



EUROPEAN TURFGRASS SOCIETY

NEWSLETTER 04/2020

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ETS membership campaign 2021-2022

Please note that your membership may expire on December 31st, 2020: for more info sign in to your account and check, or contact etsoffice@turfgrasssociety.eu

Prices for memberships are unchanged and cover a wide variety of categories and budgets. We hope that you will find the category suitable for you, your company or your institution, and that you will decide to join us in ETS for 1 or 2 years.

You can register online at <http://www.turfgrasssociety.eu/become-a-member/>

The aim of ETS is the share of knowledge, experiences, research results, data, ideas, services, products advertising among scientists, consultants, companies and practitioners to discuss technical issues related to the provision of turf surfaces, particularly with respect to the influence on urban and environmental quality. Furthermore, ETS spreads innovative applications for the benefit of the turfgrass industry, national and local government, and the European public, encouraging a systems-based approach to the study of turfgrass through multi-disciplinary groups working at different levels.

Join the large community of European researchers, industries and specialists dedicated to turfgrass!



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EUROPEAN TURFGRASS SOCIETY

European Turfgrass Society (ETS) New Board of Directors



After 4 years (2016-2020) the **ETS Board** has renewed, with online elections, in accordance with the ETS Statute. The tenure lasts four years and some of the existing members have been re-elected, some of them are new.

ETS would have completed nominations and elections during the General Assembly of the conference in Amsterdam, cancelled due to Covid-19. Given the long-term restrictions all over the world it has not been possible to meet in person, therefore, the elections were held online.

The ETS board consists of 5 to 9 members elected among eligible ETS members, including the President. The internal ETS Regulation has dedicated 1 position of the board to an US Academic, to assure a connection with American research.

Stefano Macolino expressed his readiness to become president of the association, and he has been unanimously nominated president of ETS.

The new ETS board people are:



Stefano Macolino
University of Padova, IT
ETS President



Claudia de Bertoldi
Turf Europe srl, IT



Wolfgang Praemassing
University of
Osnabrueck, DE



Carlos Guerrero
University of Algarve,
PT



Karin Juul Hesselsoe
NIBIO Landvik, NO



Marcela Munoz
Syngenta, UK



Fritz Lord
COMPO Expert, DE



Marco Schiavon
University of Florida,
USA



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EUROPEAN TURFGRASS SOCIETY

ETS 2021 webinars



The **European Turfgrass Society** is happy to announce the **ETS 2021 webinars**, that will be held online on the following topics:

- Sustainable Disease, Pest and Weed Control - natural/organic products
- Fertilization & Biostimulants - Advanced Stress Management with Biostimulants
- Water scarcity and irrigation - Sustainable Water Management
- Turf Cultivars/Breeding
- Mechanical practices advantages
- Wear tolerance (species and cultivar selection, plant growth regulators, fertilization)
- Specific webinar to greenkeepers or groundsman

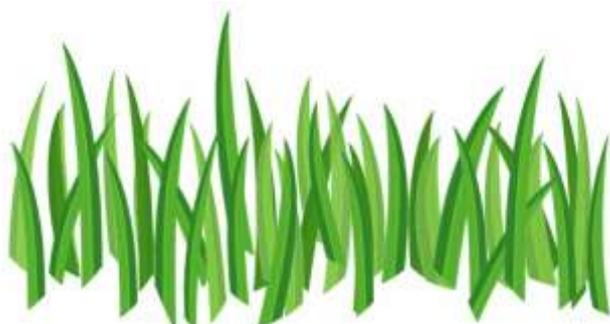
Given the long-term restrictions all over the world, it will probably be difficult to meet in person also for 2021, but we wish to keep on providing knowledge and connections, for the benefit of the turfgrass world.

The webinars will be organized by ETS and the event will bring together the industry and the academy, and will create a space for clients to ask questions and engage with speakers.

The program is as follow:

- A webinars every Thursday, called the "Online meetings with ETS – Bring science close to you ". Starting from February 4th at 17:00 CET.
- The admission to webinars is NOT subject to a registration fee.
- Each webinar has a dedicated theme.
- Each webinar will have 2 academic/independent turf specialist/ speakers presentations + 10 minutes for the sponsor presentation. Total time of the webinar: 1h 30min.
- There will be a discussion after the presentations of 40 minutes with possibility of interactions with the speakers.

