

# International Turfgrass

The Newsletter of the International Turfgrass Society

January 2015 Edition

## Report from the International Seminar on Turfgrass Winter Survival

Gjøvik, Norway, 11-12 Nov. 2014

by Trygve S. Aamlid, Tatsiana Espevig, Agnar Kvalbein, and Wendy Waalen,  
Bioforsk Turfgrass Research Group

Winter damage is the foremost reason for dead or low-quality turf in the Nordic countries, Canada, the northern United States and other winter-cold areas. In spite of global warming, abiotic winter injuries are likely to increase in the future as more precipitation and unstable temperatures result in higher risks for dehardening during winter and more ice and water damage.

The research project 'TWS: Turfgrass Winter Survival in a Changing Climate' was initiated by Bioforsk Turfgrass Research Group in 2011 and funded by the Scandinavian Turfgrass and Environment Research Foundation (STERF) and the Norwegian Research Council. On 11-12 Nov. 2014, findings from the four year project and from related projects in North America were presented at

an international seminar attended by 60 scientists, consultants, and turfgrass managers from eight different countries.

### Hardening capacity and dehardening resistance of cool-season turfgrasses

After an introduction into STERF's program on Winter Stress Management by Maria Strandberg (see ITS Newsletter, May 2014), the first session of the seminar was devoted to turfgrass' cold hardening and dehardening reactions. Michelle DaCosta presented results from University of Massachusetts showing that *Poa annua* not only acquires less hardiness but also loses hardiness more quickly than *Agrostis stolonifera*. In annual bluegrass, even one day's exposure to 8°C in the middle of the winter triggered respiration and photosynthesis and caused

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Happy new year and I hope everyone is doing well. While the 13<sup>th</sup> International Turfgrass Research conference is still over 2 years away preparations are now underway. Look for details about manuscript submission deadlines and other information in the May, 2015 edition. Again, if there are additional items regarding the society you would like to see included in the newsletter in the future, don't hesitate to contact me with your suggestions.

Also, if you have any newsworthy stories or information for readers of International Turfgrass, I hope you will consider submitting an article for the next newsletter in May 2015.

I hope you enjoy the very good articles in this edition.

Sincerely,  
Nathan R. Walker

### In this Edition

- International seminar on Turfgrass Winter Survival
- European Turfgrass Producers Association Founded
- Activity report from the Japanese Society of Turfgrass Science
- Turfgrass Conference in Slovenia
- Italian Turfgrass Industry moves toward a new Association
- 2015 International Zoyisagrass Symposium
- ITS Membership Application
- Order form for past proceedings and journals
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a loss in freezing tolerance. These findings were supported and expanded into other turfgrass species by one of Tatsiana Espevig's presentations from the TWS project. In these studies the freezing tolerance after natural hardening in the fall increased in the order: *Poa annua* (unspecified seed; -13 to -14°C) < *Agrostis capillaris* 'Aberroyal' (-18 to -20°C) = *Festuca rubra* ssp. *litoralis* 'Viktorka' (-19°C) = *Festuca rubra* ssp. *commutata* 'Musica' (-21°C) = *Agrostis canina* 'Villa' (-23 to -27°C) < *Agrostis stolonifera* (blend of 'Penn A-1', 'Penn G-6' and 'Independence' (<-30°C), whilst the absolute loss in freezing tolerance during mild spells in winter increased in the order *F. rubra* ssp. *litoralis* < *F. rubra* ssp. *commutata* < *A. capillaris* < *Poa annua* < *A. stolonifera*. However, due to its superior hardiness in the initial phase, *A. stolonifera* still maintained the best freezing tolerance by the end of a 12 day period at 10°C .

