Managing Soil Variability

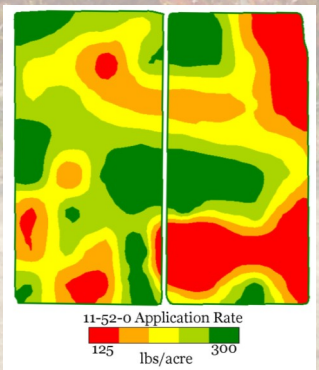
Precision Nutrient Management

The Right Input
+
The Right Amount
+
The Right Place
+
The Right Time
+
The Right Way
=

✓ **Improved crop uniformity, maturity, and yields.**

✓ **Increased efficiency of applied nutrients and amendments.**

✓ **Better environmental stewardship.**



Sources of Variability

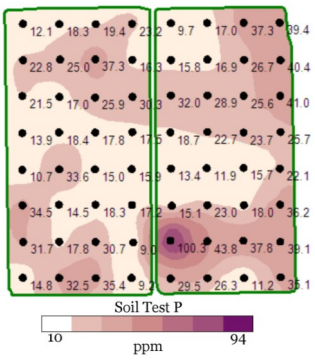
Differences in crop growth and yield are attributable to many factors. Soils develop over geologic time, and are influenced not only by the parent material from which they are derived, but also by climate, biota, and topography.

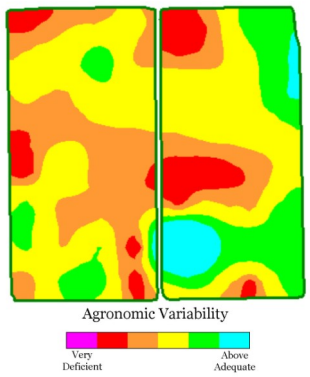
Physical characteristics of soils such as soil texture, color, and strength are not easily modified. Farming practices may have limited effect on soil permeability and structure. Soil chemical properties such as cation exchange capacity are not readily altered.

However, management decisions such as cropping patterns, fertilization history, and irrigation practices can influence residual nutrient levels, pH, and salinity. Certainly, each of the above factors may contribute to the variability in crop growth that we observe in the field.

Variable Rate Application

Today's technology allows us to vary the rate of crop inputs during an application job. Once the variability of a soil parameter is identified and mapped, our agronomists prepare a recommendation. The recommendation is converted to a controller file. The controller file contains the rate information for specific locations or zones within the field. Paired with a GPS device, the controller determines the current location of the application rig, identifies the rate to be applied, and sends a signal to the pump, belt, or auger to distribute the right amount of product.





Characterizing Soil Variability

Soil sampling and laboratory analysis are an excellent way to identify variability in soil nutrient levels, soil pH, and salinity. Sampling more intensively increases the data used to develop the recommended rates of crop inputs. With our grid sampling service, sample locations are recorded using GPS technology, and soil samples are usually collected every 2 ½ acres. We offer a variety of analytical packages to meet your needs. Once the data is returned from the laboratory, mapping software is utilized to display field variability for each of the measured soil test parameters. To simplify the interpretation of this field variability, a second map is displayed which shows the agronomic interpretation of this data.

Please contact your local Crop Production Services' field representative for more information.

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