QTL mapping to founder-resolved pangenomics: dissecting multi-disease resistance architecture in a wheat MAGIC population

Anne-Kathrin Pfrieme *(1)* ***- Antonia Lisker*** *(1)* ***- Wiebke Sannemann*** *(2)* ***- Jane Gohlisch*** *(1)* ***- Ebrahim Kazman*** *(3)* ***- Hilmar Cöster*** *(4)* ***- Josef Holzapfel*** *(5)* ***- Erhard Ebmeyer*** *(6)* ***- Marvin Behnke*** *(1)* ***- Thomas Schmutzer*** *(1)* ***- Andreas Maurer*** *(1)* ***- Klaus Pillen*** *(1)*

(1) Martin-Luther-University Halle-Wittenberg, Martin-Luther-University Halle-Wittenberg Institute of Agricultural and Nutritional Sciences, Chair of Plant Breeding, Halle (Saale), Germany - (2) KWS SAAT SE & Co. KGaA, KWS SAAT SE & Co. KGaA, Einbeck, Germany - (3) Syngenta Seeds GmbH, 3Syngenta Seeds GmbH, Oschersleben, Germany - (4) RAGT 2n, RAGT 2n, Wernigerode, Germany - (5) Secobra Saatzucht GmbH, Secobra Saatzucht GmbH, Moosburg an der Isar, Germany - (6) KWS Lochow GmbH, KWS Lochow GmbH, Bergen, Germany

P554 ORAL - Integrating Genomics, Multi-Trait Multi-Environment Modeling, and Multimodal Deep Learning Frameworks for Predicting Yield Components in Mediterranean Durum Wheat

Damiano Puglisi *(1)* ***- Paolo Vitale*** *(2)* ***- Jaime Cuevas*** *(3)* ***- Fabio Fania*** *(1)* ***- Salvatore Esposito*** *(4)* ***- Abelardo Montesinos-López*** *(5)* ***- Osval Montesinos-López*** *(6)* ***- José Crossa*** *(7)* ***- Pasquale De Vita*** *(1)*

(1) Council for Agricultural Research and Economics (CREA), Research Centre for Cereal and Industrial Crops (CI), Foggia, Italy - (2) International Maize and Wheat Improvement Center (CIMMYT), Carretera México Veracruz, El Batán, Texcoco, Estado de México, Mexico - (3) Universidad Autónoma del Estado de Quintana Roo, Division de Ciencias, Ingeniería y Tecnología (DCIT), Chetumal, Quintana Roo, Mexico - (4) National Research Council of Italy (CNR), Institute of Biosciences and BioResources (IBBR), Research Division Portici, Portici, Italy - (5) Universidad de Guadalajara, Centro Universitario de Ciencias Exactas e Ingenierías (CUCEI), Guadalajara, Jalisco, Mexico - (6) Universidad de Colima, Facultad de Telemática, Colima, Mexico - (7) Colegio de Postgraduados, Campus Montecillo, Carretera México Texcoco, Montecillo, Texcoco, Estado de México, Mexico

P555 ORAL - Predictive Breeding Applications in Wheat Using Genomics and Phenomics through Artificial Intelligence and Computer-Vision

Paolo Vitale *(1)* ***- Jose Crossa*** *(2)* ***- Abelardo Montesinos-López*** *(3)* ***- Karim Ammar*** *(4)* ***- Susanne Dreisigacker*** *(4)* ***- Osval Montesinos-López*** *(5)* ***- Keith Gardner*** *(1)* ***- Matthew Reynolds*** *(4)* ***- Guillermo Gerard*** *(4)* ***- Jussi Gillberg*** *(6)*

(1) CIMMYT, Data Science Group, Texcoco, Mexico - (2) Post-Graduate College (COLPOS), Department of Statistics, Montecillos, Mexico - (3) Universidad de Guadalajara, Centro Universitario de Ciencias Exactas e Ingenierías, Guadalajara, Mexico - (4) CIMMYT, Global Wheat Program, Texcoco, Mexico - (5) Universidad de Colima, Facultad de Telemática, Colima, Mexico - (6) Yield Systems, Yield Systems, Helsinki, Finland

P556 ORAL - Wheat genome editing: from prime editing to large DNA fragment editing

Yuan Zong *(1)* ***- Yidi Zhao*** *(1)* ***- Pei Ni*** *(1)* ***- Ximeng Zhou*** *(1)* ***- Zehua Liu*** *(1)* ***- Zhongfu Ni*** *(1)* ***- Qixin Sun*** *(1)* ***- Yanpeng Wang*** *(2)*

