International Herbage Seed Group

Newsletter

Number 60 **September 2025**

Editor's Note

Welcome to Newsletter No. 60. The 12th International Herbage Seed Group Conference in Tasmania is just a few weeks away and we look forward to seeing you all there. Please see our feature article on what to expect at this year's event.

Herbage seed research is internationally a small world. Knowing who your colleagues are around the globe is important and, in this edition, we continue our series introducing the next generation of herbage seed researchers. You'll meet Drs. Pete Berry and Victor Ribeiro from Oregon State University.

And the weed science continues! We have a focus on weed science efforts in seed crops this edition, highlighting work in Oregon and New Zealand. There is an update on the BELIS project in the European Union, which all can follow through their website.

We also provide IHSG Website Updates so you can share your own stories, updates and jobs with the IHSG community.

If you have a story or project update to include in a future Newsletter Edition, fill out our Form or email us at internationalherbageseedgroup@gmail.com.

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Dear Members and Colleagues,

As we move closer to the 12th International Herbage Seed Group Conference, I am excited to share some updates and reflections on our progress and the opportunities ahead.

This event promises to be a world-class gathering, bringing together researchers, producers, and industry professionals from across the globe. Our program will focus on emerging and alternative seed crops, seed production in a challenging and changing environment, sustainable production systems, and the latest agronomic advances, innovation, and technology. These themes reflect the dynamic nature of our industry and the need for adaptive strategies in the face of climate variability, regulatory changes, and evolving market demands.

Strengthening IHSG for the Future
As an organization, IHSG continues to provide a valuable platform for knowledge exchange and collaboration. However, we also face the reality that IHSG currently has no consistent income stream, while we do incur annual costs to maintain operations. Historically, membership fees, book and journal sales supported these expenses, but with those no longer in place, we need to explore sustainable options.

One step in this direction has been the introduction of an abstract submission fee for conferences. Looking ahead, we are considering reintroducing a modest membership fee. This will help ensure IHSG remains financially secure and able to deliver benefits to members worldwide.

We also need to develop clear guidelines for handling conference profits. In the past, surplus funds from successful events have been used in many ways by the local organising committees with no formal requirements for this to support IHSG activities. Guidelines to formalize this process will help maintain transparency and fairness.

Refreshing Our Identity
Another exciting initiative is a refresh of the IHSG logo. A modernized logo will strengthen our brand, and we are exploring ideas for branded merchandise such as hats or shirts, which could also serve as a fundraising opportunity. We look forward to sharing design options with you soon.

Your Voice Matters
Please make time to attend the General Meeting during the Tasmania Conference. This is a critical opportunity to:

- Determine the location of the next IHSG meeting
- Review and vote on any constitutional updates
- Discuss financial sustainability and membership options

Your input is essential as we shape the future of IHSG together.

I look forward to seeing many of you in Tasmania in November. Thank you for your continued support and commitment to advancing herbage seed science and industry.

Dr. Richard Chynoweth
President, International Herbage Seed Group

12th IHSG Conference 2025

16-23 November 2025 Launceston, Tasmania (Australia)

Suzie Maier and Robert Dent, Local Arrangements Committee

With just two months remaining, preparations for the 12th IHSG Conference in Tasmania are progressing steadily. The event has generated considerable interest, with over 120 delegates from 15 different countries already registered.

Presentations and Topics

The conference will feature more than 20 oral presentations delivered by world-leading researchers. Topics of particular interest will be highlighted throughout the program. We're excited to announce our first speakers for the morning plenary sessions:

• Jing Zhou (Oregon State University, United States) on The Grady Sensor: Determining seed moisture content in seconds.

• Phil Rolston (SIRC Seed Industry Research Centre, New Zealand) on Cocksfoot seed production: closing date and spring nitrogen response.

• Esteban Pizarro (Grupo Papalotla, Uruguay) on Obstacles and opportunities to improve seed production of tropical forage crops.

