IIRB NEWS 1/2025

IIRB
INTERNATIONAL INSTITUTE OF SUGAR BEET RESEARCH

IIRB CONGRESS 2026

Advancing Sugar Beet in a Dynamic Environment

We are delighted to announce that the 80th IIRB Summer Congress will take place from 7th to 9th of July 2026 at Churchill College, Cambridge (UK), organized in collaboration with BBRO (Norwich, UK).

During the three-day event, the latest developments and results in sugar beet research will be presented in around 25 scientific talks and 100 poster presentations. There will also be a reception on the evening of the 6th July 2026, followed by a conference dinner the next day.

Call for Papers—Deadline for submission **15th of September 2025**

Please submit your abstract online via the IIRB website by 15th of September 2025. An English abstract in Word format is mandatory and must be uploaded during online registration. All presentations must be delivered in English.

We look forward to seeing you at the 80th IIRB Congress in Cambridge in July 2026.

NEXT IIRB EVENTS

PG Soil Insect Pest: 2nd September 2025, online

SG Pests & Diseases: 1st & 2nd October 2025, Paris (F)

AC & SAC meeting: 22nd October 2025, Cambridge (UK)

IIRB Seminar 'Carbon Farming Choices in Sugar Beet Farming': 11th & 12th December 2025, online

SG Weed Control: 12th & 13th May 2026, Kirschgartshausen (D)

80th IIRB Congress: 7th – 9th July 2026, Cambridge (UK)

SG Agricultural Engineering: 7th & 8th October 2026, Bonn (D)

IIRB Seminars

Retrospective IIRB seminar: 'Syndrome Basses Richesses: Current Findings'

On the 5th June 2025, the IIRB seminar 'Syndrome Basses Richesses: Current Findings' took place in Göttingen. Over 150 participants from the fields of science, consultancy, agribusiness and practice came together to discuss the latest findings on vectors, pathogens and control strategies for SBR. Twelve speakers from five countries (Germany, Switzerland, Italy, Serbia and France) provided a comprehensive overview of international research on the complex SBR situation.

Topics ranged from molecular biological principles to epidemiological analyses and practical control approaches. The positive response highlights the high demand for collaborative research and solution-oriented exchange.

Presentations and video recordings are exclusively available to members and seminar participants on our website.

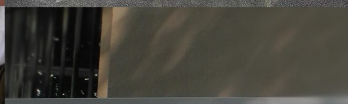
Upcoming Seminar (11TH & 12TH December 2025, online) 'Carbon farming options in sugar beet cultivation'

A second seminar will be held in 2025, focusing specifically on the topic of 'Carbon & Greenhouse Gases in Sugar Beet Cultivation'. This event will take place online, spread over the afternoon of December 11 and the morning of December 12, 2025. The programme and academic coordination will be managed by the Study Group Plant & Soil, led by André van Valen (IRS, NL) and Georgina Barratt (BBRO, UK), in close collaboration with the Scientific Advisory Committee.

The seminar will center on sugar beet as a key component of sustainable and climate-conscious agriculture. Special emphasis will be placed on its role as a rotational crop and the associated impacts on critical environmental factors such as soil carbon content, nitrous oxide (N_2O) emissions, and cultivation efficiency. Against the backdrop of recent developments in EU agricultural policy, particularly the Common Agricultural Policy (CAP) 2023–2027, which includes measures to enhance soil carbon sequestration and reduce greenhouse gas emissions; this topic has gained further significance.

Registration will be possible by mid of October.

For more information please visit our website.




IIRB
INTERNATIONAL INSTITUTE
OF SUGAR BEET RESEARCH
WELCOME WILL
KOMMEN BIEN
VENUE TO IIRB

IIRB Study Group meetings

Review of the Agricultural Engineering & Weed Control study group meeting in Reims (20–21 May 2025)

24 IIRB members gathered in Reims, France, from 20th to 21st of May 2025, for the joint meeting of the Agricultural Engineering Group and the Weed Control Group. The Agricultural Engineering group initiated this meeting, extending a specific invitation to discuss the topic of spot spraying.

The first day was entirely dedicated to spot spraying, the targeted application of crop protection products. Five technical presentations were given by members of the AE Group, followed by an in-depth discussion with the Weed Control Group.

