



Superior insight | Better decisions | Healthier turf

NEW!

POGO Mapper!

Use for all POGO
mapping functions
Page 11



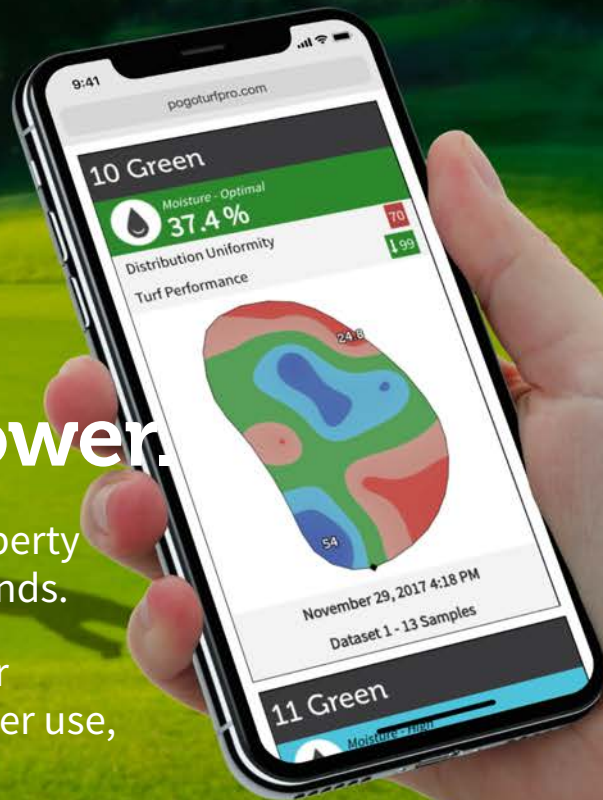
POGO provides insight NOT possible with any other technology using unparalleled and easy-to-use sampling, mapping and analysis features

Knowledge is power

Powerful scientific insight into property course conditions, attributes and trends.

Make **best decisions** to increase your efficiency and optimize water, fertilizer use, IPM and cultural practices.

Present the finest turf conditions possible, with **great confidence, affordably.**



Insight simply not possible with any other technology

(on or off your turf)



POGO Pro+ and add-ons
(Weather, Mapper, More)



POGO
TurfPro Mobile

PROPER
DECISIONS



POGO
TurfPro Cloud

POGO Pro+

With patented sensor technology, Pro+ measures the most influential variables impacting turf performance. Never needing calibration and using a complex array of calculations, POGO measures exactly what your turf feels. Unmatched precision and accuracy coupled with Pro GPS on board delivers unique visual insight for best decisions. *Page 4*

POGO TurfPRO mobile

This powerful iOS/Android mobile application utilizes the POGO TurfPro cloud to instantly link data from POGO hardware and generate analysis and insight that is predictive, appropriate and decisive for an array of applications, all while you're standing on the turf. It seamlessly syncs all of your account users. *Page 6*

POGO TurfPRO Cloud

POGO TurfPro analyzes data captured by the app, then presents the results of multiple analyses of your data instantly, automatically and visually. Illustrated information visualizes trends to allow you to see problems forming before symptoms appear so you can predict and prevent before these become costly. *Page 8*

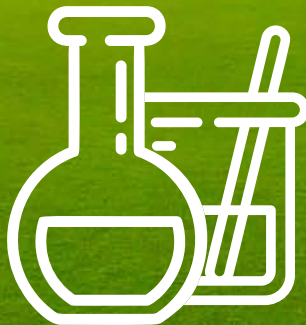
POGO is a professional, all-in-one SYSTEM obtaining superior insight into course conditions, allowing better decisions to be made efficiently and cost effectively for presenting the finest conditions possible under any budget.

POGO takes a holistic approach to measuring and mapping the most influential factors that determine course quality and turf performance. Its patented technology is unparalleled in precision and accuracy, supported by global research allowing the entire staff to benefit from informed conditions - BEFORE symptoms occur. **SIMPLY put POGO is THE INDUSTRY STANDARD in course monitoring, mapping and analysis.**



POGO Weather

POGO Weather is a complete weather system capturing the most pertinent variables associated with ambient conditions. With advanced sunlight monitoring, stress models, degree days and integrated analysis coupling turf AND ambient monitoring into one platform, POGO has set the new standard in understanding all influences on turfgrass performance. *Page 14*



POGO Lab Analytics

Get insight to chemical and physical qualities of your turf and water systems from our independent, USDA certified laboratory. Know what salts are driving EC. Learn optimal moisture and EC conditions and the complete nutritional make up of your turf system. Understand your complete rootzone profile and water sources and their impact on turf performance, and more. *Page 15*



POGO Support

24/7 online helpdesk support to all users around the globe



TurfPro Boost*

A **customer favorite**, offers added benefits such as:

- One FREE non-warranty repair or sensor replacement per year
- Incentives for adding additional hardware and accessories most affordably to your operation
- Expedited shipping and loaner service if your hardware needs to be returned to the factory for repair (US only)
- Added peace of mind knowing POGO will not let you down and will be at your disposal without disruption

* Conditions apply, info@pogoturfpro.com

In Minutes per Day...

