Obs	DENSITY	Y
1	6%	6250
2	8%	6150
3	10%	6080
4	12%	6200
5	6%	6300
6	8%	6290
7	10%	6120
8	12%	6220
9	6%	6420
10	8%	6170
11	10%	6020
12	12%	6010
13	6%	6220
14	8%	6180
15	10%	6040
16	12%	6030
17	6%	6320
18	8%	6080
19	10%	6020
20	12%	6000

Obs	FERTIL	resp	YIELD
1	F1	1	148
2	F1	2	76
3	F1	3	134
4	F1	4	98
5	F1	5	.
6	F2	1	166
7	F2	2	153
8	F2	3	255
9	F2	4	.
10	F2	5	.
11	F3	1	264
12	F3	2	214
13	F3	3	327
14	F3	4	304
15	F3	5	.
16	F4	1	335
17	F4	2	436
18	F4	3	423
19	F4	4	380
20	F4	5	465

Obs	city	design	resp	sales
1	Large	A	1	23
2	Large	A	2	20
3	Large	A	3	21
4	Large	B	1	22
5	Large	B	2	19
6	Large	B	3	20
7	Large	C	1	19
8	Large	C	2	18
9	Large	C	3	21
10	Middle	A	1	22
11	Middle	A	2	20
12	Middle	A	3	19
13	Middle	B	1	24
14	Middle	B	2	25
15	Middle	B	3	22
16	Middle	C	1	20
17	Middle	C	2	19
18	Middle	C	3	22
19	Small	A	1	18
20	Small	A	2	18
21	Small	A	3	16
22	Small	B	1	21
23	Small	B	2	23
24	Small	B	3	20
25	Small	C	1	20
26	Small	C	2	22
27	Small	C	3	24

The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
DENSITY	4	6% 8% 10% 12%

Number of Observations Read	20
Number of Observations Used	20

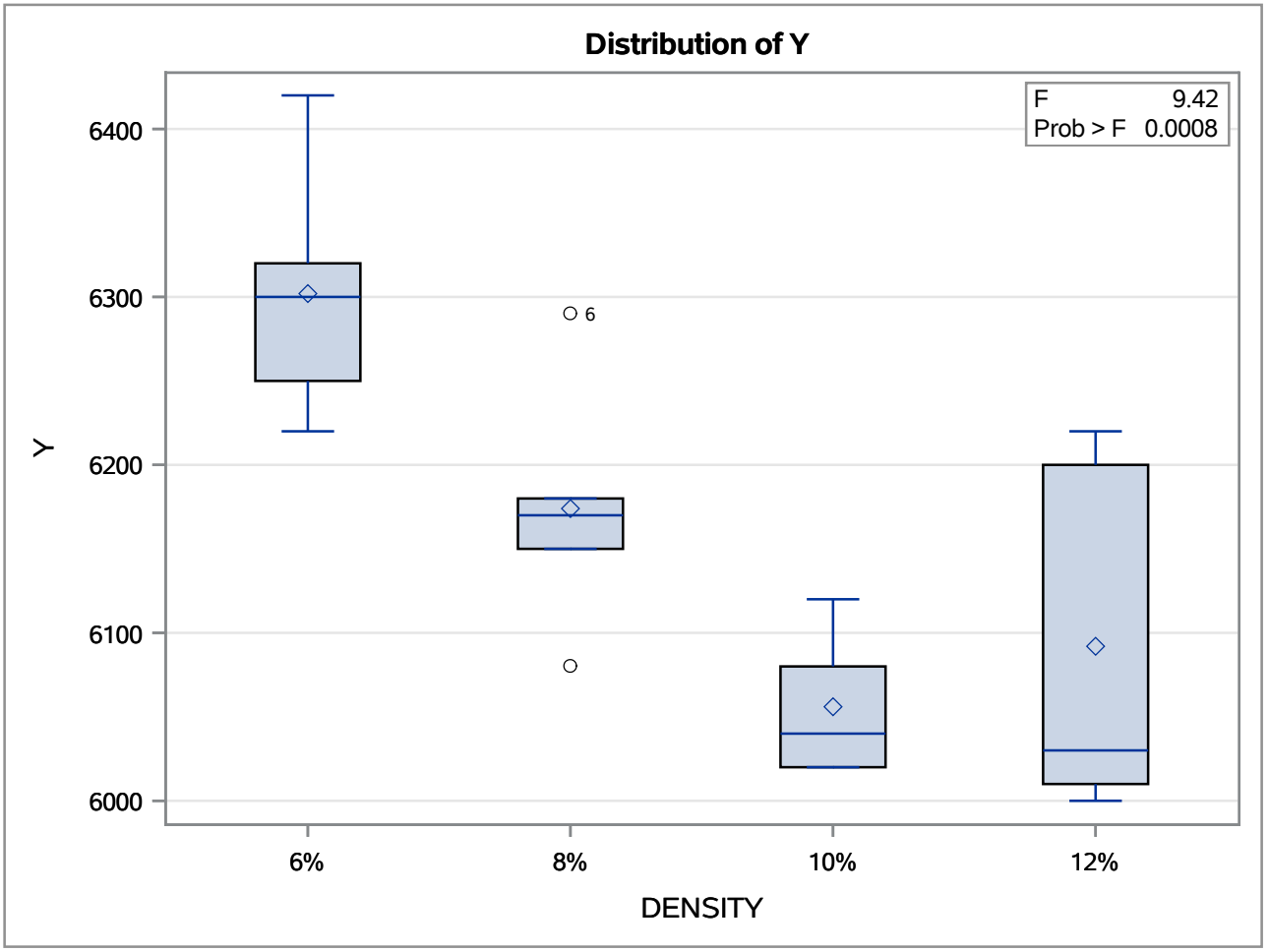
The ANOVA Procedure

Dependent Variable: Y

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	178680.0000	59560.0000	9.42	0.0008
Error	16	101200.0000	6325.0000		
Corrected Total	19	279880.0000			

R-Square	Coeff Var	Root MSE	Y Mean
0.638416	1.291908	79.52987	6156.000

Source	DF	Anova SS	Mean Square	F Value	Pr > F
DENSITY	3	178680.0000	59560.0000	9.42	0.0008



