

Watching Your Tees & Q's

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DO GROWTH REGULATORS HAVE A POTENTIAL?

Controlling different aspects of plant growth and development has interested plant scientists for over 50 years. Early growth regulators were often used for broadleaf weed control. Through the years, interest in shoot growth retardants has drawn considerable attention to industrial turfgrass management, such as roadside turf and drainageways. Only recently has interest been promoted to fine bladed golf course turf.

The main reason is that the commercially available growth regulators have been more successful in suppressing the cool season turfgrasses than the warm season turfgrasses. Warm season turfgrasses were found to be easily discolored, thus their use was limited in the Southern United States on fine bladed turfgrass.

The most commonly used growth regulators used on bermudagrass are maleic hydrazide (Slo-Gro) and mefluidide (Embark). These are often referred to as "growth inhibitors" because of suppression. Their mechanics of action is the suppression of turfgrass shoots by inhibiting cell elongation. Both are primarily absorbed by the leaves, so inhibition is best when as much leaf area as possible is present at the time of application. Scheduling of mowing prior to application can therefore be important in achieving good results. Some manufacturers suggest mowing 7 to 10 days after application to allow for translocation and to remove any flush of growth during the first week.

Suppression periods vary from 5 weeks for mefluidide on bermudagrass to 7 weeks for maleic hydrazide. Discoloration is possible with both growth regulators, however, bermudagrass is more sensitive to maleic hydrazide than to mefluidide. Further, the fine-bladed bermudagrasses are more sensitive to growth regulators than the coarser common types.

The most common use of growth regulators in industry at present is the reduction of mowing time on hazardous slopes. A significant reduction in time is possible over a 5-8 week period. Broadcast application to slopes is a limited use for golf courses, because of the possibility of discoloration.

One use which should be given consideration is the use of growth inhibitors for chemical edging. This would include edging around trees, bunkers, and miles of golf car paths. Experimentally mefluidide has shown promise for this type of use. The cost per linear foot would have to be compared to manual hand labor for a practical evaluation of growth regulators for edging.

Selective use of growth regulators among species is a use of growth regulators for reduction of unwanted

species. Kikuyagrass as an example, is presently being suppressed in common bermudagrass in Southern California. Species tolerance could also be important for mixed species such as reduction of cool season turfgrass in bermudagrass.

One of the most important characteristics of maleic hydrazide and mefluidide is the ability to impair seed-head production. This has been observed on both warm and cool season turfgrasses. The most optimal timing for application of growth regulators on bermudagrass would be the Spring, when they are flowering. In cool season turfgrasses, seedhead suppression has been used as a form of weed control and annual bluegrass on Kentucky bluegrass.

Two new experimental growth regulators are presently being evaluated in both warm and cool season turfgrasses. These are EL 500 (flurprimidol) or Cutless™ and PP333 (paclobutrazol). They are a new group of growth regulators that can reduce plant growth by inhibiting gibberellic acid. Application of gibberellic acid can also be used to reverse the shoot suppression effect of these compounds. This means that actual plant suppression can be manipulated and controlled or even reversed. These new compounds are also presently being evaluated at several state universities for the retardation of water use in turfgrass. To date, the gibberellic acid inhibiting growth regulators are looking promising for water use reduction. This new concept could dictate new dimensions for the use of growth regulators on turfgrass in the 1980's. ■

AQUATURF LAUNCHES TURF IRRIGATION NEWSLETTER

JACKSONVILLE, FL: April 22, 1983—AquaTalk, a professional turf irrigation newsletter, is being published by AquaTurf, the Jacksonville-based manufacturer of pre-fabricated pumping stations and turf irrigation systems.

The quarterly four-page newsletter will feature articles and photographs about turf and irrigation as well as other items of interest to turf managers and supervisors, architects and designers. The first issue, for example, will carry stories about the first successful attempt to seed clouds, and the three requirements rainfall must have in order to maintain healthy turf.

The newsletter will be mailed free to those involved in turf irrigation and related industries, by writing AquaTalk, 11363 San Jose Boulevard, Jacksonville, Florida 32217. ■