



EUROPEAN TURFGRASS SOCIETY

NEWSLETTER 04/2022

Via delle Corallaie, 1 - 57121 Livorno (Italy) - CF: 95094240249

www.turfgrassociety.eu

etsoffice@turfgrassociety.eu

IN THIS 04/2022 NUMBER:

- ETS **1**
- DRG Autumn Turfgrass Conference **2**
- Green area maintenance in winter **5**
- Syngenta appoints new Biologicals Technical Manager **7**
- Amenity seed market 2023 **8**
- Calling for survey **10**
- Yellow Jacket Water Manager increases survival rate **11**
- Info on ETS **14**



European Turfgrass Society



Join us

Ready to become a ETS member?

[Become a member now](http://www.turfgrassociety.eu/become-a-member/)

<http://www.turfgrassociety.eu/become-a-member/>

DRG Autumn Turfgrass Conference on Biodiversity and Digitization

By Müller-Beck, K.G.



Introduction to the Topic

The German Turfgrass Society had invited DRG members and interested parties to the Residence Hotel Klosterpforte for September 26 and 27, 2022. Under the leading theme "Sustainability in Turfgrass Management", the organizers had prepared two exciting days with excursion and lecture event.

For DRG members, it has now become clear that the lawn with the keywords of tomorrow, has increasingly arrived in the focus of the society. Thus, the terms: Biodiversity - Ecosystem services - Irrigation efficiency -Digitization and Sustainability were the focus of the fall meeting.

The DRG chairman, Dr. Harald Nonn, was pleased to welcome nearly 70 participants at the conference hotel Klosterpforte (Figure 1).



Fig.1: DRG participant group being welcomed by the chairman, Dr. Harald Nonn

Since the Hotel Klosterpforte, with its two excellent turfgrass sports fields, has long been known in the region as a training camp even for Bundesliga clubs, the decision for this conference venue was not difficult and all participants were very pleased with this special "location" in the end.

A visit to the company CLAAS Harsewinkel, the world market leader in agricultural machinery (combine harvesters, forage harvesters, tractors and harvesting technology) was more or less right next door.

Stations of the technical tour on Monday

▪ Harsewinkel CLAAS Technoparc

In agriculture, digitalization for controlling work equipment is already widespread. The turf sector can benefit here from developments in the agricultural sector.

For example, the participants were able to get an impression of the sensor technology for steering the fertilizer spreader on a tractor in the Technoparc (Figure 2).



Fig.2: Front attachment of a crop sensor to control the site-specific amount of fertilizer.
Photo: K.G. Müller-Beck

▪ **Alverskirchen Golf Course Brueckhausen**

The golf course Brueckhausen stood as an example for the environmental program "Golf & Nature", from the German Golf Association (DGV), as a survey object on the day tour. During the welcome at the golf club, the deputy president, Juergen Stiegler, explained the course development and especially the recent development in course maintenance, which was directed in the sense of the program "Golf & Nature" and already led to the certification in silver in 2021. In September 2022, the club then received the highest award with the "Gold Certification".



Fig. 3: Biodiversity on the golf course Brueckhausen using the example of bankside vegetation.
Photo: K.G. Müller-Beck

The greenkeeper team, with the Head-Greenkeeper Stefan Markfort, currently operates without the use of "artificial intelligence", but it uses GPS navigation when spreading fertilizer, topdressing material or liquid products with the field sprayer.

▪ **Everswinkel tour company Bruno Nebelung GmbH**

In 1925, Bruno Nebelung and Franz Volmary founded a professional seed trade. In the years that followed, the company grew steadily and soon became known throughout Europe, especially for its premium brand "Kiepenkerl".

In Everswinkel, high-quality seeds for lawns, vegetables and flowers are stored, portioned and packaged. At the various stations, the interested participants were able to see for themselves the logistical effort involved and the precise filling of the smallest seed batches.



Fig.4: Storage of the completed turf mixtures. Photos: K.G. Müller-Beck



Fig.5: Blending plant for turf mixtures, in the foreground individual components.

High quality lawn mixtures

Especially for the professional sector, an extensive product portfolio is available for lawn seeds, biotope, pasture and wild acre mixtures as well as herb and flower mixtures for gardening and landscaping, for lawn sports, and for the areas of public green spaces of cities and municipalities.

Nebelung has a special offer for turfgrass producers; because here it is important that the lots are as purest as possible.

Program overview from the 2nd conference day "Sustainability in Turfgrass Management"

Moderation and discussion leader:

Prof. Dr. Wolfgang Praemassing from Osnabrueck University of Applied Sciences

- "Biodiversity on Golf Courses - Significance, Scope and Integration into the Environmental Strategy of the German Federal States".

Speaker: Dr. Gunter Hardt, Head DGV- Working Group Biodiversity

- "Ecosystem services of turfgrasses assessment - measurement - evaluation".

Speaker: Dr. Klaus Mueller-Beck, Honorary Member German Turfgrass Society

- "Digital portals: offerings for turf management".

Speaker: Dr. Klaus Mueller-Beck

- „Data evaluation to forecast dollar spot on golf greens, a project of the Dutch Golf Federation NGF.

Speaker: Arthur Wollenswinkel, Consultant, NL

- „Sustainability of sports facilities: concepts for the implementation of sustainable development on outdoor sports facilities".