The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
FERTIL	4	F1 F2 F3 F4

Number of Observations Read	20
Number of Observations Used	16

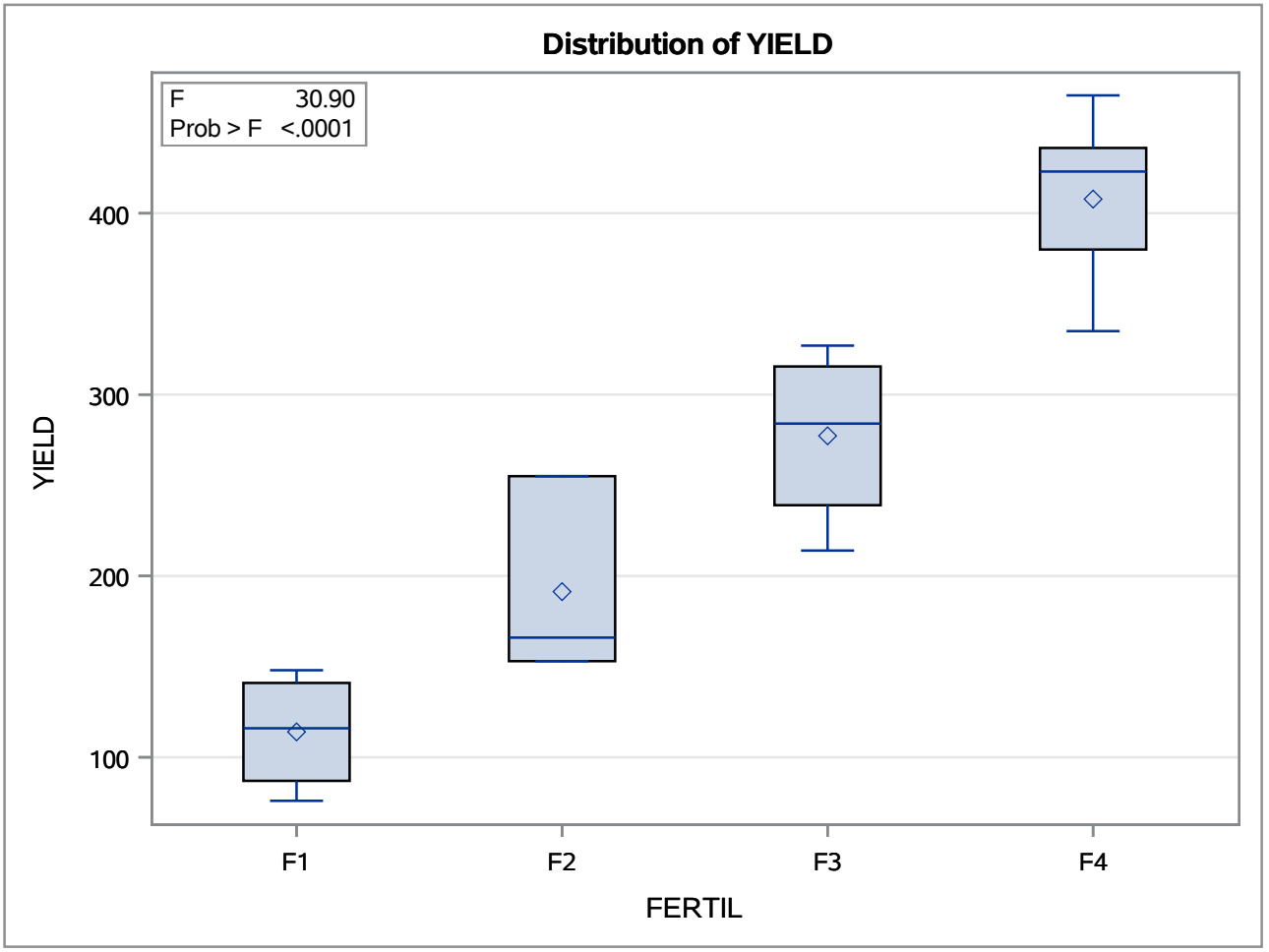
The ANOVA Procedure

Dependent Variable: YIELD

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	209803.5333	69934.5111	30.90	<.0001
Error	12	27158.2167	2263.1847		
Corrected Total	15	236961.7500			

R-Square	Coeff Var	Root MSE	YIELD Mean
0.885390	18.21846	47.57294	261.1250

Source	DF	Anova SS	Mean Square	F Value	Pr > F
FERTIL	3	209803.5333	69934.5111	30.90	<.0001