The thematic focus was reflected in several presentations addressing innovative precision technologies. For example, the use of robots in micro-spot spraying illustrated how robotics can support plant-specific crop protection and another presentation highlighted the potential of drone-guided fungicide application. These technologies demonstrate how targeted approaches can increase efficiency while minimizing environmental impact. Both examples underline the growing relevance of smart farming tools in sugar beet cultivation. Niklas Holtschulte (Amazone) provided an in-depth overview of the company's latest technical innovations in crop protection.

On the second day, the Weed Control study group meeting began with an update on the regulatory status of active herbicide substances in European countries, followed by an overview of ongoing weed control projects. Key trial outcomes from the previous season were presented, including data on herbicide efficacy and resistance monitoring, with a particular focus on ALS resistance. Finally, research findings on ALS-resistant weed species were presented alongside results from pre-emergence herbicide trials. These highlighted current challenges and potential management solutions.

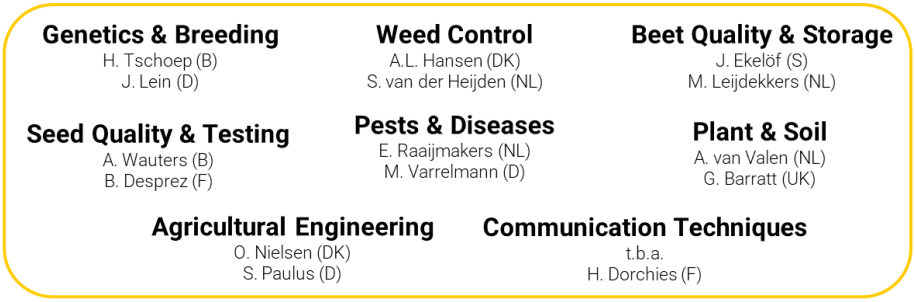
To conclude the meeting, IIRB members attended the field day Désherb' Avenir organised by ITB (F) in Bétheny, Marne (Champagne region). This event featured guided demonstrations of over 30 pieces of machinery for

mechanical weed control, including hoes, harrows, and rotary tools. Presentation topics included identifying and assessing weeds at early growth stages, and alternative approaches to chemical control. There was a strong focus on sustainable, non-chemical weed management methods.

Special thanks to Vincent Laudinat and Thomas Leborgne (ITB, F) for their support in organising the study group meeting on site.

News IIRB Study Groups

The IIRB currently has eight permanent study groups and three project groups



Study groups are long-term bodies composed of members who meet regularly — usually once a year (online or in person) — to exchange the latest findings and discuss developments in their specific fields. Topics covered include all aspects of sugar beet cultivation, from breeding and agronomy to post-harvest storage and the use of co-products. The Communication Techniques group also explores effective knowledge transfer methods.

These study groups play a vital role in facilitating international exchange among experts, fostering collaboration across borders and ensuring that knowledge and innovations are widely shared within the sugar beet sector. Participation is open to all IIRB members, and active involvement is encouraged at any time.

Project groups, in contrast, are formed to address specific and current issues over a limited period. They enable focused, timely work on emerging topics and help deliver targeted solutions to the sector.

If you are interested in participating in a study group, please send a request to **mail@iirb.org**. We will be happy to forward your inquiry to the group leaders of the study group.

AGRICULTURAL ENGINEERING

The aim of this group is the stimulation of the development and evaluation of economically and environmentally sustainable solutions for sugar beet production.

The current focus of work and research is as follows:

- Precision Agriculture,
- Robotics & spot spraying (drone-guided fungicide application; robotic weeders, etc.)
- AI for image recognition (e.g. in the detection of weeds and diseases)
- Strip tillage
- Harvest in a wetter climate

Chair of the study group:
O. Nielsen (NBR, DK)
Vice Chair of the study group:
S. Paulus (IfZ, D)

BEET QUALITY & STORAGE

Focus areas of the study group Beet Quality are the studying of parameters affecting beet quality during the growing season, harvest and storage of roots and of all factors that may improve the internal and external quality of sugar beet under different climatic conditions. Physiological and biochemical processes are taken into consideration and quality measurement techniques are evaluated.