Speaker: Prof. Martin Thieme-Hack, Osnabrueck University of Applied Sciences

- "Water Management in Turfgrass Maintenance - A Key Function for Sustainability."

Speaker: MSc. Jan Cordel, Osnabrueck University

All handouts for the presentations are available for DRG members. The download takes place on the homepage www.rasengesellschaft.de in the login area.

Keep the date for the upcoming DRG-Spring-Seminar on **April 24-25, 2023** in Kiel, Germany.

Author

Dr. Klaus Mueller-Beck

Honorary Member DRG

Klaus.mueller-beck@t-online.de

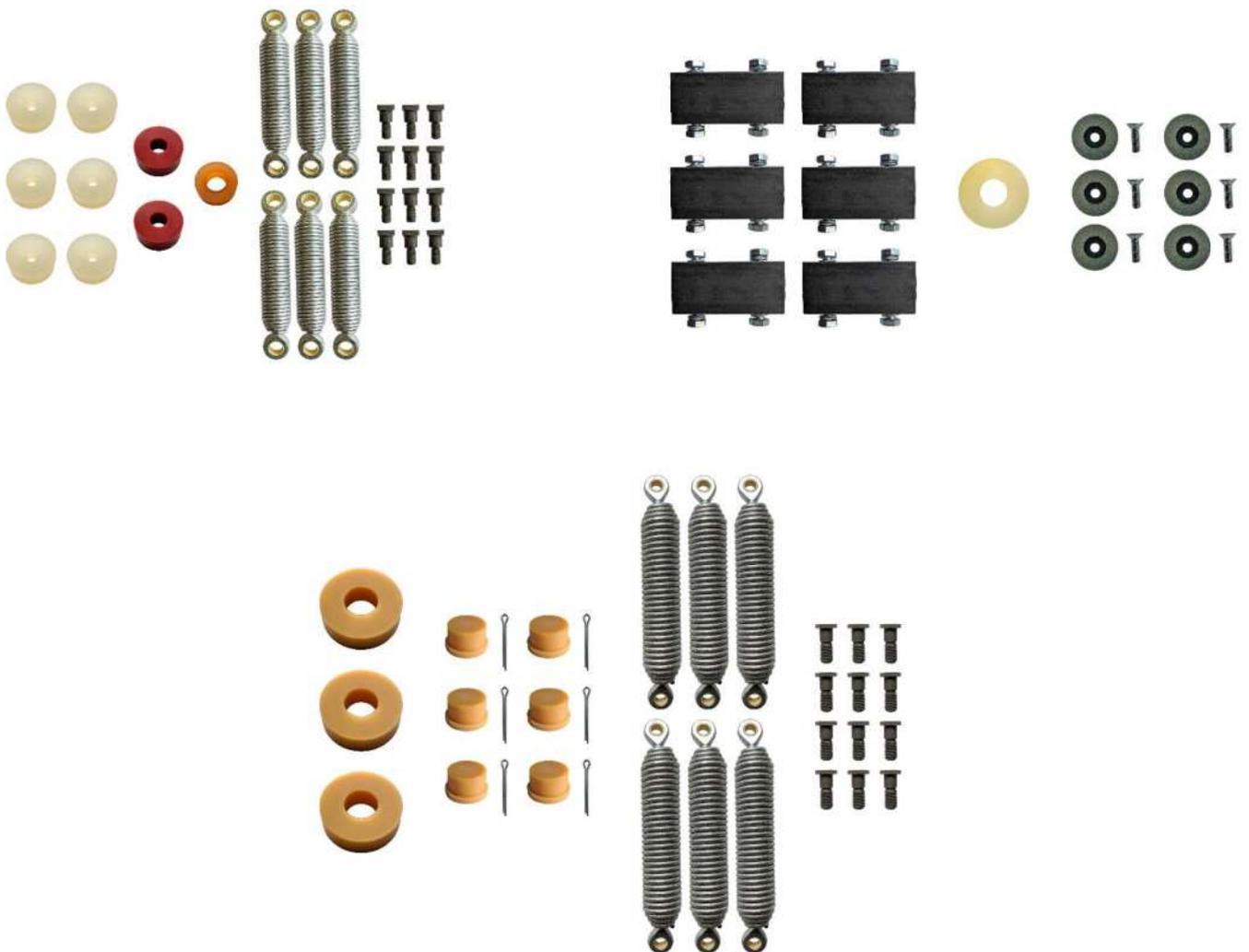
Green area maintenance in winter Making deep aerators fit again with maintenance sets



Wiedenmann, the manufacturer of machines for green area maintenance, now has complete maintenance sets for deep aerators in its product range.

They come at the right time, because many municipalities, associations, plant operators and service providers use the winter break to get their machines technically up to speed for the next season.

The sets contain all the required replacement small parts such as tension springs, buffers and screws: elements that are exposed to high loads during machine operation and wear out over time.



Wiedenmann recommends replacement for the Terra Spike series of deep-drawn fans after 3 years or 200 hours of operation - whichever comes first. The exact specifications depending on the model can be found in the operating instructions.

It is true that all parts are also available individually. However, the sets allow the machines to be completely reconditioned in one go. They also save time and money compared to buying them individually. Ignoring the maintenance intervals would not be a good idea: deep fans unleash high forces as they ram their tines up to 40 cm deep into the ground.

The springs and buffers absorb much of the energy released in the process before it is transferred to other assemblies, the tractor and, last but not least, the operator.

