The Effects of Montmorillonite Clay and Compost Supplementation as Compared to *Sustaine* NPK Plant Food on Turf Grass

Synopsis of Developmental Research

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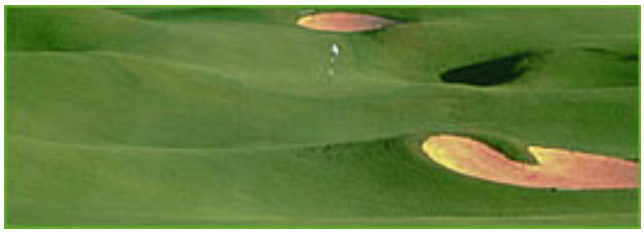

Previous studies have shown trace mineral supplementation improves the germination rate of various grasses. This study investigated the effect of Montmorillonite clay trace mineral supplement) compared to a conventional fertilizer, Sustaine NPK plant food. On February 6, 1999, one flat was divided into two equal compartments. The control side received topsoil only and the *Sustaine* plant food at the recommended label application rate. The treatment side received 2/3 topsoil and 1/3 compost with Montmorillonite clay addition at the rate of 1 lb. per 10 sq. ft. Each side of the flat was sown with an equal weight of PGA standard fairway grass. The treatment side also received foliar dusting after all the grass emerged on February 12, 1999. Both sides of the flat received similar water, light, and heat. Visual observation of seed germination was monitored and five 1 square inch plugs from each side of the flat were taken to determine stem counts on April 3, 1999.

Results:
The Montmorillonite clay and compost treatment side germinated in two days; whereas, the control side with *Sustaine* took over a week. Fourteen days after planting, the researcher described the control side as "slight" germination, but the treatment side as "almost total" germination at an even height of four inches. Stem counts from one square inch plugs of the control (Sustaine) side averaged 49.8 compared to an average stem count of 152.2 for the Montmorillonite clay and compost treatment side as shown in Figure 1.

Conclusions:
The treatment side of Montmorillonite clay and compost increased the speed of germination and germination rate by greater than three-fold compared to the control topsoil treatment with *Sustaine* plant food.