



TURF TIPS FROM O.J. NOER

Yield and Chemical Composition of the Clippings from a Tifgreen Bermuda Green

In 1956 at the American Society of Agronomy meeting, we reported the yield and composition of grass clippings from a green of common Bermudagrass. The data was from the 14th green at the Memphis CC. The yield of dry grass clippings, for a period of 18 weeks, was 120.19 pounds per 1,000 sq. ft. The average composition was 4.62 per cent nitrogen, 1.35 per cent phosphoric acid, 2.86 per cent potash, and 1.18 per cent of sulfur, reported as the trioxide. The actual quantities removed, per 1,000 sq.

ft. during the 18 weeks were 5.62 pounds nitrogen (1.34 per month), 1.48 pounds phosphoric acid (0.35 per month), 3.36 pounds potash (0.80 per month), and 1.22 pounds sulfur trioxide (0.29 per month).

In 1957 the greens at Memphis CC were converted to improved Tifgreen (Tifton 328). It was decided to weigh clippings from one of these greens, collect samples for dry weight determination, and for chemical analysis. The same green, No. 14 was selected. The growing period was from May 3, to Oct. 18, or for 24 weeks.

A soil sample was collected for testing by the Truog method in January, 1958.

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TABLE NO. 2

Yield of Tifgreen Bermuda

Dry weight — pounds per 1,000 sq. ft. by periods

(Tables 1, 3 and 4
appear on page 60)

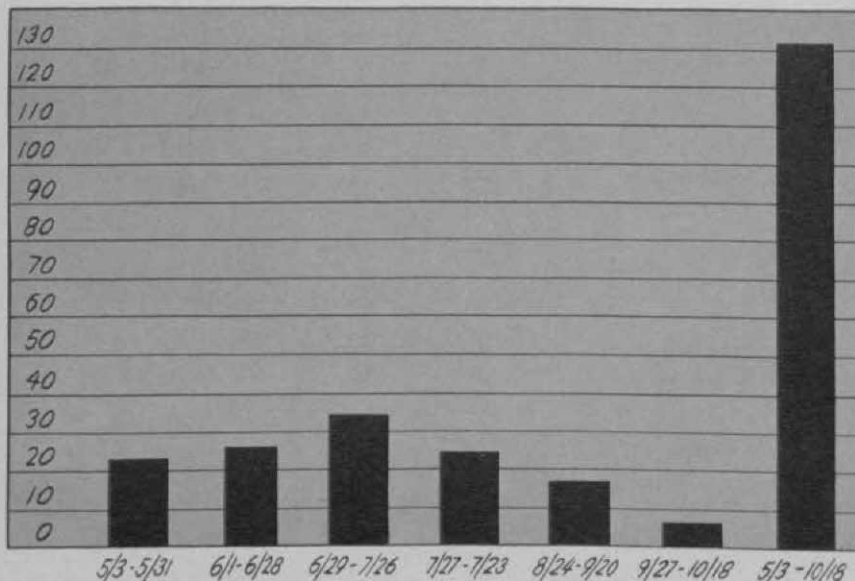


TABLE NO. 1

Fertilization of No. 14 Green
Kind of fertilizer Rate per 1,000 Sq. Ft. and
Actual amounts of Nitrogen, Phosphoric Acid and
Potash Applied

Time of Application	Fertilizer and analysis	Lbs. per 1,000 Sq. Ft.	Amount Applied 1,000 Sq. Ft.		
			N	P ₂ O ₅	K ₂ O
April 21, 1958	Vertagreen 10-6-4	25	2.50	1.5	1.00
May 5, 1958	Milorganite 5.75-4.0-0.75	30	1.72	1.2	0.23
May 30, 1958	Milorganite 5.75-4.0-0.75	30	1.72	1.2	0.23
June 30, 1958	Milorganite 5.75-4.0-0.75	30	1.72	1.2	0.23
July 8, 1958	Turf Special 10-5-5	20	2.00	1.0	1.00
Three Topdress	Cyanamid 20-0-0	11.5	2.30		
Totals		146.5	11.96	6.1	2.69

TABLE NO. 3

Analysis Titgreen Clippings
Percentage of Major Plant Food Nutrients

Clipping Period	No. of Weeks	Nitrogen	Phos. Acid	Potash	Sulphur Trioxide
5/3 - 5/31	4	5.54	1.31	2.16	1.50
6/1 - 6/28	4	5.68	1.41	2.20	1.23
6/29 - 7/26	4	5.16	1.31	2.13	1.20
7/27 - 8/23	4	5.35	1.27	2.06	1.18
8/24 - 9/20	4	5.13	1.23	2.05	1.52
9/29 - 10/18	4	4.83	1.12	1.73	1.47
Average		5.28	1.27	2.05	1.35