The spare parts are tested branded goods with high fitting accuracy and durability, recognizable by the branding "Wiedemann Original Parts". Important: If operators notice premature wear on the aforementioned parts when inspecting their machine, they should be replaced immediately, if only for safety reasons.

For more information, visit Wiedemann.com on the Internet.



Syngenta appoints new Biologicals Technical Manager for turf and ornamentals



With the growing importance of biological products to enhance the agronomy of professional turf management and production of high-quality ornamentals, Syngenta has created a new dedicated role of Biologicals Technical Manager, to further develop the exciting new technologies.

The company has appointed the experienced research scientist, Dr Hui (Eric) Chen, to support and develop the integration of biological products within the Syngenta Professional Solutions team across Europe, Africa & Middle East (EAME).

Eric graduated in crop and soil sciences from Beijing Forestry University in China, before continuing education and research at Michigan State and Rutgers University in the US. He gained his PhD in plant biology with emphasis on turfgrass management from Rutgers University.

During his work in the US, Eric had also pioneered new techniques and published numerous research papers to enhance management of turfgrass stress due to biotic and abiotic factors.

Since moving to Europe and the UK, Eric has worked as a research scientist at the internationally acclaimed STRI (formerly the Sports Turf Research Institute) at Bingley in Yorkshire. He has been involved with collaborative university and commercial businesses to instigate, trial and develop precision plant management tools and techniques.

Commenting on his appointment, Eric said: "I admire Syngenta's commitment to sustainability and constant striving to improve the ways that customers' can successfully manage plants, through its ongoing investment in R&D."

"I believe my experience and perspective will help Syngenta to build its capabilities quickly and effectively in the biologicals arena, for both turf and ornamentals."

Syngenta Product Biology Lead for Professional Solutions, Marcel Bredeveld, added: "Biological products undoubtedly have an increasingly important role in practical agronomic decisions. However, their use has to be based on robust and reliable science to enable effective integrated pest management (IPM) strategies. Eric's skills and knowledge will ensure we can develop better and more sustainable long-term solutions for our customers over the coming seasons."

For further Press Information please contact:

Eric Chen
Syngenta Biologicals Technical Manager
Email: Eric.Chen-2@syngenta.com

Marcel Bredeveld
Syngenta Product Biology Lead
Email: marcel.breedevaldd@syngenta.com

Mark Sanderson
TOP PR Ltd
Tel: 0044 777 568 1818
Email: mark.s@toppr.co.uk



Photo 1 Dr Hui Eric Chen

Amenity seed market 2023 - INFLATION AND PRODUCTION COSTS ARE IN THE DRIVING SEAT



A tough economic situation coupled with increased costs for energy, wages, fertilisers, packaging and logistics are pushing up prices for grass, clover and wild flower seeds. In addition, high production prices for other agricultural-commodities, such as wheat and rapeseed, are making it harder to contract the planned multiplication acreage for seeds at a competitive price.

A good, 2022 seed harvest in Europe brings some security back into the supply chain for DLF customers.

In the Netherlands, however, production was average, while the acreage declined and the seed yield per ha crop 2022 is above average. In Denmark both the acreage and the seed yield per ha is above average. Many regions were affected by the heavy summer drought. For various reasons it seems unlikely that European imports from other continents will increase. Factors such as high freight prices, exchange rates, high production costs and low yields are the main barriers to imports.

Species reports

In Europe we have good yields in most of the grass seed species. But for alfalfa, red clover and annual ryegrass, the harvest is slightly lower as a result of smaller growing area and below average yield per ha.

In the southern hemisphere, the January to March harvest was below average, especially in New Zealand where perennial ryegrass and white clover yields were low.

In many European countries, there are challenges in contracting grass seed for the 2023/2024 harvest because the price for competing commodities (cereals, oilseed rape, sunflower) is still very high. Therefore a lower supply of seed from crop 2023, incl. from the Netherlands and Denmark, is expected which will affect prices and availability for 2024 and beyond. The table below highlights the very significant increases in the production costs of grass seed over the last 3 years.