Precise info for Best Decisions

Only POGO Pro+ simultaneously measures all of the most influential factors that govern turf performance with a patented sensor that needs NO CALIBRATION, not ever! Each is packaged in a durable housing with a multi-day battery pack, professional-grade GPS receiver and Bluetooth for easy communication with your smartphone or tablet.

Reliable, durable and built to meet the demands of the turf industry, POGO experiences low total cost of ownership, no downtime and consistent precision and accuracy.

POGO hardware is part of a complete system that captures, analyzes and provides instant feedback about the holistic condition of your turf, so you can dial your turf in confidently!

Proven reliability and research-grade precision you can trust

POGO's patented sensor is depended on for scientific-grade precision by the USDA, NOAA, USGS, NASA, and many universities for over 30 years and counting. POGO's sensor is the most heavily researched sensor globally.

POGO Pro+: A Handheld SIMPLE to USE Supertool!



Turf remains virtually undisturbed

4 small-diameter, strong, long-lasting marine-grade stainless steel probes (3.1 mm / 1/8 in.) diameter.

Industry-leading warranty

Under its 2 year warranty, the entire system, even the wearing of the sensor tines (with POGO Boost option) is covered.*

* Max. replacement is once per year under POGO Boost. Significantly discounted repairs for all others. Standard 2-year warranty without an active TurfPro Cloud account.

Rechargeable battery

Provides more than a week of intense use between charges (18 days standby power). Standard USB-C charging port. Charger included.



Precisely measures the correct depth

The predominant moisture and salinity exchange of all types of turf and rootzone systems occurs in the top 2.4" (~6cm)*. Measuring this region maximizes true insight into surface and sub-surface influences.

* Agronomy Management Solutions, 2011

Depth-adjustable soil temperature probe

Suggested depth, 2" (5 cm) for most soil temp influences and IPM applications. Instant soil temperature insight.

Modular sensor connector

Provides for additional sensor add-ons without the need to replace the Pro+ to measure additional variables.



MOISTURE



SALINITY (EC)



CANOPY
HEAT INDEX



SOIL
TEMPERATURE



POGO'S UNIQUE
SALINITY INDEX



PRO-GRADE GPS

POGO Pro+'s patented sensor measures moisture, EC and salinity index, while two additional sensors measure true heat index on the surface and the soil temperature below. Together, POGO measures the most influential variables governing turf performance. It's the interaction of POGO's measured parameters which gives the accuracy and precision of POGO's prescriptive solutions.

For instance, low moisture content doesn't necessarily mean water should be applied, or EC is not created equal for all salts. Know what to do and when to do it as POGO gives you the powerful insight you need to do what you love to do - create a great player experience with the finest conditions you can, no matter what your budget may be or what demands are put on you.

POGO allows for custom and additional variable inputs to truly see the whole picture of your turfgrass system. These include ball speed, color, clipping yield, shear strength, firmness and more!

The exact location of each sample is recorded with the integrated, professional-grade GPS receiver. It's this location data that allows POGO to show an analysis of the data while **predicting conditions between samples** visually on a map of your course, so you know exactly where you need to focus your efforts and why. Decision-making to apply water, nutrients and cultural practices has **never been simpler or more precise!**

Infrared turf canopy heat index sensor

Instantly captures true surface heat index with extreme precision.

No need for calibration, ever

Patented sensing technology results in consistent accuracy and precision in all turf and soil types with no maintenance.

Ergonomic handle

Detachable and height adjustable for exceptional comfort.



Integrated wireless

The best user interface for POGO is the one already in your pocket. POGO connects easily via Bluetooth to any Apple or Android device for powerful on-the-fly sampling, analysis and decisions.

Integrated, professional-grade GPS receiver - Makes Analysis SIMPLE

Adds an extra dimension—precise location—to all measurements for geospatial condition analysis, hole location setup, sprinkler positions and patterns, area measurements, custom asset mapping and much more.

Optimal turfgrass performance requires optimal, timely decisions.

The POGO TurfPro Mobile app turns your smartphone or tablet into a data acquisition and logging system that collects, displays and logs turf conditions measured by the bluetooth-enabled wirelessly-connected POGO Pro+ and other POGO hardware linked to TurfPro Cloud.

