



# BENT ON BETTER FAIRWAYS



By **DR. JOHNNY R. THOMAS**  
Research Director  
North American Plant Breeders



The bentgrass fairways of this Pennsylvania course (top) become most inviting to area golfers. Note the well-groomed appearance and overall beauty. Bent fairways can be kept in top shape with modern irrigation (center). The fairway at the bottom is on an Illinois course. Many champion golfers prefer bentgrass because it improves shotmaking and reduces the chance for divots.



**N**OTHING contributes more to the overall beauty of a golf course than healthy, well-groomed fairways. The feelings of exhilaration and mental relaxation that result from the sport of golf when played on acres of green grass are difficult to describe, but are well understood by all lovers of the game.

Unfortunately, fairways are usually at the mercy of the economic situation prevailing at each course. Greens and tees must be maintained to certain minimum standards no matter what the budget is. Thus when a budget is tight, fairways will suffer relatively more than will tees and greens.

However, the increased popularity of golf and the greatly expanded inter-club and tournament schedules means more attention must be paid to fairways. The "greener grass" of other courses can be embarrassing as well as costly (in lost memberships).

In recent years there has been increasing interest in creeping bentgrass as fairway turf. The increased interest has been mainly caused by a greater use of fairway irrigation; improvement in equipment; a trend toward lower cutting heights for fairways; and the development of varieties bred especially for golf courses such as Emerald and Penn-cross. With the well known ability of creeping bentgrasses to tolerate low cutting heights and to rapidly heal divots and other injuries, even with heavy play, the bents can make excellent fairways.

In addition to looking first class, bent fairways improve shotmaking and reduce divots by holding the ball up better.

If a "perfect fairway grass existed, it would probably have the following characteristics: The leaves would be rather broad and stiff to hold the ball up firmly. It would tolerate a cutting height down to at least one half inch and also possess rapid healing characteristics. It should also be seed propagated, wear resistant, and not so vigorous as to require excessive management due to thatch or "puffiness."

At this time such a "perfect" grass does not exist. The two species most nearly fitting the bill are bluegrass and bentgrass. The better bluegrasses possess the stiff leaves and aren't difficult to manage, but only the very best varieties under almost ideal conditions can persist for any length of time under a one half inch cutting height. At this height wear tolerance is low and healing is very slow.

On the other hand the creeping

bents will persist nicely at one half inch or less. They will retain good wear resistance and heal rapidly. However, their leaves are not stiff and upright and excessive vigor leading to thatch and puffiness can be a problem, particularly with improper management.

Seventy-one percent of the complaints against bentgrass in a recent survey were (1) it requires too much chemicals and (2) it produces too much thatch. The use of less aggressive varieties such as Emerald and proper management can do much to eliminate the latter problem.

The other cool season species offer little hope of ever being bred to produce a good fairway variety. The colonial bents have all the problems of creeping bents and few of the advantages.

Colonial bent usually competes poorly with *Poa annua*, will not heal rapidly, and is more disease susceptible than creeping bent.

The red fescues, particularly the newer varieties such as Highlight and Jamestown, can form excellent fairway turf in the shade. However, they don't compete well in the sun and heal injuries very slowly.

The new turf-type perennial ryegrasses, such as Manhattan and Pennfine, are excellent for seeding injuries and bare spots on fairways and tees. However, they also spread very slowly and aren't completely winter hardy in the northern areas.

### THE COST OF MAINTENANCE

What are the economic aspects of creeping bent fairways? Is their average maintenance cost significantly greater than that of a mixed bluegrass, fescue, *Poa annua* type fairway? Although generalizations are difficult and vary with the local area, the maintenance cost of a creeping bent fairway will usually average slightly higher than other types. However, ten percent of the golf course superintendents recently surveyed indicated bent fairways would be cheaper in the long run, despite higher initial cost and high chemical cost.

Fairway irrigation is essential with bent fairways, but the total water volume used should not significantly exceed that of any other type fairway cut at the same height. The fertilizer bills should also be comparable. Bent fairways should be fed only enough to keep the turf healthy and maintain good color. It is not true that bents must be fertilized much more heavily than other grasses. Over fertilization con-

(continued on next page)

### Bent Down South

Golfers in southeast Texas may soon be playing on turfs of creeping bentgrass.

Bentgrass, which grows year round in Texas, is currently under fullscale research by the Texas agricultural experiment station. The project is under the direction of Dr. Richard L. Duble, associate professor in the department of soil and crop sciences, Texas A&M University.

The grass is well-known throughout the cool, humid northern United States, but research suggests that with proper culture it may also be grown in hot, humid environments.

Creeping bentgrass has a growth habit similar to bermudagrass and forms a very close-knit sod that makes a smooth, true putting surface with excellent resilience, emphasizes Duble. Bentgrass has a softer texture than bermudagrass and because it grows year round the problems and inconveniences of overseeding bermudagrass can be avoided.

"While the grass will grow in a wide variety of soil conditions, it produces the best turf in slightly acid soils where fertility, aeration and moisture relationships are good," Duble said. To meet these requirements, golf greens must be constructed according to the specifications established by the United States Golf Association Green Section in cooperation with the Texas agricultural experiment station. Essential features of these specifications include subsurface drainage, a perched water table and a highly permeable soil mixture.

On hot summer days, light irrigation or syringing may be required at noon to cool the turf below atmospheric temperature. On occasions two syringings may be necessary, but with automatic irrigation systems and properly constructed greens little inconvenience is encountered.

Bermudagrass greens constructed according to USGA Green Section specifications can easily be converted to bentgrass with a herbicide treatment which allows immediate seeding of bentgrass. Two seeded varieties of bentgrass, Penn-cross and Emerald, are currently recommended in Texas. □



turf professionals  
**KNOW WHAT  
THEY WANT**  
in grass seed  
performance!...



