Soil Sampling the Zones

- **Directed Sampling**
  - Sample within zones
  - 1 sample/7-10 acres
    - Subsample across the 15 acres
- **Advantages**
  - Reduce sampling time, cost, labor, etc.
- **Disadvantages**
  - Loose soil variability information
Sampling the Zones

• **Grid Sampling**
  – Sample every X acres (X is judgment call)
  – **Advantages**
    • With or without management zones
    • Good measure of soil variability
  – **Disadvantages**
    • Time and labor consuming
    • Costly analysis
Developing a Management Zone For The First Time

• **Start simple**
  – Use the information that is readily available and balances the cost and yield relationship.
  – **Good information should be**
    • Quantitative
    • Densely or continuously sampled
    • Stable over time
    • **Examples**
      – bare soil photos
      – soil survey maps
      – topography
Developing a Management Zone For The First Time

• **Second step is to refine zones over time**
  – Add information that describes yield variations
  – **Examples**
    • Yield maps (multi-year)
    • Grid or targeted soil sampling
    • Aerial photographs at different crop stages
Third step is to evaluate zone effectiveness
  – Are management zones responding to treatments?
  – Is maximum economic yield increasing?

Look for main yield-limiting factors within zones
  – Are factors stable?
  – Are factors variable?
Last Thoughts on Management Zones

• **Ways to use management zones are only limited by the imagination**

• **Management zones are only as good as the decisions and sampling procedures that determined them**