The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
DENSITY	4	6% 8% 10% 12%

Number of Observations Read	20
Number of Observations Used	20

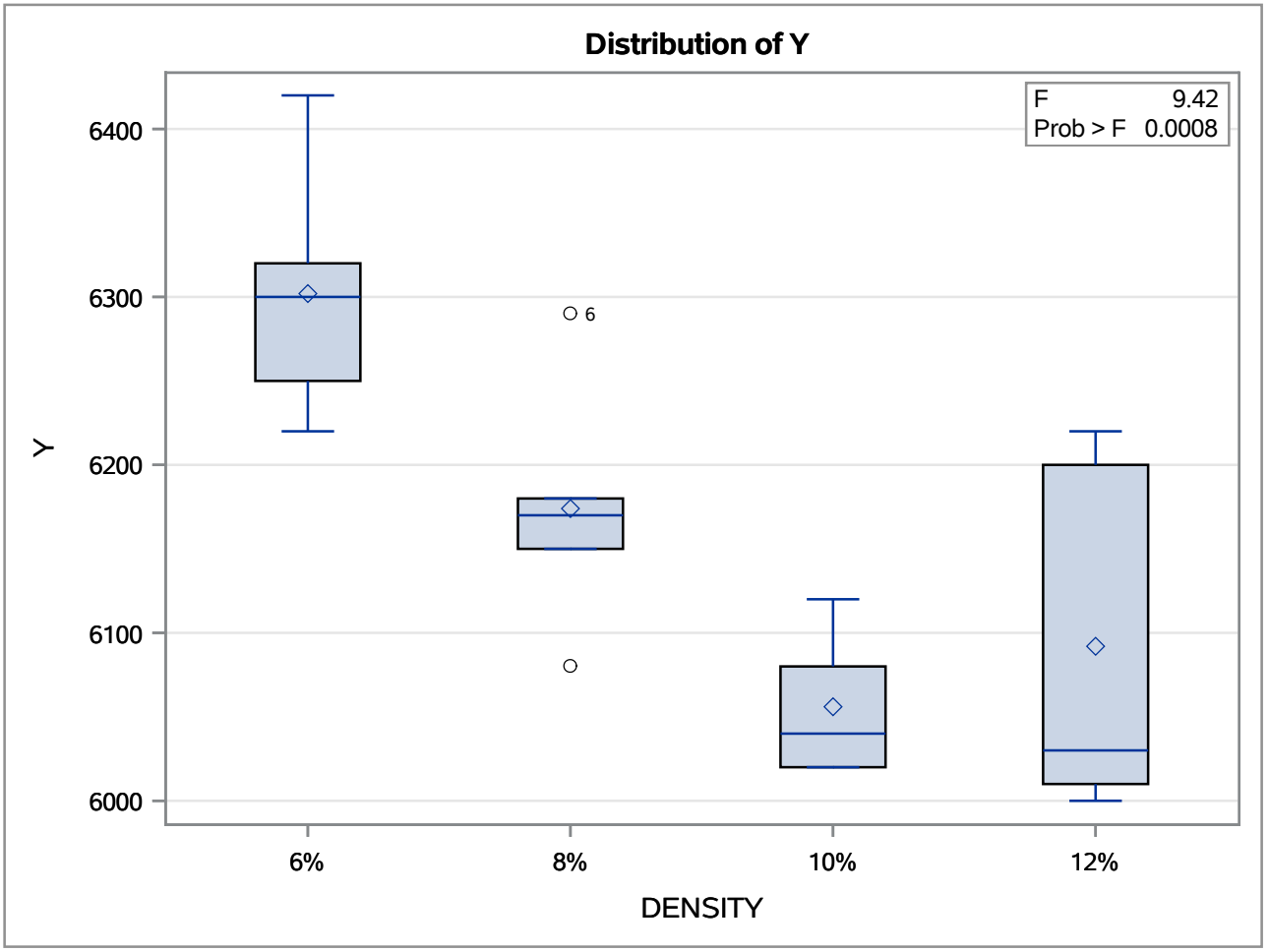
The ANOVA Procedure

Dependent Variable: Y

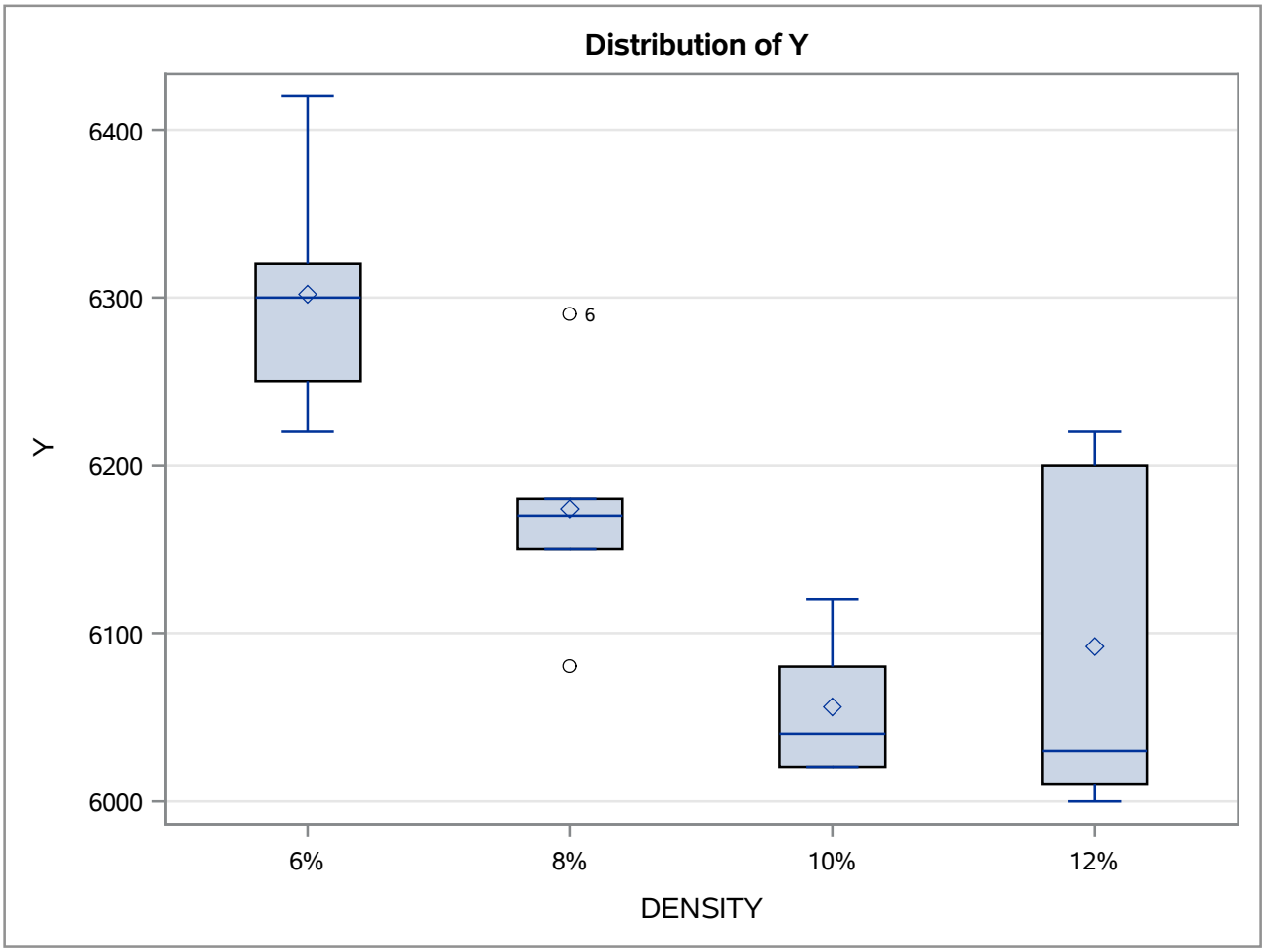
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	178680.0000	59560.0000	9.42	0.0008
Error	16	101200.0000	6325.0000		
Corrected Total	19	279880.0000			

R-Square	Coeff Var	Root MSE	Y Mean
0.638416	1.291908	79.52987	6156.000

Source	DF	Anova SS	Mean Square	F Value	Pr > F
DENSITY	3	178680.0000	59560.0000	9.42	0.0008