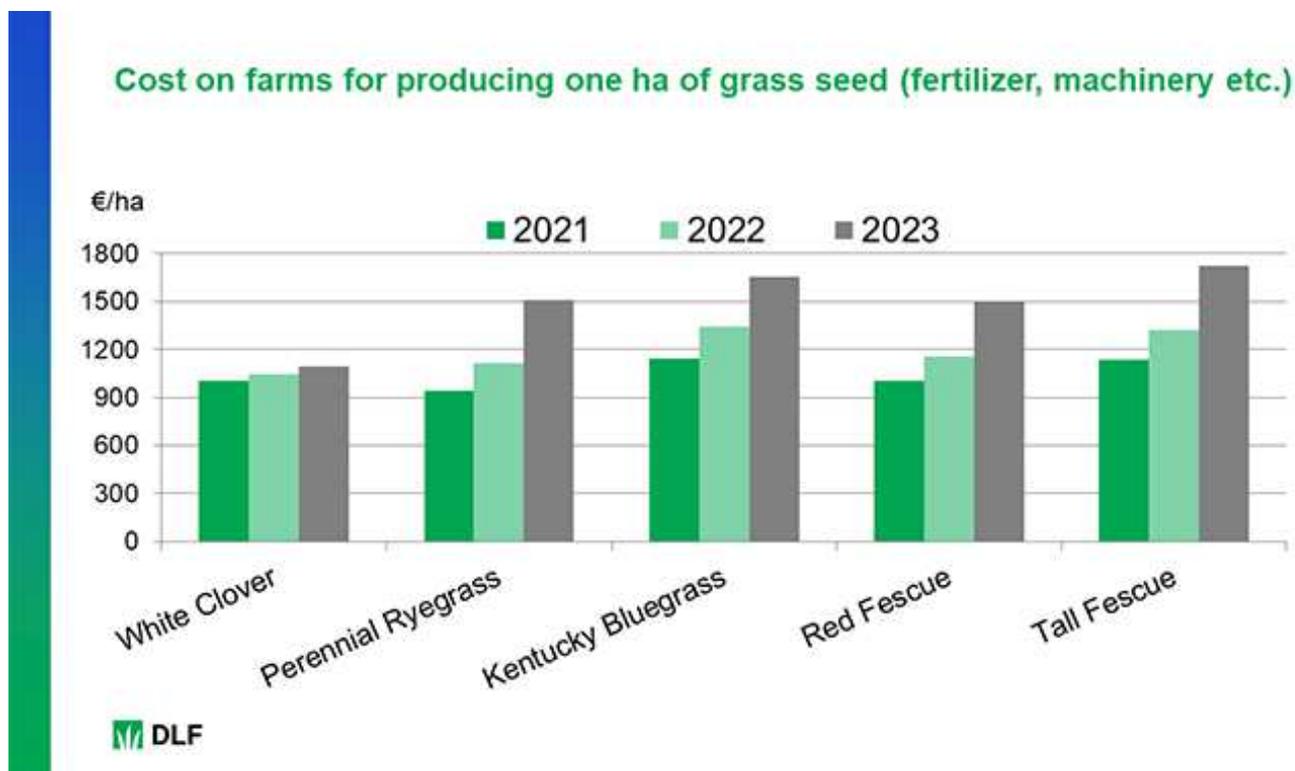


Figure: The cost for a farmer to produce grass seed increases with more than 500 €/ha from 2021 to 2023

The heavy summer drought caused severe damage to many crops across much of Europe, as well as to the turf of sports pitches, gardens, parks and other green public areas. This reduced demand and has helped to balance supplies for 2023.

September rainfall prompted the purchase of grass seed for late summer and autumn sowing. These purchases were to fix the recent drought damage, an effect that's likely to continue into spring 2023. After a year's break, it looks like climate change is playing its part again. Obviously, a lot depends on what happens this winter and spring, but our industry is likely to experience a challenging season in terms of processing, logistics and costs. This does put pressure on the supply chain though in terms of warehousing and logistics.

High production prices are driving up food and seed prices

Prices for agriculture products and food continue to increase, driven by high production prices. The cost of food and energy are the main sources of inflation. Milk, meat and cereal prices are at a high which has the knock-on effect of pushing up prices for turf grasses. All agricultural products are competing for space on the same arable land.

Production should meet demand for spring season 2023

Seed demand for next spring is hard to predict. The unpredictability stems from uncertainty over the way that the 2022 drought will affect demand, the overall economic situation, the recovery from Covid isolation and the potential for winter damage. As previously mentioned, we do not expect any imports from other continents. On the contrary we see more exports to South America and Oceania.

[Red fescues](#) have had a good harvest in terms of yield and quality for all sub-species – Rubra rubra, Rubra commutata and Rubra trichophylla.

[Smooth-stalked meadow grass/Kentucky blue grass](#) prices remain firm. Even with a good harvest, stock levels still need to recover. At the same time, production is difficult and expensive due to limited possibilities for maintenance, e.g. with chemicals.

[Bent grass](#) availability remains in balance despite continued production issues in New Zealand, increasing demand and legislation changes may see availability become more restricted in the future.

[Perennial ryegrass](#), the main species in most mixtures, has had a good harvest quality-wise. Year by year, we're seeing a rise in the market share for our tetraploid [4turf® varieties](#) from DLF. The high root mass of varieties such as [FABIAN](#) makes them popular as a defense against droughts. In combination with the seed-enhancement technology of our [ProNitro®](#) and [Accelerator](#) coatings, they're proving very popular.

[Tall fescues](#) are still in short supply as a result of a lower harvest and the rising demand for drought-tolerant mixtures. We're not expecting competitive imports of low-quality varieties from the US because import taxes makes them uncompetitive.

[DLF Select](#) varieties with their high standards of purity and improved germination always sell out early, especially for our professional turf customers who need top-quality mixtures for landscaping, sod production and sports turf renovation.

OUTLOOK: production costs and security matters

In this era of economic pressures – increasing cost prices and inflation driven by energy and food prices – it's vital to work with secure and reliable production partners. Since agricultural commodity prices are competing at farm level with grass and clover production, it's becoming harder to maintain the balance between farmer production prices and an acreage that will cover future demand. Climate change only increases the challenge. Dry springs, summer droughts and periods of heavy rainfall make future demand more unpredictable.

In the short term, we expect good spring consumption for 2023 for amenity seed, which will reduce inventories at all levels of the supply chain. Contracting of new production for the 2024 harvest remains difficult. We expect to see a drop in European acreage for the harvest years 2023 and 2024 caused by production costs and the lure of alternative crops. That means we see tighter availability and further challenges ahead of us. The difficulties of balancing future supply and demand make it all the more important to have a strong relationship between growers and our customers.