After a morning indoors, afternoons are spent experiencing the Tasmanian countryside. Within 50 km of Launceston, Delegates will have the chance to visit Tasmanian seed production facilities and farms including the Upper Murray Seeds/Cressy Research Station, large-scale mixed enterprise seed production farms, breeding and agronomy trials and a convict-era farm.

There has been strong demand for Conference Delegate tickets, with less than 15 tickets remaining. Tickets will remain on sale until sold out, and can be purchased at www.tsig.org.au/store.

Post-Conference Activities

Please note that ticket sales for the Post-Conference Tour have now closed. Thank you to everyone who has registered.

The nearly finalized Tour program features an exciting 3-state itinerary. Beginning with a night on the Spirit of Tasmania ferry, delegates will awake in mainland Australia, to visit operations like DLF Seeds, AGF Seeds, RAGT, and Baker Seed Co. in the State of Victoria, and Barenbrug Australia and Corowa Seeds in New South Wales. The tour also includes a stop at Inglewood Eucalyptus Distillery Museum, along with many opportunities for socializing over good food, good drinks and good company.

More information on the Conference and Tour will be shared closer to the event.

We'd like to thank all business who have agreed to host us during the conference. Special thanks to the Tasmanian Government as event Premier Partners, AgriFutures Australia as event Sponsors, and the Tasmanian Farm Innovation Hub and Australian Seeds Federation as event Supporters.

Two New Weed Scientists at Oregon State University

Oregon State University has recently welcomed two new weed scientists, Dr. Victor Ribeiro and Dr. Pete Berry, who are both based in Corvallis within the Willamette Valley. They are leading collaborative efforts to address emerging weed management challenges across Oregon's diverse cropping systems. Their programs are closely aligned and focus on priority seed crops, including tall fescue (*Festuca arundinacea*), perennial ryegrass (*Lolium perenne*), and fine fescue (*Festuca spp.*), as well as red (*Trifolium pratense*), white (*Trifolium repens*), and crimson clover (*Trifolium incarnatum*).

Dr. Ribeiro brings expertise in herbicide resistance management, weed biology, and herbicide efficacy screening. His research program emphasizes identifying and characterizing herbicide-resistant weed populations, conducting replicated screening trials, and developing integrated management strategies tailored to Oregon's seed production systems. A key focus of his current work is classifying and responding to new and evolving weed challenges in the Willamette Valley, including Italian ryegrass (*Lolium multiflorum*) populations with suspected resistance to multiple herbicide modes of action. In addition, he is leading new efforts to understand the biology and management of lesser-studied broadleaf weeds such as bristly hawksbeard (*Crepis setosa*), which has become increasingly problematic in white clover seed production, common groundsel (*Senecio vulgaris)* and pineapple weed (*Matricaria discoidea)*. By working directly with growers and field consultants, Dr. Ribeiro addresses site-specific resistance concerns and emerging weed issues,

Bristly hawksbeard in a white clover field

Dr. Pete Berry (Left) and Dr. Victor Ribeiro (Right)

helping to develop sustainable and regionally adapted herbicide programs that maintain long-term weed control in critical seed crops.

Dr. Berry complements this work with a focus on integrating precision agriculture technologies for weed detection and management. His research explores the use of drone-based imagery and spectral discrimination to identify weed species across large fields, enabling site-specific application of herbicides. A central goal of his program is to evaluate and implement Green-on-Green and other precision spraying technologies, improving herbicide stewardship while reducing overall input costs. One of Dr. Berry's current areas of emphasis is the early detection of the parasitic weed *Orobanche minor* in red clover seed using hyperspectral imagery and spectral discrimination.

Orobanche minor parasitizing red clover

Together, Drs. Ribeiro and Berry are building a collaborative research framework that blends traditional field-based weed science with innovative sensor and automation tools. Their integrated approach provides a powerful foundation for advancing weed management in specialty seed crops, combining biological insights with cutting-edge technology to support Oregon herbage seed growers.