The ANOVA Procedure

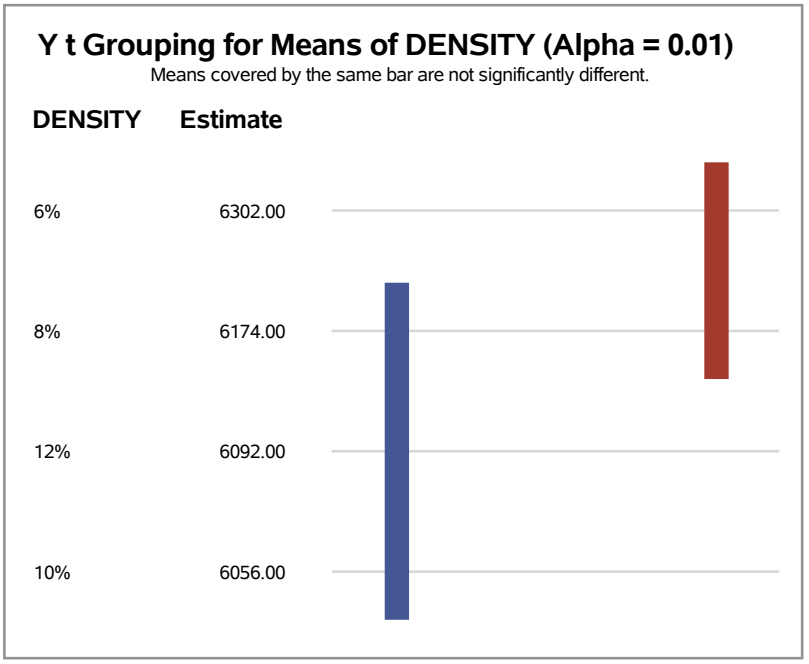


The ANOVA Procedure

t Tests (LSD) for Y

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

Alpha	0.01
Error Degrees of Freedom	16
Error Mean Square	6325
Critical Value of t	2.92078
Least Significant Difference	146.91



The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
FERTIL	4	F1 F2 F3 F4

Number of Observations Read	20
Number of Observations Used	16

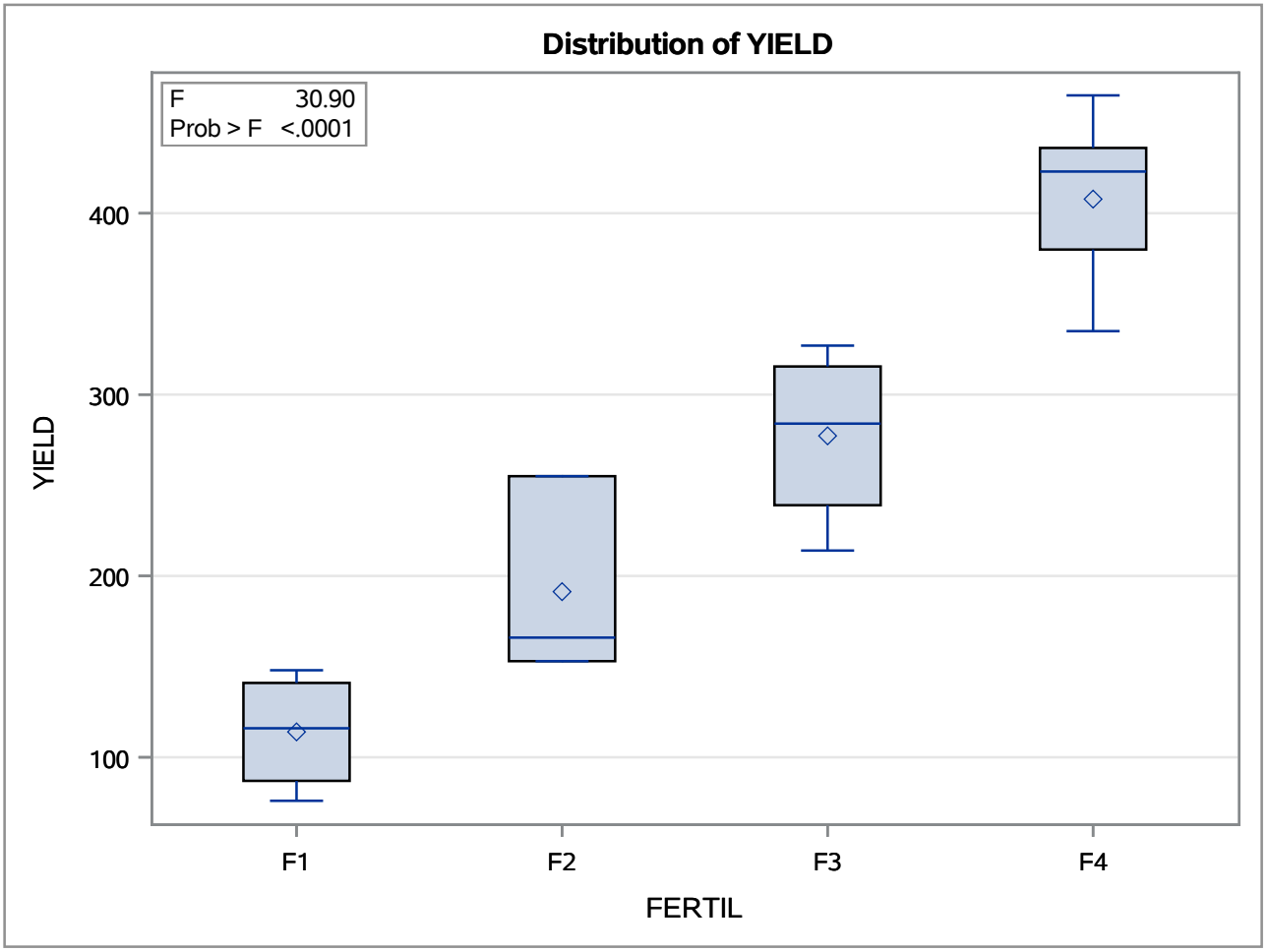
The ANOVA Procedure

Dependent Variable: YIELD

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	209803.5333	69934.5111	30.90	<.0001
Error	12	27158.2167	2263.1847		
Corrected Total	15	236961.7500			