If you would like to participate to the organisation of the ETS Webinars, please contact the Organizing Committee via e-mail: etsoffice@turfgrassociety.eu



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EUROPEAN TURFGRASS SOCIETY

A look at the endowed chair for turfgrass at the University of Applied Sciences Osnabrueck, Germany

Author: © Dr. Klaus Mueller-Beck, DRG.



HOCHSCHULE OSNABRÜCK
UNIVERSITY OF APPLIED SCIENCES



Turfgrass science in the study program

Since 2017, the endowed professorship of turfgrass at the University of Applied Sciences Osnabrueck has been pursuing the goals of teaching in the sense of a master's degree program as well as research for the horticultural, agricultural and landscape architecture departments.

The subject "Applied Turfgrass Science" (Sustainable Turfgrass Science) is part of the Master's program "Applied Animal and Plant Sciences M.Sc." as one of five major fields of study are offered (HS-OS, 2020).



Fig.1: Zoom meeting of the participants of the advisory board for the endowed chair for turfgrass at HS-OS (Screenshot, K. Müller-Beck).

With the establishment of the endowed chair, young academics will be trained in the field of "turf industry", thus closing a gap in practical turf training. The establishment of turf research in Germany is all the more urgent the more intensive the challenges posed by climate change become for the preservation of public green spaces. Graduates from the "Applied Turfgrass Sciences (M. Sc.)" program are qualified to work in a leading position in horticultural areas in public green spaces as well as in the special departments of the turf industry in private sector institutions (e.g. turfgrass seed, fertilizer development, plant protection) or in research institutes.

Diverse research topics

The orientation of the grass- and turf-related research topics is consistently practice-oriented and, under the direction of the German Turfgrass Society, is accompanied by an advisory board of experts from the circle of founders and interested institutions. At the end of November 2020, the advisory board met this year in the form of a zoom meeting due to corona conditions. In addition to questions regarding the financial endowment of the endowed professorship and developments in the various lecture offerings for students in the Bachelor's and Master's programs, the members of the advisory board were primarily interested in the research projects.

In terms of sustainability, research topics such as environmental protection vs. turf quality, integrated pest management (IPM), resource consumption, climate change, breeding issues, grass use, regional seeds or technical developments in turf care are now being taken up and published as bachelor or master theses in research projects.

The application-oriented research at the HS Osnabrueck has the following orientations:

- Application research as interdisciplinary research projects.
- Contract research for the turf industry, associations or organizations.
- Preparation of field studies on developments in practice.

Project work on turfgrass

In a presentation (PRÄMASSING, 2020), an overview of current and completed project topics was presented to the advisory board participants. These include final theses from the study programs (M = Master, B = Bachelor):

- Dry tolerance of turf mixtures, (M);
- Effects on lawn quality by the use of lawn mowing robots compared to conventional mowing technology on different types of lawn, (M);
- Ecosystem performance of golf courses, (M);
- Investigations on the elasticity of sports field surfaces - turf, hybrid, synthetic turf, (restriction note), (M).
- Effects of location and maintenance measures on surface hardness and playing characteristics of golf greens of different ages, (B);
- Surface hardness of stadium turf as a function of soil moisture, (B);
- Soil structure examples for hard-wearing turf for use as a riding surface for polo, (B);
- Investigation of waterlogging problems on a sports field, (B).
- Attractiveness of soccer fields by changing the sports surface, (B);
- Is hybrid turf a possible alternative for amateur soccer? (B).



Fig. 2: Example of pot trials on drought stress in turfgrass mixtures and determination of regeneration potential. (NITZSCKE, 2020).



HOCHSCHULE OSNABRÜCK
UNIVERSITY OF APPLIED SCIENCES



Projects from the application research

- Testing Fertilizer Guidelines for P Nutrition of Golf Greens - SUSPHOS

Project period: April 2018-June 2020.

- Integrated management of important turfgrass diseases and insect pests on European golf courses" - the IPM Golf 2020-2023 Project.
- "Climate Turfgrass" project preparation autumn 2020 - project period spring 2021 - 2023 (PRÄMASSING, 2020).