The current focus of work and research is as follows:

- Evaluating new frost-protection covers
- Rapid methods for assessing variety storability
- Managing storage molds and rots
- Investigating genetic and chemical changes post-storage to better understand respiration

Chair of the study group:
J. Ekelöf (NBR, S)
Vice Chair of the study group:
M. Leijdekkers (IRS, NL)

"We are facing the same issues about weeds and pest management, the information exchange between beet producing countries is truly a benefit and make us win a lot of time in our work. Some technologies are also more developed in other countries, and it is an opportunity to see if they can suit in our geographical context"

Thomas Leborgne, ITB (F), Member of the Agricultural Engineering study group

Image © T. Leborgne

COMMUNICATION TECHNIQUES

The study group Communication Techniques aims to improve information transfer within the sugar sector by learning from the communication techniques and tools used in each country.

The current focus of work and research is as follows:

- AI & Science communication
- Knowledge transfer between research and practical agriculture
- Communication formats (podcasts, newsletters, social media)

CHAIR OF THE STUDY GROUP: N.N.
VICE CHAIR OF THE STUDY GROUP:
H. DORCHIES (ITB, F)

GENETICS & BREEDING

The study group Genetics and Breeding focuses on the genetic improvement of sugar beet regarding yield and quality parameters and resistance to biotic and abiotic factors. The evaluation of traits and variety testing methodology are topical issues in this group. This includes the management of genetic resources and the discussion of breeding techniques.

The current focus of work and research is as follows:

- Establishment of common genetic ressources for academic research
- Support of academic sugar beet research
- Communication and exchange about pre-competitive approaches for deterimation of tolerance and resistance against abiotic and biotic stresses

CHAIR OF THE STUDY GROUP:
H. TSCHOEP (UNITED BEET SEEDS, B)
VICE CHAIR OF THE STUDY GROUP:
J. LEIN (KWS, D)

If you are interested in participating in a study group, please send a request to mail@iirb.org. We will be happy to forward your inquiry to the group leaders of the study and project group.

New colleagues are always warmly welcomed - We would particularly like to invite early-career scientists to get in touch and take this opportunity to present their research on the international stage.

SEED QUALITY & TESTING

The study group Seed Quality & Testing is interested in the assessment of all seed quality parameters influencing agronomic factors (field establishment). This group discusses methods to evaluate seed quality in laboratory germination tests and studies on field emergence.

CHAIR OF THE STUDY GROUP:
A. WAUTERS (IRBAB, B)

VICE CHAIR OF THE STUDY GROUP:
B. DESPREZ (FLORIMOND DESPREZ, F)

PLANT & SOIL

The study group Plant & Soil focuses on the combined effects of factors and processes in the seed-plant-soil system on the growth and yield formation of sugar beet. This includes topics from soil science, plant nutrition, irrigation, agronomy and crop physiology.

The current focus of work and research is as follows:

- CO_2 emissions and carbon footprint in sugar beet cultivation
- The impact of cropping systems on soil cultivation (e.g. effect of sugar beet grown as rotational crop on soil carbon)
- Joint database about crop r residues
- N_2O emissions from sugar beet tops
- Fertilization recommendations
- Biostimulants and foliar applications

CHAIR OF THE STUDY GROUP:
A. VAN VALEN (IRS, NL)

VICE CHAIR OF THE STUDY GROUP:
G. BARRAT (BBRO, UK)

"Thanks to the IIRB, we carried out joint research, allowing us to spread results more quickly. Sharing knowledge and experiences helps me to take steps forward in our research in the Netherlands. It surprises me every time that, no matter where you come from, we face the same challenges. Developments do not stop at national borders, for example when we talk about climate or water quality."

André van Valen, IRS (NL), Chair of the Plant & Soil study group

Image © IRS

WEED CONTROL

The Weed Control study group evaluates new and existing weed control strategies in the sugar beet crop with considerations to the entire rotation. Monitoring and effect on the weed flora, development of herbicide resistance as well as herbicide phytotoxicity are of special interest. The aim is to develop sustainable solutions for weed control. This includes evaluations of new products, application techniques and control strategies in the sugar beet crop.