Calling all groundsman, greenkeepers or other turf managers



With climate change, there is a fear that new fungal diseases will appear or that known fungal diseases will become more serious in the future and compromise quality.

DLF's core business is to develop grass varieties that reflect the needs of our end-users. It is therefore important to get input about the challenges you as a sod producer / turf manager face now and in the future.

It will be an incredible help for us to get input from sod producers. We would therefore like to invite you to a small online survey focusing on turf diseases. It takes max 5 minutes. The link below will direct you to the online survey.

When entering the survey you can change language in the upper-right corner

<https://forms.office.com/r/XCHEfvmxT3>



Yellow Jacket Water Manager increases survival rate



Ensured grass establishment for Barenbrug Resilient Blue® and Barenbrug bent mixtures

Current weather extremes are causing more failure of newly sown plants. This is a waste of money, especially when it is easy to prevent failure. Optimising water management around the seed and young plant is crucial for good germination and to increase the survival rate of a young grass plant. Especially at fine seeds like poa pratensis and Agrostis seem to suffer and die from stress. This is why fine grass seeds from Barenbrug are treated with Yellow Jacket Water Manager. Optimal water management reduces stress and increases the survival rate of young grass plants. Extensive research shows that Yellow Jacket Water Manager significantly increases the survival rate, in all soil conditions!

Plant Survival Zone

Yellow Jacket Water Manager (YJWM) flows out into the soil and sticks to the grains of sand when watering the treated grass seeds. Thus, a Plant Survival Zone is formed. This zone not only retains water, but also regulates moisture around the seed.

In this way, water is made available for germination. Moreover, growth conditions are optimised, ensuring a vital and fast-developing grass plant. A plant that has a better chance of surviving today's weather extremes.

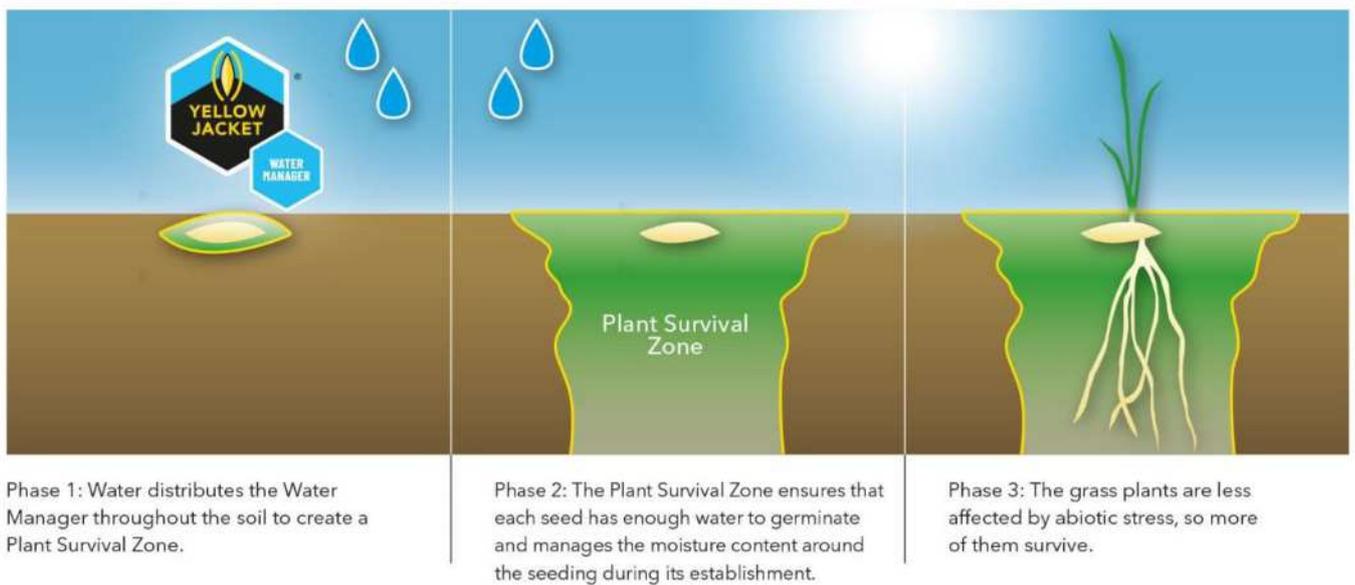
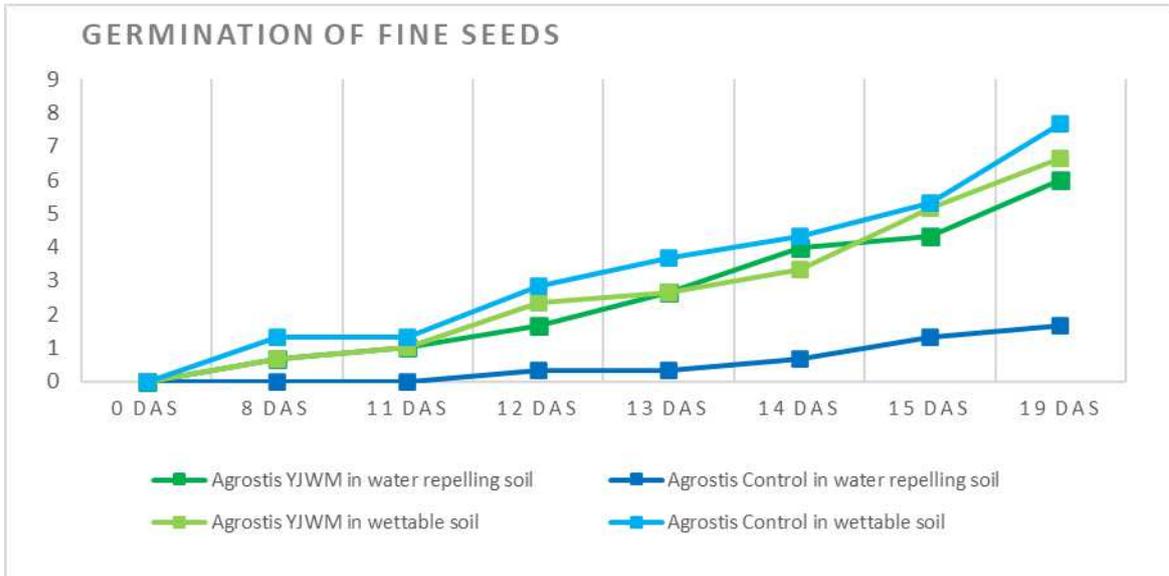


