Cool-season grasses make most of their growth under cool environments and serve as the primary forage for ruminant animals in temperate regions of the world. In addition to providing pasture, hay, and silage, they play an important role in soil conservation, watershed protection, and as wildlife habitat. The greatest concentration of cool-season grasses occurs north of 30° N or south of 30° S latitude. In warmer climates they grow during the cool winter season or at high altitudes in tropical areas.

CHARACTERISTICS OF COOL-SEASON GRASSES

Yield and Growth Patterns

Optimum temperatures for growth of most cool-season grasses is between 20 and 25°C. Below 10°C, growth drops rapidly, but slow growth often occurs at 5°C. Cool-season grass cultivars of northern origin have a high level of winter dormancy, making them less winter productive at lower latitude locations. Germplasm of Mediterranean origin has low winter dormancy so leaf expansion occurs during warm periods in the winter, making it possible for breeders to develop cultivars with greater winter productivity (Hoveland et al., 1974). Growth is reduced when the temperature exceeds 25°C and is greatly reduced or ceases above 30 to 35°C even if soil moisture is adequate. In temperate regions cool-season grasses generally are productive over a longer period of the year than warm-season grasses. Many cool-season grasses in the humid temperate region have high yield potential. For example, Cooper (1970) stated that 25 t ha⁻¹ of dry matter (DM) could be produced in the United Kingdom during the normal 150- to 210-d growing season. Yields of 20 t ha⁻¹ can be produced in experimental...