### Variation in winter survival among turfgrass species and varieties

Results from 30 years of Scandinavian turfgrass variety testing in the SCANTURF and former national programs, and more recently from 10 years of testing at green mowing height in STERF's SCANGREEN program, were presented by Trygve S. Aamlid. In these trials the ranking of species for overall winter survival under field conditions was



Photo 1. Some of the speakers at STERF's on Turfgrass winter survival. From left: Trygve S. Aamlid, (Bioforsk Norway), Bjarni Gudleifsson (Agricultural University of Iceland), Wendy Waalen (Bioforsk Norway), Michelle DaCosta (University of Massachusetts, USA), Maria Strandberg (STERF-director), Jim Ross (Olds College, Canada) and Agnar Kvalbein (Bioforsk, Norway). The leader for the TWS project, Tatsiana Espevig (Bioforsk, Norway), was unfortunately not present. Photo: Jon Schärer.

not the same as in the aforementioned studies on freezing tolerance. The red fescues most performed better under field conditions, and this was attributed to the fact that pesticides are never used in the variety trials. SCANGREEN and SCANTURF also showed significant variation for resistance to abiotic and biotic winter damages within the each of the turfgrass species, and turfgrass breeders were encouraged to put more emphasis on these characters in their breeding programs. One of the more encouraging news, announced by Brian Horgan in discussion, was that freezing tolerance of some new perennial ryegrass varieties has been improved from ca. -13 to -19°C thanks to continued breeding effort at the University of Minnesota.

### Ice encasement and protective covers

Researchers working with forage grasses were also present and the seminar. Bjarni Gudleifsson from the Agricultural University of Iceland, who has spent a long career working on ice encasement of hayfields, explained how the turf is killed by carbohydrate depletion and/or accumulation of toxic metabolites that are produced both the grass plants and by soil microbes under anerobic conditions. Ice encasement had also been a major topic in the TWS project, and Wendy Waalen presented results showing superior tolerance to ice encasement in *Agrostis canina* (up to 120 days under ice!), and to a lesser extent *A. stolonifera*, compared with *A. capillaris* and the red fescues. *Poa annua* was the least tolerant even to this type of winter injury.

One of the measures that can be taken against ice encasement is to protect the turf by impermeable covers. In the TWS project, this had worked well in full-scale demonstration trials in Finland, Sweden and Norway, and Agnar Kvalbein argued that in the future, the most important function of covers would be to keep out ice and water, and not to protect against low temperatures. One argument against using impermeable covers is that anaerobic conditions may occur under plastic covers in the same way as under ice, but Jim Ross presented Canadian research on how to monitor air composition under the covers and perhaps also provide air circulation using fans.

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## Visit to Bioforsk Apelsvoll Research Center and plans for a new seminar

Towards the end of the seminar, the participants visited a newly started STERF project at Bioforsk Apelsvoll Research Center on the influence of fall fertilization with nitrogen and sulphur and shade during hardening on winter survival of annual bluegrass and creeping bentgrass (Photo 2). This project, along with results of another newly started STERF project on reestablishment after winter damage, as well as and many other international projects, will hopefully form the basis for a new seminar on turfgrass winter survival in 2017.

The Bioforsk Turfgrass Research Group would like to thank all participants who contributed to a very successful seminar. Presentation and book of extended abstracts (Bioforsk Fokus 9(8), 2014) can be downloaded at <http://sterf.golf.se> (click on 'seminars').



Photo 2: The seminar visited Bioforsk's research facilities at Apelsvoll to inspect the SCANGREEN variety trial and a new experiment on the effects of autumn fertilization. Eight participants from Iceland had to leave before the photo was taken. Photo: Agnar Kvalbein

## European Turfgrass Producers Association Founded

by Alexander Richter<sup>x</sup> and Tim Fell<sup>y</sup>

<sup>x</sup>Austria & ETP board and <sup>y</sup>United Kingdom

A group of three European turfgrass growers met for a research meeting in February 2014 at Pisa, Italy. During this meeting the idea was born to initiate the European Turfgrass Producers Association (ETP) in order to address needs and issues of European turfgrass growers. An announcement of the founding of ETP was made at an Autumn vanMac/Barenbrug meeting near Ingolstadt, Germany and ETP was successfully founded in December 2014. The steering committee consists of Johnny Trandem (Norway), Pierluigi Strada (Italy), Tim Fell (United Kingdom), and Alexander Richter (Austria) as well as Peter Van Mispelaar (with vanMac) and Christiaan Arends (with Barenbrug) being the first supporting industry members.

Tim Fell Tillers (with Turf UK) was elected as the official ETP President and Filippo Lulli (with Turfeurope) will be the secretary in cooperation with Claudia Di Bertoldi from his office at Livorno near Pisa, Italy!