Figure 1: Plant Survival Zone created by Yellow Jacket Water Manager

At optimum temperature, grass seed germinates only if sufficient moisture is available and the seed has good contact with soil. YJWM takes care of this. Even under the most difficult conditions.

The graph shows that in water-repellent soil, seeds treated with YJWM germinate significantly better compared to untreated seeds. If the soil does absorb water well, you get as many germinating plants with YJWM-treated seeds as with untreated seeds.

But do the newly germinated plants all survive during establishment?



Graph 1: Germination of Agrostis in water-repellent and water-absorbent soil with untreated seeds and with YJWM-treated seeds at seeding rates of 8g/m². Visual observation (scale 1-9, DAS = Days After Seeding).

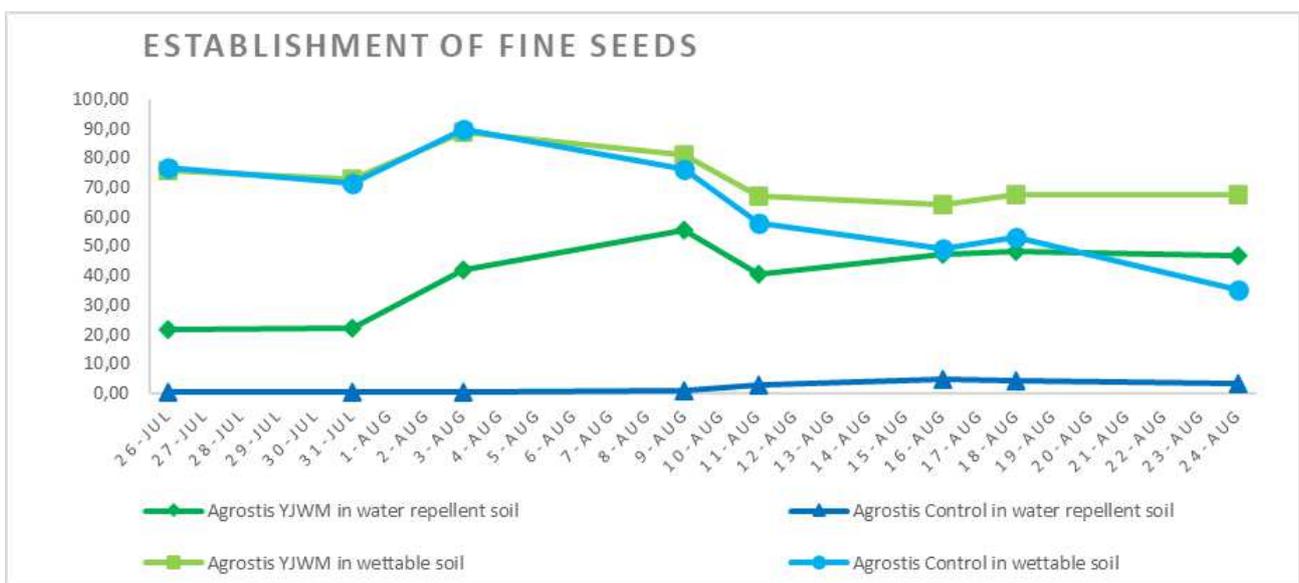
Source: Barenbrug Research

Establishment

With sufficient light, grass plants from 10°C soil temperature onwards grow only if sufficient moisture is present. Above 25°C, the role of water becomes even more important in reducing abiotic stress!

The more constant the soil temperature is, the less stress the plant experiences. The less stress the young plant faces, the less vulnerable it is for diseases. If there is too little water in the soil, the soil temperature can fluctuate at lightning speed. This can be lethal for plants. Optimal moisture content buffers temperature fluctuations. For optimum moisture content, however, water must be able to infiltrate into the soil. Water-repellent soil often hinders this.

But even in soils that are not water-repellent, treatment with YJWM helps prevent stress. The younger the plant is, the more vulnerable it is to the abiotic stress. And the bigger the chance of loss due to disease or desiccation!



Graph 2: Development of young plantlets agrostis in water-repellent and water-absorbent soil with untreated seeds and with YJWM-treated seeds at seeding rate of 8g/m². Determination of green cover (living ground cover) by Diabox (0-100% scale).

