

TRIAL RESULTS

EXECUTIVE SUMMARY



GRASS/TURF - CALIFORNIA

Research on the effect of products containing SumaGrow® on Turf at the Jack R. Hammett Sports Complex in California

NUTRIENT CHART

Description:	12/8/2011	2/28/2012	Percentage Increase
Nitrate	13	19	+ 46.15%
Phosphorus	42.2	65.4	+ 54.98%
Potassium	475	532	+ 12.00%
Iron	29.1	38.66	+ 32.85%
Manganese	.93	1.78	+ 91.40%
Zinc	11.39	17.64	+ 54.87%
Copper	3.57	5.29	+ 48.18%
Boron	.39	.58	+ 48.72%
Magnesium	351	384	+ 9.40%
Sodium	552	627	+ 13.59%
Sulfur	57	62	+ 8.77%

CONCLUSION:

The sports fields of Jack R. Hammett Sports Complex, owned by the city of Costa Mesa, CA, showed an impressive reduction in salts and chloride and an increase in nutrient content after a product containing SumaGrow® was applied.

Less than three months after being treated with a product containing SumaGrow®, the soil pH decreased to a healthier level and the chloride and salinity levels dropped 26% and 34%. Equally remarkable was the increased soil moisture or quantity of water contained in the soil, from 63% to 69%. These results were achieved without any significant rainfall.

Soil samples of the complex's sports fields were taken before and after treated with a SumaGrow® containing product. Since the complex uses recycled water (treated wastewater) the pH and chloride level are constant concerns. Although chloride is an essential element, excess chloride damages plants (e.g. leaf burn and defoliation) and inhibits growth. As shown in the report, the sports fields' chloride level of 210 far exceeded the target range of <150. After treated with SumaGrow®, the chloride level decreased to 137, well within the target range.

Equally important was the increase in soil moisture and soil absorption ration (SAR), as indicated by the laboratory reports. In short, there is more available water for optimum plant growth.