Turfgrass and ecosystem performance

These national and international projects lead to the involvement of the University of Applied Sciences Osnabrueck in multilateral research scenarios, especially with regard to climate-relevant developments. Here it becomes clear that the culture "turfgrass" will be of great importance in the future for the design of urban structures under changing climate conditions. It is precisely under these aspects that Prof. Prämassing sees an enormous field of work in the development of new technologies for the preservation and promotion of the ecosystem services of turfgrass in the future. This should not only be in the interest of the foundation partners, but if progress is made in the right way, society will benefit from the performance characteristics of turfgrasses.

References

HS-OS University of Applied Sciences Osnabrueck, 2020: Turfgrass science.

<https://www.stb-hsos.de/ilos/weiterbildung/nachhaltiges-rasenmanagement>

NITZSCKE, S., 2020: Expression of drought stress on utility turfgrass mixtures and individual cultivars and estimation of regeneration potential. Master thesis, Osnabrueck University of Applied Sciences, unpublished.

PRÄMASSING, 2020: Advisory Board for Applied Turf Sciences, handout, unpublished.

German Project „Climate Turf“

By Wolfgang Praemassing (University of Osnabrueck, DE)

Climate change causes higher temperatures and more frequent long drought periods during summer in Mid Europe. These environmental conditions are unfavourable to cultivate turfgrass and amenity lawn areas which provide aesthetic, recreational and functional benefits because of their continuous green and attractive grass canopy. Moreover, water consumption for green areas can probably be restricted prospectively in Germany.

To provide green public lawn and turf grass areas in the future the German Turfgrass Society and the Bavarian State Institute for Viticulture and Horticulture, Wuerzburg-Veitshoechheim initiated a „Climate Turf“ project in cooperation with University of Applied Sciences Osnabrueck and State College for Horticulture Stuttgart-Hohenheim, Education and Research center for Horticulture Erfurt, Saxon State Office for Environment, Agriculture and Geology (LfULG) Dresden and Eurogreen GmbH, Rosenheim.

The objective of the project is to evaluate turfgrass/clover and turfgrass/herb mixtures including drought tolerant and low growing species in comparison to standard turf/lawn grass mixtures according to RSM 2.2.1 and 2.2.2 (Regel-Saatgut-Mischungen Rasen, FLL/Research Society Landscape Development Landscape Construction).

These mixtures should supply contribution of public leisure activities, aesthetics, and to the total landscape ecosystem especially in densely populated urban areas.

In cooperation with the above-mentioned project partners the evaluations can be conducted in different climatic locations in Germany.

Approximately, the project period is scheduled between spring 2021 and at least until summer/autumn 2023.



Figure 1: Drought stress trial Eurogreen GmbH (photo: Nonn)

ICL Autumn ITM trials and Potassium Inputs



By Dr Andy Owen, International Technical Manager, ICL

Autumn ITM trials

ICL have conducted independent Integrated Turf Management (ITM) trials for a number of years, most recently examining the management of fine turf through the critical autumn and early winter disease period. The trials have demonstrated successful non-fungicidal integrated strategies which significantly reduced *Microdochium nivale* outbreaks on *Poa annua* dominated turf surfaces. In summary, the trial work showed how good nutrition, robust moisture management and focussed applications of iron could be combined to great effect to reduce disease. Details of this work can be watched through the series of short discussion videos produced by ICL and available on the link at the end of this article.

Potassium applications

Trial work also provides opportunity for experimentation. So, the autumn ITM trials presented the chance to examine how increased potassium applications affected the development of *Microdochium nivale* under European conditions. Soldat, 2014, demonstrates clearly how spray applications of K at rates of 10-30 kg K/ha made biweekly through the growing season significantly increased occurrence of Pink Snow Mold (*Microdochium nivale*) in the spring. Could we demonstrate a similar occurrence from increased K applications through the autumn disease pressure period?

The Trial

During the trial (completed at the Irish Sports Turf Institute, Co Wicklow, Ireland) Sierraform GT K-Step 6-0-27, a slow release N, micro-granular fertilizer was applied at 25g/m² every 4 weeks from September 7th. This supplied a total of 58 kg N/ha and 272 kg K/ha (K from K₂SO₄). More K than would ever be recommended, but a good test to see if these elevated levels of K applied through autumn increase the incidence of *Microdochium* patch. We can contrast these results with control plots where no products were applied.

