TAP
TURF ACTION PLAN

AERIFICATION RECOVERY
RAPIDLY RESTORING PUTTING SURFACES

Turf needs air and golfers hate aerification. Minimize the complaint period by rapidly restoring the true, consistent putting surfaces your players want with this Floratine recovery plan.

LATERAL GROWTH AND DENSITY

High Five accelerates lateral growth and density through patented biostimulant chemistry.

ENERGY

PK Fight initiates re-rooting while providing energy and stress resistance with potassium phosphite and proprietary organic acid technology.

SUSTAINED GROWTH

X-Factor 23-0-0 and ***X-Factor 24-0-0*** drive cell division and growth with low-rate, high efficiency nitrogen and the power of organic acid technology.

COLOUR

Renaissance provides sustained chlorophyll and enzymatic activities with balanced micronutrients and phytochemistry.

X-FACTOR

X-Factor 23-0-0 *and* ***X-Factor 24-0-0*** *contain Floratine's proprietary organic acid translocation technology to enhance uptake, utilization of nutrients, and provide defense mechanisms to protect internal plant functions.*

FLORATINE®
Rooted in Science™

Floratine Products Group, Inc.
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SCIENCE BEHIND AERIFICATION

Aerification is necessary for the turf, but is a major frustration to golfers and course managers. The loss in rounds played can be very costly to the course, so everyone is in a hurry to get it done and return the playing surface to ideal playing conditions. In the past, superintendents used nitrogen to speed up the lateral growth of the turf in order to fill in the holes. The weak, nitrogen-driven growth made the turf more susceptible to diseases. Disease outbreaks are very common following aeration because of the combination of mechanical stress and poor cellular strength.

The need for mechanical aerification is well documented and its benefits are demonstrated daily. Simply, the plant must have oxygen for respiration and the soil must have it for microbial activity. However, the mechanical action of aerification (shearing roots) along with the resulting change in soil structure also induces stresses. It is true that aerification opens the holes for air and water movement down but certain environmental conditions can also turn those same holes into vents to allow oxygen to escape back into the atmosphere or reduce availability to the roots.

Did you know that oxygen must be dissolved in the soil solution before the roots can take it in? It follows then, that changes in solubility conditions can severely limit oxygen uptake. Here are some factors that make oxygen less available to the plant as a result of aerification holes:

- **Increasing Temperatures – Daytime temps over 80˚F (27˚C) reduce O_2 solubility by 30%.**
- **Falling Barometric Pressure – An approaching low pressure system can reduce O_2 solubility by 3%.**
- **Increasing Salt Content – An increase in EC of 1 point can reduce oxygen solubility by 3%.**

SOLUTIONS

1. Get holes filled ASAP.

Encourage root development to fill the holes and restore the capillary pore space. This eliminates the large "pipeline" vents that may reduce the oxygen availability. New root growth will promote the building of mature proteins and the balanced soil profile will encourage further root development and microbial health.

- ***PK Fight*** – energy source for root development
- ***Renaissance*** – micronutrients for proper enzyme function and protein building

Note: Angular sand is excellent for soil structure, but excessive brushing of angular sand can lead to an extraordinary amount of wounding. These wounds contribute to disease susceptibility. It is always wise to use ***Turgor*** prior to aeration, topdressing, and brushing.

2. Knit quickly (without excessive nitrogen).

Recovery of the aeration holes not only provides a smoother putting surface but also gives the plant more green tissue to build the necessary photosynthetic products to encourage plant health. A tightly knitted canopy will also keep the soil temperature better regulated.

- ***High Five*** – balanced bio-stimulant chemistry to promote lateral growth
- ***X-Factor 23-0-0*** and ***X-Factor 24-0-0*** – controlled growth with proper N balance and organic acid translocation technology

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