Turfgrasses Under Warm, Humid Conditions

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I. Introduction

Temperature and moisture are the major climatic factors determining species adaptation within the warm, humid region. Temperature is by far the more important of these two because irrigation can be used to supplement natural rainfall. Within the warm, humid region climatic conditions vary considerably. From north to south there is a range in frost free days from less than 200 to more than 320. Average January temperatures vary from 33 F in South Missouri to 67 F in South Florida. Summer rainfall (June-August) ranges from an excess of 20 inches on the East coast to less than 6 inches in Central Texas. Thus, a variety of grasses and management practices are necessary to meet turf needs and demands in the warm, humid region.

The Piedmont and other areas of Virginia, North Carolina, and South Carolina have climatic conditions suitable for growing the cool-season grasses such as Kentucky bluegrass at higher altitudes. Similarly, sections of Tennessee, Kentucky, Arkansas, and Missouri are in the transition zone between warm, humid and cool, humid conditions. These areas present problems with cool-season grasses because of relatively high temperatures, high humidity, and drought. On the other hand, warm-season grasses have a long dormant season in the areas and may be subject to winter-kill.

The warm, humid region is generally characterized by high rainfall and shallow, infertile soils. Because of the nature of the soils, a relatively short period without rainfall results in moisture stress. Many lawns and general turf areas are developed on old cultivated field sites; thus, weeds are frequently a problem. Furthermore, even a short lapse in maintenance can result in turf becoming thin and depleted and subject to weed invasion. Likely, the two most serious problems confronting turf growers are weed control and fertility level. In addition, in the coastal region, disease and insect control on St. Augustinegrass are absolutely necessary if a grass cover is to be maintained.

II. Factors Affecting Choice of Grass

Very few of the hundreds of grasses in the warm, humid region of the U. S. are suitable for turf usage. Turfgrasses are not permitted to grow normally. Food materials essential for growth and development