The GLM Procedure

Class Level Information		
Class	**Levels**	**Values**
trt	4	1 2 3 4

Number of Observations Read	240
Number of Observations Used	240

The GLM Procedure

Dependent Variable: wtg

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	403055.711	134351.904	15.56	<.0001
Error	236	2038206.600	8636.469		
Corrected Total	239	2441262.312			

R-Square	Coeff Var	Root MSE	wtg Mean
0.165101	15.09259	92.93260	615.7499

Source	DF	Type I SS	Mean Square	F Value	Pr > F
trt	3	403055.7112	134351.9037	15.56	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
trt	3	403055.7112	134351.9037	15.56	<.0001

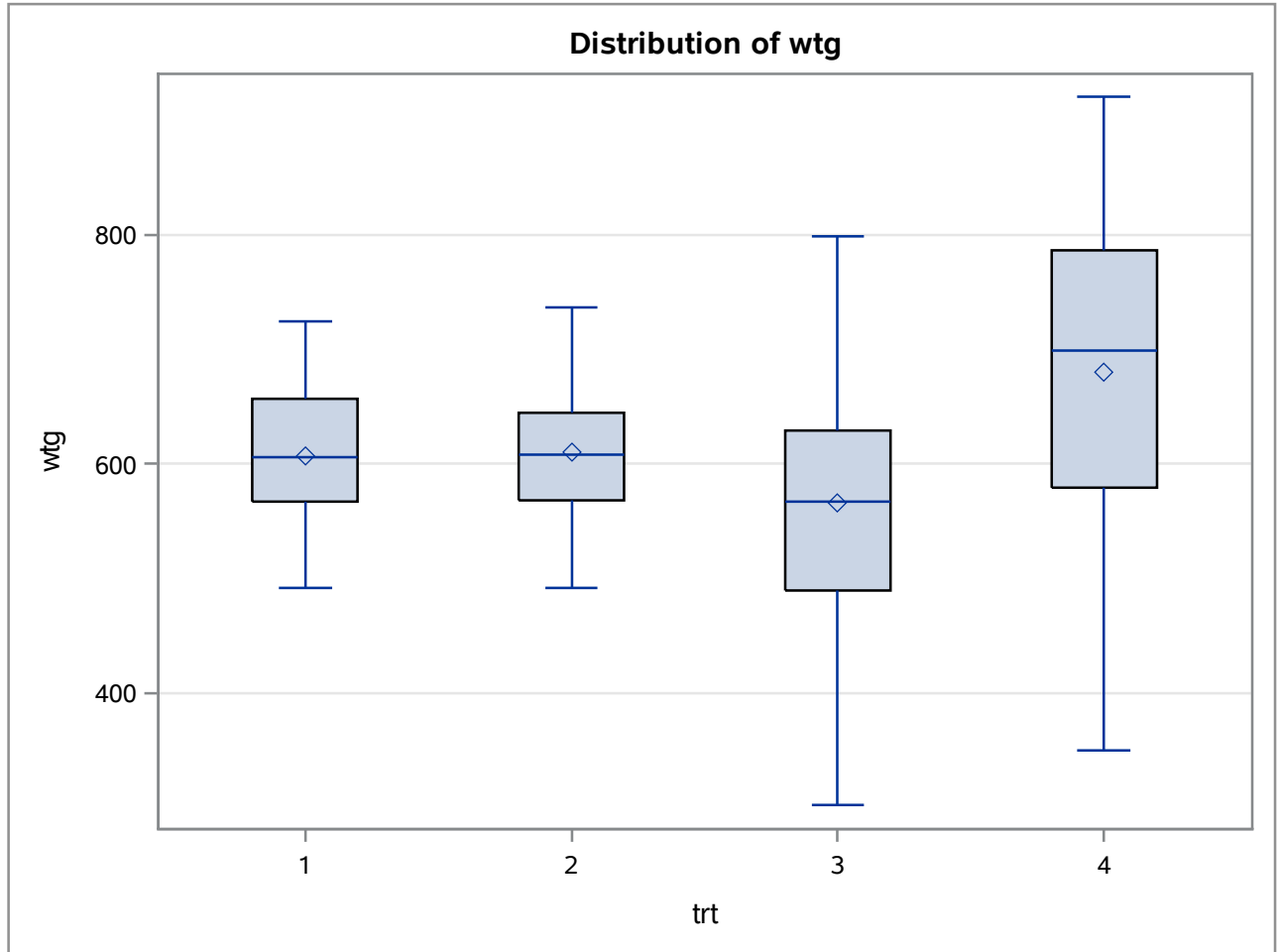| Parameter		Estimate		Standard Error	t Value	Pr > |t|
Intercept		679.9996667	B	11.99754742	56.68	<.0001
trt	1	-73.6696667	B	16.96709428	-4.34	<.0001
trt	2	-69.3300000	B	16.96709428	-4.09	<.0001
trt	3	-113.9993333	B	16.96709428	-6.72	<.0001
trt	4	0.0000000	B	.	.	.

