

STA 205 STATCRUNCH ANALYSIS OF VARIANCE EXAMPLE

The data for this example are from Exercise 2, page 413 of the text.

To obtain the ANOVA results, use:

```

Stat ► ANOVA ► One Way
    © Compare Values in a single column
      Responses in: Yield
      Factors in: Nematicide
    Calculate
    
```

Analysis of Variance results:

Responses stored in Yield.

Factors stored in Nematicide.

Factor means

Nematicide	n	Mean	Std. Error
A	8	17.9875	0.10077822
B	8	18.75	0.17217101
C	8	18.0375	0.17519122
D	8	18.2625	0.2427061

ANOVA table

Source	df	SS	MS	F-Stat	P-value
Treatments	3	2.9109375	0.9703125	3.7493532	0.0221
Error	28	7.24625	0.25879464		
Total	31	10.157187			

The following table summarizes the results of the multiple t-tests, each conducted with $\alpha = .05$, to compare the different means. **This table will always be calculated for you. (StatCrunch will not do these calculations.)** In each test the comparison is the mean of the first population listed minus the mean of the second population listed. For example, the test that was run for the comparison on the first line was $\mu_A - \mu_B$. The interpretations will be provided in class.

Comparison	Value of t	p-value	Interpretation
A vs. B	-2.99	0.006	
A vs. C	-0.20	0.843	
A vs. D	-1.08	0.289	
B vs. C	+2.80	0.009	
B vs. D	+1.91	0.066	
C vs. D	-0.88	0.386	