

# Overseeding with Bent Helps Solve Texas Greens Problem

By CHARLES GREGORY and JOHN R. HENRY

As long as golfing has existed in the Southwest, Winter greens have been a problem. Weather conditions are such that we have 10 to 12 months of golf weather a year, yet bermuda-rye grass greens are unsatisfactory for play three to four months of this time. Furthermore, these periods occur during the most pleasant seasons for golfing—Fall and Spring. In the Fall, the bermuda becomes coarse and grainy and rye grass is overseeded for Winter cover. Until the rye grass becomes established, the greens are still poor. We then enjoy 5 months of good rye grass greens. Then a period of hot, humid weather occurs in the Spring and the rye grass goes out, leaving bare spots in which crab grass and other noxious weeds are free to grow. After this happens, it is a constant fight to prevent the crab grass from taking over completely, as the bermuda is weakened. When the rye grass dies, another period of poor greens is experienced.

We believe we have a solution for these problems. Our solution is to overseed bermuda greens with bent grass instead of rye grass for Winter cover. This is not mere theory but has been proven by several courses throughout the Central, Western and Northern parts of Texas. We have found that the seeding of bent grass is about as cheap as if rye grass were used and with proper care, as outlined below, the bent can be carried through the Summer and established as a permanent putting surface.

## Preparation for Seeding

The preparation for the seeding of bent grass for winter cover should begin around the first of September in the North and Central portions of the State. The first step of preparing greens is to aerify at least twice with a hollow-tined implement, such as the Aerifier. This will loosen the soil and make it easier for the young roots to become established. Do not aerify within three weeks of seeding, as the seed will germinate in the holes and give a spotty stand.

Immediately following the aerification, apply 20% Super Phosphate at the rate of 20 lbs. per 1000 sq. ft. and water the greens to wash the fertilizer into the ground. Phosphorous is responsible for root development and will do much to strengthen the root system of plants if it

is placed in the root zone. The holes plus the physical condition of the soil after aerification makes it easy for the material to be carried into the soil by the water applied, therefore, aerifying is an important operation before the application of any fertilizer containing phosphoric acid.

After the Super Phosphate has been applied, the normal schedule of greens maintenance can be resumed until the first part of October. At this time, the excess mat of bermuda grass should be removed so the seed sown will be in contact with the soil. This can be done in several ways, the best of which is raking against the "grain" with a del monte rake or stiff brush to raise the nap of the turf. Then lower the height-of-cut on the putting greens mower slightly and double-cut the greens. By this, is meant cutting a swath across the green and cutting back over the same swath in an opposite direction. This operation should remove most of the mat. Next, use a spike disc or similar machine to cut the surface of the green at least twice over. This will provide small holes in which the seed can germinate. Do not aerify for this operation for the same reason mentioned before. Smooth the greens with a whipping pole or wooden rake, and the greens are ready for seeding.

## Seeding

Blue Tag Seaside bent grass should be used for seed. It is important that the seed has been treated with DuPont Arasan to kill the damping-off fungus and insure a good stand. The seed should be sown around October 10 at the rate of 3 lbs. per 1000 sq. ft. and top-dressed lightly to cover the seed. No more than 1 to 1½ yds. of top-dressing should be used per green, as excessive top-dressing will tend to smother the seedlings before they can reach the surface.

The top-dressing mixture should be composed of equal volumes of a sandy loam, river washed or concrete sand and organic matter. The loam should be selected from a weed-free site and care should be exercised to get a soil that will not pack. The sand used should be coarse texture. Concrete sand is excellent and is a term that is generally understood by most people. The source of organic matter can either be peat, peat moss, gin trash or well rotted manure.

After the top-dressing is applied, water the greens to wet the soil to a depth of 1 in. to 2 in. The greens should be watered daily to prevent any crust from forming on the top. A crust will hinder or prevent the tender seedlings from emerging and lessen the germination percentage. It might be necessary to water greens two or three times a day to prevent this from happening. This type of watering schedule should be continued until the seedlings emerge.

Germination of bent grass seed usually takes from 7-10 days from the date of seeding. After the seedlings have emerged and become established, the watering schedule can be altered to three deep waterings a week. This type of watering will promote deep root development. Shallow watering of any type of grass will keep the moisture concentrated within the first inch of soil, consequently, the root system will stay in that moistened area, and a weak, shallow-rooted plant will be the result.

#### Fertilization

After the seedlings have been up for two weeks, the fertilization schedule should begin with an application of a 10-5-5 organic base fertilizer at the rate of 20 lbs. per 1000 sq. ft. The same rate of 10-5-5 should be repeated twice more at three week intervals. This will be enough fertilizer to get the grass established and get it off to a healthy start. The same application should be repeated around the first of February, March and April. The April application is the last water soluble nitrogen needed until fall. Around the first of May fertilize with Milorganite at the rate of 30 lbs. per 1000 sq. ft. Aerify greens before the March and May applications.

