

## Topics for 2008 version of Stat 402, section A

- How many replicates do I need?  
Sample size and statistical power, plot size
- We always measure each plate twice; is that a good idea?  
Subsampling and variance components
- How else can I get a more precise estimate?  
Blocking in various forms
- What does "interaction" mean?  
Factorial treatment designs and their analysis
- What's the "right" error?  
Split plot designs and multiple error terms.
- I measured the same plots every two weeks.  
Is that a problem? Repeated measures analysis
- I repeated my study at 3 sites in 2 years.  
I've been given two different ways to analyze the data.  
They give very different answers. Which is right?
- Can I ignore correlation between adjacent plots?  
Analysis of spatial (or temporally) correlated data.
- How can I use baseline values in my analysis?  
Analysis of covariance, change scores and other methods.

Class web site: <http://www.public.iastate.edu/~pdixon/stat402>