



Concept to active practice: frazze mowing bermudagrass makes debut

Challenge: Thatch/organic build-up on bermudagrass athletic fields.

Issues challenge is causing: Reduced durability, including plants growing vertical up through the thatch instead of laterally so it is not as strong and healthy as needed; and thatch breaking down into organic material is full of fines, creating surface compaction and slickness.

- Isolated dry spots due to inconsistent rooting
- Increased water requirement for ryegrass overseeding (seed is growing in thatch instead of in the soil)
- Decreasing ryegrass overseeding durability (seed is growing in thatch instead of soil)

Concept solution: Frazze mow to clean out thatch completely. Thatch management on bermudagrass is an on-going challenge

for sports field managers. Advancements in breeding to create more aggressive bermudagrass varieties create a solution for high traffic fields. But conversely, vigorous growth compounds the challenge of maintaining thatch and organic material build up.

Verticutting, core aeration, and topdressing are the accepted maintenance practices with which sports field managers address thatch and organic material build up on all grass fields (cool or warm season). According to data from the International Sports Turf Research Center, a verticutting machine with 3mm blades on 1" centers removes 11.81% of the surface area. Core aeration with 5/8" hollow tines on 2" x 2" spacing removes 7.67%. Thus ultimately verticutting and core aeration can not keep with maintaining the current thatch levels, let alone reduce the amount of thatch and

organic build up taking place on top of a bermudagrass athletic field.

INTRODUCTION TO FRAZZE MOWING

In 1996, Ko Rodenburg decided that the practices of verticutting, core aeration, and topdressing for thatch and organic management on his Kentucky bluegrass and rye fields needed another option. As

With overseeding and feeding the fields, the grass could regenerate quickly, nearly thatch and organic free.



▲ **Left:** Fraze mowing process **Middle:** Rhizomes exposed after rye, thatch, and organic removal **Right Top:** First mowing, 2 weeks after fraze mowing **Right Bottom:** Field 6 weeks after fraze mowing

the parks superintendent for Rotterdam, Netherlands, Rodenburg created a machine that could remove 100% of the thatch and organic build up that accumulated each season. At the same time, the machine removed the *poa annua* plants and seed accumulation while leaving the crown of the Kentucky bluegrass and rye grass for regeneration. With overseeding and feeding the fields, the grass could regenerate quickly, nearly thatch and organic free. Rodenburg's fields immediately became stronger and more durable as the re-growth of the stand was much harder than the original sword of grass. Additionally, the compaction potential at the surface was reduced because the fines from the organic build up were cleaned out and the disease pressure was nearly eliminated with the thatch removal of the thatch. Thus in 1997, fraze mowing with the KORO Field Topmaker was born.

The adaptation of fraze mowing to bermudagrass is more an introduction of the entire concept to the United States. A

practice common on fields across Europe to improve field durability and reduce *poa annua*, fraze mowing fits naturally into bermudagrass thatch and organic management. That adaptation became even more natural this year with the introduction of the Universe rotor for the KORO Field Topmaker. The Universe, designed by Imants (makers of KORO) and Campey Turf Care (of Manchester, UK), is for fraze mowing Desso sand-based natural grass fields. The 3/8" blades, aligned on four spirals, allow for Desso fields to be fraze mowed without damaging or pulling out the synthetic fibers in the sand. The small teeth do the same for bermudagrass plants, cleaning off the stolons, thatch, organic build up, and leaving the rhizomes of the bermuda exposed in order to regenerate quickly.

Allen Reid and Miles Studhalter at FC Dallas Park became the first Americans to commit to fraze mowing entire fields (frazed when referencing bermudagrass) to clean out ryegrass overseeding, thatch, and or-