Do not fertilize or aerify the bent grass during the hot summer months, as the tender leaf growth caused by any nitrogen fertilizer is more susceptible to fungus diseases and physiological disturbances that occur mostly during these months. One basket of grass clippings removed per green every two days is sufficient growth for bent during the summer. The watering schedule will again

have to be altered. Keep the greens on the dry side during the summer. Two deep waterings a week, supplemented with hand sprinklings when the grass shows signs of wilt is sufficient during these problem months. If the grass begins to wilt at mid-day, take a shower nozzle and syringe the greens by hand enough to bring them back to life. During tournaments or other periods of heavy play, keep the greens dry to prevent injury of the grass.

#### Mowing

The height-of-cut on bent grass will vary with the likes and dislikes of the players, just as is true with bermuda grass greens. The only thing we could say about mowing is to make sure that the nap is removed in the spring, as less trouble will be experienced through the summer months from fungus diseases. The excess mat of top growth can be removed in much the same way as it is on bermuda greens. This is by the use of a comb or brush attached to the greens mower or a del monte rake or stiff brush used before mowing.

#### Insect and Disease Control

There are several diseases and insects that attack bent grass in this section of the country. Of the diseases, dollar spot and brown patch are more prevalent. The insects that commonly attack bent greens are sod web worms and the white grub. Disease damage can usually be distinguished from insect damage by the fact that diseases will occur throughout the area of the green and will usually begin in the low spots. Insect damage generally begins on fringes of the greens and will be more evident on the high spots.

Dollar spot damage usually begins in the early summer and spring. The ideal weather conditions for the dollar spot fungus are cool and damp periods, preceded and followed by warm days. The damage caused by this disease is evidenced by numerous dead spots throughout the green, each spot being about the size of a silver dollar. For control of dollar spot, use F-531 at 3 oz. per 1000 sq. ft. or cadmate at ½ oz. per 1000 sq.

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#### COST OF MATERIALS USED ON 9-HOLE GOLF COURSE FOR FIRST YEAR ON GREENS AVERAGING 3500 SQ. FT. EACH

630 lbs. of 20% Super Phosphate	\$2.25/cwt.	\$ 14.17
95 lbs. Seaside Bent Grass Seed	1.50/lb.	142.50
3800 lbs. 10-5-5 Turf Special Fertilizer	83.50/ton	126.92
1000 lbs. Milorganite Fertilizer	69.50/ton	34.75
18 lbs. F-531 Fungicide	1.50/lb.	27.00
17 lbs. Tersan Fungicide	1.39/lb.	23.63
30 lbs. Calo-Clor Fungicide	4.95/lb.	188.50
42 lbs. 40% Wettable Chlordane	.68/lb.	28.56
5 gal. Evergreen Insecticide	14.60/gal.	73.00
<b>Total</b>		<b>\$659.03</b>

## Lu Coleman, Spalding VP, Dies in New York



Luther E. Coleman, vp in charge of sales, A. G. Spalding & Bros., Inc., died Aug. 2 at Presbyterian hospital, New York City, following a long illness that he refused to allow to get him down until shortly before his death. A few days prior to his death he played golf and a couple of weeks before the end he attended Spalding sales meetings.

Lu Coleman was all man, and one of the best of the species.

He was born Nov. 24, 1888 at Keytesville, Mo. He graduated from Central College, Fayette, Mo., where he was a three-letter man and coached baseball.

He got into the sports goods business as a stock boy with Webb and Freyschlag at Kansas City. A Wright & Ditson-Victor representative saw Lu's way of working and hired him as a salesman in 1912. In 1918 he became eastern mgr. for the company and held that position when A. J. Reach and Wright and Ditson merged in 1927. From 1934 thru 1938 he was an executive in the Spalding Sales Corp. and directed the Reach, Wright and Ditson div. In 1938 he was elected vp in charge of sales, which included promotion, advertising and management of stores of the sales corporation. He held that position until his death.

His 40th year with Spalding was observed at a dinner at Springfield, Mass., July 29 this year.

He was a member of the Garden City (LI NY) GC and for several years was pres., Golf Ball Manufacturers' Assn.

Lu is survived by his widow, Mrs. Merle Whitney Coleman; his daughter, Mrs. Elizabeth Byrne; his son, Charles W. Coleman; his father, J. P. Coleman of Fayette, Mo.; and three sisters, Mrs.

Jessie Talbot, Mrs. Nancy Anderson and Miss Mary Coleman.

Funeral services were attended by many of prominence in the sports goods industry who came from all parts of the country, and by many who were not headliners but who, in having the friendship of Lu Coleman, had enjoyed one of the most pleasant rewards anybody could get walking through this part of the cosmic system.

