



STEWARDS OF THE GAME • MANAGING NUTRIENTS

18TH ANNUAL STA FIELD DAY COVERAGE CONTINUED • ARTICLES BY DR. ERIC LYONS & JOHN BLADON

STEWARDS OF THE GAME

Dr. Eric Lyons, Assistant Professor, Turfgrass Science, University of Guelph

Environmental stewardship is one of the most talked about subjects today, especially when the subject of turfgrass management is breached. All turfgrass managers should aim to be good environmental stewards. They should also aim to be something more; they should become stewards of the game.

A steward is defined as: 1) One who manages another's property, finances or other affairs; or 2) one who is in charge of the household affairs of a large estate, club, hotel or resort. Essentially, stewards are people who take care of things for society and future generations. The concept of environmental stewardship is based in making the right management decisions today to provide the best environment for future generations. I challenge each and every sports turf manager and turfgrass

manager to not only be a steward of athletic fields and the environment, but also be a steward of the games played on the areas we work so hard to maintain.

Benefits of Sport

Often a disconnect occurs between turfgrass managers and the end users of turfgrass areas. The best way to alleviate this disconnect is to remind ourselves why we play sports and why areas to play sports are important to our society. There are many reasons why we play sports – the most obvious are the beneficial aspects to physical fitness and mental health. The physical fitness of future generations is at risk. With each generation we, and subsequently our children, become more sedentary. The availability and access to large open areas in which to play sports is essential to encourage ourselves and future generations to maintain a level of fitness. In addition, there are the mental benefits

of competition and achievement that sports provide. There are also the life lessons that involvement in athletics can bring including team work, commitment and social skills that can only come from working closely with teammates and competing with other competitors. As turfgrass managers, we provide the safe and healthy environments that facilitate all the benefits that sport and athletics bring to our society.

Each day when turfgrass managers set out to do their job, the value they add to society should be in the forefront of their minds. Turfgrass managers do more than just maintain turfgrass athletic fields; they help maintain the physical, mental and social health of society. Never underestimate the importance of athletic fields and the opportunities and benefits having a safe place to play and engage in sport provide our children and those people who are young at heart.

Becoming Stewards

What can we, as turfgrass managers, do to maintain athletic opportunities for future generations? How can we truly become stewards of the game? Three simple things: become stewards of the environment, communicate the benefits of turfgrasses, and emphasize both the environmental and health benefits of turfgrass areas.

In recent years, turfgrass has become under attack as an environmentally unsound land use with little or no environmental and societal benefit. Research has shown that turfgrass areas have many environmental benefits. Turfgrass areas act as great water filters and can act as areas to capture storm water runoff increasing infiltration to below ground aquifers.

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Turfgrass also provides a great cooling capacity within city limits and during times of severe drought can be allowed to go dormant, as opposed to most bedding plants and trees which continue to use water through drought periods. In addition, turfgrass areas are also believed to store carbon below ground acting as a "carbon sink" to counteract the increasing carbon dioxide in the atmosphere. Essentially the soil becomes a place of carbon accumulation much like the wood in a forest. If you are interested in the benefits of turfgrasses, educate yourself so

you can communicate it to the end user and the rest of society.

The first step in communicating the benefits of turfgrass areas and the management that goes into turfgrass areas is to educate yourself in the facts about the environment and potential problems we are facing today.

The next step is to open lines of communication. This can be done by becoming involved in community newsletters, educating the end user about the practices being performed and benefits of different turfgrass areas. The most important thing is to become involved in discussions and become involved with the user groups. Most end users have no idea how much work and effort goes into providing the playing surfaces that they utilize. Most of them have home lawns and may be proud of their abilities to grow grass. But, they have one major advantage – they do not have to maintain quality turf for 20 events a week. Being present at organizational meetings and showing the stakeholders of athletic fields that there is a large team of individuals working hard to maintain the integrity of the playing fields is an effective way to garner support and educate the end user.

Once the end users are on board, the last step of emphasizing both the environmental and health benefits of turfgrass areas should start to take shape.

I want to conclude this article by saying thank you to athletic field managers. Sport has been a great influence in my life and I owe much of where I am today to the influence of athletics. Without the opportunities that turfgrass managers help facilitate through providing areas to play sport, our society would be very differ-

ent. In closing, turfgrass managers need to be stewards of the environment to be stewards of the game, because without areas to play the games will fade away.

MANAGING NUTRIENTS

**John Bladon, Nu-Gro Corporation
Summarized by Roy Forfar**

At the STA Annual Field Day this past September, John Bladon spoke on the topic of Managing Nutrients and Integrated Pest Management (IPM). This process involves using all necessary techniques to control pests effectively, economically, and in an environmentally sound manner while sustaining a healthy landscape. To achieve a successful IPM program, consider the following points.

Minimize...

Your facility's use and dependency on pesticides. This will result in decreased negative impacts on the environment. Consider management strategies that efficiently use resources like precious labour, equipment hours and fuel.

Maximize...

Plant health and quality; ecosystem natural order and biodiversity; customer satisfaction; economic viability (reduced costs, fewer applications, reduced equipment depreciation and fuel consumption); worker and workplace safety; and knowledge and diversity of pest controls, i.e. cultural, mechanical, chemical and biological means.

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ucts and incorporate fiscally and environmentally responsible fertility alternatives. Provide both a balanced and metered feed to enhance both turfgrass and soil health – lessening the impacts of weather and environmental conditions. Build a fertility program that addresses the needs of the soil, the plant, and of course, the needs of your user groups.

What About Roots?

Roots provide plant anchorage, food/carbohydrate storage and stability to playing surfaces. The majority of the root system is located within the first foot of soil with feeder roots in the top 6". The bottom line is that shoots, roots, soil and microorganisms need to be considered as one complete system. Any improvement in root mass/elongation improves their functioning ability – anchoring, water/nutrient uptake and storage. Factors that decrease root growth include lower mowing heights, inadequate mowing frequency

or removing more than one third of the tissue at a time, excessive nitrogen, deficiency of potassium, excessive thatch, high soil temperatures, oxygen deficiencies and high salt concentrations.

We All Need Food

Nutrients reach roots by the mass flow of water, diffusion from soil to roots, and by root interception. Different soils affect nutrient availability and each has properties that may limit growth. Clay soils and compaction restrict nutrient mobility; sandy soils leach nutrients; low organic matter soils may be deficient in phosphorus. Working the soil, through various types of aeration, breaks up the profile and can improve nutrient availability. Remember that temperature can also have a dramatic affect on nutrient availability.

Nitrogen Management

This will differ with every season and soil type. Nitrogen fertility needs to be

approached with balance in mind, and is the most critical of the major elements. Furthermore, it is species dependent and must be adjusted according to use or traffic patterns. Finally, choices in a controlled release N source should match up with mowing frequencies; the more stable the feed, the more we can regulate our need to mow.

The Big Picture

One goal of the turfgrass manager is to maintain a favourable root to shoot ratio. This translates in avoiding practices that are unfavourable for root growth and stimulate excessive shoot growth. Always remember: *For every action there is a reaction.* Smart fertility = balance. Start with soil, end with tissue. Build a program that addresses deficiencies while taking into account use, is fiscally manageable and promotes balance. The latter will be the key in helping with reductions in pest pressures. ♦

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Soil Science Terminology from A-Z.

HELMUT SPIESER, OMAF