



PROGRAMMING PLANT GROWTH REGULATOR APPLICATIONS IN TURF

This course is packed with information and dives deep into turfgrass plant growth regulator (PGR) applications. It covers the growth response from different PGRs, recommended re-application intervals, modeling PGR response in both cool- and warm-season species, PGR & DMI mixtures, over-regulation risk, collar decline, and the impact of PGR programs on turfgrass performance.

Instructor: Bill Kreuser, Ph.D.
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Course Structure

This course is organized into three units. Each week will have two video lectures and a short 5- to -10 question quiz. Students should contact Bill with questions related to the course content or with questions about Masterio, quizzes, grades etc. The preferred method of communication is the instructors email listed above. Any general questions about GreenKeeper University should be directed to help@greenkeeperapp.com.

Course Content

All video lectures will be posted on the course's Masterio site (<http://gku.greenkeeperapp.com>). A PDF copy of the lecture materials will be posted below each video link. Supplemental readings will also be post below the video lectures, when applicable. The supplemental content is not required to pass the weekly quizzes. They are designed to provide additional information about a topic. Video lectures are approximately 45-60 minutes in length.

Weekly Quizzes

Each week concludes with a 5- to -10 question quiz. They are designed to emphasize the core concepts from the past week. Quiz questions are displayed one-at-a-time with immediate feedback to help student understand why an answer is correct or incorrect. While GreenKeeper University courses are not graded, students must earn a 70% on a quiz to pass that week. Quizzes can be taken as many times as possible to earn a passing grade.

PGR Programming Assignment

Students will end this course by creating a PGR program for a real or fictional turfgrass area. The students will define the objectives of their PGR program, grass species, PGR active ingredient(s), rates, and re-application intervals. Students will get feedback from Kreuser at the end of the course.

The course will be completed, and 1 credit will be earned once a student passes all three quizzes and has submitted their PGR program assignment.



COURSE SCHEDULE

SECTION 1: INTRODUCTION TO PGRS AND THEIR IMPACT ON TURFGRASS GROWTH RATE

Lecture 1 – How frequently do you need to re-apply PGRs?

- How does grass grow, introduction to PGRs, PGR growth phases

Lecture 2 – “All models are wrong, but some are useful”

- Perceived PGR response, basic models, building PGR/DMI GDD models

SECTION 2: MODEL SELECTION, GREEN SPEED AND OVER-REGULATION

Lecture 3 – The right model can make all the difference

- Reapplication intervals for different PGRs, grasses and mowing heights
- Plant response: Nitrogen fertilization, stress response, maximizing green speed

Lecture 4 – Too much of a good thing ?

- Causes and recovery of PGR phytotoxicity and over-regulation
- PGR-induced golf collar decline

SECTION 3: DESIGNING A SUCCESSFUL PGR PROGRAM FOR YOUR FACILITY

Lecture 5 – Drive your growth rate

- Growth needs, clipping volume, plant health
- New UNL research on aggressive PGR programs and putting green performance

Lecture 6 – Programming PGR applications to achieve management goals

- *Poa annua* control with PGRs, building programs, and PGR oddities