Phosphorus Usage by Turfgrasses
The Energy Nutrient
Often Neglected by Turf Managers

by Richard J. Hull
University of Rhode Island

Of the three general fertilizer nutrients, nitrogen (N), phosphorus (P) and potassium (K), phosphorus is often the least understood and the most neglected. While the N and K content of grass leaves is about 3-4% of their dry weight, that of P is only one-tenth as much at 0.3-0.4% (Turner and Hummel 1992). This lower quantity in plant tissues and the fact that obvious P deficiencies are almost never observed in turf may contribute to its lesser standing among many turf managers. However, few nutrient elements play a more pivotal role in the metabolic processes of all living organisms including turfgrasses. In this article, the second in a series on turfgrass nutrients, I will outline some of those important functions performed by P and show how they

![Cross section of nutrient depletion zones around a grass root](image)

Fig. 1. Cross section of nutrient depletion zones around a grass root for phosphate, potassium and nitrate. Drawn to scale but enlarged five times.