Print

Practice: Conducting a Paired t Test

In the production of a polymer, calcium is considered a contaminant. Two methods are used to measure calcium concentration, in parts per million (ppm). Split sample testing was performed on 10 production samples to compare the two methods.

The data are in the file **Calcium Paired.jmp**.

1. Why is this considered paired data?

   The samples were split, so each sample was tested using each method.

2. Look at the data. Is there more variability within the pairs or between the pairs?

   There is more variability between the pairs than there is within the pairs.

3. Conduct a paired *t* test. What can you conclude?

   Hint: Use **Analyze**, **Specialized Modeling**, **Matched Pairs**, and use both Method A and Method B as the paired responses.

   The mean difference is 0.969. The *p*-value for the two-tailed test is 0.0078. There is a significant difference in the mean calcium concentration between the two test methods.

4. From a practical perspective, what conclusions can you draw?

   The two methods are not yielding the same results. The mean for Method B is nearly 1.0 ppm higher than the mean for Method A. The measurement system should be studied.

Hide Solution

Close