Source: Barenbrug Research

Although the circumstances in water-absorbent soil seemed to be perfect in trials for the young plantlets, still more than 50% of the plants - after a good germination - were killed during establishment. When treated with YJWM almost 80% of the plants survived in the same circumstances! In the water-repellent soil none of the untreated seeds germinated. Only the plants treated with YJWM germinated AND survived afterwards!



Figure 2: Trial design to determine germination and establishment of untreated and YJWM-treated grass seeds.
Source: Barenbrug Research

Resilient Blue® and bent mixtures

Yellow Jacket Water Manager is one of the main drivers in the success of the Resilient Blue® grass technology of Barenbrug. By helping the *Poa pratensis* in the Resilient Blue mixtures with this seed enhancement, it not only gets a better start and a better position in the mixture. It definitely also has a better surviving chance during establishment. The Resilient Blue® technology then creates a resilient grass sward that is prepared for extreme situations.

In 2023 also the Bar Allbent mixture (*Agrostis capillaris*) and Bar Triobent mixture (*Agrostis stolonifera*) will use the unique Yellow Jacket Water Manager technology for ensured germination and establishment on golf putting greens. It is the next step in doing even better justice to the best grass seed genetics available and make seeding a success!

More info available on www.barenbrug.biz/yellowjacket-watermanager

I TURFGRASS CONGRESS

SUSTAINABILITY AND TECHNOLOGY



19, 20 & 21. APRIL 2023

ALCOLEA DE TAJO, TOLEDO SPAIN



TURFGRASS

SAVE THE DATE



More info here: <https://turfgrasscongress2023.es>



© European Turfgrass Society 2022

Edited by Claudia de Bertoldi PhD, etsoffice@turfgrassociety.eu



The EUROPEAN TURFGRASS SOCIETY

The objectives of the **ETS** include the spread of innovative applications and encouragement of a holistic view of turf, particularly with respect to its influence on urban and environmental quality. This approach is significant as the founding members are representatives of a large industry that has global importance. We aim to:

- a)** Provide a forum for scientists, consultants, companies and practitioners to discuss technical issues related to the provision of turf surfaces.
- b)** Spread innovative applications for the benefit of the turfgrass industry, national and local government, and the European public. Encourage a systems-based approach to the study of turfgrass through multi-disciplinary groups working at different levels.
- c)** ETS considers turfgrass knowledge in the broadest sense, including its use in sport and leisure, its role in improving urban quality and its importance in the mitigation of environmental effects such as soil erosion.
- d)** Develop a strong ethos to promote sustainable, low input systems and solutions based on the conscious use of non-renewable resources.



Current ETS Board of Directors



Stefano Macolino
University of Padova, (IT)

ETS President

Stefano Macolino is an Associate Professor at the Department of Agronomy, Food, Natural resources, Animals, and Environment of the University of Padova.

He graduated in Forestry Science in 1996, Faculty of Agriculture at Padova University.

He has carried out research on forage management and turfgrass at the Department of Environmental Agronomy and Crop Production as a Postgraduate Researcher. In 2003, he achieved the Ph.D. in Environmental Agronomy.

He has been teaching actively, including three courses: Turfgrass and Revegetation, Forage Crops, and Botany of Cultivated Plants. Dr. Macolino is currently the president of the Committee for the improvement of teaching at the School of Agriculture and Veterinary Medicine of Padova University.

He conducts researches on the following:

1. Impact of cultural practices on cool and warm-season turfgrasses in transition zones.
2. Forage crop production and management.
3. Production and plant biodiversity of mountain grasslands.

He supervised Ph.D. students and postdoctoral fellows on the made mentioned topics.

Dr. Macolino is the author and co-author of nearly 50 scientific publications in peer-reviewed journals, and numerous publications in conference proceedings, and technical magazines. He is also the author of two books in Italian for undergraduate students.



Marcela Munoz
Bion (SPA)

ETS Board Member

My name is Marcela Munoz, I'm a leading turfgrass specialist qualified as an Agronomist Engineer from The Pontifical Catholic University of Chile and have a Master of Science Degree from The Ohio State University in Turfgrass Management.

I'm an amateur football player that joined this industry moved by my passion for sports, agronomy and science. I had been in the turf industry for more than 17 years and worked at different positions and countries around the world. Some of my latest exciting experiences include working for the STRI as a turf agronomy consultant for the FIFA 2014 Brazil World Cup and providing technical support at the Ryder Cup at Le Golf National in Paris. In my last role as Turf Technical Manager for Syngenta in the EAME region I worked closely with associations such as ITS, FEGGA, GMA, BIGGA, STERF, R&A and other local associations and Federations around the region. I also worked very closely with the Syngenta Turf Research facility at Stein in Switzerland and the International Research Centre at Jealott's Hills in the UK, as well as independent researchers, agronomists, greenkeepers and sports turf managers across Europe, Africa and the Middle East.

I recently join Bion a new an exciting company from the Netherlands, Im now based in Spain and I worked as Turf Business Manager. In this new role im working closely with the end users but also with Bion's partners and internal teams to provide affordable, reliable, and friendly solutions to the turf market. I will also be supporting the marketing, commercialization, product development and the turf business strategies in order for Bion to continue leading the transition to innovative biosolutions.



