Global Soil Survey for Sustainable Turf

- Are you interested in finding out how you can reduce fertilizer inputs without sacrificing turf health and playability?
- Would you like to have an easy-to-use tool to quantify your progress in achieving sustainability?
- Would you like to join with other turf managers around the globe to help the turf industry become more sustainable?

If you've answered "yes" to any of these questions, then you are invited to participate in **The Global Soil Survey for Sustainable Turf,** a citizen science style initiative whose goal is to develop new, more sustainable soil nutritional guidelines that are based on maintaining turf quality with reduced inputs, reduced costs and reduced environmental impact.

Sign up for The Global Soil Survey with the mail in form attached to this document, or online at: **www.paceturf.org/journal/global_soil_survey**

Mission and Goals

The mission of the Global Soil Survey is to enlist turf managers from around the globe in the development and implementation of practical and effective sustainability practices. This will be accomplished through:

1. production of new, sustainable soil nutritional guidelines that target the lowest nutrient levels needed to support the desired levels of turf quality
2. generating the new guidelines through analysis of soil samples collected by survey participants from around the globe
3. providing participants with individualized reports on soil nutritional conditions at their location, as well as quantification of their sustainability index
4. promoting adoption of the sustainability guidelines through social media, websites, articles, scientific presentations and educational seminars
5. insuring reliable data by utilizing a single, highly reputable laboratory for all analyses

How it Works:

- Sign up to pay the $250.00 (U.S.) fee using the mail in form at the end of this document, or online at

  www.paceturf.org/shop
- A Global Soil Survey Kit will be shipped to you. The kit includes sampling and shipping instructions, soil sample bags, sample submission forms and pre-paid postage boxes for shipment to Brookside Labs.
- A detailed, personalized report will be prepared based on analysis of the 3 soil samples from your location. See the next page for more information on the contents of your report.
- All data will be pooled with that of other survey participants to create new and improved soil guidelines for turf.

» Benefits to the turf industry »

Being proactive in reducing inputs and increasing progress towards sustainability » Taking leadership in environmental stewardship » Promoting sharing and cooperation in a participatory project where all results will be shared »

Benefits to your facility

Knowledge: An individualized report that assesses current soil nutritional conditions at each of the three sampling areas from your location will be emailed to you in a printable format. All soils will be analyzed for 21 chemical measurements*, including major and minor nutrients, by Brookside Laboratories (New Bremen, OH) and the data evaluated by Dr. Micah Woods of The Asian Turfgrass Center and Dr. Larry Stowell of PACE Turf . All data will be presented using both metric and U.S. units.

Recommendations: The report will also quantify any nutrient deficits or excesses, and will provide recommendations on how to correct them.

Documenting progress towards sustainability: The report will also calculate a sustainability index for each major nutrient at each of the three sampling sites. This numerical rating will document how close each soil nutrient is to the minimum identified in the MLSN guidelines, and how much lower that level can go before it reaches the minimum threshold. The sustainability index provides a great snapshot of the current condition of the soil, in terms of meeting minimal guidelines. But even more importantly, it sets a clearly defined benchmark against which you can track and quantify your progress towards sustainability over time.

Tools for doing the right thing: While everyone wants their facility to reduce inputs, be more environmentally sensitive and generally more sustainable, it's not always clear how to approach these goals in a safe and responsible manner. Your personalized report will provide clear, science-based and data-based guidance on deficits, excesses and fertilizer requirements that will allow you to sensibly reduce inputs, without sacrificing turf quality or playability.

Leadership and recognition: You and your facility can feel good about taking steps to be more responsible environmental stewards and more cost effective managers. And you should feel even better about the leadership you have shown in contributing your data to the MLSN database so that the guidelines can be further refined and strengthened. The results of your efforts will benefit turf managers throughout the industry, as well as your own facility.

The rewards of being a citizen scientist: It will be both rewarding and fun to join with your colleagues from around the globe, and jointly contribute to the common goal of increased sustainability through good science! Camaraderie, a sense of purpose and fun have been hallmarks of other citizen science projects, and we hope to duplicate the same spirit in the Global Soil Survey.

***pH, S, Ca, Mg, K, Na, P (Mehlich 3, Bray and Olsen), PSI, Nitrate-N, Ammonium-N, Total N, EC, B, Fe, Mn, Cu, Zn, Al, Cl**

Why the Global Soil Survey Matters

Does the turf industry really need a a new approach to soil nutrition? We believe that the answer is a resounding "yes".

There are currently many versions of turf soil nutrition guidelines available, and most have provided a good foundation for high quality turf. But in these days of decreased spending and increased concern for environmental impacts, turf managers are faced with demands to not only deliver high quality turf, but to do so with lower costs and fewer inputs.

To respond to these changing expectations, we developed a new set of soil nutritional guidelines, the "Minimum Levels for Sustainable Nutrition Guidelines" (MLSN), which were introduced in 2012.

As opposed to most existing guidelines, which were developed solely to produce high quality turf, the MLSN guidelines target high quality turf, but also the minimum levels needed to achieve that goal.

Since their introduction in 2012, the MLSN guidelines been adopted by turf managers around the world, many of whom have been pleasantly surprised at how low they could go in terms of soil nutrition without sacrificing turf quality or playability.

Based on a large database of over 17,000 soil samples, the MLSN guidelines have performed well for many different climates, turf types and customer expectations. But we want to go even further with The Global Soil Survey. Designed to collect soil samples from good performing turf from locations all around the world, to analyze their nutritional chemistry, and then to use the data to refine and strengthen the existing MLSN guidelines, The Global Soil Survey is also an opportunity for turf managers to participate in developing and implementing new sustainability practices for their industry. This citizen science style project will not only help each individual facility to reduce inputs, but will benefit the turf industry overall, by providing guidance to turf managers everywhere on clear and concrete steps they can take towards more sustainable practices.

Who We Are

Drs. Wendy Gelernter and Larry Stowell

The Global Soil Survey for Sustainable Turf is being overseen by turf scientists Dr. Micah Woods (Asian Turfgrass Center) and Drs. Larry Stowell and Wendy Gelernter (PACE Turf). As independent consultants who have been providing science-based, unbiased information and guidance to turf managers for a combined total of over 70 years, Stowell, Woods and Gelernter are recognized worldwide for their practical approaches to the complex issue of implementing low input, sustainable practices that still support high quality turf.

Visit the PACE Turf website at www.paceturf.org and the Asian Turfgrass Center website at www.asianturfgrass.com for more information.

Dr. Micah Woods

To sign up online: Visit the Global Soil Survey webpage at:

www.paceturf.org/journal/global_soil_survey

To sign up by mail: Please print out and complete the form below, and mail with check or credit card information to:

PACE Turf
1267 Diamond St.
San Diego, CA 92109 USA

Global soil survey kits are $250.00 (U.S.) each, and contain all instructions and pre-paid tshipping materials needed for submission of 3 soil samples. Price includes email delivery of Global Soil Survey personalized report, as described above.

Name: _____

Golf Course/Company: _____

Street Address: _____

City: _____ State: _____ Zipcode: _____ Country: _____

Phone: _____ Email: _____

If paying by credit card, please also fill out the information below:

Check one: Visa ☐ MasterCard ☐ AmEx ☐

Total number of kits _____ X $250.00 Price/kit = Total enclosed $_____

Credit card number _____

Expiration date _____/_____ CVV2 security code _____

Name on card_____

Billing address_____

_____

City_____ State_____

Zipcode _____ Country_____

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