R-Square	Coeff Var	Root MSE	YIELD Mean
0.885390	18.21846	47.57294	261.1250

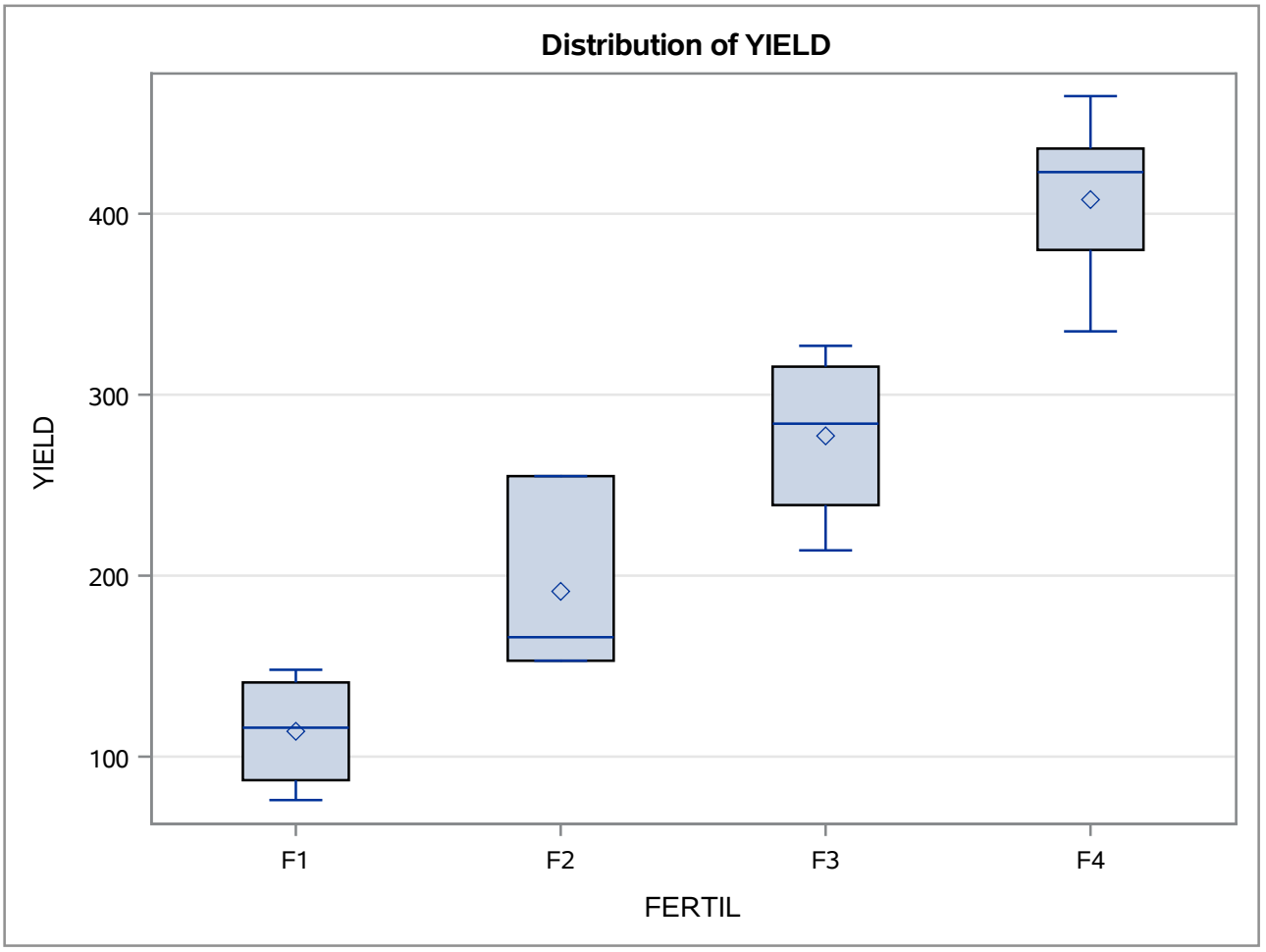
Source	DF	Anova SS	Mean Square	F Value	Pr > F
FERTIL	3	209803.5333	69934.5111	30.90	<.0001



The ANOVA Procedure

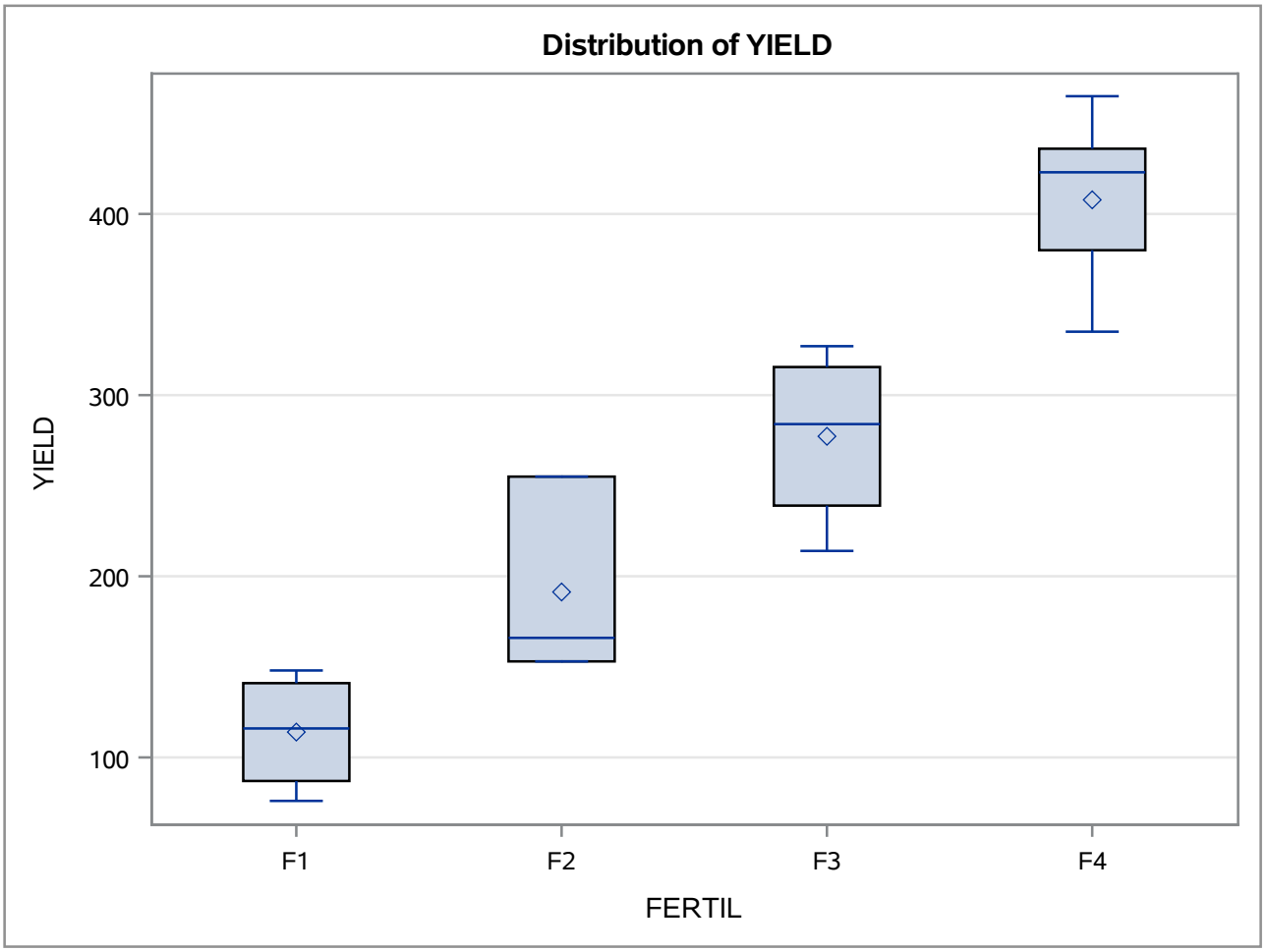
Bartlett's Test for Homogeneity of YIELD Variance			
Source	**DF**	**Chi-Square**	**Pr > ChiSq**
FERTIL	3	0.6953	0.8743