The European Turfgrass Producers intend to be at the forefront of the turfgrass production industry in Europe bringing together growers, ideas, and practice. Our vision is for a strong regional association to push the boundaries of turfgrass

production to secure and enhance the future for turfgrass growers. It is an exciting industry to be part of because it has the potential to affect people's lives in a positive way, and to make a beneficial contribution to the environmental problems we face.

What the turfgrass industry has lacked is a strong regional association that can connect turfgrass growers throughout Europe. There are at least 700 turfgrass growers in Europe, many of whom are quite isolated in terms of their geography, and in terms of their interaction with other growers. Bring all those growers together and you have a group with considerable potential. We have a lot to learn from each other and what we've found is that turf growers from different countries really value talking and interacting with each other in a way that would not be possible with competitors in their own country.

Like all modern agriculture sectors, turfgrass production needs to think about cost reduction, resource optimization, and reducing the environmental impact of our activities. How can we combine low input systems with high quality results, and at the same time avoid damaging our environment? And what's more, do all that and still earn a profit.

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Alexander Richter of Austria, European Turfgrass Producers Association Board member, and past ITS officer in Pisa, Italy

As a new association it's important, to begin with, that our aims and objectives are very focussed. We want to bring turf growers together from all over Europe to talk about turf. We think this will be valuable for individual growers, and the exchange of ideas and experiences will be good for the industry

as a whole. We have a lot to learn from each other. There's a great strength in numbers in Europe, and we have a lot to gain by closer cooperation.

How are we going to connect turfgrass growers in Europe? The interactive website is going to play an important role in communication in the form of a notice board, forum, and information source. Social media will be used increasingly to keep in touch with each other. A turf show will be held every two years in different European countries, and in non-show years we would like to contribute to the ETS conference with seminars and educational sessions. We will also arrange turf farm tours as frequently as the demand requires.

All ITS members are kindly invited to visit our website [www.turfgrassproducers.eu](http://www.turfgrassproducers.eu) for further information and of course are invited to join us at our future meetings.

Wishing all ITS members a happy and successful year 2015!!!

## Activity Report from Japanese Society of Turfgrass Science

by Yoshi Ikemura

Member of International Relations Committee

Japanese Society of Turfgrass Science

The Japanese Society of Turfgrass Science has had regular annual meetings in the spring and local meetings in the fall. We had two additional symposiums related turfgrass science last summer. So, here we will introduce these activities based on turfgrass science where researchers are examining the benefits of turfgrass from the psychological and health education points of view. These are the two symposiums held focusing on those areas.

At the symposium, rugby players and maintenance staffs discussed different playing styles comparing to bare ground and turf ground, also the turf field condition was discussed. The total number of people in attendance was 80.

### Symposium #1

Turf Viewed from Physical Education / Sports dated 3<sup>rd</sup> of August.

- "Benefit from Turf for Our Health" Dr. Kentarou Iijima in Yokohama Toin University
- "Positive Effects of Turf in the School Ground" Dr. Miki Fukuda in Dohshisha University
- "Symposium "Rugby and Turf"

At the session, promoting school-children's physical and mental health using turf was presented. This also improves the quality of the break between classes.



Symposium Turf Viewed from Physical Education/ Sports

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## Symposium #2

Title: Sustainability Assessment of School Ground Maintained Turf -Logic behind the Support

### Day 1

- “Turf use on School Ground needs to be National Project - toward the 2020 Tokyo Olympics” Dr. Mitsuo Kondo professor emeritus of Tokyo Agricultural University
- “Promoting Turf use on School Ground to Promote Health” Dr. Satoshi Asano in Kyorin University
- Discussion Session “Assessment Method for Continuing Maintained Turf use on School Ground” Panelist for this discussion were Syuichi Tsuchida from Suzuyo Holdings Company, Dr. Satoshi Asano from Kyorin University, Dr. Satoshi Takaku from Mejiro University, and Ryoichi Nagakura from NPO group of turfgrass promoters.
- Introduction of Tokyo University Turf Club by Seiya Maki in Tokyo University.

