

## Smart Farming

# Analyze the data in the graphs

Compare the plots and answer the questions below.

1. Which of these fields has the greatest variability in pH?

**Field 8A: total difference from low to high pH = 1.2**

2. Which of these fields has the most consistent pH across the data points?

**Field 6: 12 data points at 7pH**

3. Rank the predicted yield from each field if pH is not adjusted (Use the pH for Ohio crops to make your ranking)?

Field 11:

Field 8A:

Field 12B:

Field 6:

**4th  
9 data points  
with ideal pH**

**3rd  
13 data points  
with ideal pH**

**2nd  
15 data points  
with ideal pH**

**1st  
24 data points  
with ideal pH**

## Activity 3: Compare the graphs to soil maps

Compare these graphs to the map of each field.

Which of these representations, the soil map or the box and whisker plot, show the variability better? Justify your answer.

**Answers will vary.**

**Soil maps show color variation to indicate pH levels. A map of colors does not always give a true picture of the amount of variation without closely looking at the key. The key shows groupings of .4 pH levels.**

**Folks who are colorblind will see little variation. However, the soil map shows that there are differences across the field and that the pH levels will not necessarily be grouped together. The box and whisker plot shows the variation and the grouping of the ranges in a different way.**

**Both methods are visual representations.**