The ANOVA Procedure



Level of FERTIL	N	YIELD	
		Mean	Std Dev
F1	4	114.000000	32.9443976
F2	3	191.333333	55.5187656
F3	4	277.250000	49.5538428
F4	5	407.800000	50.9185624

The ANOVA Procedure



The ANOVA Procedure

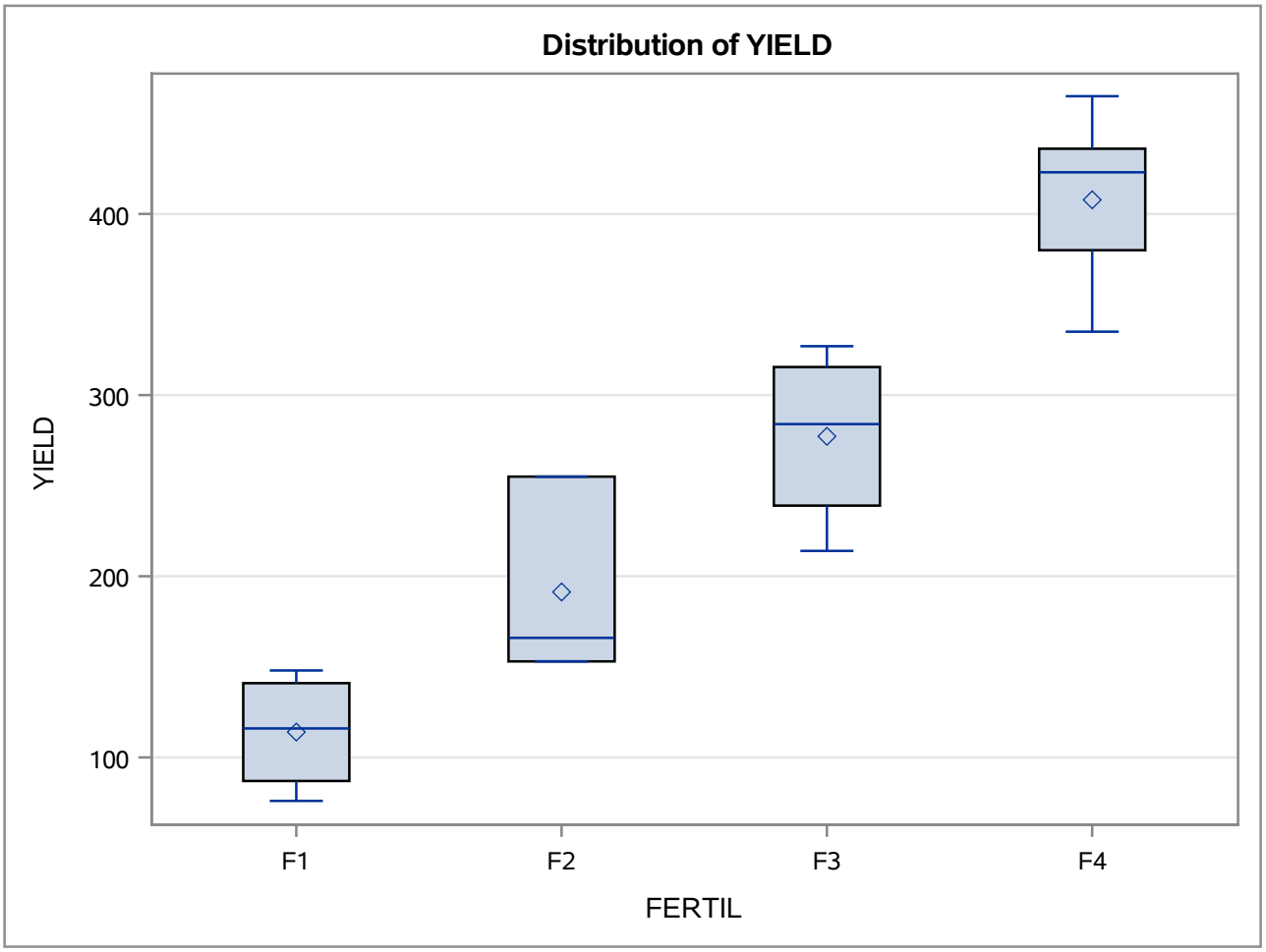
Tukey's Studentized Range (HSD) Test for YIELD

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

Alpha	0.1
Error Degrees of Freedom	12
Error Mean Square	2263.185
Critical Value of Studentized Range	3.62068

Comparisons significant at the 0.1 level are indicated by *.**				
FERTIL Comparison	**Difference Between Means**	**Simultaneous 90% Confidence Limits**		
F4 - F3	130.55	48.85	212.25	***
F4 - F2	216.47	127.52	305.41	***
F4 - F1	293.80	212.10	375.50	***
F3 - F4	-130.55	-212.25	-48.85	***
F3 - F2	85.92	-7.11	178.94	
F3 - F1	163.25	77.13	249.37	***
F2 - F4	-216.47	-305.41	-127.52	***
F2 - F3	-85.92	-178.94	7.11	
F2 - F1	77.33	-15.69	170.36	
F1 - F4	-293.80	-375.50	-212.10	***
F1 - F3	-163.25	-249.37	-77.13	***
F1 - F2	-77.33	-170.36	15.69	