The app displays real-time analytics and assessments of moisture, EC, salinity, temperature and heat index as well as several customizable spec logs (ball speed, firmness, clipping yield, shear strength and more). This allows for timely reaction to conditions that could otherwise lead to costly problems. **Prevent problems** as opposed to the costly alternative, reacting to them!

Alerts and notifications advise you of conditions measured that require immediate attention, while you are on the turf, and sync'd to as many staff users as you wish.

POGO TurfPro Cloud synchronizes with TurfPro Mobile seamlessly to unleash unprecedented insight and analysis and make it all available to the rest of your team as fast as the data is collected. **Using POGO insight, all users will come to the same best decisions, dialed in by you!**

Mobile Reports Delivered in Seconds



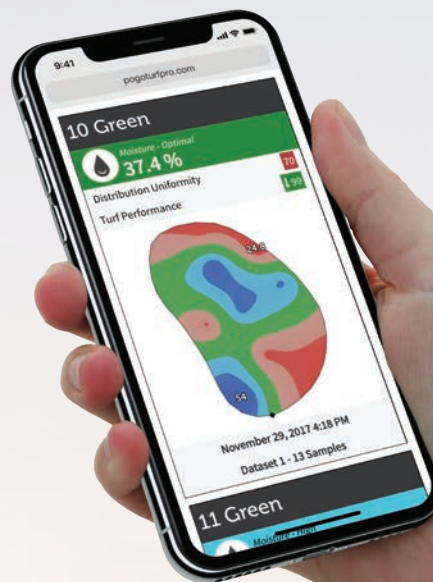
Reports containing powerful analyses are created automatically as new data captured with TurfPro are synchronized in seconds with POGO TurfPro Cloud. These reports are available to all users on your team both through TurfPro Mobile or TurfPro.com, within seconds of capturing the data.

Powered by 4 issued patents, reports like zone trends, visual insight, critical alerts and turf performance give you insight **ONLY POSSIBLE WITH POGO.**

Analyze your course's conditions while you are on the turf, so you can make the very best decisions fast... and decisively. Further, by easily sharing POGO insight with your staff, be confident that best decisions are made consistently, even in your absence.

To get started, simply insert the POGO Pro+ sensor into the turf and tap the sample button in the app on your smartphone. With each measurement, POGO records the precise location. This permits areas of stress to be pinpointed precisely when the data is analyzed.

Each new multi-parameter measurement (as well as any number of specs you log) is color-coded to clearly display where your conditions are in relation to your customized target range while **predicting where conditions are headed**. Customizing these settings is simple and allows you to create value ***RIGHT OUT OF THE BOX!***



Once enough measurements for a zone have been recorded, anyone on your team can view the analysis, and make the right decision about what to address and where. An average size putting green gets in-depth analysis with only 10-15 samples randomly logged in less than 2 minutes. (FW's and sports fields ~6 to 10 minutes)

See your current position and measurements that have been captured in real-time on a current archive aerial image of your property. If an up to date image is not available for your property, or if you prefer, you may upload an image of choice to use. *More than one image may be used.

*Image must meet basemap specs provided by our POGO team but may include irrigation schematics, high resolution drone imagery, and more

Tap to instantly capture a new measurement.

Add a photo or memo to any measurement or data set. For instance, log mowing setup, roll/no roll, hand watering events, recent product applications and more.

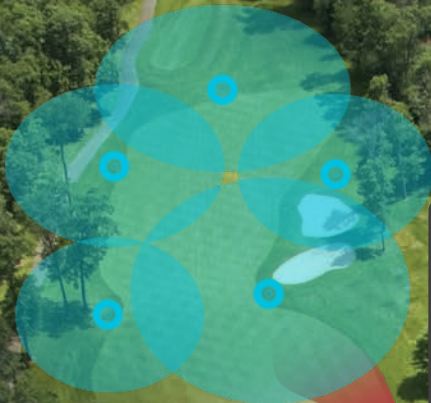
Data and configurations are shared with all other users, allowing a property to be split between multiple people, yet ensuring standardized measurement and analysis.



The POGO TurfPro Cloud*

Powering POGO Analytics and Mapping

**Annual or monthly subscription with ability to pause subscription in off-season.
Required to power data logging and trending, mapping and analysis for TurfPro Mobile and TurfPro.com*



Plot all data captured with POGO spatially on a real satellite map of your course. Colors are assigned to different ranges, and data is interpreted between samples. See turf conditions for the entire turf zone (Green, FW, sportsfield, etc.) from just a small number of samples. Custom maps or aerial imagery can be used as the basemap platform.