(1) China Agricultural University, China Agricultural University, Beijing, China - (2) Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China

TOPIC 08
DEVELOPING CLIMATE-SMART WHEAT IN THE CONTEXT OF ABIOTIC STRESSES

P557 ORAL - An XTH gene modulates root exudate-substrate cohesion

Emily Carr *(1)* ***- Sacha Przewieslik-Allen*** *(1)* ***- Keith Edwards*** *(1)* ***- Malcolm Hawkesford*** *(2)* ***- Xiaoxian Zhang*** *(2)* ***- Hannah Cooper*** *(3)* ***- Richard Whalley*** *(2)* ***- Sacha Mooney*** *(3)* ***- Claire Grierson*** *(1)*

(1) University of Bristol, Life Sciences, Bristol, United Kingdom - (2) Rothamsted Research, Rothamsted Research, Harpenden, United Kingdom - (3) University of Nottingham, Life Sciences, Nottingham, United Kingdom

P558 ORAL - Leveraging Wild Emmer Wheat Diversity to Unlock Adaptive Traits to Improve Drought-Resilience in Durum Wheat.

Giulia Castorina *(1)* ***- Davide Guerra*** *(1)* ***- Luigi Cattivelli*** *(1)* ***- Elisabetta Mazzucotelli*** *(1)* ***- Francesca Desiderio*** *(1)*

(1) Council for Agricultural Research and Economics (CREA), Research Centre for Genomics & Bioinformatic, Fiorenzuola d'Arda, Italy

IWC4 2026 - SELECTED ORAL TALKS

P559 ORAL - Exploring the role of NAM-2 in delaying drought-induced senescence in wheat

Miles Curl *(1)* ***- Catherine Famelton*** *(2)* ***- Chris Burt*** *(3)* ***- Nick Bird*** *(4)* ***- Rachel Goddard*** *(5)* ***- Gurpinder Singh Sidhu*** *(6)* ***- Richard Morris*** *(6)* ***- Philippa Borrill*** *(1)*

(1) John Innes Centre, Department of Crop Genetics, Norwich, United Kingdom - (2) Rothamsted Research, Rothamsted Research, Harpenden, United Kingdom - (3) RAGT Seeds Ltd, RAGT Seeds Ltd, Ickleton, United Kingdom - (4) KWS UK Ltd, KWS UK Ltd, Royston, United Kingdom - (5) Limagrain UK, Limagrain UK, Bury St Edmunds, United Kingdom - (6) John Innes Centre, Department of Computational and Systems Biology, Norwich, United Kingdom

P560 ORAL - Wheat's Heat Strategy: Linking Stomatal Traits, Sugar Dynamics, and Grain Omics to Heat Tolerance

Seidat Oluwadamilola Dauda *(1)* ***- ZhongHua Chen*** *(2)* ***- Michelle Donovan-Mak*** *(1)* ***- Jay Bose*** *(1)*

(1) Western Sydney University, School of Science, Penrith, Australia - (2) School of Agriculture, Food and Wine, University of Adelaide, Adelaide, Australia

P561 ORAL - From root to grain: multi-omics reveals how nitrogen, CO_2, and microbes tune wheat drought resilience and grain quality

Utpal Bose *(1)* ***- Jennifer Michel*** *(2)* ***- Claire Leon*** *(3)* ***- Cassandra Pegg*** *(4)* ***- David J. Beale*** *(5)* ***- Bhabananda Biswas*** *(6)* ***- Mohammad Mahmud Rahman*** *(6)* ***- Biswajit Biswas*** *(7)* ***- Shahida A Mitu*** *(8)* ***- Sally Stockwell*** *(4)* ***- Keren Byrne*** *(4)* ***- Frédéric Serre*** *(9)* ***- David Cormier*** *(9)* ***- Boris Adam*** *(9)* ***- Marie Leguillon*** *(9)* ***- Sibille Perrochon*** *(3)* ***- Michelle L Colgrave*** *(10)* ***- BIOFAIR Consortium*** *(2)* ***- Hervé Vanderschuren*** *(11)* ***- Cécile Thonar*** *(12)* ***- Pierre Delaplace*** *(2)* ***- Angela Juhasz*** *(13)* ***- Jacques Le Gouis*** *(3)*

