



## 74<sup>th</sup> IIRB Congress – 1-3 July 2014

### Poster Programme

#### 1 Breeding and seeds

- 1.1 Loel, J., C. Hoffmann Evaluation of the breeding progress of sugar beet varieties from 1964 to 2003
- 1.2 Henry-Bounan, K., B. Mangin, F. Sandron, B. Devaux, V. Laurent, P. Devaux Genetic diversity among cultivated and wild species accessions of sugar beet (*Beta vulgaris* L.) based on SNP and DArT markers: molecular and ecogeographical analyses and linkage map building
- 1.3 Eujayl, I., C. Strausbaugh Whole genome sequencing of sugar beet and SNP development
- 1.4 Barnes, S., K. Koh, A. Sharpe, S. Vanstraelen, G. Willems Relationship between physical and genetic distances in sugar beet chromosomes
- 1.5 Adetunji, I., G. Willems, H. Tschoep, A. Burkholz, S. Barnes, M. Boer, M. Malosetti, S. Horemans, F. van Eeuwijk Genetic diversity and linkage disequilibrium analysis in elite sugar beet breeding lines and wild beet accessions
- 1.6 Miller, J., M. Rekoske, E. Lindroos Impact of American germplasm for resistance breeding in sugar beet
- 1.7 Stevanato, P., L. Sella, C. de Lucchi, C. Broccanello, L. Hanson, L. Panella, M. McGrath Improving key root traits in sugar beet: *Fusarium* tolerance
- 1.8 Tossens, A., N. Debontridder FT-NIRS for the quantification of pesticides on coated sugar beet seeds
- 1.9 Pedersen, H.C. Field Vision Technology for evaluation of product quality

#### 2 Agronomy

- 2.1 Koch, H.-J., H. Eigner Recent activities and future topics of the IIRB Plant & Soil study group
- 2.2 Schlinker, G., A. Windt Equal distance drilling of sugar beets
- 2.3 Horemans, S., B. Maudoux, R. Robinson, F.J. Bulthuis, N. Tillett, T. Hague, P. Garford Computer vision guided chemical thinning
- 2.4 Wenninger, E.J., O.T. Neher, D.W. Morishita, W.H. Neibling Soil water content, disease, weed, and insect responses in strip-till sugar beet
- 2.5 Laufer, D., G. Sander, G. Schlinker, H.-J. Koch Autumn strip tillage in sugar beet cultivation – first experiences on loess soils in Northern Germany
- 2.6 Nübel, V., B. Loibl, K. Bürcky Investigation on strip-till growing of sugar beet in Southern Germany
- 2.7 Muurinen, S., H. Louramo, M. Turakainen Different cover materials on sugar beet growing
- 2.8 Zavanella, M., A. Vacchi, A. Fabbri, G. Bettini Experimental quantification of machine trampling damage in sugar beet cultivation in Italy
- 2.9 Khan, M. Effect of simulated hail on yield of sugar beet
- 2.10 Becker, C., H.-J. Koch Utilization of deteriorated beets as top-dressed manure in winter wheat
- 2.11 Aylaj, M., El Kbir Lhadi Impact of the salinity of water on the chlorophyll contents of two varieties of sugar beet
- 2.12 Sigl, G., T. Assinger, H. Eigner, P. Liebhard Characterisation of different species for their suitability as intercrop before sugar beet
- 2.13 Sigl, G., T. Assinger, H. Eigner, P. Liebhard Impact of different intercrop species on yield and quality of sugar beet



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#### 3 Plant nutrition

- 3.1 Grzebisz, W., P. Barłóg, W. Szczepaniak A balanced uptake of nitrogen by sugar beet during the growing season as a prerequisite of high yield of sugar
- 3.2 Legrand, G., A. Wauters Interaction between some varieties and the mineral nitrogen availability
- 3.3 Trimpler, K., N. Stockfisch N<sub>2</sub>O-emissions resulting from N-fertiliser application in sugar beet cultivation
- 3.4 Persson, L., Å. Olsson Liming as a method for integrated control of *Aphanomyces* in sugar beet
- 3.5 Olsson, Å., L. Persson Liming of different soil types – effect on soil factors and sugar yield
- 3.6 Hergert, G.W., M.K. Darapuneni, R. Wilson, R. Harveson, J. Bradshaw, R. Nielsen Effect of precipitated calcium carbonate on soil characteristics and sugar beet yield and quality
- 3.7 Lemme, H., D. Horn, H.-J. Koch Liming increases EUF extractable, labile, and plant available P on loess soils
- 3.8 Fürstenfeld, F., D. Horn Is the P and K supply in soils enough for optimum sugar yield?
- 3.9 Muurinen, S., M. Turakainen Yield response in Finnish sugar beet trials with starter application of phosphorus
- 3.10 Szczepaniak, W., W. Grzebisz, A. Kozera Potassium replacement by sodium in different sugar beet fertilising systems
- 3.11 Barłóg, P., W. Grzebisz Effect of sodium application on nutritional status of sugar beet plants at critical stages of growth
- 3.12 El-Sayed, H.M., M.A. El-Hawary, M.K.K. Awad Influence of boron sources on yield and quality of some sugar beet varieties