Use POGO's pro-quality GPS to map just about anything on your property. Create your own irrigation as-builts, log IPM actions and pest zones, map individual irrigation and drainage components, and more. Record the exact position of objects including drainage lines, sprinklers, valves, catch basins, irrigation controllers, and many more. Log task incidents, memos, photos and more.

Get a course-wide audit every day in minutes per zone without needing to do a traditional time-consuming distribution uniformity (DU) analysis. DU of moisture and EC for each zone is calculated instantly—a true representation of turf conditions (what's actually penetrating the turf, not just what lands on the surface). Analyze the irrigation system, uniformity of nutrient applications and other variances that would otherwise only be determined with a lot of work during time you may not have, or consultation expenses you can focus elsewhere. **Make EVERY \$ Count!**

Record course setup daily and use this information to correlate with the turf conditions measured with POGO to help explain the patterns you're seeing, and plan where future pin positions should go. Set these future positions with the Pin Planner tool, so your selected positions will be shown on the automatically-generated pin sheets. They can be printed or are accessible in real time by the pro shop, members, and staff using a public URL mobile/internet link.

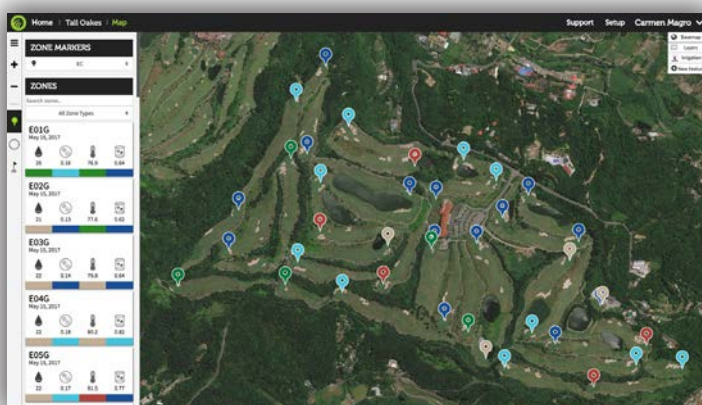


Visual Insight

Every measurement captured with POGO contains the relevant and most important variables **PLUS** the precise location from the integrated pro-quality GPS. Custom inputs too! This allows **POGO TurfPRO Cloud linked to TurfPro Mobile** to plot the data spatially on a real map of your course.

Colors are assigned to different ranges (which you can define precisely). Data is automatically interpreted between locations where measurements were taken, so you'll see turf conditions for the entire turf zone, from just a small number of quick samples or inputs.

You'll make better decisions when you can see WHAT your turf feels, and WHERE.



Visual Insight sees problems, like black layer, forming before you do.

Trends are visualized, allowing you to see problems forming before symptoms appear so you can react before it becomes costly.

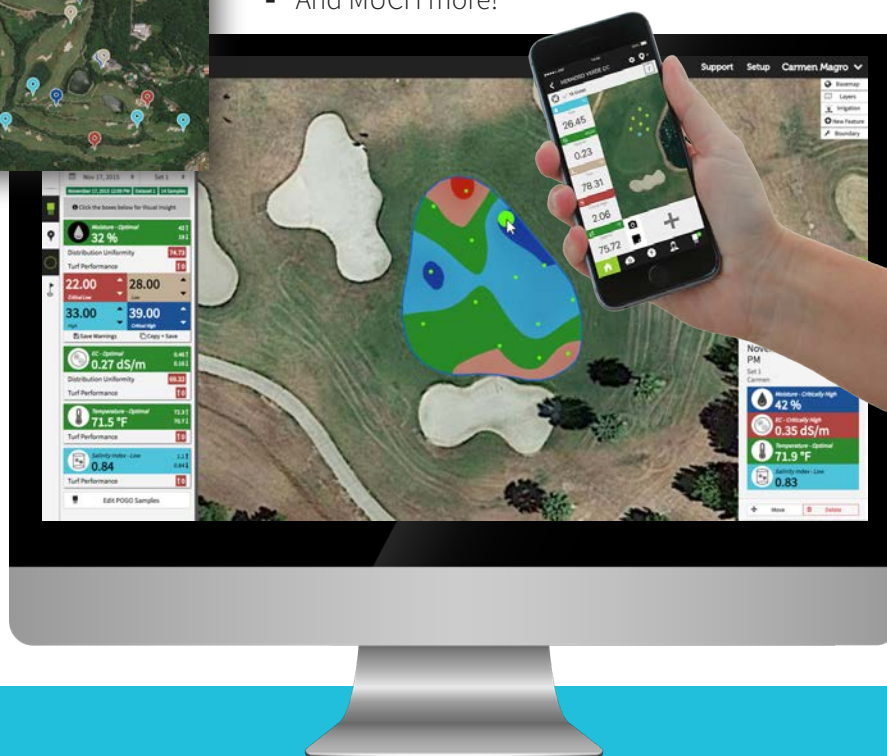
This is just one practical application of many!

