Methods of soil testing have been evolving since testing first began. The traditional approach has been to extract the soil with a solution that quickly and reproducibly removes a nutrient fraction that is easily measured analytically and is correlated with crop response. Even though this approach has proven successful and remains the most feasible approach to date, problems persist. A major problem is diversity in the type of extractants used across the country. Debate over the best extractants for a particular area spurs much controversy. Many laboratories resist changing soil test methods because of loyalty to researchers or institutions that developed particular methods, or because of difficulties (time or expense) associated with correlating and calibrating new extractants and implementing new procedures in established laboratories. Soil testing controversies, and associated bickering surrounding appropriate soil test methods, cause confusion and a loss of credibility in the eyes of farmers and the public. As a result, the use of soil testing as a management tool is undermined even though it is one of the most cost effective practices available to farmers. This chapter reviews current approaches to soil testing for N, P, and K. Selected extractants are proposed for adoption nationally as standardized soil test methods. National standardization of soil test methods will improve the credibility of soil testing and lead to its more extensive use.

**HISTORICAL DEVELOPMENT OF SOIL TEST METHODS**

A better appreciation of the current approach to soil testing can be gained by considering historical development. Selected highlights are presented in Table 12-1. Columella described what may be considered the first soil test in 50 B.C.