Note: The X'X matrix has been found to be singular, and a generalized inverse was used to solve the normal equations. Terms whose estimates are followed by the letter 'B' are not uniquely estimable.

The GLM Procedure
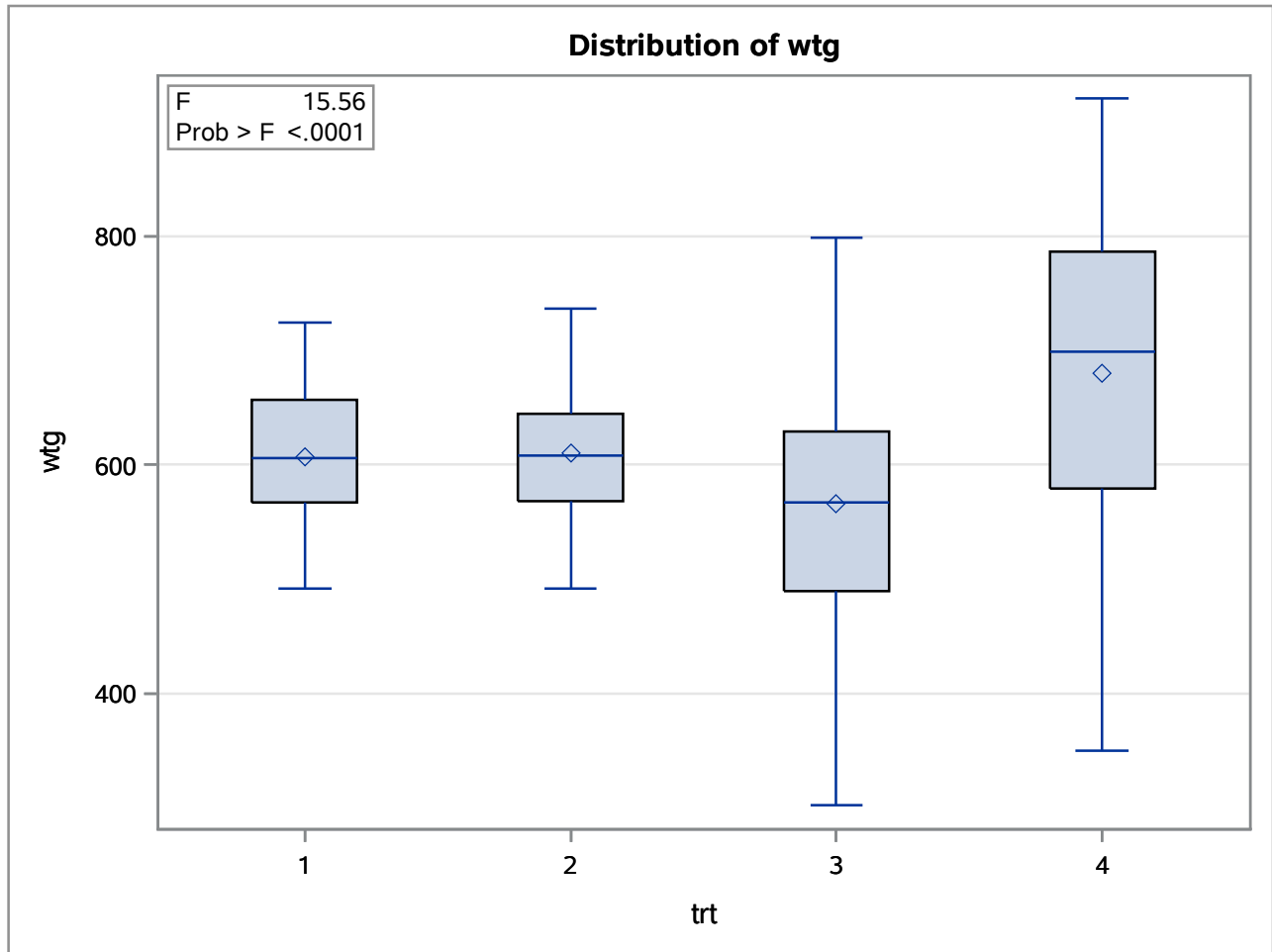
Dependent Variable: wtg