(1) CSIRO Agriculture and Food, Edith Cowan University, ARC CoE CIPPS, CHANCE, School of Science, St Lucia, Australia - (2) University of Liège, Plant Sciences, TERRA teaching and research centre, Gembloux Agro-Bio Tech, Gembloux, Belgium - (3) INRAE, UMR GDEC, Clermont-Ferrand, France - (4) CSIRO, Agriculture and Food, St Lucia, Australia - (5) CSIRO, Environment, Ecosciences Precinct, Dutton Park, Australia - (6) The University of Newcastle, Global Centre for Environmental Remediation (GCER), College of Engineering, Science and Environment, Callaghan Campus, Australia - (7) The University of Queensland, Institute for Molecular Bioscience, Brisbane, Australia - (8) Edith Cowan University, ARC CoE CIPPS, School of Science, Joondalup, Australia - (9) INRAE, UE PHACC, Clermont-Ferrand, France - (10) CSIRO Agriculture and Food, Edith Cowan University, ARC CoE CIPPS, CHANCE. School of Science, St Lucia, Australia - (11) KULeuven, Laboratory for Tropical Crop Improvement, Crop Biotechnics, Faculty of Bioscience Engineering, Leuven, Belgium - (12) Université Libre de Bruxelles, Agroecology lab, Sciences Faculty, Bruxelles, Belgium - (13) Edith Cowan University, ARC CoE CIPPS, CHANCE, School of Science, Joondalup, Australia

P562 ORAL - Wheat responses to combined drought, heat, and elevated CO2: integrative morpho-physiological and transcriptomic insights under future climate scenarios

Zbynek Milec *(1)* ***- Kashif Nawaz*** *(2)* ***- Swati Puranik*** *(3)* ***- Anna Nowicka*** *(4)* ***- Martin Kovacik*** *(4)* ***- Hana Findurova*** *(1)* ***- Emmanuel Opoku*** *(1)* ***- Ales Pecinka*** *(4)* ***- Karel Klem*** *(1)* ***- Otmar Urban*** *(1)* ***- Pranav Pankaj Sahu*** *(1)*

(1) Global Change Research Institute, Laboratory of Ecological Plant Physiology, Brno, Czech Republic - (2) King Abdullah University of Science and Technology (KAUST), Biological and Environmental Science and Engineering, Thuwal, Saudi Arabia - (3) Rothamsted Research, Plant and Crop Molecular Physiology, Rothamsted, United Kingdom - (4) Institute of Experimental Botany of the Czech Academy of Sciences, Centre of Plant Structural and Functional Genomics, Olomouc, Czech Republic

P563 ORAL - Regulatory Variation at TaNPF2.12 Shapes Nitrogen-Responsive Root Plasticity and Nitrogen Use Efficiency in Winter Wheat

Grace Achieng Ochieng *(1)* ***- Luc Gujer*** *(1)* ***- Annaliese Mason*** *(1)* ***- Agim Ballvora*** *(1)*

(1) The University of Bonn, Plant Breeding, Bonn, Germany

P564 ORAL - Identification and Functional Characterization of WUE and Drought Resilience Factors in Wheat

Yuxin Zhou *(1)* ***- Xiaohan Wang*** *(1)* ***- Yuan Cao*** *(1)* ***- Xuelei Lin*** *(1)* ***- Jun Xiao*** *(1)*

(1) Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Laboratory of Advanced Breeding Technologies, Beijing, China

TOPIC 09
DISSECTING THE WHEAT-PATHOGEN AND PEST INTERACTION

P565 ORAL - Identification of disease resistance and sensitivity genes in U.S. hard winter wheat

Meriem Aoun *(1)* ***- Anju Maan Ara*** *(1)* ***- Rajat Sharma*** *(1)* ***- Mushfique Arefin Mobin*** *(1)* ***- Brett Carver*** *(2)* ***- Timothy Friesen*** *(3)* ***- Danielle Holmes*** *(3)* ***- Meinan Wang*** *(4)* ***- Xianming Chen*** *(5)* ***- Kimberly Garland Campbell*** *(5)* ***- Paul St. Amand*** *(6)* ***- Amy Bernardo*** *(6)* ***- Guihua Bai*** *(7)* ***- Mary Guttieri*** *(6)* ***- Indira Priyadarshini Lakkakula*** *(1)*

IWC4 2026 - SELECTED ORAL TALKS

(1) Oklahoma State University, Entomology and Plant Pathology, Stillwater, United States - (2) Oklahoma State University, Plant and Soil Sciences, Stillwater, United States - (3) USDA-ARS, Cereal Crops Improvement Research Unit, Fargo, United States - (4) Washington State University, Plant Pathology, Pullman, United States - (5) USDA-ARS, Wheat Health, Genetics, and Quality Research Unit, Pullman, United States - (6) USDA-ARS, Hard Winter Wheat Genetics Research Unit, Manhattan, United States - (7) Kansas State University, Department of Agronomy, Manhattan, United States

P566 ORAL - Non-host resistance genes – new sources for durable rust resistance?