Assessments of turf colour, turf quality, NDVI and % disease (*Microdochium nivale*) were made biweekly from September to January and through this time weather remained mild and wet, with no snow cover, perfect conditions for the development of the disease. Applications of Sierraform GT K-Step through this period kept turf colour and turf quality significantly greater than the control (data not shown), as expected from applications of autumn fertilizer in mild conditions.

Disease assessments showed significantly less disease ($p < 0.01$) for plots receiving fertilizer applications on five assessments date through the trial (Table 1). Images taken in December clearly show the extent of the disease outbreak (Image 1 & 2) and the reduction for fertilised plots.

Table 1. Mean *Microdochium nivale* (%) per plot (n=4). Means per date sharing a letter are not significantly different ($p < 0.05$)

Treatment	Date						
	7th Sep	5th Oct	1st Nov	16th Nov	30th Nov	14th Dec	28th Dec
Control	0.25 a	2.75 a	8.63 a	14.25 a	14.75 a	19.50 a	20.50 a
Sierraform GT K Step	2.50 a	5.00 a	3.25 b	4.13 b	2.38 b	3.00 b	4.38 b

Clearly the confounding factor in this trial is the application of nitrogen alongside potassium for this granular fertilizer treatment. However, it is interesting to note that four applications of a Sierraform GT K-Step, a granular fertilizer with a 6-0-27 analysis, supplying 58 kg N and 272 kg K through this period maintained a microdochium outbreak to below 5% of the plot affected, during a very high disease pressure period, on *Poa annua* dominated turf, whilst maintaining good turf colour and quality.

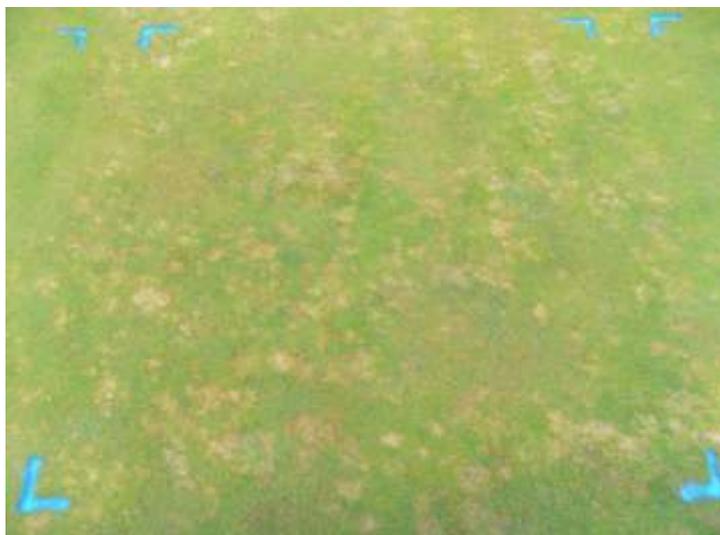


Image 1: Control plot (28th December)



Image 2: High K plot (28th December)

Reference

Soldat, D. 2014. Decreased Pink Snow Mold associated with low soil potassium. Wisconsin Soils Report: The grass roots. May / June 2014.

For more information on the ITM research work conducted by ICL please contact Andy Owen (andy.owen@icl-group.com)

Watch now: ITM and *Microdochium nivale* in Fine Turf



[Microdochium patch: integrated disease management | ICL Specialty Fertilizers \(icl-sf.com\)](https://www.icl-sf.com/microdochium-patch-integrated-disease-management)

To allow us to talk about the subject of ITM in greater depth and with specialist guest speakers, we have produced a series of video discussions. The videos may be found from this link https://bit.ly/ICL_ITMPlaylist

Introduction new grass technology by Barenbrug on 11th of February 2021



Barenbrug introduces a new resilient grass technology for turf professionals like greenkeepers, fieldmanagers and sod growers. Do you want to prepare your grass for extreme weather conditions? Barenbrug invites you for the official introduction of a new grass technology that will help you to be ready for future extremes. Save the date: 11-02-2021 11.00h CET!