At the session, problems of current turf maintenance scheme, health promotion based on turf use, and various companies’ support were presented. The total number of people in attendance was 100.



Presentation by Dr. Mitsuo Kondo at Tokyo University



Momoi-Daigo Elementary School that maintains good turfgrass despite the small area.

### Day 2

Attendees visited four elementary schools where school grounds are maintained with turfgrass. In Japan, the area of school ground is limited and most of the schools we visited have less than 4.0 square meter (43 square feet) of turfgrass area per person. Most of schools we visited maintained high quality turf. Especially, Momoi-Daigo elementary school which is worth noting as the whole school ground is fully covered by turf, even though the available turf/ground area is only 3.7 square meter (40 square feet) per person. Despite that, the school maintains high quality turf. This is the result of plugging bermudagrass and seeding ryegrass all the time by volunteers. The total number of people in attendance was 80.



Amanuma Elementary School where the school building causes a turfgrass shading problem.

# Turfgrass Conference in Slovenia

by Mike Fidanza

Professor of Plant and Soil Sciences, Pennsylvania State University, Reading, PA, USA

Dr. Cale Bigelow (Purdue University), Dr. Mike Fidanza (Pennsylvania State University) and Adam Moeller (USGA Green Section) were invited speakers at the 16<sup>th</sup> Days of Education, held on 18-19 November 2014, in Lipica, Slovenia. The annual event was conducted by the Slovenian Greenkeepers Association, and attracted a record attendance this year of golf course greenkeepers and turf industry personnel from Central Europe and the United Kingdom. Darko Cecelja, president of the association, was the coordinator for the conference and assisted by Suzana Kozel. The conference was held at the Hotel Maestoso (Lipica, Slovenia), which is also located on the grounds of the famous Lipizzaner horse breeding facility. The Lipizzaner stallions are bred there and then selected to train in the historic Spanish Riding School in Vienna (Austria).



Figure 3. Adam Moeller (left) talking to the greenkeeper during a tour of Bled Golf Course, the oldest golf course in Slovenia (1937).

Education topics presented included managing soil organic matter and thatch, venting aeration, irrigation programs for playability and turf health, green pigments, snow mold and fairy ring management, new creeping bentgrass varieties, preparations for the Senior Open Championship at Royal Porthcawl (Wales), preparing turf for severe winter conditions, using wetting agents effectively, and more. This conference has become a “hidden gem” among turf conferences in Europe, and should be on everyone’s list to attend.



Figure 1. Darko Cecelja, president of the Slovenian Greenkeepers Association, during his recent visit to Baltusrol Golf Club (New Jersey, USA).



Figure 2. Cale Bigelow during one of the education sessions.



Figure 4. Mike Fidanza (left) showing-off his lighthouse tie, which was very popular at the conference.

# Italian Turfgrass Industry moves toward a new Association: the foundation of UCMISE – Sports Turf Construction and Maintenance Contractors Association

by Simone Magni, University of Pisa, Italy

On November 14, 2014 a hundred delegates involved in the sports turf industry as contractors, managers, scientists, and practitioners met at the 41<sup>st</sup> EIMA (International Exhibition of Agriculture and Gardening Machinery) held in Bologna, for the foundation meeting of UCMISE (Sports Turf Construction and Maintenance Contractors Association). The need for the creation of this new association and the potential benefits for the sports turf sector were outlined by qualified speakers invited for the occasion.

Quality of sports turf facilities is becoming more and more a relevant issue in Italy. Knowledge and skills on turfgrass installation and maintenance are available over the nation but sometimes it appears that a coordinate link is missing between subjects involved in the specific sector. According to Dr. Giovanni Castelli – Italian Professional Soccer League Agronomist – the demand of quality sports turfs is increasing day by day. Professional teams, international matches, and sports events that are often broadcast all over Europe are all factors pushing facility managers toward the seek of extreme quality, both for technical and aesthetic aspects. Opinion is that their expectations can be fulfilled only by contractors familiar with cutting edge techniques and advanced technologies.