The ANOVA Procedure



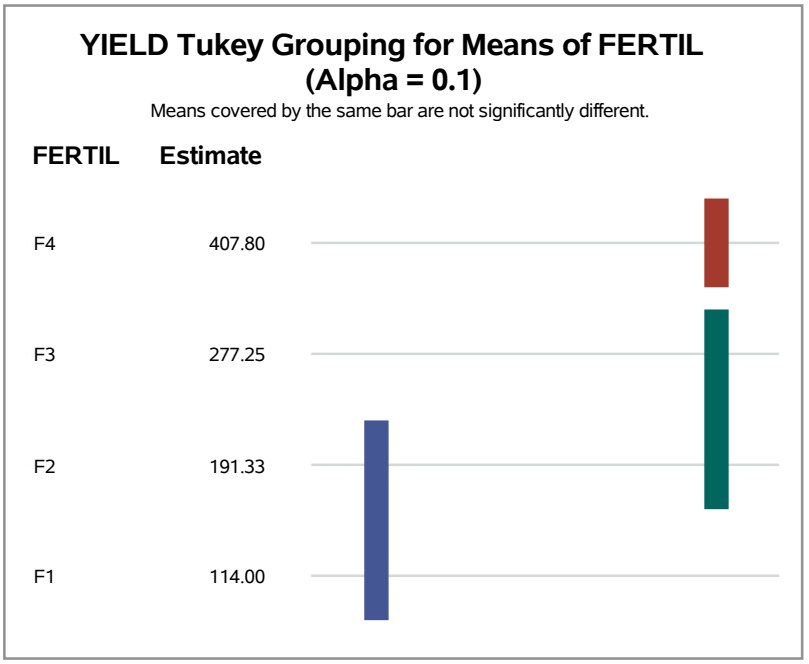
The ANOVA Procedure

Tukey's Studentized Range (HSD) Test for YIELD

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

Alpha	0.1
Error Degrees of Freedom	12
Error Mean Square	2263.185
Critical Value of Studentized Range	3.62068
Minimum Significant Difference	87.547
Harmonic Mean of Cell Sizes	3.870968

Note: Cell sizes are not equal.



The GLM Procedure

Class Level Information		
Class	**Levels**	**Values**
DENSITY	4	6% 8% 10% 12%

Number of Observations Read	20
Number of Observations Used	20

The GLM Procedure

Dependent Variable: Y

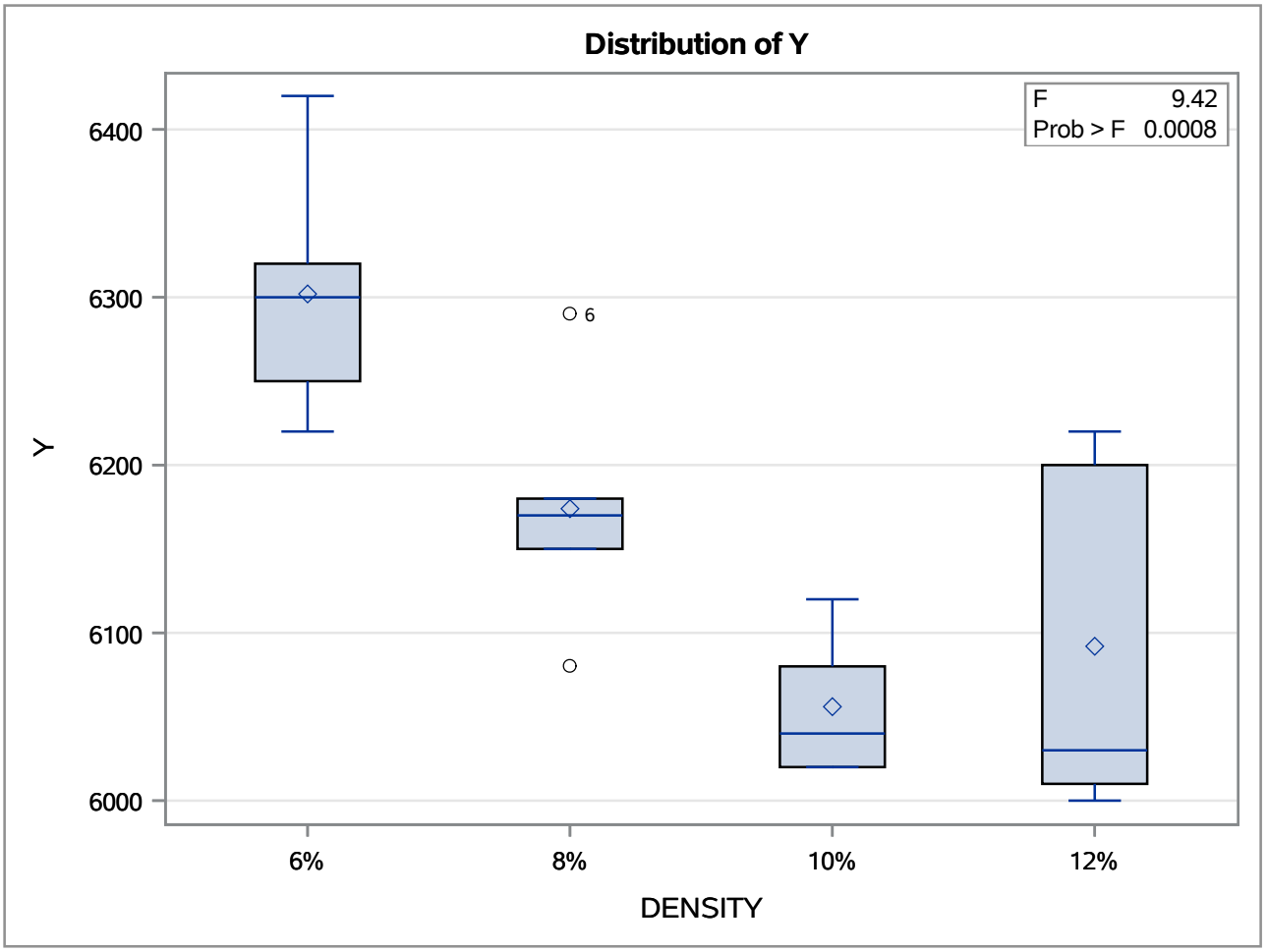
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	178680.0000	59560.0000	9.42	0.0008
Error	16	101200.0000	6325.0000		
Corrected Total	19	279880.0000			