Changes in climate lead more and more to extreme weather conditions. After years of development and many trials in extreme conditions Barenbrug has developed a technology that helps turf professionals to be prepared for such conditions. The solution: a grass technology that is able to take the punches and fights back!

This unique technology is the solution for the best drought and heat tolerant cool season turf grass areas with an excellent winter performance too. Official introduction will be, due to the current pandemic, digitally in the *Barenbrug Online Event* on the **11th of February at 11.00h CET**. During this event we will show you the possibilities of this grass technology for various turf grass professionals and give insight of the technical background.

If you already want to register, subscribe on our Barenbrug YouTube channel [here](#) so you don't miss a thing and follow us closely on our social media channels. It's also possible to send a message to stay informed to marketing@barenbrug.nl.

[Barenbrug Holland - YouTube](#)

A black event poster with white and yellow text. At the top, it reads "Introduction new grass technology" in white. Below that, the date "11-02-2021" is written in a large, bold white font, followed by "11.00h CET" in a smaller white font. In the center, there is a blurred image of a green grass sod. At the bottom left, it says "Streamed on:" followed by the YouTube logo and the text "YouTube | Subscribe & hit the alert button!". At the bottom right, there is a yellow horizontal bar containing the Barenbrug logo and the text "BARENBRUG". Below this bar, the words "Online event" are written in white.

Introduction new grass technology
11-02-2021
11.00h CET

Streamed on:
 YouTube | **Subscribe & hit the alert button!**

BARENBRUG

Online event

Biostimulant research interest hots up

By Caroline Carroll
Syngenta UK



New research into the role of amino acids in cell and protein function provides an insight into the way biostimulants can be designed to better help turf plants to cope with stress events, writes **Syngenta Turf Technical Manager, Marcela Munoz**.

It's only with a better understanding of cell molecular science that research has shown how different amino acids fit together in different ways for specific function.

The way that plants recycle the amino acids to create different proteins best suited to repair and recover from the stress conditions is a fascinating process. It is constantly on the move, as plants adapt to ever changing environmental conditions and physical challenges.

Continued turf research is now more important than ever to pull out the differences. It will evaluate how the genetic function of turf species, and even varieties, can be either beneficially upregulated, or suppressed, with the use of specific biostimulants, to help with the way we manage turf for stress.

Biostimulants are set to become a hot topic in turf management. Weather trends show a clear shift to higher temperatures, including prolonged periods of excessive peaks.

Heat typifies the increasing stress turf is having to cope with. The UK, for example, is experiencing higher maximum temperatures and longer warm spells. All of the top ten warmest years since records began, in 1884, have occurred since 2002.



Furthermore, hot summers are expected to become more common. Defined hot spells have increased from an average six days in length during records from 1961-1990, to over 18 days per year on average during the most recent decade.

But there are a whole range of other abiotic influences adding increasing pressure on turf surfaces, including drought, nutrition, solar radiation, air quality, management practices and the wear and tear of play.

For turf species, or particularly varieties, evolved and selected to perform in relatively cool and lower light European conditions, for example, they could be ill-prepared for changing climatic situations. Biostimulants could be crucial in helping those varieties better cope with challenges.

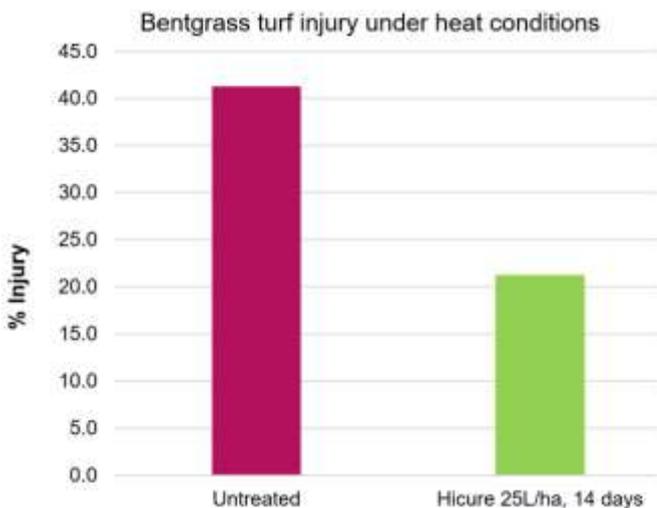


Fig 1 - Bentgrass leaf injury under heat conditions

In trials we have seen biostimulants have a valuable role to mitigate the effects of stress. The greater the apparent influence of stress in limiting the plant's potential, the greater the response recorded.