Urooj Fatima (1) - Natalia Arango (1) - Umar F. Shahul Hameed (2) - Francisco J. Guzmán-Vega (2) - Emile Cavalet-Giorsa (1) - Naganand Rayapuram (1) - Heribert Hirt (1) - Michael Abrouk (1) - Yajun Wang (1) - Jonathan D. G. Jones (3) - Stefan T. Arold (2) - Simon G. Krattinger (1)

*(1) King Abdullah University Of Science And Technology, Plant Science Program, Biological and Environmental Science and Engineering Division, Thuwal, Saudi Arabia - (2) King Abdullah University Of Science And Technology, Bioengineering Program, Biological and Environmental Science and Engineering Division, **Thuwal, Saudi Arabia** - (3) **The Sainsbury Laboratory, University of East Anglia, Norwich, United Kingdom***

P567 ORAL - Identification of Candidate Genes for Resistance to Soil-Borne Cereal Mosaic Virus in Durum Wheat using CRISPR-Cas9 Genome Editing Systems

Lorenzo Calzini (1) - Matteo Bozzoli (1) - Jochen Kumlehn (2) - Cristian Forestan (1) - Luca Vitali (1) - Ambra Viviani (1) - Roberto Tuberosa (1) - Marco Maccaferri (1) - Robert Eric Hoffie (2) - Francesco Camerlengo (1)

- (1) University of Bologna, Department of Agricultural and Food Sciences (DISTAL), BOLOGNA, Italy - (2) Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Plant Reproductive Biology, GATERSLEBEN-SEELAND, Italy

P568 ORAL - Pan-genome facilitated discovery of dominant North American stripe rust lineage's origin in somatic hybridization

Samuel Holden (1) - Meng Li (1) - Mehrdad Abbasi (2) - Ramandeep Bamrah (2) - Sang Hu Kim (3) - Sean Formby (3) - Sean Walkowiak (4) - Guus Bakkeren (3) - Gurcharn Singh Brar (1)

(1) University of Alberta, Faculty of Agricultural, Life and Environmental Science,, Edmonton, Canada - (2) University of British Columbia, Faculty of Land and Food Systems, Vancouver, Canada - (3) Agriculture and Agri-Food Canada, Summerland Research Centre, Summerland, Canada - (4) Canadian Grain Comission, Grain Research Laboratory, Winnipeg, Canada

P569 ORAL - Twenty years of global disease surveillance in wheat reveals increased vulnerability to yellow rust due to incursions of new aggressive races at regional and global scales

Mogens Støvring Hovmøller (1) - Thach Tine (1) - Marcel Meyer (2) - Shideh Mojerlou (1) - Jens Grønbech-Hansen (1) - David Hodson (3) - Annemarie Fejer Justesen (1)

(1) Aarhus University, Agroecology, Slagelse, Denmark - (2) University of Bonn, Crop Science, Bonn, Germany - (3) CIMMYT, CIMMYT Nepal, Kathmandu, Nepal

P570 ORAL - Loci relevant for yellow rust resistance in a Mediterranean multi-environmental trial networks identified from the Global Durum Genomic Resource

Chunyi Liu (1) - Francesco De Sario (1) - Muhammad Awais Farooq (1) - Jad B Novi (2) - Ambra Viviani (1) - Alessia Confortini (3) - Eugenia Carini (1) - Matteo Bozzoli (1) - Cristian Forestan (1) - Sandra Stefanelli (1) - Elisabetta Mazzucotelli (4) - Francesca Desiderio (4) - Anna Maria Mastrangelo (5) - Daniela Marone (5) - Paola Viola (6) - Carlo Invernizzi (6) - Rola El Amil (7) - Nazari Kumarse (8) - Hakan Hozkan (9) - Isam Bashour (10) - Mohamed E Sharif Ragab (11) - Idrissi Omar (12) - Pablo Roncallo (13) - Zahara Pourkhorshid (14) - Filippo M. Bassi (15) - Luigi Cattivelli (4) - Roberto Tuberosa (1) - Agata Gadaleta (14) - Marco Maccaferri (1)

