BERMUDA GRASS PROJECT

(Rye overseed)

Conducted on the Downtown Plaza in Boca Raton, Florida

Purpose

To compare and determine the effectiveness of Microsoil with the standard chemical fertilizers being used on the Bermuda grass (rye overseed).

Control

Every three (3) weeks, year round, fertilizer (15-5-15 - NPK) is applied to the Bermuda and the grass is watered on a regular basis.

MicroSoil Test Site

Five hundred square feet in the Downtown Plaza would be treated with Microsoil alone, as opposed to the usual chemical fertilizer as stated above.

The Test

On November 5, 1996 the standard fertilizer (15-5-15) was applied and repeated every 3 weeks to the control area. On November 20, 1996 MicroSoil was applied to the 500ft^2 plot. Nothing else was added, other than watering the grass according to the standard schedule. On November 7,1996 a soil sample was taken from the MicroSoil plot. A second soil sample was taken again on January 5, 1997. The soil analysis results are listed below. As you can see, the most notable increases were seen in the Organic Matter content, the ENR (Estimated Nitrogen Release) and the Cation Exchange Capacity. Based on the CEC alone, you can see that MicroSoil had a substantial, positive effect in just two months. On March 14, 1997 a final soil analysis was taken.

Test Results

Even though all grass residues were removed and no chemical fertilizer applied for three months, the results were surprising and the grass remained in excellent condition. Note that the organic matter was slightly down, but this is notsurprising since they refused to leave grass clippings on the surface and potassium was law due to sandy soils, as was magnesium. You will also note, however, that the soil pH went up to 7.3 and the CEC increased to 6.5, which is substantial for the conditions. Had our recommended protocol been followed, far greater overall benefits would have been

realized during the three month testing period. After the final test was completed, the superintendent, although amazed at the results, returned to his normal fertilizing methods, as this is a high profile area in a wealthy section of town and felt he could not alter his methods of fertilizing and leave the grass clippings and other organic materials on the grass.

Soil Analyses Results

	Nov 7 '96		Jan 5 '97		Mar 14 '97	
Organic Matter	2.30	%	3.40	%	2.90	%
ENR lbs/acre	90.00	M	112.00	H	102.00	
Phos P1	71.00	VH	41.00	H	51.00	VH
NaHC03-P P2	73.00	VH	66.00	VH	71.00	VH
k	19.00	VL	46.00	L	31.00	VL
Mg	48.00	L	50.00	M	71.00	L
Ca	990.00	VH	990.00	VH	1160.00	VH
Na	4.00	M	3.20	L	n/a	
pH	6.90		6.70		7.30	
H meg/100g	0.10		0.30		0.00	
CECmeg/100g	5.70		5.90		6.50	
S	17.00	H	7.00	L	33.00	VH
Zn	37.10	VH	11.80	VH	10.30	VH
Mn	71.00	VH	75.00	VH	64.00	VH
Fe	53.00	VH	20.00	H	8.00	M
Cu	10.20	VH	4.20	VH	0.70	M
B	2.00	VL	2.00	VL	0.20	VL
Soluble Salts mmhos/cm Rate	0.14	VL	0.15	L	n/a	

(NOTE: **L**= LOW, **M** = MEDIUM, **H** = HIGH, **V** =VERY)

Percent Base Saturation

	Nov 7 '96	Jan 5 '97	Mar 14 '97
%K	0.9	2.0	1.2
%Mg	7.0	7.1	9.1
%Ca	86.8	83.9	89.2
%H	1.8	5.1	0.0
%Na	3.4	2.4	0.0