Biostimulant field trials have shown the sheer scale and complexity of defining specific stress factor responses. But it is also where trial design and implementation is so essential in pinpointing causes and effects.

We know from the findings of the latest Syngenta survey of greenkeeper issues that stress is considered a significant factor in turf health by over 80% of greenkeepers and agronomists. Virtually all others believe it has some effect, with less than 2% seeing no link.

In a drive to shape the future of turf stress research priorities, over 160 respondents were asked to rank the importance of stress factors. The top ranked factor having highest effect was, disease infection – followed closely by moisture deficit, the wear and tear of play and the effect of heat on turf plants.

Mid-ranked stress factors, in order of importance, included nutrient imbalance; sunlight; mowing and other turf management practices. Stress factors of cold and air pollution were seen to be of considerably lower impact.

To counter the effects of stress, 95% respondents considered that biostimulants had a role in turf management, with two-thirds rating them as significant.

Over 80% said they were already using biostimulants every season, with more than 10% intending to try their use in the future. Of those that had already used biostimulants, seaweed was by far the most common, used by over 80%. Phosphites and specific amino acid products had been used by over half of respondents, with sugars and other options used by significantly fewer.

In around 60% of instances greenkeepers and agronomists would use different biostimulants at different times of the year, with nearly half using them in mixtures. Most (45%) would use them all year around, with a third targeting when stressful periods were likely to occur. The vast majority (95%) were using before turf stress had been experienced.

Most greenkeepers and agronomists reported they had some knowledge of the role of amino acids in building turf energy and strength, with 99% highlighting their interest to find out more.