The POGO system doesn't just record and present the raw data for you to interpret. You want analysis, and you need it **FAST!**

Always know what the data means and what decisions are best.

You'll get an enormous amount of insight at a glance, **from just minutes a day.**

- Hot spot identification for site-specific hand watering
- Nutritional stress identification
- Traffic influences on the turf conditions
- Changing rootzone conditions and influences
- Positive and negative trends from practices you employ (ex. aeration analysis, irrigation changes)
- Before/after analysis of product performance (ex. surfactants, disease control, rolling, ball speed changes, resiliency, shear strength, others)
- And MUCH more!



Rather than just presenting raw data for you to interpret, POGO TurfPRO Cloud analyzes your data and presents it **visually, and instantly syncs with TurfPro Mobile**. See variations of moisture, salinity, temperature, ball speed, firmness and more across every zone of your turf, and understand the effects of their interaction. This makes it quick and easy for you, and everyone else on staff to perform Best Management Practices (BMP's) by applying precisely **what, when and where** they're needed.

Reports...

From only minutes per day, so much insight right out of the box!

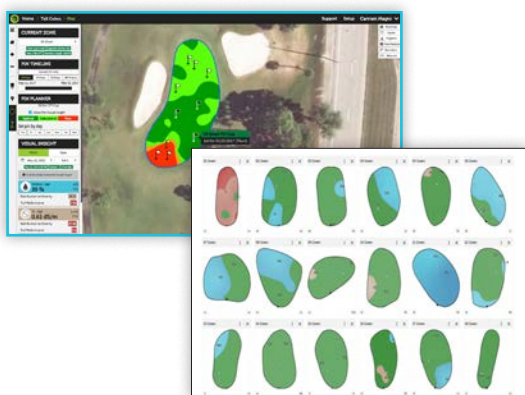
It takes only minutes a day to gather data from your entire course, and each measurement you take includes all of the most influential factors that govern turf performance, plus precise location. This rich set of data can then be put to work to provide further insight into every factor that contributes to turf performance.

Sample Reports (*all accessible seconds after sampling*):



Trend reports

Plot data for any combination of zones, turf parameters and date range to help identify trends and know how and when to adjust your practices. **Have decision-making confidence and predictability.** Also trend ball speed, firmness, custom logs and other spec conditions using POGO's spec features. Tasks, photos and notes show on the analysis at their precise point in time.



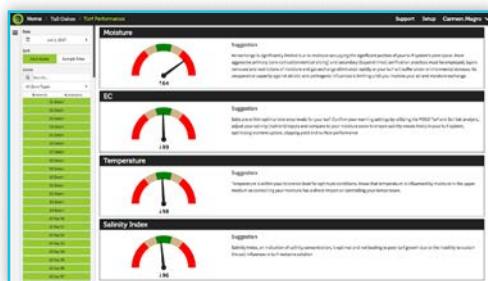
Pin planning

POGO's **patented** (2020) pin location system correlates **turf conditions measured with POGO and logged specs** to help explain the stress patterns you're seeing to place pins perfectly for playability. Set these future positions with the Pin Planner tool so your selected positions will be shown on the automatically generated pin sheets. Share by URL or print as desired. **Know not only pin locations, but understand putting quality perfectly.**



Distribution uniformity

POGO's **NEWLY patented** (2022) DU analysis offers ability to do a **course-wide audit** every day **in minutes per zone** without needing to do a traditional, time-consuming DU analysis. Distribution uniformity (DU) of moisture and EC for each zone is calculated instantly—a true representation of turf conditions (**as the turf sees it, not just what lands on the surface**). Use DU to assess aeration, surfactant and many other applications, easily.