#### 4 Control of pests, diseases and weeds

- 4.1 Vagher, T., A. L. Fenwick, L. Panella Preparation of inoculum of *Rhizoctonia solani* Kühn for an artificially inoculated field trial
- 4.2 Renner, A.-C., B. Boine, R. Apfelbeck, M. Zellner Molecular assay for rapid quantification of *Rhizoctonia solani* AG2-2IIIB
- 4.3 Renner, A.-C., B. Boine, G. Wagner, G. Simeth, M. Zellner Effect of different sugar beet pre-crops and agricultural practices on soil inoculum densities of *Rhizoctonia solani*
- 4.4 Schulze, S., H.-J. Koch Soil structure effects on *Rhizoctonia* infestation of sugar beet (*Beta vulgaris*) – concept and first results
- 4.5 Kreitzer, C., H. Eigner Management of *Rhizoctonia solani* by specific intercrop cultivation and biological control agents
- 4.6 Champeil, A., K. Bouchek-Mechiche, C. Chatot, P. Dolo, V. Faloya, D. Gaucher, B. Mille, F. Montfort Reduce the pressure of brown rhizoctonia attacks in the crop rotation involving corn, sugar beet and potatoes
- 4.7 Bartholomäus, A., S. Mittler, M. Varrelmann Chemical control of the late root and crown rot in sugar beet caused by *Rhizoctonia solani*
- 4.8 Bredehoeft, M.W., V. Rivera, G. Secor Analysing a late season root rot of sugar beet in the Imperial Valley of California
- 4.9 Christ, D., M. Varrelmann Development of two biotests for the identification of *Aphanomyces cochlioides* resistance in sugar beet
- 4.10 Josic, D., M. Starovic, V. Stojsin, F. Bagi, D. Budakov, R. Pivic Mycoantagonistic activity of indigenous antibiotic-producing *Pseudomonas* spp. against sugar beet pathogens (*Fusarium* spp., *Macrophomina phaseolina* and *Rhizoctonia solani*)
- 4.11 Secor, G., V. Rivera, M. Bolton, M. Khan Current status of DMI and QoI fungicide resistance in European Union populations of *Cercospora beticola*



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- 4.12 Wieczorek, T.M., L. Nistrup Jørgensen, A. L. Hansen, L. Munk, A. Fejer Juestensen Early leaf disease control and detection of *Ramularia beticola* in sugar beets using spore traps and qPCR
- 4.13 Persson, L., Å. Olsson Occurrence of Verticillium wilt in sugar beet in Sweden
- 4.14 De Bruyne, E., G. Willems, L. Broos, J. Hermes Genetic diversity of the BNYVV virus by whole genome sequencing – some new insights
- 4.15 Kimmel, J., L. Potyondi, F. Csimá, E. Takacs The effect of climate change on sugar beet pests and diseases in Hungary
- 4.16 Horn, D., T. Hetterich, F. Fürstenfeld Experience of the determination of *Heterodera schachtii* in soils and implementation into farming practice
- 4.17 Meinecke, A., K. Ziegler, K. Bürcky, A. Westphal Importance of weeds on stubble fields for population densities of *Heterodera schachtii*
- 4.18 Olsson, Å., S. Andersson, A. L. Hansen Survey of free living nematodes in sugar beet fields in Sweden and Denmark 2012-2013
- 4.19 Zavanella, M., G. Campagna, M. Silvagni Mapping the spread of sugar beet cyst nematodes in Northern Italy
- 4.20 Schlatter, C., C. Watrin, A. Oliveira Developing an integrated approach to the control of beet cyst nematode in sugar beet
- 4.21 Hauer, M., H.-J. Koch, S. Mittler, A. Windt Water use efficiency of three sugar beet types in relation to cyst nematode infestation
- 4.22 Manderyck, B., E. Raaijmakers Chemical and biological methods for the control of leatherjackets (Tipulidae) in sugar beet
- 4.23 Schlatter, C., A. Yilmaz, W. Fischer, F. Brandl The use of rhizotrons in sugar beet root research
- 5 Weed control**
- 5.1 Champion, G., E. Burks, P. Turnbull Herbicide combinations to optimise control of black-grass in sugar beet
- 5.2 Šulík, R. Control of Clearfield sunflower in sugar beet
- 5.3 Wendt M.J., M. Wegener, E. Ladewig, B. Märländer Methodology of testing efficacy and durability of an ALS-inhibitor herbicide on weed species in sugar beet cultivation
- 5.4 Bartsch, D., U. Ehlers, A. Gathmann, C. Kula, A. Meisner, U. Middelhoff, A. Scheepers, W. Schenkel, M. Strelöke Environmental risk assessment of glyphosate tolerant H7-1 sugar beet
- 6 Harvest, storage and beet quality**
- 6.1 Blocaille, S. PERFBETT – Improve performances and uses of harvest machinery
- 6.2 Rydén, A. Harvest losses – potentials and actions to catch them
- 6.3 Büsching, S., C. Linnes, D. Wollenweber, C. Becker Load loss through the use of different cleaner loaders – possibilities of reducing loss and enhancing cleaning quality – results of a two-year trial
- 6.4 Nowakowski, M., P. Skonieczek, A. Paradowski, K. Kubicki Yield and processing quality of topped and defoliated sugar beets cultivated on lessive soil in Poland
- 6.5 Schnepel, K., C. Hoffmann Formula to calculate the invert sugar content based on the glucose content of sugar beet
- 6.6 Schnepel, K., C. Hoffmann Estimation of the storability of sugar beet genotypes
- 6.7 Liebe, S., M. Varrelmann Effect of genotype and environment on the development of root rots during long-time storage of sugar beets
- 6.8 Eigner, H., G. Sigl Investigations on the storability of sugar beet varieties