Claudia de Bertoldi
Turf Europe Srl (ITA)
ETS Secretary and Treasurer

I received my BA in 2003, after an internship at North Carolina State University (USA) and I have completed my M.Sc (*Progettazione e Pianificazione delle Aree Verdi e del Paesaggio*) at University of Pisa (Italy) in 2006. My PhD (*Allelopathic interferences of plants*) was from S. Anna School of Advanced Studies in 2007-2010. I have been working as consultant at Pacini Company (Pisa – IT) for warm season turfgrass production made in Tunisia during 2010-2012. Since 2013 I am employed by Turf Europe srl (Livorno – IT). I am actively engaged in landscaping and realization of gardens and turfgrasses for ornamental and sport use. Management of high-quality sport fields also through precision agriculture. Consultant for turf seeding in difficult zones (dumps and caves). Botanical censuses and visual tree assessment. Participation in R&D projects financed at European level. More than 15 publications, posters and presentations on conferences and meetings on turfgrass.

Marco Schiavon
University of Florida (USA)
ETS Board Member



Ph.D., is an Assistant Professor in the Environmental Horticulture Department, University of Florida at the Fort Lauderdale Research and Education Center. His primary research interests include potable water conservation for irrigating turfgrass areas, salinity management, physiology of turfgrass in response to drought stress. He received a B.S. in Agronomical Sciences in 2005 and a M.S in Agronomy in 2008 both from University of Padua, Italy, and a Ph.D. in Agronomy in 2013 from New Mexico State University. In 2013, he moved to University of California Riverside where he worked as a Postdoctoral Scholar until December 2016, and subsequently as an Assistant Researcher until November 2019. He has published more than 30 refereed journal articles.



Karin Juul Hesselsø
Norwegian Institute of Bioeconomy Research (NOR)
ETS Board Member

M.Sc in Agriculture 1996, Copenhagen University. From 2006-2019 employed at the Greenkeepers College Sandmoseskolen in Denmark as teacher in greenkeeping and landscape gardening.

From June 2019 employed at NIBIO, Landvik. Experience with writing/translation of popular articles and fact sheets on golf course management. In 2018 project leader on an IPM-project on Danish golf courses financed by the Danish Environmental Protection Agency.



Fritz Lord
COMPO Expert (GER)
ETS Board Member

Study of horticultural science at Rhein University Geisenheim, M.sc. in soil science/entomology. Study of Agricultural Science at Humboldt University Berlin; M.Sc. in crop science, plant diseases; Ph.D at Humboldt University Berlin in phytopathology, antagonistic rhizobacteria (PGPR), soil borne pathogens (Fusarium). Since 2008 working for one of Europe`s leading fertilizer manufacturer COMPO Expert in Münster, Germany. Responsible for the segment turf and public green, vegetation-technical consultation, research and development, product management and education. Specialties/ experiences: soil-plant-microorganism interactions, bio stimulants, microbial fertilizer, turf nutrition and maintenance. Various publications regarding turf fertilization and maintenance (e.g. European Journal of Turfgrass Science, New Landscape). Teaching turf seminars for greenkeepers and groundsman in Germany and abroad. ETS member since 2008, board member of the International Turf Grass Society (ITS) since 2014. Further memberships: German Turfgrass Society (DRG), Greenkeeper Association of Germany (GVD) , Austrian Greenkeeper Association (AGA), Förderkreis Landschafts- und Sportplatzbauliche Forschung (FLSF), Forschungsgesellschaft Landschaftsbau e.V. (FLL).



Wolfgang Praemassing

DEULA (GER)
ETS Board Member

Study of Agricultural Biology (University Diploma) at University of Hohenheim, 1991 Doctoral Dissertation (PhD) Promotion with Prof.

Dr. H. Franken, University of Bonn, subject: Soil physical Effects of Aeration on Turfgrass Soils, 2008.

Occupation and activities:

Professor for Sustainable Turfgrass Management at University of Applied Sciences Osnabrueck, Agronomist and lecturer in Greenkeeper Education and Training for golf and sport sites at DEULA Rheinland GmbH, Education Center, Kempen. Member of editorial staff of "European Journal of Turfgrass Science". Member of Turf expert committee of German Soccer League (DFL).

Member of working group "Water" at German Golf Federation. Member of examination boards of Chamber of Agriculture Nordrhein-Westfalen Golf Course Greenkeeper and Head-Greenkeeper, Greekeeper/Groundsmen Sport Sites, Competence of Pesticide application.

Carlos Guerrero

University of Algarve (POR)
ETS Board Member

Carlos Guerrero is graduated in Horticulture Engineering at the University of Algarve (Portugal). Has a M.Sc. in Soil Fertility and Plant Nutrition at the Agronomy Superior Institute, of the Technical University of Lisbon (Portugal) and a PhD in Environmental Agronomy at the University of Algarve (Portugal).



Assistant Professor at the University of Algarve (Faculty of Sciences and Technology), a former Diretor of the Degree Program in Agronomy (2015-2018) and also a former Director of the Master Program in Management and Maintenance of Golf Courses between 2008-2010.

Teaches Soil Science in Landscape Architecture and Soil Science and Agriculture Machinery in the Agronomy. Is also specialized in groundwater and soil nitrate pollution and has experience on organic and compost uses in agriculture and turfgrass.

Actually, is working on biological control of plant diseases, mainly turfgrass, and also on remote sensing for turfgrass maintenance purposes with unmanned aerial vehicles and multispectral sensors."