The current focus of work and research is as follows:

- Resistance monitoring and management (e.g. ALS, ACC)
- Results and discussion of (joint) field trials of herbicide use and effects
- Mechanical and physical weed control
- Integrated weed management

Chair of the study group:
A. L. Hansen (NBR, DK)
Vice Chair of the study group:
S. van der Heijden (IRS, NL)

PESTS & DISEASES

The main focus of the study group Pests & Diseases is the crop protection of sugar beet, with the aim to improve productivity and to minimise an environmental impact. This group covers all areas of phytopathology, virology, zoology and germplasm and pathogen resistance. This includes the development of common methodologies and the evaluation of new products, application techniques and control strategies in the entire rotation.

The current focus of work and research is as follows:

- Aphids, cicades and grasshoppers transmitted pathogens (e.g. SBR; Virus Yellows)
- Leaf diseases (e.g. Cercospora leaf spot)
- Pathogen resistance & control strategies

Chair of the study group:
E. Raaijmakers (IRS, NL)
Vice Chair of the study group:
M. Varrelmann (IfZ, D)

"For me, the study groups are all about sharing knowledge and networking. It's about keeping each other informed and generating knowledge. When I plan to visit fields in other countries, I try to meet with members of the IIRB study groups on site, so that I immediately have people who are well informed and familiar with the specifics of sugar beet cultivation"

Maria Köhler, Strube D&S GmbH (D), Member of Pests & Diseases study group

Image © M. Köhler

PG VIRUS YELLOWS

The IIRB Virus Yellows project group was established in 2018 to discuss alternatives to pest control and a prevention of the spread of virus yellows after the ban of neonicotinoids in several European countries and the limited availability via derogations in other countries. Neonicotinoids helped to prevent damage of sugar beets by soil pests and reduced aphid populations. Aphids, mainly *Myzus persicae*, are responsible for the spread of virus diseases in sugar beet.

The current focus of work and research is as follows:

- Varieties – variety testing – genetic adaptation
- Biological and chemical control
- Development of inoculation methods

Chair of the Projectgroup:
M. Varrelmann (IfZ, D)
Vice Chair of the Projectgroup:
E. Raaikmakers (IRS, NL)

PG SOIL INSECT PESTS

The project group Soil Insect Pests was established in 2021. Its aim is to study alternative control measures against soil insect pests in sugar beet. With neonicotinoids no longer being available in most European countries, joint field trials on alternative control measures will be performed and knowledge on the different soil insect pests is shared.

The current focus of work and research is as follows:

- Nematodes, leatherjackets, wireworms
- Chemical control
- Joint field trials

Chair of the Projectgroup:
E. Raaijmakers (IRS, NL)
Vice Chair of the Projectgroup:
N.N.

„Through the Pests & Diseases study group meetings, I was getting familiar with many internationally operating working groups that deal with virus yellows in sugar beet. As we are all pursuing the same research goal, the Study Group provides an ideal platform to learn and benefit from each other by exchanging ideas on key experimental questions, generating new ideas and developing joint projects."

Roxana Hossain, IfZ (D), Member of the PG Virus Yellows

Image © IfZ

PG CONTROL OF LEAF DISEASES

The project group Control of Leaf Diseases was established in 2025. The aim of the group is to foster the exchange of knowledge on foliar diseases and discuss possible solutions.

The current focus of work and research is as follows:

- Cercospora leaf spot (Fungicide efficacy – control strategies)
- Monitoring – updating forecast models
- Fungicide resistance
- RGB sensors – drones – disease monitoring
- Survival of inoculum – seedborne infections

Chair of the Projectgroup:
Oliver Neher (Amalgamated Sugar Company, US)
Vice Chair of the Projectgroup:
Louise Holmquist (NBR, S)

"As a plant pathologist, I became a member of the project group Control of Leaf Diseases, which allows me to interact with researchers from other countries more personally and more frequently than at the biennial meetings. The project group provides a valuable opportunity to share knowledge, discuss challenges, and find solutions to common issues affecting sugar beets worldwide. I consider the IIRB and its study and project groups as a bridge between production regions, enabling open and effective information exchange." Oliver Neher, Amalgamated Sugar Company (US), Member of the PG Control of Leaf Diseases

Image © O. Neher