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- 6.9 Hein, W., F. Emerstorfer Evaluation of the refractometric formula for the prediction of the technological quality of stored sugar beets
- 6.10 Olsson, R. Sugar losses and effect on beet quality after different clamp covering concepts in Sweden
- 6.11 Danojević, D., N. Nagl, Ž. Čurčić, I. Maksimović, M. Putnik-Delić, K. Taški-Ajduković, J. Boćanski Changes in proline content and leaf traits under water stress in sugar beet lines and hybrids
- #### 7 Sugar beet as energy crop
- 7.1 Potyondi, L., J. Kimmel, F. Csima, E. Takacs Biogas and bio-energy production from sugar beet
- 7.2 Auburger, S., E. Bahrs Potential availability of arable land for additional sugar beet cultivation as a biogas crop in Germany
- 7.3 Brauer-Siebrecht, W., A. Jacobs, H.-J. Koch Balance and leaching of nitrogen in energy crop rotations with and without sugar beet
- 7.4 Götze, P., J. Rücknagel, A. Jacobs, O. Christen Risk of soil compaction in energy crop rotations with and without sugar beet
- 7.5 Pelka, N., O. Musshoff Competitiveness and economic risks of crop rotations with and without sugar beets with biogas as production target under consideration of the individual risk acceptance
- #### 8 Winter beet
- 8.1 Hoffmann, C. Bioenergy from winter beet – a joint project along the value chain
- 8.2 Kopisch-Obuch, F.J., M. Kirchhoff, F. Uhlmann, N. Pfeiffer, J. Ogutu, E. Orsini, A. Schechert, C. Jung QTL for winter hardiness and post winter bolting resistance in sugar beet (*Beta vulgaris* ssp. *vulgaris* L.)
- 8.3 Loel, J., C. Hoffmann Factors affecting the winter hardiness of sugar beet
- 8.4 Reinsdorf, E. Risk assessment for frost killing of winter sugar beet by modelling the beet crown temperature
- 8.5 Stephan, H., U. Böttcher, H. Kage Simulations of potential yields for non-bolting winter beet
- 8.6 Ohl, S., E. Hartung Methane yield of winter beet
- 8.7 Ohl, S., E. Hartung Producing biogas from winter beet: Is it reasonable?
- 8.8 Stockfisch, N. Resource efficiency of winter beet cultivation
- #### 9 Beet pulp
- 9.1 Potthast, C., S. Brinker, K. Maier Assessment of the effects of chemical silage additives in pressed pulp silage
- 9.2 Brinker, S., C. Potthast, K. Maier Microbiology of pressed beet pulp silage under practical conditions
- #### 10 Communication and cooperations
- 10.1 Zavanella, M., D. Rosini, N. Minerva A Decisional Support System sustaining the Italian sugar beet growers
- 10.2 Raaijmakers, E., B. Hanse, P. Wilting, E. van Oorschot Sugar beet diagnostic service: a winning system for all involved
- 10.3 Smit, A.B., K.J. Poppe The position, role and future of cooperative sugar refineries in the EU
- 10.4 Risser, P., K. Bürcky (Consumer) communication – sustainable beet cultivation