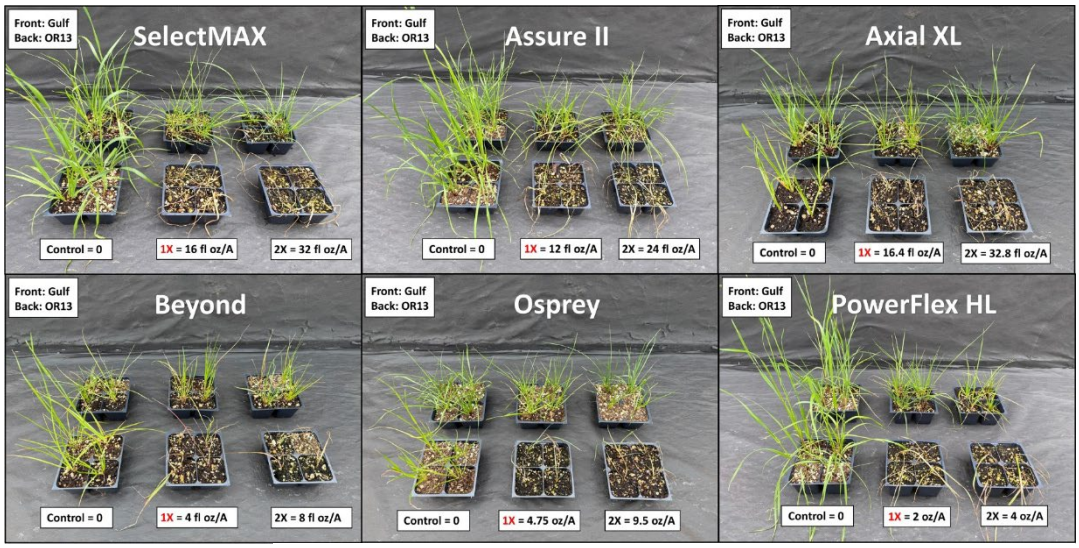
Cross and Multiple-Resistance in Italian Ryegrass to Commonly Used Herbicides in Seed Production of Oregon

Victor Ribeiro, Oregon State University

The management of Italian ryegrass (*Lolium multiflorum* Lam.) in seed production systems of the Willamette Valley, Oregon, has become increasingly difficult due to the evolution of herbicide-resistant populations. In response to growing requests from growers to test for resistance, our herbicide resistance monitoring program aims to support Oregon's farming community by improving detection methods, expanding screening capacity, and developing effective management strategies.

As part of this effort, we recently screened an Italian ryegrass population (OR13) from a white clover field where two applications of SelectMAX (clethodim) at 16 fl oz/A had failed to provide control. This population was tested against herbicides commonly used in regional seed crops. We found that OR13 was resistant to the Group 1 herbicides (ACCase-inhibiting) SelectMAX (clethodim), Assure II (quizalofop), and Axial XL (pinoxaden), as well as the Group 2 herbicides (ALS-inhibiting) Beyond (imazamox), Osprey (mesosulfuron), and PowerFlex HL (pyroxsulam). These results demonstrate both cross-resistance within Groups 1 and 2, and multiple resistance across both herbicide groups. On a positive note, OR13 was susceptible to glyphosate and the preemergence herbicides Kerb SC (pronamide) and Zidua SC (pyroxasulfone).

Resistance to SelectMAX significantly reduces one of the few effective postemergence herbicide options for selectively controlling Italian ryegrass in white clover. The presence of both cross-resistance and multiple resistance to Group 1 and Group 2 herbicides further complicates management in rotational crops commonly grown in the region. Despite these challenges, Kerb SC remains a viable preemergence option for selective control in white clover. Zidua SC also offers effective residual control in rotational crops such as winter wheat and grass seed. In addition, glyphosate continues to be an important tool for site preparation and field renovation in seed production systems. However, the rising incidence of glyphosate-resistant Italian ryegrass highlights the importance of implementing resistance management strategies and practicing responsible herbicide stewardship.



Cross- and multiple-resistance to Group 1 (SelectMAX, Assure II, Axial XL) and Group 2 (Beyond, Osprey, PowerFlex HL) herbicides in the Italian ryegrass population OR13. Gulf is the susceptible population.