Turf performance indicator (TPI)

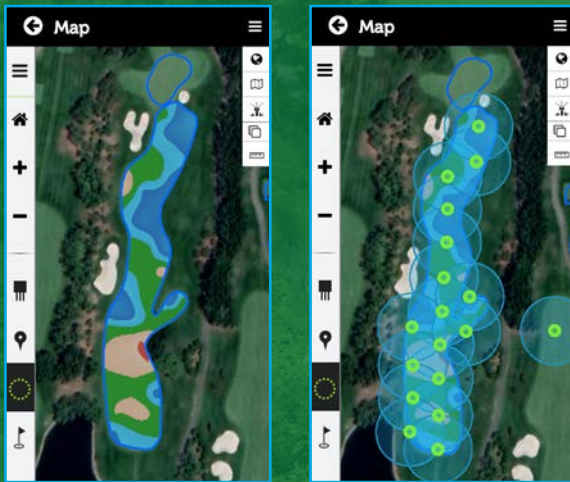
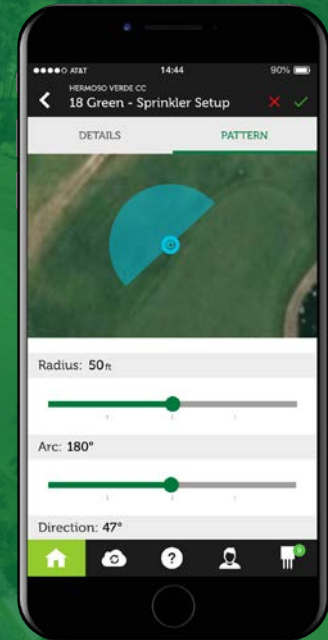
POGO's **patented** (2021) TPI analysis provides insight into multiple conditions on the same scale, giving you a unique turf performance score for your conditions. In addition, it identifies what may be causing the score and even provides suggestions to fix it. Advanced stress predictability models available when combined with POGO Weather (optional add-on, page 14)

Mapping

Use POGO's precise integrated GPS to **map just about anything on your property**. Create your own irrigation as-built images, log IPM problem areas, map individual irrigation and drainage components, and much more.

Layer any feature or mapped condition or object that you wish.

POGO Turf Pro Mobile makes it easy to record the location and other characteristics of sprinklers, catchbasins, hydrants, drain lines, paths, etc. Simply hold the Pro+ over the object (or walk along the route).



Layer sprinkler patterns over Visual Insight to correlate how sprinkler patterns and traffic flow are contributing to the conditions you measure and see. **TRULY dial in your irrigation system**, perfectly! POGO sees what conditions are associated with each and every station, and clearly indicates *best adjustments to achieve uniform irrigation application while saving time and money!*

NEW!

POGO Mapper

Optional add-on to allow mapping/logging without Pro+ in hand



Clips on your belt for operating all POGO mapping + logging functions, using same TurfPro Mobile app and active TurfPro subscription



THE BASICS...

SAMPLE-LOG-ANALYZE-MAP!

In minutes a day, view the life pulse of your entire property.

POGO's unique all-in-one design replaces multiple pieces of equipment and software, analysis tools and manual reports. It provides massive efficiency gains and requires minimal training. POGO is the most cost-effective, AND **POWERFUL** way of gaining this level of course insight, **right out of the box!**



SAMPLE.

- After a quick one-time set-up process, easily insert POGO into the turf and tap the sample button in the TurfPro Mobile app, then move to the next location.
- Captures moisture, EC, surface heat index, soil temp and salinity index with its integrated sensor **precisely positioned in the most influential component of the turf system.**

LOG.

- Captured data is stored in the app.
- Using integrated precision GPS, log sprinkler locations, cup placement, ball speed, boundary (and more) of any zone (greens, fairways, bunkers, ponds, sports fields, research plots, etc.)
- Record notes and capture photos. Eliminate paper records and share easily. Retrieve at any time.
- The **simple-to-use, all-in-one system** replaces multiple pieces of equipment and manual processes, providing unparalleled efficiency.

ANALYZE.

- Instant analysis begins while taking samples, providing the power of decision making in the palm of your hand. More thorough analysis is automatically performed on all data once synced with TurfPro Cloud, integrating back to the app.
- Real-time, clear and accurate irrigation, nutritional and uniformity assessments provide complete understanding of turf and soil conditions, water and fertilizer management optimization and causes of stress.
- **Actionable conclusions to maximize turf health using scientific insight with minimal effort while easily sharing with your entire staff in real-time.**

MAP.

- Our unique Visual Insight provides detailed analysis of the data you capture automatically, so you never need to wade through numbers or charts.
- Map sprinkler patterns and uniformity assessments.
- Assess area measurements precisely.
- Map features unique to your property...**easily.**
- Practice more efficient water, nutrient, turf enhancement, and IPM applications by knowing impacts on turfgrass performance at all times. Eliminate guessing and make decisions based on precise conditions and POGO's predicting analysis.
- **Predict and proactively avoid future problems.**

Maximize turf performance, minimize water and nutrient requirements, utilize product applications most efficiently.