On the other hand, the rest of the estimated 10,000 football pitches, plus rugby pitches, baseball ballparks, and horse racecourses, even if not requiring a top level maintenance, still need to be properly designed, constructed or re-constructed and efficiently maintained, often with major budget restrictions. Sports clubs, societies and local authorities running these facilities need to find specific cost effective solutions with the best balance between quality, safety and management efforts. Professional and experienced contractors can help finding the right approach for the best turf possible. It is common feeling that be it a big stadium or a minor sport facility, the cooperation with professional turf managers would turn into benefits for commissioners, players and spectators.

At present, in Italy turf managers and commercial companies still need to share common lines of action and priorities for their activity as a whole. As outlined by Dr. Massimiliano Del Viva – turf agronomist, member of the STMA (Sports Turf Managers Association), serving on the International Committee of the same association – in the United States the creation of the STMA has brought together members of the commercial and the academic world, turf managers and affiliates, it has given to associates the possibility to share knowledge and it has assisted the professional development turf managers through a constant education. In decades of activity this has undoubtedly yielded advances in sports field management professionalism and a relevant industry development. STMA can be assumed as a good example to follow for the Italian turf industry.

With this in mind, the founding of UCMISE has the main goal of bringing together all the stakeholders of the sports turf market at a national level, in order to create an institution to which sports governing bodies, local authorities, and sport clubs will refer in the future to find professional turf managers, updated with the most recent techniques, products, and machinery for the best maintenance of sport turfgrass surfaces. Furthermore turf managers and practitioners will have the opportunity to refer to common guidelines and best practices that will be made available for UCMISE members.



Sports Turf Construction and Maintenance Contractors Association founding session.

2015 International Zoysiagrass Symposium  
2015 国際ゾイシアグラスシンポジウム  
presented by Japanese Society of Turfgrass Science

2015/11/22(Sun.)@Okinawa, Japan

The Japanese Turfgrass Society will hold an International symposium on the theme of "Zoysiagrass" in Okinawa, Japan. Zoysiagrass is becoming popular all the world and prominent turfgrass researchers from abroad especially in Asia have been invited to speak. This is intended to demonstrate candidacy potential to host the 16<sup>th</sup> International Turfgrass Research Conference in Japan in 2025 which last hosted the conference in 1989.

We intend to promote the use of Zoysiagrass so that it becomes more popular worldwide. In Okinawa, there is a rich source of breeding germplasm and understanding of the desirable characteristics such as excellent drought, wear, and heat tolerance. Additionally, there will be a presentation competition for young turfgrass researchers at the symposium. We are looking forward to your participation.



1. Date: November 22, 2015(Sun.) 9:00~17:00
2. Organizer: Japanese Society of Turfgrass Science
3. Location: Okinawa-prefecture Jichikaikan-Hall
4. Fee:3,000 JPY
5. Key Speaker  
Dr. Bruce Martin (Clemson University, USA)  
Dr. Joon Soo Choi (Dankook University, Korea)  
Dr. Liebao Han (Beijing Forestry University, China)  
Dr. Makoto Kobayashi  
(NARO Institute of Livestock & Grassland Science, Japan)

Photo by Okinawa Convention & Visitors Bureau





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Berks Campus  
111 Luerssen Building  
Reading, PA 19610  
USA  
PH: +1 610 396 6330  
[fidanza@psu.edu](mailto:fidanza@psu.edu)

### Historian

Richard Gibbs  
STRI  
St Ives Estate  
Bingley BD16 1AU  
UK  
PH: +44 (0)1274 565131  
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FAX: +44 (0) 1274 561891  
[richard.gibbs@stri.co.uk](mailto:richard.gibbs@stri.co.uk)

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Beijing Forestry University  
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Beijing, 100083  
China  
PH: +86 (10) 6233 7982  
[hanliebao@163.com](mailto:hanliebao@163.com)



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### Newsletter Editor

Nathan R. Walker

Department of Entomology and Plant Pathology

Oklahoma State University

Stillwater, OK 74078

Tel. +1 405 744 6830

E-mail: [nathan.walker@okstate.edu](mailto:nathan.walker@okstate.edu)

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If you know any non-members, new faculty, staff, and new personnel involved in turfgrass research who might be interested in joining ITS please forward their email address to me and I will send a complementary copy of the next Triannual issue of International Turfgrass.

The deadline for submissions for the next newsletter is April 15, 2015