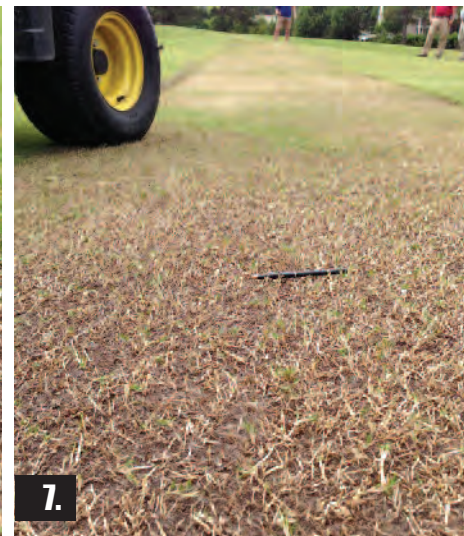
ganic build up on three fields. In mid-March, Simon Gumbril from Campey Turf Care was on hand in Dallas to oversee the process. Also, Joe Pemberton, head groundsman at Manchester United's Carrington Training Ground stopped in to FC Dallas Park to observe while in the USA on a vacation.

The 419 bermudagrass was still 95% dormant in March, but a few of the rhizomes were showing some green in the fields as they were cleaned off. See photo 1-6 for the results.

The highlight field, the FC Dallas training field, was out of play for 8 weeks, though the field was ready for play in 7 weeks. The unseasonably cold spring in the Dallas area hampered the re-growth by slowing the 419 bermuda's exit from dormancy, extending the re-generation period by approximately 2 weeks. But still, the process succeeded. According to Reid, "The first day Coach walked back on the pitch he said, 'the field feels strong.' Now after 2 months of daily training, the field has been



- 1. THATCH/ORGANIC** build-up, June 2012
- 2. THATCH/ORGANIC** build-up, July 2013 (reduced by 1 inch)
- 3. FRAZE MOWING** Patriot bermudagrass
- 4. GREEN RHIZOMES** prepared to re-generate from Celebration bermuda
- 5. GREEN RHIZOMES** exposed from fraze mowing
- 6. THATCH BUILD-UP** removed from Celebration bermudagrass
- 7. EXPOSED RHIZOMES** following clean out via fraze mowing



lightly verticut one time to stay ahead of the thatch, and is showing little to no wear.”

Fraze mowing next used when Maryland SoccerPlex Grounds staff cleaned off three fields of Patriot bermudagrass in early June. Because the fields were sprigged only 18 months ago, the processes was intended to transition out the ryegrass and promote a quicker transition to full bermudagrass instead of cleaning out years of thatch and organic build up. The Patriot bermudagrass was 30% out of dormancy when cleaned off, but within 10 days all of the exposed rhizomes were green and responding. A lack of warm weather was again an obstacle for the SoccerPlex fields, but not to the extent of Dallas. See photos 7-9 for results.

The three SoccerPlex fields that were cleaned off were 100% bermudagrass immediately. The non-fraze mowed bermudagrass fields still were only 80% bermuda (rye being the other 25%) on July 1. Additionally, the removal of only a thin layer of organic build up on top of the native soil fields now allows water to be absorbed into the soil faster. Following heavy rains, the fraze mowed fields now soaking in rain much faster than before, allow the fields to be used more.

Also in June, a golf course fairway of Celebration bermudagrass in North Carolina was fraze mowed to demonstrate the process on active, fully growing bermudagrass. The Celebration had begun to build up a thick thatch layer that needed cleaned out (see photos 10-12).

Fraze mowing is a new process to the United States turfgrass market. Yet many intuitive sports turf managers have always

► **FIELD 12** following fraze mowing compared to 5 weeks later

used similar techniques such as scalping, shallow sod cutting, and even burning off to remove thatch build-ups. Now those are brought into one practice. The process is a vastly different approach to thatch management. It is a practice is not for the faint of heart and can leave a sports turf manager questioning whether they should have done it or not for the 1st week. But ultimately, the strong grass will prevail.

Albert Einstein said it best: “If you always do what you have always done, you will always get what you have always got.” Can fraze mowing bermudagrass become an accepted practice in a regular maintenance program to advance the durability of fields for them to sustain more traffic? That is now up to the industry to decide. For more on fraze mowing bermudagrass, see Jerad Minnick’s blog, <http://GrowingGreenGrass.Net>. ■

Jerad Minnick is sports turf manager of the Maryland SoccerPlex at the Maryland Soccer Foundation, Boyds, MD. Allen Reed is stadium groundsman for FC Dallas.



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