OPTIMAL TURF PERFORMANCE

For minimal effort

- **OPTIMIZE** turf health and conditioning, root growth and soil conditions, irrigation distribution and overall turf performance
- **MINIMIZE** water and fertilizer consumption
- **KNOW** the effects of your nutritional and chemical applications. Adjust their timing more effectively and proactively
- **IMPROVE** playing conditions and stress tolerance
- **INCREASE** effectiveness of maintenance practices:
 - Validate aerification practices (air/water improvements)
 - Build degree days and POGO performance indicators accurately and specific to your property
 - Optimize nutritional and salinity management practices

SCIENTIFIC ANALYSIS

Done for YOU

- **UNDERSTAND** reasons for turf decline: Moisture, nutrients, stress, or the combined impact of moisture, salinity, temperature and more. Know if a 'dry' spot is hydrophobic or if the discolored condition is the result of elevated salinity or other measured condition. **Gain actionable insight!**
- **MAXIMIZE** nutrient release longevity
- **PREDICT** future stress: Analyze trends to identify negative conditions before symptoms develop
- **MEASURE** the most influential factors for turf performance, above and below ground to make the very best decisions in turfgrass management

MAXIMIZE EFFICIENCY

Do more in less time

- **AUTOMATE** paperwork and manual notes:
 - Log timestamp and GPS location with every turf sample taken automatically
 - Capture sprinkler and cup positions
 - Record notes and photos with any sample. Share with users who are all in sync through POGO TurfPro Cloud
 - Correlate POGO lab analysis reports (turf/soil, water, and more)
- **ELIMINATE** spreadsheets and manual analysis: Let the POGO system do the number crunching with advanced algorithms—just use the map-based Visual Insight to understand, predict and optimize your turfgrass. Make your best decisions with **UTMOST CONFIDENCE!**



“ POGO has allowed my operation to be uber more efficient in so many ways. We talk about return on investment in all we do for our superiors but often neglect to consider the negative result of not making the best decisions in a timely manner. The cost of having to do something again or recover from a setback is huge! If we gain one more player due to our conditioning efforts, that more than pays for the system. . .and we have gained many! Losing players is something we wish to avoid entirely. Thank you POGO! ”

Justin Daigle
Golf Course Superintendent, Perry Park Country Club, Larkspur CO

POGO Weather, Powered by the NEW POGO LOGGER

***Wireless, autonomous powerful insight into the impact of environmental influences on your turf.**

Completely battery/solar powered, can be placed anywhere on property. Portable or permanent flexibility. AC power and WiFi communication options available.

**Requires Active TurfPro Subscription.*

One subscription needed for all POGO equipment and users on property.

Multiparameter Sensor:
 Wind speed
 Wind direction
 Temperature
 Humidity
 Barometric pressure

2 Pyrometers measure BOTH Full Solar AND PAR radiation to assess turf health light quality

Precision precip gauge

Precip-only stations available. Can have multiple full or partial stations across a property

Weatherproof Enclosure
 Cellular modem
 Power manager
 12V Battery
 POGO Logger (NEW)...

Links to POGO TurfPro Cloud

Solar Panel

Sturdy Aluminum Tripod



The NEW POGO Logger is used to monitor several key attributes of the property, including:

- Water Level (Wells, lakes, ponds, etc.)
- Water Quality
- Flow
- Micro-climate stations
- In-ground sensing
- And more!



- Optional equipment functions under same TurfPro subscription for each property
- Communicates via cell or WiFi
- Powers all attached sensors for specific needs
- Self-powered internal battery, AC, or solar options available depending on particular needs

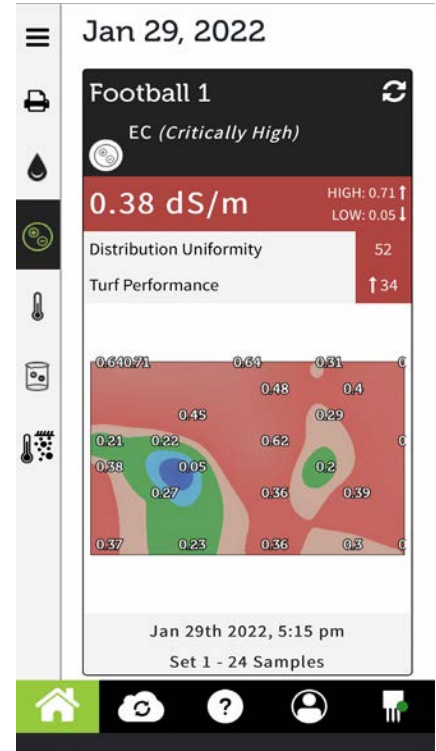
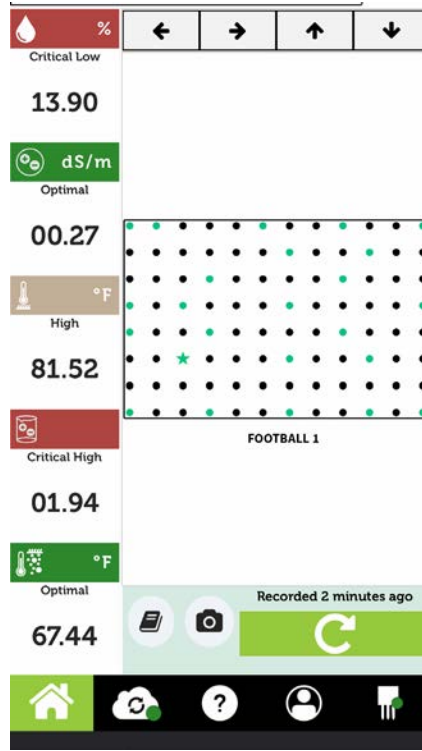
SportsTurf and Research

