Site-specific nutrient management has been evolving for several decades and was the initial objective of soil testing. More recently, the concept of site specific nutrient management has evolved to include assessment of the nutrient supplying ability of areas within fields by use of grid or soil type sampling. A critical component of modern site-specific nutrient management that is often neglected is the interpretation of the soil test results in a site-specific manner. Even where the latest positioning, sampling, yield measuring and application technology is employed, general or average recommendations are often used to determine the nutrient rate to apply. It is very likely that the weakest link in such systems is how the soil tests are interpreted. The focus of this paper is on an alternative approach in which the interpretation of soil tests considers the grower and soil characteristics of the specific site.

THE TRADITIONAL SOIL TEST INTERPRETATION PARADIGM

Today’s soil test interpretation and recommendation paradigm has changed very little since its development in the 1950’s. Interpretation and recommendation writing are now done by computer rather than by ballpoint pen but the approach is still the same. A singular soil test level - fertilizer recommendation relationship is assumed to hold for all individuals and sites with adjustments sometimes made for yield level and soil association. A soil test level goes into a black box and a recommended rate comes out. The contents of the black box are not known or understood by most of the users of soil testing making adjustments in the rate based on site-specific factors very difficult. An alternative paradigm is needed for site-specific management.