- (1) University of Bologna, Department of Agricultural and Food Sciences (DISTAL), BOLOGNA, Italy - (2) OPEN FIELD, OPEN FIELD, PARMA, Italy - (3) UNIVERSITY COLLEGE DUBLIN, UCD School of Biology and Environmental Science, UCD Earth Institute and UCD Institute of Food and Health, DUBLIN, Ireland - (4) CREA, Research Centre for Genomics and Bioinformatics, FIORENZUOLA D'ARDA - PIACENZA, Italy - (5) CREA, Research Centre for Cereal and Industrial Crops, FOGGIA, Italy - (6) APSOV SEMENTI SPA, APSOV SEMENTI SPA, VOGHERA - PAVIA, Italy - (7) ICARDA, International Center for Agricultural Research in the Dry Areas, Biodiversity and Crop Improvement Program, Regional Cereal Rust Research Center (RCRR, MENEMEN, IZMIR, Turkey - (8) UNIVERSITY OF ÇUKUROVA, Department of Field Crops, Faculty of Agriculture, ADANA, Turkey - (9) American University of Beirut, Department of Agriculture, Faculty of Agricultural and Food Sciences, BEIRUT, Lebanon - (10) BENI SUEF UNIVERSITY, Agronomy Department, Faculty of Agriculture, WEST NILE, Egypt - (11) INRAE-M, Laboratory of Food Legumes Breeding, Regional Center of Agricultural Research of Settat, National, Institute of Agricultural Research, RABAT, Morocco - (12) Centro de Recursos Naturales Renovables de la Zona Semiárida (CERZOS), Departamento de Agronomía, Universidad Nacional del Sur (UNS)-CONICET, BUENOS AIRES, Argentina - (13) Shiraz University, Department of Plant Production and Genetics, School of Agriculture, SHIRAZ, Iran (islamic Republic Of) - (14) UNIVERSITA' DEGLI STUDI ALDO MORO, Department of Agricultural and Environmental Science, BARI, Italy - (15) ICARDA, International Center for Agricultural Research in the DryAreas, RABAT, Morocco

P571 ORAL - Dual recognition of structurally unrelated mildew effectors underlies the broad-spectrum resistance of Pm3e in wheat

IWC4 2026 - SELECTED ORAL TALKS

Marion Müller *(1)* ***- Lukas Kunz*** *(2)* ***- Zoe Bernasconi*** *(2)* ***- Matthias Heuberger*** *(2)* ***- Beat Keller*** *(2)*
(1) NA, 2 Chair of Phytopathology, TUM School of Life Sciences, Technical University of Munich, Freising, Germany - (2) NA, Department of Plant and Microbial Biology, University of Zurich, Zürich, Switzerland

P572 ORAL - Meta-QTL analyses for better characterisation of the genetic architecture of bread wheat resistance to Septoria tritici blotch
Laura Paire *(1)* ***- Jean-Noël Thauvin*** *(2)* ***- Yannick De-Olivera*** *(3)* ***- Florian Pinot*** *(4)* ***- Thierry C. Marcel*** *(5)* ***- Cyrille Saintenac*** *(1)*
(1) INRAE, Université Clermont-Auvergne, GDEC, Clermont-Ferrand, France - (2) RAGT 2n, -, Druelle, France - (3) INRAE, CNRS, Université Paris Saclay, GQE-Le Moulon, Gif-sur-Yvette, France - (4) Agri-Obtentions, -, Guyancourt, France - (5) INRAE, Université Paris-Saclay, Bioger, Palaiseau, France

P573 ORAL - Asymmetric priority effects between co-infecting wheat pathogens undermine single-pathogen resistance
Kar-Chun Tan *(1)* ***- Leon Lenzo*** *(1)* ***- Evan John*** *(2)* ***- Jason Bradley*** *(3)* ***- Geoff Thomas*** *(3)* ***- Dion Bennett*** *(4)*
(1) Centre For Crop and Disease Management, Curtin University, Perth, Australia - (2) Institute of Crop Science and Resource Conservation, University of Bonn, Bonn, Germany - (3) Department of Primary Industries and Regional Development, Department of Primary Industries and Regional Development, Perth, Australia - (4) Australian Grains Technologies, Australian Grains Technologies, Northam, Australia

