JB VISITATIONS:

February - Las Vegas, Nevada.

Participated in the GCSAA Annual International Turfgrass Conference and Show. Another attendance record was set. This was the first showing of the book **Color Atlas of Turfgrass Diseases** authored by Dr's T. Tani and J.B Beard and published by Ann Arbor Press. The initial response and demand for this book has been outstanding, with a second printing scheduled shortly. The book is listed on page 2 of the December-November 1996 Turfax, including a description and procedures for purchase.

March - Montreal, Quebec, Canada.

Participated as a speaker in the Annual Canadian National Turfgrass Conference, plus was involved in an author autograph session for the **Color Atlas of Turfgrass Diseases.**

Direct low temperature kill of turfgrasses either prior to the first freeze or following the thaw of ice sheets was discussed at length. A number of golf courses in Canada in locations where this is a reoccurring problem are now using solid plastic covers placed upon problem putting greens prior to the occurrence of ice sheets. The approach has been quite successful except for one small problem, and that is leakage of water onto the turf through the factory manufactured seams. The main objective in this approach is to minimize standing water on the turf which results in increased crown hydration. If this situation is followed by a rapid freeze to below 20°F (-7°C) there is a greatly increased potential for turf loss due to direct low temperature kill.

Terminology:

Scald - grass shoots standing in very shallow water are exposed to lethal temperatures caused by exposure to solar radiation that rapidly heats the water. The shoots collapse and turn white.

SPRING CULTURAL PRACTICES:

The spring of 1997 has been a very cool one in many locations. While the timing spring greenup of turfgrasses has been reasonably normal, subsequent initiation of significant shoot growth has been greatly delayed by as much as a month, specially in the southern United States on warm-season turfgrasses.

In this situation, it is important to make the correct decisions relative to nitrogen fertilization. In the past there have been turfgrass managers who would make a nitrogen application in the spring, and obtained no response. After 14 days they would make a second nitrogen application with no response, and in some cases would even make a third application. What these individuals failed to realize was that the soil temperatures had not achieved sufficiently warm levels to permit significant shoot growth to occur. No amount of applied nitrogen was going to change the situation. As a result, when the soil temperature finally did warm up to adequate levels for shoot growth, the explosion in leaf production associated with the excessive nitrogen levels created serious problems.

For C_4, warm-season perennial turfgrasses spring greenup occurs when soil temperatures at a 4-inch (100 mm) depth reach 64°F (18°C). However, significant amounts of shoot growth do not occur with these species until soil temperatures are above 70°F (21°C).

In the case of C_3, cool-season turfgrasses significant amounts of shoot growth do not occur until soil temperature rise to above 50°F (10°C) with substantial rates of shoot growth occurring above 55°F (13°C).

There are several other factors that affect the rate of soil warming. For example, closely mowed turfs warm up more rapidly than high cut turfs due to the relative differential in shoot biomass insolation. Also, poorly drained, wet soils warm up much more slowly than well-drained .drier soils due to the high specific heat of water. Finally, dark colored surfaces will warm up more quickly than light colored areas.