Herbicide Resistance in Ryegrass Seedlines for Multiplication

Phil Rolston, Seed Industry Research Centre

When discussing with New Zealand arable growers their opinion on the origin of herbicide resistant (HR) ryegrass on their farm, some suggested that their HR problems started after they multiplied a ryegrass seedline. Chris Budenhagen, weed scientist at AgResearch (Bioeconomy Science Institute) led a project to test this hypothesis.

Over two years 56 seedlines of both imported seed for multiplication and re-export and New Zealand bred and multiplied were evaluated for the presence of either haloxyfop (Mode of Action Group 1), idosulfuron (Group 2) or glyphosate (Group 9). Seeds were sown at high densities in the field and sprayed at a recommended rate. Survivors were counted and removed, potted up and re-sprayed in the glasshouse to confirm any resistance. 45 of the 56 lines had HR detected for either Group 1 or 2 herbicides; but no HR to glyphosate was detected. The base rate of halaxofop HR was 1:40,560 seeds, with 10% of seedlines having 1:750 seeds. The base rate of idosulfuron HR was 1:7,200 seeds with 10% of seedlines having 1:108 seeds HR. The trial confirms that in some cases a ryegrass seedline for multiplication could be a source for herbicide resistance on the farm. A ryegrass seed crop sown at 10 kg/ha with HR at 1:2,000 seeds is the equivalent of sowing 1 HR seed every 4 m^2 (assume a TSW = 2.0 g). *Lolium multiflorum* had a higher resistance frequency compared to *Lolium perenne* (although only six *L. multiflorum* seedlots were evaluated). Managing volunteer ryegrass post-harvest is important to ensure herbicide resistance doesn't become established.

Christopher E Buddenhagen, Zachary Ngow, Ben Wynne-Jones, M. Philip Rolston. 2025. Resistance to the herbicides haloxyfop and iodosulfuron is common in commercial ryegrass (*Lolium*) seed lines. *Pest Management Science*. https://doi.org/10.1002/ps.8665

Arable Weed Research in New Zealand

Ben Harvey, Foundation for Arable Research

When levy-paying arable growers in New Zealand are asked to list their research priorities, weed research is consistently at or near the top. From 2018 to 2023, FAR was involved in a government-funded program looking at the issue of managing herbicide-resistant weeds, which greatly raised the profile of the issue across the arable sector, as well as other sectors. Since the end of this program, New Zealand has seen a reduction in weed research capability, with key figures retiring without being replaced. FAR has several key trials in the weeds space to tackle some of the main issues identified by growers.

Hairgrass in ryegrass seed crops

Hairgrass (*Vulpia* spp.) is a problematic weed in ryegrass seed crops, with few herbicide options. Current best practice usually involves formulations of ethofumesate, applied early post-emergence. Control is rarely 100%, and overuse of ethofumesate could lead to resistance issues, so alternatives are being sought. Pre- and post-emergence options are being tested, as well as herbicide sequences.

Herbicide screening trial

For many years, FAR has been conducting trials to test various off-label and unregistered herbicides against a range of weeds (mostly grass weeds) at different rates, while also

comparing these to herbicides that are commonly available and commonly used. These trials offer an insight into how these herbicides perform in terms of weed control and crop safety and often inform further herbicide trial ideas. 2025 trials will differ from previous trials, with spring sowings planned in the North and South Islands. Previous trials had been autumn sown, and in the South Island only.

Herbicide screening trial at Chertsey, 2023. Photo by Owen Gibson.

Fence line weed management

A key risk area for the development of herbicide resistance is fence lines, where the same herbicide (usually glyphosate) is repeatedly used to control weeds. FAR has set up a trial to investigate and demonstrate alternatives to this practice, including using other herbicides, planting beneficial species, and different mowing regimes.

