

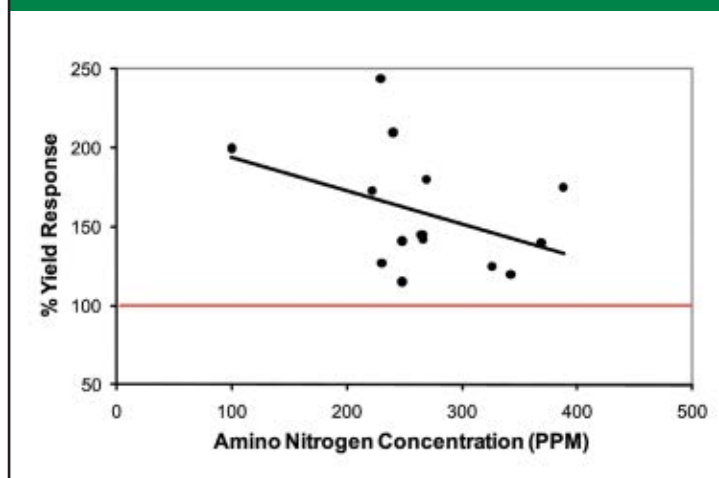
Figure 2. The clipping yield response of turfgrass over a 4-week period following the application of 1 pound N per 1,000 ft² as affected by the level of amino nitrogen detected in the soil. Our hypothesis is that as the level of amino nitrogen in the soil increases, the clipping yield response due to added fertilizer decreases.

techniques are sufficient to predict higher and lower amino sugar N values on golf course fairways. Also, amino sugar N in the soil decreases with depth, which means no special attention to depth of soil core is necessary when sampling.

While the exact number from which we would not expect a response from added fertilizer N has yet to be determined, numerous field studies have been conducted across the North Central U.S. Based on our preliminary data, our hypothesized value for turfgrass response to fertilizer is a soil amino sugar N value of 200-300 ppm (Fig. 2).

The relationship between organic matter and amino sugar N was very strong at some

FIGURE 2



locations (Fig. 3) which would further simplify the prediction of mineralizable N. Unfortunately, that was not the case at all the golf courses we sampled and we are no longer pursuing the possibility.

This work is ongoing and enjoys the support of the USGA. Next time you fertilize your fairways, conduct your own experiment. Instead of applying a full rate of N, only apply a half-rate on a small area in play. Don't consider just the color response from the fertilizer but also the turfgrass's function and playability. If the half-rate is sufficient to maintain playability, your soil may be exhibiting the very process described in this article, which can save you money and protect the environment at the same time.

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FIGURE 3

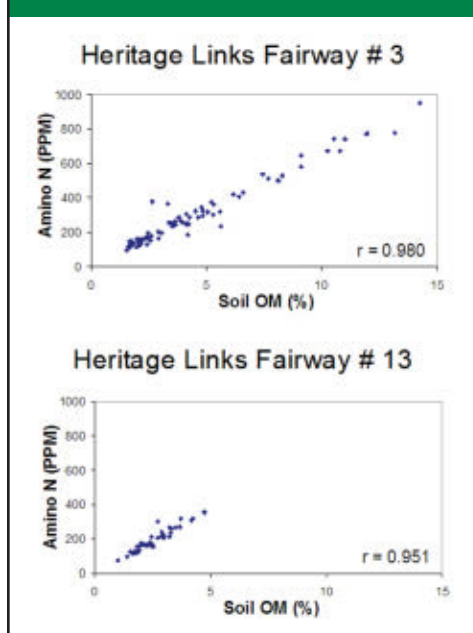


Figure 3. Correlation between soil organic matter and amino nitrogen content in the 0-15 cm soil horizon for the sampled fairways at Heritage Links.

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