TOPIC 10
WHEAT QUALITY, END-USE PROCESSING, NUTRITION AND HUMAN-HEALTH

P574 ORAL - Development of High Dietary Fiber Wheat through Introgression of β-Glucan-Rich Alleles from Aegilops kotschyi
Upendra Kumar *(1)* ***- Sourav Panigraghi*** *(1)*
(1) Department of Plant Science, Mahatma Jyotiba Phule Rohilkhand University, Bareilly, India

P575 ORAL - Clinical trials investigating the health-promoting effects of Svevo high-amylose products on patients affected by concomitant Chron's disease and metabolic syndrome
Barbara Laddomada *(1)* ***- Angelo Santino*** *(1)* ***- Samuela Palombieri*** *(2)* ***- Francesco Sestili*** *(2)* ***- Alessandro Miraglia*** *(3)* ***- Elisabetta Cavalcanti*** *(4)* ***- Marcello Chieppa*** *(3)*
(1) CNR ISPA, DISBA, Bari, Italy - (2) University of Tuscia, Department of Agriculture and Forest Sciences (DAFNE), Viterbo, Italy - (3) University of Salento, Department of Experimental Medicine, Lecce, Italy - (4) IRCCS DE BELLIS, Inflammatory Bowl Disease Unit, National Institute of Gastroenterology, Castellana Grotte, Italy

P576 ORAL - Exploiting natural variation in starch granule size and composition in Aegilops tauschii to improve wheat starch
Rose McNelly *(1)*
(1) John Innes Centre, Biochemistry and Metabolism, Norwich, United Kingdom

P577 ORAL - Optimizing Selenium and Sulphur Foliar Fertilization to Enhance Nutritional and Technological Quality of Bread Wheat
Antonio Pescatore *(1)* ***- Lorenzo Guerrini*** *(2)* ***- Yidenekachew Beshah*** *(1)* ***- Marco Napoli*** *(1)*
(1) University of Florence, Department of Agriculture, Food, Environment and Forestry (DAGRI), Florence, Italy - (2) University of Padua, Department of Land, Environment, Agriculture and Forestry (TESAF), Padua, Italy

P578 ORAL - Mapping the Landscape of Carotenoid Esterification in the Global Durum Panel
Cristina Rodríguez-Suárez *(1)* ***- María Dolores Requena-Ramírez*** *(1)* ***- Elisabetta Mazzucotelli*** *(2)* ***- Dámaso Hornero-Méndez*** *(3)* ***- Sergio G Atienza*** *(1)*
(1) Instituto de Agricultura Sostenible, CSIC, Córdoba, Spain - (2) Research Centre for Genomics & Bioinformatics, Fiorenzuola d'Arda (PC), Council for Agricultural Research and Economics (CREA), Fiorenzuola d'Arda, Italy - (3) Department of Food Phytochemistry, Instituto de la Grasa, CSIC, Sevilla, Spain

P579 ORAL - Pleiotropic genetic network underlying grain storage protein composition in bread wheat
Naoto Sano *(1)* ***- Anne Plessis*** *(2)* ***- Catherine Ravel*** *(1)* ***- Pierre Martre*** *(3)* ***- Jacques Le Gouis*** *(1)*
(1) INRAE, GDEC, Clermont-Ferrand, France - (2) University of Plymouth, School of Biological and Marine Sciences, Plymouth, United Kingdom - (3) INRAE, LEPSE, Montpellier, France

P580 ORAL - Rheological, Technological, and Nutritional Implications of High-Amylose Wheat in Breadmaking

IWC4 2026 - SELECTED ORAL TALKS

Claudia Sardella *(1)* ***- Kali Kotsiou*** *(2)* ***- Sestili Francesco*** *(3)* ***- Costas G. Biliaderis*** *(2)* ***- Athina Lazaridou*** *(2)* ***- Massimo Blandino*** *(1)*

(1) University of Turin, Department of Agricultural, Forest and Food Science, Grugliasco, Italy - (2) Aristotle University of Thessaloniki, Department of Food Science and Technology, School of Agriculture, Thessaloniki, Greece - (3) University of Tuscia, Department of Agriculture and Forestry Science, Viterbo, Italy

P581 ORAL - Quality and Starch Digestibility of Bread Made from High-Amylose Wheat Flour

Riley Smith *(1)* ***- Hulya Dogan*** *(1)* ***- Changfeng Li*** *(1)* ***- Kingston Crichton*** *(1)* ***- Yong-Cheng Shi*** *(1)*

(1) Kansas State University, Department of Grain and Food Science, Manhattan, Kansas, United States