

nutrients are applied (usually at low rates as foliar applications).

For turfgrass, however, these remaining micronutrients (boron, zinc, copper, molybdenum, chlorine, and nickel) do not need to be applied as supplemental fertilizers, as sufficient amounts are either: 1) already in the soil, 2) applied via dust, irrigation water or in topdressing sand, or, 3) applied via their presence in fungicides. Many fertilizers contain supplemental micronutrients, in granulated blends, or in organic materials. Check the back of a fertilizer bag for the guaranteed analysis; that's the legally required list that gives the percent fertilizer nutrient contents, and it provides the source from which the nutrient was obtained.

In conclusion, managing your micronutrients is pretty darned easy. Consider Fe applications for color, especially when you want to limit tissue growth. After that, if you are managing turf on new sand-based construction or very sandy soils, consider application of a fertilizer that contains a micronutrient package a few times a year. You'll be good to grow!

Dr. Beth Guertal is a professor of Turfgrass Soil Fertility, Agronomy & Soils, Auburn University. ■

References

Carrow, R.N., D.V. Waddington, and P.E. Rieke. 2001. Turfgrass Soil Fertility and Chemical Problems. Sleeping Bear press, Chelsea, MI.

Carrow, R.N., B.J. Johnson, and G.W. Landry, Jr. Centipedegrass response to foliar application of iron and nitrogen. *Agron. J.* 80:746-750.

Datnoff, L.E. 2005. Silicon in the life and performance of turfgrass. *Applied Turfgrass Science*.

Epstein, E. and A.J. Bloom. 2005. Mineral Nutrition of Plants: Principles and Perspectives, Second Edition. Sinauer Associates.

Heckman, J.R., B.B. Clark, and J.A. Murphy. 2003. Optimizing manganese fertilization for the suppression of take-all patch disease on creeping bentgrass. *Crop Sci.* 43:1395-1398.

Hill, W.J., J.R. Heckman, B.B. Clarke and J.A. Murphy. 1999. Take-all patch suppression in creeping bentgrass with manganese and copper. *HortScience* 34:891-892.

John Mascaro's Photo Quiz

Can you identify this sports turf problem?



Problem: Brown areas on football field sideline

Turfgrass Area: The Orange Bowl

Location: Miami, FL

Grass Variety: 419 Bermudagrass

**Answer to
John Mascaro's Photo
Quiz on Page 45**

*John Mascaro is President
of Turf-Tec International*



John Mascaro's Photo Quiz

A
Answer:
from page 12



The brown areas on the football sideline in the photo were caused by the CO₂ that the University of Miami Hurricanes use as they run out onto the field before a game. The traditional Hurricane "smoke" entrance in the Orange Bowl began in the 1950s. In an attempt to increase fan interest, the UM transportation director came up with the idea of using fire extinguishers to produce the now-famous smoke that the Hurricanes run through as they enter the field.

I asked the Sports Turf Manager at the Orange Bowl if some fire extinguisher operators were better at preserving the turf than others were. He replied, "All fire extinguisher operators (smoke) are only experienced in sending the team to the field, not in preserving the turf unless you consider freezing a preserving process." He also reported "To recover the turf requires a daily application of South Florida sun."

Photo submitted by Clive "Spud" Williams, CSFM, Park Maintenance Supervisor III from the City of Boca Raton, FL. Story told by Dale Sandin, Sports Turf Manager City of Miami Orange Bowl, Miami. ■

If you would like to submit a photograph for John Mascaro's Photo Quiz please send it to Turf-Tec International, John Mascaro, 1471 Capital Circle NW, Suite # 13, Tallahassee, FL 32303 or email to john@turf-tec.com. If your photograph is selected, you will receive full credit. All photos submitted become property of SportsTurf Magazine.



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