

DORMANT FERTILIZATION OF TURFGRASSES

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Dormant fertilization is the application of nitrogen fertilizer or nitrogen in a mixed fertilizer after mowing stops with start of cold weather. Usually this occurs in early December in New Jersey. Several purposes may exist for dormant fertilization. Better turf is always the purpose of any fertilization and any time turf is unsatisfactory because of low fertility, dormant fertilization can serve a purpose. A variety of other purposes may be sought.

Advantages of Dormant Fertilization - Dormant fertilization of cool-season grasses is safer than spring application which often causes turf loss in late spring and summer. It offers low risk of fertilizer burn. Nitrogen use causes increased mowing but with the shorter days of fall and winter plus the cooler temperatures, dormant fertilization gives low-growing turf. Also, N fertilization at this season appears to be agreeable to the physiology of cool-season grasses. In addition, the dormant season is a less busy season for turf growers and fertilizer suppliers. Higher quality turf in late winter and early spring is a common benefit of dormant fertilization which is enjoyed on some sites.

Disadvantages of Dormant Fertilization - Leaching losses of nitrogen from the turf-grass soil are likely to be larger with dormant fertilization than at a season when soil organisms and grass roots are actively absorbing the soluble nitrogen. Increased nitrogen content of plants reduces the cold hardiness of plants. Good turf in late winter and late spring is pointless if it is not seen or used at this season. One New Jersey study showed more leafspot Helminthosporium vagans damage with dormant fertilization as compared with fall fertilization.

How Might Dormant Fertilization be Used?

The value of dormant fertilization will vary with the climate and the grass species. It should be more useful for Kentucky bluegrass turf than for most other species. Areas with more open winters will offer more chance for use and esthetic appreciation of dormant fertilization. Apprehension about use of dormant fertilization should be less when winter injury is no problem.

On Kentucky Bluegrass - Some of the following items might be considered when contemplating dormant fertilization on Kentucky bluegrass. In most cases, dormant fertilization on Kentucky bluegrass should not be considered a substitute for earlier fall fertilization. To date, studies have not shown that it is better for the grass. Since fall is also a time to enjoy good turf, good turf should be provided at this season. Where fall fertilization has been inadequate, dormant fertilization is better than waiting until spring. When attractive turf is needed or can be enjoyed in late winter or early spring as on home lawns, dormant fertilization might be a good choice.

On Bentgrass - It appears that dormant fertilization offers fewer advantages for bentgrass than Kentucky bluegrass turf. Golf courses are often unseen or unused when this fertilizer practice produces its best growth in the late winter and early spring season. Winter injury is often a problem on bentgrass and the relationship of dormant fertilization to winter injury is not clear. For example, there is little conclusive research on nitrogen's influence on snow mold diseases. On occasions we have putrefaction injury on golf turf in late winter which would most likely be worsened by high nitrogen. Also, where the margin of cold hardiness is small, additional nitrogen in the plant will increase the chance of freezing injury.

Some believe that increased nitrogen encourages some winter diseases. However, increased levels of nitrogen are not always bad for winter injury. Nitrogen stimulation appears to be helpful where regrowth in the fall gives young mature plants that are more resistant to desiccation and late winter vicissitudes. Watson's work supported this theory very nicely.

If dormant nitrogen is desirable on bentgrass turf, our research shows urea has given a reduction of 50% or more in annual bluegrass encroachment as compared with dormant applications of IBDU, ureaform or activated sludge. While dormant fertilization can be a useful tool in turf growing, like all treatments, it should not be used indiscriminately. Certainly, more research is needed on types of carriers and when these carriers should be applied in dormant fertilizer programs.