TABLE NO. 4

Analysis Titgreen Clippings
Pounds of Major Plant Food Nutrients

Clipping Period	No. of Weeks	Nitrogen	Phos. Acid	Potash	Sulphur Trioxide
5/3 - 5/31	4	1.23	0.29	0.48	0.33
6/1 - 6/28	4	1.49	0.37	0.58	0.32
6/29 - 7/26	4	1.77	0.45	0.73	0.41
7/21 - 8/23	4	1.32	0.31	0.51	0.29
8/24 - 9/20	4	0.90	0.22	0.36	0.27
9/29 - 10/18	4	0.33	0.08	0.12	0.10
Totals		7.04	1.72	2.78	1.72

Results are listed below:

pH	6.3
Available phos.	700 lbs. per acre
Available potash	400 lbs. per acre.
Available calcium	9000 lbs. per acre.
Available magnesium	1600 lbs. per acre.

Reaction and content of calcium and magnesium of the light brown sandy loam were good, so lime was not needed. The levels of phosphorus and potash were excellent.

An exact measurement of the green was made. It contained 3,823 sq. ft. A data sheet for recording the green weight of clippings was provided. Each Monday a 5 pound, exact weight, sample was collected and forwarded to the Milwaukee Sewerage Commission Lab. for the de-

Noer Gets USGA Award

O. J. Noer, retired Milwaukee Sewerage Commission agronomist, has been given the annual USGA green section award for distinguished service to golf through work with turfgrass. The presentation was made at the recent USGA meeting in New York.

termination of dry weight and chemical composition.

The green had not been overseeded for winter play, so no fertilizer had been applied from Nov. through Mar.

The fertilizer program for the 1958 season has been recorded in Table 1. The cyanamid had been used to sterilize the topdressing mixture. In round numbers, the green received 12 pounds nitrogen, 6 pounds phosphoric acid, and 2.75 pounds potash per 1,000 sq. ft. for the season.

Yield Figures

The yield of Tifgreen dry clippings per 1,000 sq. ft. is shown in Table 2. For the 24 week period the total yield was 131.94 pounds, or 5.49 pounds per week. During 18 weeks, the yield of common Bermuda was 119.5 pounds, or 6.64 pounds per week.

The weekly comparison is not significant because the heavy rate of growth is from early June to late August. Tifgreen continued to grow in fall after growth of common had stopped. This is desirable from the play point of view where overseeding is not practiced for winter play.

The percentage of major nutrient ele-

J. E. Hamner, supt. at Memphis CC, assisted O. J. Noer in making this study.

ments is summarized in Table 3, and the corresponding pounds per 1,000 sq. ft are given in Table 4.

The average percentage content of major nutrient elements in the clippings for the season were 5.28 per cent nitrogen, 1.27 per cent phosphoric acid, 2.05 per cent potash, and 1.35 per cent sulfur trioxide. Nitrogen content was significantly higher, phosphoric acid was slightly, and potash was definitely lower than comparable results for common Bermuda. These differences were reflected in the quantities of nutrient elements removed during the season.

Even though more phosphoric acid and potash were used on Tifgreen than on common Bermuda in 1956, the Tifgreen clippings contained less of both elements percentage-wise. Nitrogen applications were about equal, yet Tifgreen clippings contained almost one per cent more nitrogen than common Bermuda.

Comparison with Washington

In comparable trials at Brynwood in Milwaukee, potash content of Washington bent grass clippings was 3.24 per cent, definitely more than in common or in Tifgreen Bermuda.

The results at Memphis substantiate the practices of supts who know the secret of good Bermuda grass greens. They emphasize nitrogen to keep the grass vegetative and furnish minimum requirements of phosphoric acid and potash. If used in excess they promote stubby growth and encourage seedhead formation. Phosphoric acid and potash are used generously before seeding with rye grass for winter play. Nitrogen is not used then. The large seed contains enough to start seedling growth. With the smaller seeded blue grasses, poa trivialis, and bents, the seedlings need some nitrogen right from the start.

S. C. CMAA Honors Zuckerman

Edward K. Zuckerman of Brentwood CC, Los Angeles, and former president and now a director of Southern Calif. GA, recently was presented a plaque by the CMAA of Southern Calif. in recognition of his dedication to the welfare of golf clubs, their members and management over the years. The presentation was made at a dinner attended by about 165 managers and their guests. Zuckerman was particularly cited for leading resistance to oppressive tax measures that would have driven many clubs out of business if they had been enacted.