Broadleaf weed control in white clover

Two sow thistle species are common in New Zealand white clover seed crops: *Sonchus oleraceus* and *Sonchus asper,* and both can be difficult to control. FAR has run a series of broadleaf control trials in white clover seed crops with sow thistles and other broadleaf weeds with a focus on timing and rates of MCPA, 2,4-D, MCPB+MCPA and imazethapyr that can be applied.

FAR staff involved with Weed Research.
Matilda Gunnarrsson, Ben Harvey, Sean Weith, Owen Gibson.

BELIS: Breeding European Legumes for Increased Sustainability

Bernadette Julier, INRAE

Call: HORIZON-CL6-2022-BIODIV-02-02-two-stage: Boosting breeding for a sustainable, resilient and competitive European legume sector

This project began in October 2023 and runs for 5 years

https://www.belisproject.eu/

The aim of BELIS is (i) to increase the competitiveness of the EU and Associated Countries legume breeding industry by improving the methodologies and the governance structures of the breeding sector; and (ii) to design conditions that allow an efficient delivery of the achieved genetic progress to the breeders and seed industry, and to the other actors (registration offices, extension services, feed and food industry, farmers). The project will focus on seven forage crops and seven grain crops that are currently grown to produce feed (for ruminants – cattle, sheep, goat and monogastric animals – pig, poultry), food (as is or after processing) or to deliver ecosystem services.

BELIS has three main objectives: (1) To develop tools and methodologies for cost-effective breeding programs and deliver proofs of concept, with and for breeders, (2) To facilitate the economic and regulatory environment: variety registration, variety recommendation and business models, and (3) To implement an efficient, ambitious and durable transfer of innovation through the

BELIS platform that includes a network of breeders and actors from scientific research, extension services and seed, food and feed industries, as well as a training portfolio.

This project is important to herbage seed growers in the EU and internationally because there will be specific studies on seed production of red clover and Lucerne. These are ongoing, but some of the goals of these studies include:

- Estimation of genetic variation for floret diversity for red clover
- Methods to estimate red clover flower head numbers in seed yield trials using mini-plots and rows with an unmanned aerial vehicle
- Estimation of genetic variation for seed production of Lucerne
- Estimation of correlation between individual seed production and progeny seed production of Lucerne
- For both Lucerne and red clover this project is screening protocols for *Hypera* and *Protapion* insect pest resistance

Belis is also creating a network of partners interested in (all) legume genetics. This includes everyone from breeders, scientists, registration offices, extension services, and industries. If you are interested, you can join the network for free to get informed on our studies: https://www.belisproject.eu/belis-network/

Everyone can also subscribe to the Belis newsletter to stay informed on the project: https://www.belisproject.eu/newsletter/

BELIS
Breeding European Legumes

IHSG Website Updates

Hannah Rivedal, IHSG Communications Director

We have been hard at work adding to the IHSG website and building more ways for you to connect with your fellow herbage seed researchers. A few reminders of what's available to you are below.

We hope everyone has been able to find and access our website, https://ihsg.org/. If you run into any access issues, please email internationalherbageseedgroup@gmail.com to notify us of the problem.

Our twice-yearly Newsletter is the best way to share new and exciting information with our membership. If you want to share your own story about your research, highlight a project or person doing great herbage seed work, or give an update on meetings or topics from your region, please fill out our Newsletter Content Suggestion Form. Our next newsletter will go out March 2026 and you could be featured!

We have recently launched the IHSG Job Board to notify our membership of relevant jobs in the herbage seed world. This is a great way to share your job directly with seed industry researchers and representatives. If you have a job to list, please fill out our Job Board Posting Form today.

If ever you are looking for herbage seed-related information, we do have a helpful Links page available on the website. However, we would like to update this page to make sure it reflects resources and programs across regions. If you have any links to update or include, please email internationalherbageseedgroup@gmail.com.

As more resources or updates are available, we will share them through our mailing list and Blog. To be included in the mailing list, fill out our Membership Form. We do not share your information with third parties.

Thank you for your continued participation – we look forward to continuing to serve our members with opportunities for connection and collaboration in the herbage seed industry.