USING CHEMICAL MOWING TO REDUCE LABOR AND EQUIPMENT COSTS IN RICHMOND COUNTY MAINTAINED TURF AREAS: BAHIAGRASS SEED HEAD SUPPRESSION

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Goal Statement:

The City of Augusta Parks and Recreation, the Richmond County Board of Education and the Augusta Regional Airport own and maintain over 2,000 acres of open field space. These open areas include parks, cemeteries, ball fields, retention ponds and general non-wooded open space. The majority of these areas are a base mixture of bahiagrass (*Paspalum notatum*) and bermudagrass (*Cynodon dactylon*). Bahiagrass is a widely used industrial turfgrass that performs well in a wide variety of environments. It's resistance to drought, disease, and various insect pests has led to wide-spread usage. The drawback of bahiagrass is that it produces an abundance of seed heads from June to September. These seed heads are unsightly and require constant mowing during these months. After bahiagrass is mowed, seed heads can reappear within 4 to 5 days. In the Augusta area and in highly visible areas, bahia turf has to be mowed weekly. Due to the huge cost for labor and equipment to constantly mow these open spaces, there is an opportunity to decrease labor time and equipment cost with the implementation of a growth regulator product. The application is referred to as chemical mowing. Bahiagrass and bermudagrass respond to the chemical by suppressing foliar and seed head growth. With chemical mowing, seed head production in the bahiagrass is profoundly reduced for 10-12 weeks after application. During the summer growing season, this procedure can cut mechanical mowing from 3-4 times a month to two times every three months.

Situation:

Government entities have to maintain hundreds of acres of turf on their properties. There is costly equipment to maintain, extensive labor involved and safety issues with moving equipment from one site to another. Unkept turf is aesthetically unappealing to the general public when the areas are not maintained in a timely manner. The expense of mowing was calculated at approximately $50 per acre.

Objective:

In collaboration with the Richmond County Extension Office and the Augusta Board of Education, an area was strategically mapped to be chemically mowed to see if the procedure could reduce the amount of labor and equipment use thereby reducing the cost of maintaining the turf areas. The Richmond County Board of Education designated 432 acres to be chemically mowed.

Materials and Methods:

In spring of 2019, the Richmond County School Board contracted with a commercial chemical applicator company to spray Derigo Derigo which contains three active ingredients: thiencarbazone-methyl, iodosulfuron and foramsulfuron. The application cost was set at $37 per acre. The applicator used a boom sprayer attached to a 4 wheel ATV. Derigo was applied at a rate of 1.5 ounces per acre. The first application was in mid-May and was then reapplied in early September.

Results and Discussion:

The growth regulator applications resulted in seed head suppression of 8-10 weeks which reduced the mowing rate from 28 times a year to 9. The total savings to the Richmond County Board of Education was approximately $375,000. Depending on weather conditions, the product can result in seed head suppression of up to 12 weeks. However, since the 2019 growing season was excessively rainy, bahiagrass seed heads were suppressed for a shorter timeframe. The grass maintained a green color and continued to look as if it were recently mowed. Derigo is safe to use around trees and desirable ornamental species. The product also has a short residual making it a safe product for humans in higher traffic areas. An added benefit is that Derigo also acts as a post emergence herbicide controling a variety of annual and perennial grasses as well as numerous broadleaf weeds. This results in a healthier grass cover and a more sustainable management program over time.

Conclusion:

By building a strong growth regulator program, it is possible to reduce mowing costs, mowing intervals and decrease bahiagrass seed head production without injuring the turfgrass. By reducing mowing, you not only save fuel and equipment cost, but also have the opportunity to reallocate resources since personnel are no longer dedicated solely to the mowing operation. Another benefit is that Derigo helps control problem weeds resulting in a healthier turf. Since this initial application by the Board of Education, Augusta-Richmond County Recreation and Parks has also implemented the chemical mowing regimen. Since that time, the chemical application program expanded to strategically include an insecticide, bifenthrin, which reduced the fire ant population.

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