## How Good Is Delta Bluegrass?

By FRED V. GRAU  
Director, USGA Green Section

A heavy demand and a short crop renders the Merion bluegrass market a "bullish" one. Delta bluegrass is being promoted in some quarters as a "substitute" for Merion and consumers are being led to believe that it is "as good as" Merion.

Delta bluegrass is a pasture bluegrass. It is a good seed producer. It is very susceptible to the leafspot disease which periodically ruins common bluegrass. It grows tall and can not tolerate close mowing. In all reports to date received by the Green Section it is clearly evident that Delta bluegrass is only a good seed-producing strain of common bluegrass. It exhibits all the characteristics of common bluegrass. It produces the same thin, open turf as common bluegrass which is destroyed by close mowing.

In all fairness, Golfdom should tell its readers to expect common bluegrass performance if they purchase Delta bluegrass seed.

## OVERSEEDING WITH BENT

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ft. during the latter parts of April and the month of May as a preventative spray at 10 to 14 day intervals.

Brown patch damage begins in much the same way as dollar spot, but it occurs during warm periods from June to the last of August. Brown patch is evidenced by irregular patches of brown grass, usually starting in the low spots on the greens, each spot ranging in size from 6 inches to 6 ft. in diameter. As a preventative use Tersan at 1 lb. per 9000 sq. ft. mixed with 3 oz. of Calo-Clor every 10 to 14 days. For a curative spray, double the rates, and use as often as necessary for either disease. Fungicides should be applied with enough water to wet the foliage only at a pressure of at least 400 lbs.

A worm attack on a green is usually preceded by the presence of millers or small gray moths. These millers lay their eggs in the grass and the eggs hatch into larvae or worms and immediately begin feeding on the succulent grass. A relatively sure way of detecting the presence of worms is the appearance of birds on

the greens. These birds are feeding on the larvae.

Sod web worm damage usually occurs from the first of May and will be evident off and on throughout the summer. As a preventative spray schedule, use 40% Chlordane at the rate of 1 lbs. per 3000 sq. ft. and 1 pt. of Evergreen, mixed in 50 gals. of water every 4 weeks. Apply additional water to wash this material into the soil to the depth the worms are feeding. The pyrethrins contained in the Evergreen spray will bring the worms to the surface so the Chlordane can more easily kill them. This same type of spray schedule will control white grubs also.

The maintenance schedule briefly outlined above will tend to weaken the bermuda grass and make the bent grass stronger. It is our belief that within two seasons grass will be predominantly bent grass and the headaches of top-dressing, seeding of rye grass and the spring transition from rye to bermuda will be ended. If severe conditions exist during the summer months that cause complete loss of the bent, the bermuda is still present and can be used as a putting surface the rest of the season.

#### Suggested Schedule

1. First part of September
  - A. Aerify greens
  - B. Apply 20% Super Phosphate at 20 lbs. per 1000 sq. ft.



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2. First part of October
  - A. Remove nap by brushing and double mowing
  - B. Spike disc greens
  - C. Seed at the rate of 3 lbs. per 1000 sq. ft.
  - D. Top dress, using no more than 1½ yards per green.
  - E. Water area and keep soil moist until seed germinates
3. Middle of October
  - A. Alter watering schedule to three deep waterings a week
4. Last of October
  - A. Fertilize with 10-5-5 organic-base fertilizer at 20 lbs. per 1000 sq. ft.
5. Middle of November
  - A. Fertilize with 10-5-5
6. First of December
  - A. Fertilize with 10-5-5
7. First of February
  - A. Fertilize with 10-5-5
8. First of March
  - A. Aerify greens
  - B. Fertilize with 10-5-5
9. First of April
  - A. Fertilize with 10-5-5
10. Last of April
  - A. Spray F-531 or Cadminate for prevention of dollar spot
11. First of May
  - A. Aerify greens
  - B. Fertilize with Milorganite at 30 lbs. per 1000 sq. ft.
  - C. Spray 40% Wettable Chlordane and Evergreen for worms
12. Middle of May
  - A. Spray with F-531 or Cadminate
13. First of June
  - A. Spray with F-531 or Cadminate
  - B. Spray with Chlordane and Evergreen
14. Middle of June
  - A. Spray with Tersan and Calo-Clor for prevention of brown patch
15. First of July
  - A. Spray with Chlordane and Evergreen
  - B. Spray with Tersan and Calo-Clor
16. Middle of July
  - A. Spray with Tersan and Calo-Clor
17. First of August
  - A. Spray with Chlordane and Evergreen
  - B. Spray with Tersan and Calo-Clor
18. Middle of August
  - A. Spray with Tersan and Calo-Clor
19. Last of October
  - A. Begin fertilization schedule and maintenance program again

Dates listed above necessarily will change to coincide with weather conditions. Dates listed are approximate and will vary slightly.