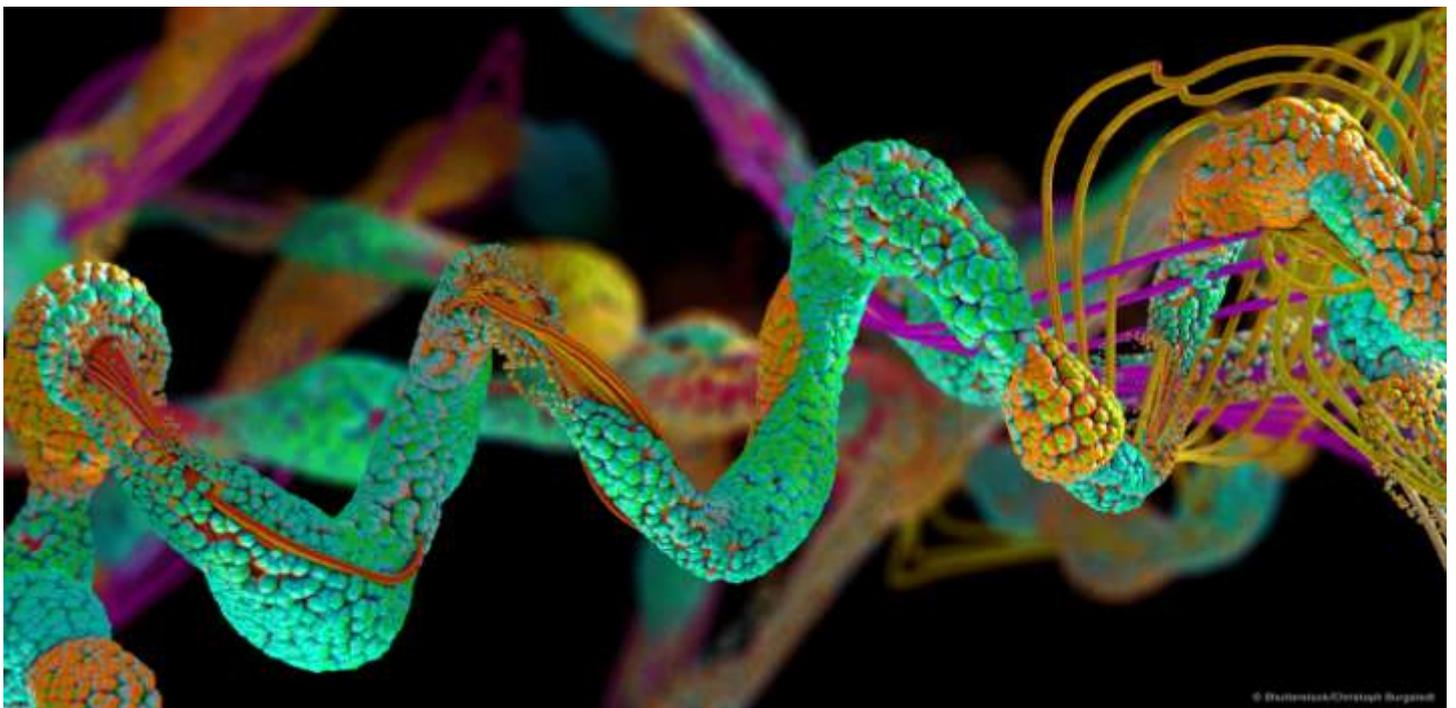


Figure 2 - Structure of amino acids constructed into protein chains

With this clear drive to utilise biostimulant science to better manage plant growth, Syngenta recently invested in acquiring Valagro, a market-leading producer of innovative biologicals, industry-leading technology and research capacity.

This acquisition is fully in-line with Syngenta’s strategy to provide additional complementary choices of products and technologies in order to effectively and sustainably care for plants, by managing resistance, enhancing soil health, reducing residues and addressing consumer demands.

Commenting on the business potential, Erik Fyrwald, CEO of Syngenta Group stated: “This acquisition underlines our growth ambitions in this area and positions us as one of the strongest players in the global biologicals market.

“The investment also forms part of our \$2 billion commitment to help address the effects of climate change and improve sustainability as part of our Good Growth Plan.”

As an agronomy tool, research needs to focus on results of using both biostimulants and crop protection together. The more we understand about the science behind the biostimulants, the better turf managers and agronomists can make use of the benefits in different situations.



Marcela Munoz, Syngenta Turf Technical Manager.



Turf seed 2021 - Strong demand and tight supply ... early ordering is essential



A huge demand in spring and summer reduced stocks throughout the supply chain. And a below-average 2020 harvest reveals plenty of yield variations.

For most turf producers 2020 has been a year of ups and downs, Covid-19 has created as many opportunities commercially as it has challenges. With many turf producers reporting strong sales, thoughts are now turning towards 2021 sowings and seed availability.



HARVEST: Close-to-average yields in Denmark, but a poor yield across the rest of Europe

Spring was again dry across most of Europe, which affected grass and clover harvests just about everywhere.

Denmark was the exception. Rain in May saved the harvest while the rest of Europe suffered. In Denmark most species are producing normal yields – possibly slightly above normal – although the fescues performed badly. For red fescue we are looking at lightweight seeds and a yield reduction of 10% to 15%.

In the Netherlands, tall fescue is even worse – down by 25% – while the total grass seed harvest is down by 10%.

The drought also reduced harvests in Germany and Poland. In central Europe (CZ and its neighbours), a poor result was intensified by heavy rainfall starting from a month before, and lasting well into, the harvest. This reduced yields to about 50% for many species. Reports from France say that red clover has exceptionally low yields in some areas and that alfalfa is also far below average.



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

Deadline for submission of material for 01/2021 edition: **March 15th**



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
Syngenta (UK)

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. Since 2015 I'm based in Cambridge, UK, working as Syngenta's Technical Services Manager for the EAME region.

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 15 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. I'm also an active member of many turf associations around the world and volunteer since 2011 in the International Committee of the Sports Turf Managers Association of America (STMA)

In my current role I work closely with associations such as ITS, FEGGA, GMA, BIGGA, STERF, R&A and other local associations and Federations around the region. I also work 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. My role also includes supporting the marketing team and commissioning pioneering research to maintain Syngenta at the leading edge of turf science, as well as delivering the results back to the industry in the form of practical solutions to help create consistently better playing surfaces.



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), is actually the Director of the Degree Program in Agronomy and was the 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 remote sensing for turfgrass maintenance purposes with unmanned aerial vehicles and multispectral sensors.

