



## THE 'MEN OF IRON' RESPOND

By Larry Lennert

I am a graduate student and Wisconsin Turfgrass Association sponsored Research Assistant working under Dr. Wayne Kussow at the University of Wisconsin-Madison. I am currently researching the effects of iron applications to turfgrass. In August, 1987, I mailed an "iron application questionnaire" to 120 WGCSA superintendents. This questionnaire asked for information regarding the use of iron on the turf areas these superintendents manage. I received 52 responses, and the results are presented on an expanded version of this questionnaire.

### IRON APPLICATION QUESTIONNAIRE

1. Do you make regular iron applications to any of the turf areas you manage?

42 (81%) Yes  
10 (19%) No

If yes, continue. If no, stop, but please return this questionnaire anyway.

2. Which turf areas receive iron applications?

42 (100%) Greens  
32 (76%) Tees  
18 (43%) Fairways  
3 (7%) Lawn areas  
2 (5%) Approaches

3. What is your method(s) of application?

5 (12%) Soil applied (granular)  
40 (95%) Foliar (spray)

4. What source(s) of iron do you use?

22 (52%) Ferrous sulfate  
14 (33%) Chelated iron  
4 (10%) Ferromec  
17 (40%) Microgreen  
3 (7%) Lesco Iron +  
2 (5%) Scotts 20-4-8 plus minors  
1 (2%) Nutriculture 28-8-16 with iron  
1 (2%) Milorganite

The results show the actual number of responses for each question, as well as the percentage a particular response is equivalent to. The percentages for some questions add up to more than 100% since some questions allowed for more than one response.

Several superintendents pointed out that they use different spray volumes for fairways than for greens and tees. However, the majority of responses given were for greens and tees. So, the majority of the responses given were for greens and tees. Therefore, all the results in Question 6 refer to spray

volumes used for greens and tees, and are given in gallons per 1000 square feet.

Only a few superintendents included iron-containing granular fertilizers such as Scotts 20-4-8 plus minors or Milorganite as an iron source. However, there is little doubt that these materials are much more widely used than the results of this survey would indicate.

Thank you for taking the time to complete and return the questionnaires. The information obtained from them will assist me greatly in planning field experiments for 1988.

5. For each iron source you use, list the rate of application of the SOURCE in ounces per 1000 square feet.

1 (2%) Ferrous sulfate — 0.50 oz/M  
5 (12%) Ferrous sulfate — 0.75 oz/M  
7 (17%) Ferrous sulfate — 1.00 oz/M  
3 (7%) Ferrous sulfate — 1.50 oz/M  
1 (2%) Ferrous sulfate — 2.00 oz/M  
1 (2%) Ferrous sulfate — 2.50 oz/M  
1 (2%) Ferrous sulfate — 3.00 oz/M  
1 (2%) Ferrous sulfate — 8.00 oz/M

#### CHELATED IRON

1 (2%) Sequestrene 330 — 0.75 oz/M  
1 (2%) Sequestrene 330 — 1.00 oz/M  
(5%) Sequestrene 330 — 1.50 oz/M  
1 (2%) AgriPlex — 0.50 oz/M  
2 (5%) AgriPlex — 0.75 oz/M  
2 (5%) AgriPlex — 1.00 oz/M  
1 (2%) Share — 2.00 oz/M  
5 (5%) Microgreen — 0.75 oz/M  
3 (7%) Microgreen — 1.00 oz/M

3 (7%) Microgreen — 1.50 oz/M  
3 (7%) Microgreen — 2.00 oz/M  
2 (5%) Microgreen — 3.00 oz/M  
1 (2%) Microgreen — 4.00 oz/M  
1 (2%) Microgreen — 6.00 oz/M  
1 (2%) Ferromec — 1.50 oz/M  
1 (2%) Ferromec — 2.00 oz/M  
1 (2%) Ferromec — 3.00 oz/M  
1 (2%) Lesco Iron + — 1.00 oz/M  
1 (2%) Lesco Iron + — 1.50 oz/M  
1 (2%) Lesco Iron + — 4.00 oz/M  
1 (2%) Eagle Iron — 2.50 oz/M  
1 (2%) Nutriculture — 1.00 oz/M

6. If you make foliar applications, what spray volume do you use in gallons per acre or gallons per 1000 square feet?

2 (2%) 0.5-0.6 gal/M  
5 (12%) 1.0-1.1 gal/M



- 4 (10%) 1.5-1.8 gal/M
- 3 (7%) 2.0 gal/M
- 7 (17%) 2.5 gal/M
- 5 (12%) 3.0 gal/M
- 4 (10%) 3.3-3.5 gal/M
- 4 (10%) 4.0 gal/M
- 2 (5%) 4.5 gal/M
- 3 (7%) 5.0 gal/M
- 1 (2%) 6.6 gal/M
- 2 (5%) 7.0 gal/M

7. For foliar applications, do you make special iron applications or add it as a tank mix to another sprayable material?

- 3 (7%) Special applications
- 41 (98%) Added to other material(s)

If added to other material(s), which material(s) do you add iron to?

- 19 (45%) Fertilizer
- 5 (12%) Herbicide
- 41 (98%) Fungicide
- 13 (31%) Insecticide
- 5 (12%) Wetting Agents

8. Do you see a "greening effect" from iron applications?

- 40 (95%) Yes
- 1 (2%) No
- 1 (2%) Sometimes

If yes, how long does this "greening effect" last?

- 12 (29%) 0-1 week
- 23 (55%) 1-2 weeks
- 2 (5%) 2-3 weeks
- 0 (0%) 3 or more weeks
- 5 (12%) It depends on how often the area is mowed

9. When do you make iron applications?

- 2 (5%) March
- 8 (19%) April
- 29 (69%) May
- 33 (79%) June
- 39 (93%) July
- 36 (86%) August
- 26 (62%) September
- 13 (31%) October

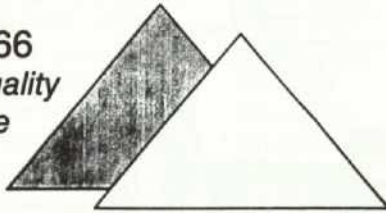
- 2 (5%) November
- 1 (2%) As needed

10. Why do you make iron applications?

- 22 (52%) A quick green-up for special events
- 37 (88%) To maintain color when using less N fertilizer
- 5 (12%) To correct for soil deficiencies
- 3 (7%) To improve winter hardiness
- 3 (7%) To improve rooting
- 2 (5%) It is applied along with other micronutrients
- 1 (2%) To reduce spray solution pH
- 1 (2%) To reduce soil pH(ferrous sulfate)
- 1 (2%) Recommended to be applied with Acti-dione

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