..MAN  
MADE

**Adelphi**  
KENTUCKY BLUEGRASS

**GIVES THEM  
WHAT THEY WANT! \***

MAN-CONTROLLED BREEDING  
GIVES IT

DARKER GREEN COLOR  
AND TOP RATINGS FOR  
OVERALL PERFORMANCE

**Adelphi**  
KENTUCKY BLUEGRASS  
(U.S. Plant Patent No. 3150)

Developed at Rutgers University  
in the most advanced bluegrass  
breeding program ever under-  
taken...IT'S A FIRST IN TURF!

10 YEARS OF MAN-CONTROLLED  
PARENTAGE BREEDING and 7  
YEARS OF TESTING have given  
ADELPHI the features most wanted  
in turf...Good looks with a richer  
darker color which it maintains  
throughout the entire growing  
season, good disease resistance,  
excellent density due to good  
rhizome and tiller development and  
tolerance to moderately close  
mowing.

\* **FIND OUT FOR YOURSELF**  
what TURF PROFESSIONALS  
who have tried ADELPHI,  
have to say about its  
performance record! AN  
INFORMATIVE FREE BOOKLET  
IS YOURS FOR THE ASKING thru:

**J & L ADIKES, Inc.**  
Jamaica, N. Y. 11423

**JONATHAN GREEN & SONS**  
Kearny, N. J. 07032

**NORTHROP, KING & CO.**  
Minneapolis, Minn. 55413

**VAUGHAN'S SEED CO.**  
Bound Brook, N. J. • Downers Grove, Ill.

tributes to the potential thatch and  
puffines problem.

The mowing frequency of bent  
will be greater than for other  
grasses. It will probably average  
about 1/2 to 1 more mowing per week  
than other cool season grass fairways.  
Thatch is a potential problem. But,  
if the grass is mowed frequently,  
particularly when growing vigor-  
ously, and fertility is not excessive,  
thatch formation can be controlled.

Weed control is usually less of a  
problem with creeping bents. Even  
at one half inch they are very com-  
petitive with most weeds. By rapidly  
healing divots and other injuries,  
weed invasion is minimized. How-  
ever, in some areas, the fungicide  
bill may be higher than that of other  
cool season grasses. Although creep-  
ing bents cut at one half inch or  
more are much less subject to disease  
than the putting green bent, they  
may still require a little more pro-  
tection than fairways of the other  
cool season grasses.

Seaside, Emerald, and Penn-  
cross are the only seeded varieties avail-  
able at this time. Emerald and Penn-  
cross were bred specifically for fine  
turf usage. Although Seaside is not  
a bred variety, being merely a con-  
glomeration of seed from wild creep-  
ing bents adapted to the Pacific  
Northwest, it performs adequately  
on fairways in some areas. Excellent  
data from Michigan State University  
indicates the relative performance  
of these varieties for tees and fair-  
ways.

Penn-  
cross is well established in  
the turfgrass industry and usually  
does a good job on greens and tees.  
Penn-  
cross is the most vigorous  
creeping bent and as such it is often  
difficult to manage on fairways.

Emerald is the newest creeping  
bent to become available. It also does  
a good job on greens and tees, but  
additionally has looked promising for  
fairway use. Although more dense  
and vigorous than Seaside and finer  
textured than Penn-  
cross, it does not  
possess the extreme vigor of Penn-  
cross and thus is easier to manage.

However, the uniformity of Emerald,  
which is so desirable for greens,  
might be a potential problem on  
fairways — where genetic diversity  
is usually desirable.

In summary, bentgrass should be  
considered for fairway use — to give  
your cause and your players the  
competitive edge. □

## ASPA Winter Conference Slated For New Orleans

The annual mid-winter confer-  
ence of the American Sod Producers  
has been scheduled for the Ramada  
Orleans in the city of New Orleans  
for February 7-9. This represents  
a change from a previously sched-  
uled date, but the change was made  
in order to avoid conflicts with  
other important meetings within the  
industry, according to Jack Kidwell,  
ASPA president.

The sessions will be devoted to  
two major areas. The first will be  
centered around marketing and its  
importance to the success of the sod  
producer. The use of mini-confer-  
ences, participation by various mem-  
bers in a discussion of their effective  
procedures and techniques and a  
free exchange of factual informa-  
tion will highlight the marketing  
sessions.

The second phase of the confer-  
ence will deal with the involve-  
ment of the sod producer in govern-  
ment and regulations which affect the in-  
dustry. ASPA Council William  
Harding of Lincoln, Nebraska will  
provide the latest up-to-date infor-  
mation and will discuss regulations  
of various governmental agencies  
and how they should be handled  
and complied with by the sod pro-  
ducer.

Because New Orleans is a most  
unique city, a number of social  
events are being planned and em-  
phasis is being placed on attend-  
ance by the wives as well, along  
with employees and staff represen-  
tatives of the various member firms.

### Performance of Bentgrass cultivars, Tee-Fairway management<sup>1</sup>

	Ratings 1/2" cut
<b>Seeded Creepers</b>	
Emerald	2.2
Penn- cross	2.5
Seaside	2.9
<b>Colonial (seeded non-creepers)</b>	
Exeter	3.7
Astoria	3.9
Hofior	3.4
Boral	3.9
Highland	4.2
<b>Vegetatively propagated creepers</b>	
Penn- par	2.1
Cohansey	2.8
Toronto	2.2

<sup>1</sup> Performance data were collected at Michigan State University from 1968-1973.  
Scale of ratings: 1-10 with one best.