Distribution of wtg

F	15.56
Prob > F	<.0001

The GLM Procedure

Distribution of wtg

The GLM Procedure

Tukey's Studentized Range (HSD) Test for wtg

Note: This test controls the Type I experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	236
Error Mean Square	8636.469
Critical Value of Studentized Range	3.65918
Minimum Significant Difference	43.901

Comparisons significant at the 0.05 level are indicated by *.**			
trt Comparison	**Difference Between Means**	**Simultaneous 95% Confidence Limits**	
4 - 2	69.33	25.43	113.23	***
4 - 1	73.67	29.77	117.57	***
4 - 3	114.00	70.10	157.90	***
2 - 4	-69.33	-113.23	-25.43	***
2 - 1	4.34	-39.56	48.24	
2 - 3	44.67	0.77	88.57	***
1 - 4	-73.67	-117.57	-29.77	***
1 - 2	-4.34	-48.24	39.56	
1 - 3	40.33	-3.57	84.23	
3 - 4	-114.00	-157.90	-70.10	***
3 - 2	-44.67	-88.57	-0.77	***
3 - 1	-40.33	-84.23	3.57	

The GLM Procedure

Dunnett's t Tests for wtg

Note: This test controls the Type I experimentwise error for comparisons of all treatments against a control.

Alpha	0.05
Error Degrees of Freedom	236
Error Mean Square	8636.469
Critical Value of Dunnett's t	2.36421
Minimum Significant Difference	40.114

Comparisons significant at the 0.05 level are indicated by ***.			
trt Comparison	**Difference Between Means**	**Simultaneous 95% Confidence Limits**	
4 - 1	73.67	33.56 113.78	***
2 - 1	4.34	-35.77 44.45	
3 - 1	-40.33	-80.44 -0.22	***

The GLM Procedure

Duncan's Multiple Range Test for wtg

Note: This test controls the Type I comparisonwise error rate, not the experimentwise error rate.

Alpha	0.05
Error Degrees of Freedom	236
Error Mean Square	8636.469

Number of Means	2	3	4
Critical Range	33.43	35.19	36.36

Means with the same letter are not significantly different.			
Duncan Grouping	**Mean**	**N**	**trt**
A	680.00	60	4
B	610.67	60	2
B			
B	606.33	60	1
C	566.00	60	3

The GLM Procedure

Student-Newman-Keuls Test for wtg

Note: This test controls the Type I experimentwise error rate under the complete null hypothesis but not under partial null hypotheses.

Alpha	0.05
Error Degrees of Freedom	236
Error Mean Square	8636.469

Number of Means	2	3	4
Critical Range	33.426314	40.018547	43.901156

Means with the same letter are not significantly different.			
SNK Grouping	**Mean**	**N**	**trt**
A	680.00	60	4
B	610.67	60	2
B			
B	606.33	60	1
C	566.00	60	3

The GLM Procedure

Tukey's Studentized Range (HSD) Test for wtg

Note: This test controls the Type I experimentwise error rate, but it generally has a higher Type II error rate than REGWQ.

Alpha	0.05
Error Degrees of Freedom	236
Error Mean Square	8636.469
Critical Value of Studentized Range	3.65918
Minimum Significant Difference	43.901

Means with the same letter are not significantly different.				
Tukey Grouping		**Mean**	**N**	**trt**
	A	680.00	60	4
	B	610.67	60	2
	B			
C	B	606.33	60	1
C				
C		566.00	60	3