NEW - Template Sampling and Analysis

The sportsturf industry has brought us well into the action, using POGO in every corner of the globe. A particular challenge we faced with these applications was the inability to get a precision GPS fix for our POGO equipment, particularly under a roof.

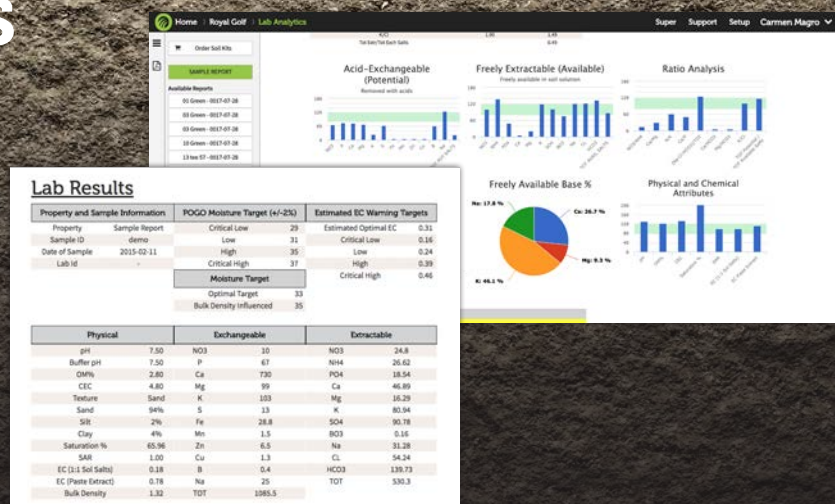
In addition, our strong academic community which we support through and through had a similar issue as these cooperating researchers attempted to use POGO in their field work on very tight plots, much smaller than putting greens, fairways and fields..

Our engineers developed our **NEW POGO Template sampling platform** to allow users to set up a zone using a template system, and sample to specific spots they choose on that template, allowing all to enjoy POGO's visual insight analysis, even when GPS is not ideal!



POGO Lab Analytics

Using unique lab analytics from POGO's independent USDA-certified laboratory, key attributes are measured to assist you in dialing in POGO warning settings so that POGO's Visual Insight is perfectly set up for your property. Offered as an option to using the POGO system, completing POGO sample tests for water, turf and soil gives you powerful enhanced insight so that truly 'optimal' conditions can be achieved.



What your peers are saying:



“ If I move to another golf club, the first thing that I would buy would be another POGO. Or two. Every golf club should have POGO. It has truly set us apart from others in our course conditioning. ”

John Blanch
Former General Manager, Thai Country Club, Bangkok, Thailand
International Club Consultant and Advisor

“ There have been two significant revolutions in golf course management...Primo® and POGO®. ”

Jeremy Adkins
Senior Director of Agronomy, West Region, ClubCorp, Nevada
Former Golf Course Superintendent, Angel Park GC, Las Vegas NV USA



“ I have become a huge fan of POGO. It is easily one of the best value for money investments I have ever made. ”

Sean Kinsley
Group Director of Agronomy for The Els Club Malaysia, Troon

“ The POGO is an incredible tool. I can take samples in the morning and my entire team has instant access to the results in real time on their phones. I have the option to print out the visual map of conditions if necessary so our team knows what to do and where. Awesome! ”

Ken Lochridge
Golf Course Superintendent, Glen Head Country Club, Long Island, New York



“ POGO provides so much more than managing moisture. When used to its full potential, it's the most valuable product a turf manager can use today. It's precision, accuracy and complete solution system has elevated our practices and knowledge without a doubt! ”

Craig Haldane
Golf Courses Manager, Gleneagles, The Gleneagles Hotel, Scotland



Superior insight | Better decisions | Healthier turf

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