

Managing Bent Greens for Summer Quality

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If you were to survey golf course superintendents concerning their main summer problems, certainly summer disease would rank high on the problem list, and yet, basically we have very good fungicides that are effective against most of our diseases. But the fact is, fungicides are not miracle products. If we control one disease, another occurs. If we control the second disease then an insect or nematode problem may occur and the story goes on. To find a solution, however, we must realize that these outside agents may not be the real problem. The bentgrass plant is under severe stress during the summer. The overall problems relate to a poor summer root system, low energy reserves and possibly lush summer growth. All of these factors relate to the total *annual management program*.

We must stop and ask ourselves what can be done in previous growth seasons to make the turf better or stronger during the summer. There is definitely more to it than just reacting to the problem. Many times we try and manage our greens by the seat of our pants. If the grass is not growing, you fertilize it; if it's wilting, you water it; if it's diseased, you dope it, but taking revenge on the problem will not keep it from occurring again.

We need to look at our management program season-by-season to determine how one management factor will affect the turf during the next summer. For example, eyeballing turf nitrogen needs is not the answer. If you rely totally on this method, you tend to over-fertilize during the spring and summer and do not build or develop a plant that is able to withstand summer stress. The detrimental affects of heavy nitrogen fertilization during the spring are great, but the misuse of nitrogen in spring does not manifest itself until summer. On the other hand, you cannot cookbook a nitrogen program that is always going to give you optimum plant growth conditions. There are too many variables such as weather, soil type and desired use of the turf.

N fertilization

Fall is certainly the best time to fertilize temperate grasses with nitrogen. Fall nitrogen not only increases color and growth, but also increases root development, tiller initiation and tiller development - all adding to turf density. Likewise, in most climates winter applied nitrogen increases the density and root growth of cool season grasses and certainly lengthens the early spring playing season.

Spring and summer applied nitrogen may result in a big yield, but it also tends to decrease root growth and increase disease, weeds, thatch and wilt problems. Spring nitrogen forces growth but makes the turf weak. The best nitrogen program is one in which you make "planned" N applications during the fall and winter and then follow an anti-spring and summer N program. Obviously, you cannot always eliminate nitrogen in the spring and summer, but you should make N applications only when it is necessary to increase top growth. Some top growth during summer is necessary in order that the turf can repair itself or recover from the normal wear and use stress. Foliar applications of iron can give you necessary summer color if a lack of color is the problem. During the spring and summer, one can easily watch the amount of clippings removed and only make light N applications when growth is insufficient.

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Managing Greens

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Spring Aerification

One of the main benefits of coring greens is to improve air and water exchange between the soil and atmosphere. This encourages deeper and more extensive rooting. The roots are growing in the spring but the water infiltration problems, that we normally confront, occur in the summer.

If greens are aerified in early spring the beneficial affects may be completely lost by summer and the greens often become very compacted and impervious. If greens are to receive only one spring aerification, then why not delay aerification until late spring. This would maximize water infiltration rates during summer and minimize localized dry spots.

Irrigation Management

No one can tell you how to water your greens. They are all different. You have control of the irrigation problem in the spring and fall, but the grass itself dictates the irrigation program during the summer. A minimum irrigation frequency is very important to obtain maximum root growth during spring and fall, but during summer when roots are normally short and evapotranspiration rates are high a frequent irrigation program is necessary. If you do not get maximum root growth rate in fall, winter and spring then an excess of

summer irrigation troubles can be expected.

Mowing Management

The golfers, themselves, greatly influence our mowing heights and frequencies. On some courses the greens must be mowed daily and yet on others the membership seems to be satisfied with 3-4 cuttings per week. In order to get maximum top and root growth, we must remember that a less frequent mowing is usually superior. Anytime the grass is under stress, delayed mowing can be very beneficial. Excessive frequency and very short mowing heights in the spring can result in shorter and less vigorous roots in summer.

In summary, if we *neglect* or *over-manage* greens during the cool seasons of the year, we can expect more problems during the summer. Look at each management practice and determine how it may affect the bentgrass as it enters the summer stress period.

In Memoriam

In January Mr. David Edgar passed away. Dave was a member of our association for many years and had been a retired superintendent for the past 15 years. Dave, who was a native of Scotland and a World War I veteran, was Superintendent at the Elk Ridge Club in Baltimore from 1947 to 1960. He is survived by his wife Ruth and a number of nieces and nephews.

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