R-Square	Coeff Var	Root MSE	Y Mean
0.638416	1.291908	79.52987	6156.000

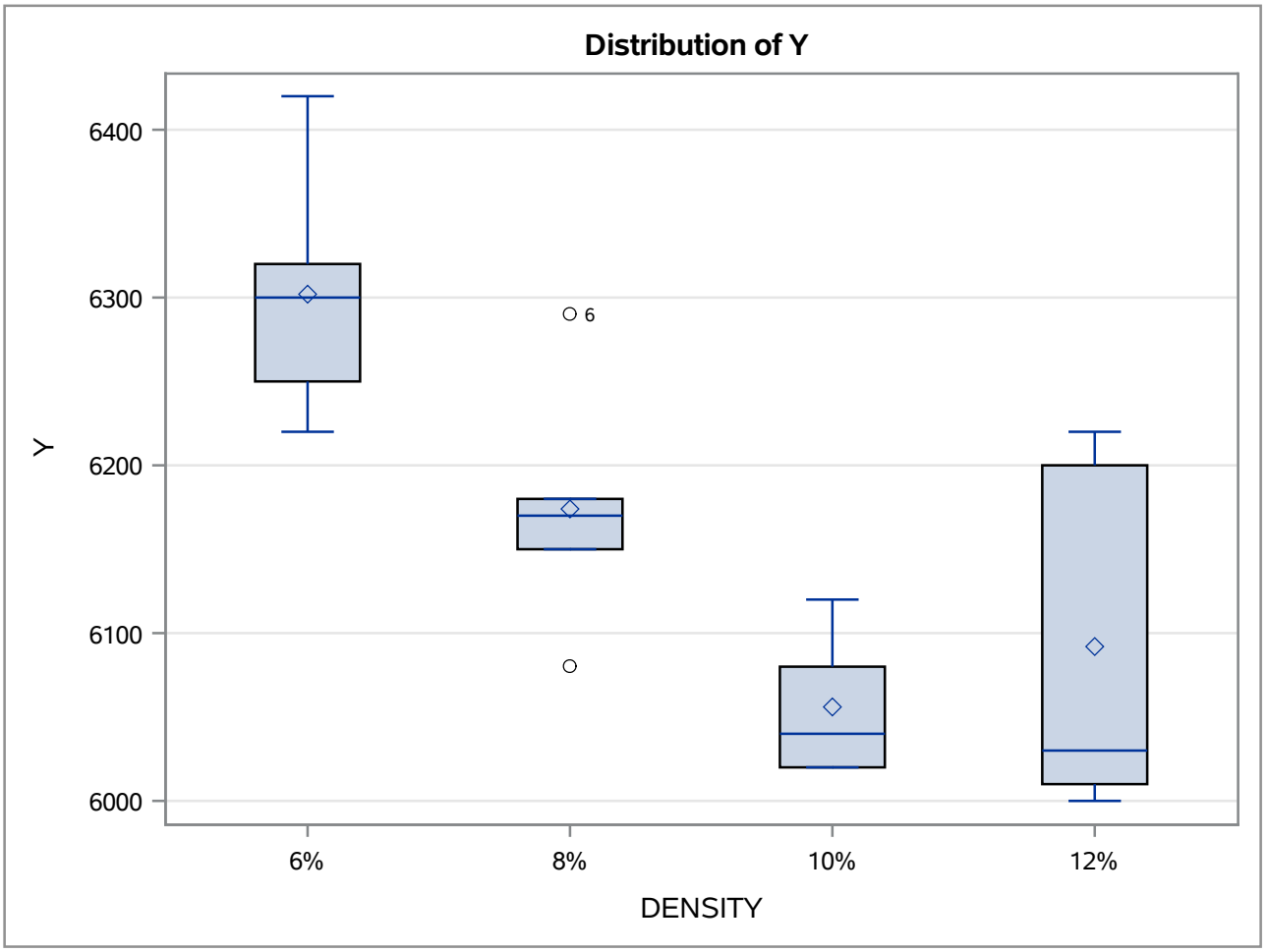
Source	DF	Type I SS	Mean Square	F Value	Pr > F
DENSITY	3	178680.0000	59560.0000	9.42	0.0008

Source	DF	Type III SS	Mean Square	F Value	Pr > F
DENSITY	3	178680.0000	59560.0000	9.42	0.0008

Contrast	DF	Contrast SS	Mean Square	F Value	Pr > F
6% 8% 10 % VS 12%	1	27306.66667	27306.66667	4.32	0.0542
6% VS 8%	1	40960.00000	40960.00000	6.48	0.0216



The GLM Procedure

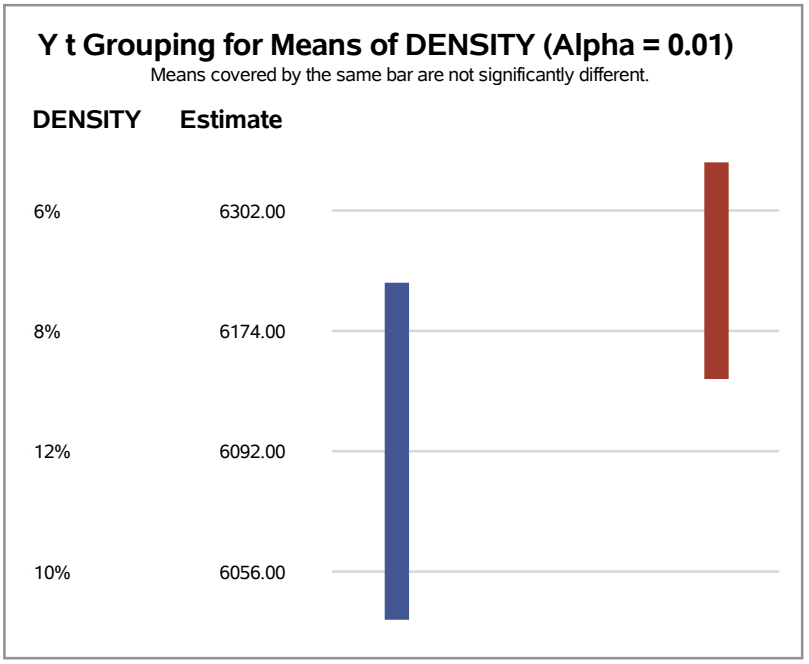


The GLM Procedure

t Tests (LSD) for Y

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

Alpha	0.01
Error Degrees of Freedom	16
Error Mean Square	6325
Critical Value of t	2.92078
Least Significant Difference	146.91



The ANOVA Procedure

Class Level Information		
Class	**Levels**	**Values**
city	3	Large Middle Small
design	3	A B C

Number of Observations Read	27
Number of Observations Used	27

The ANOVA Procedure

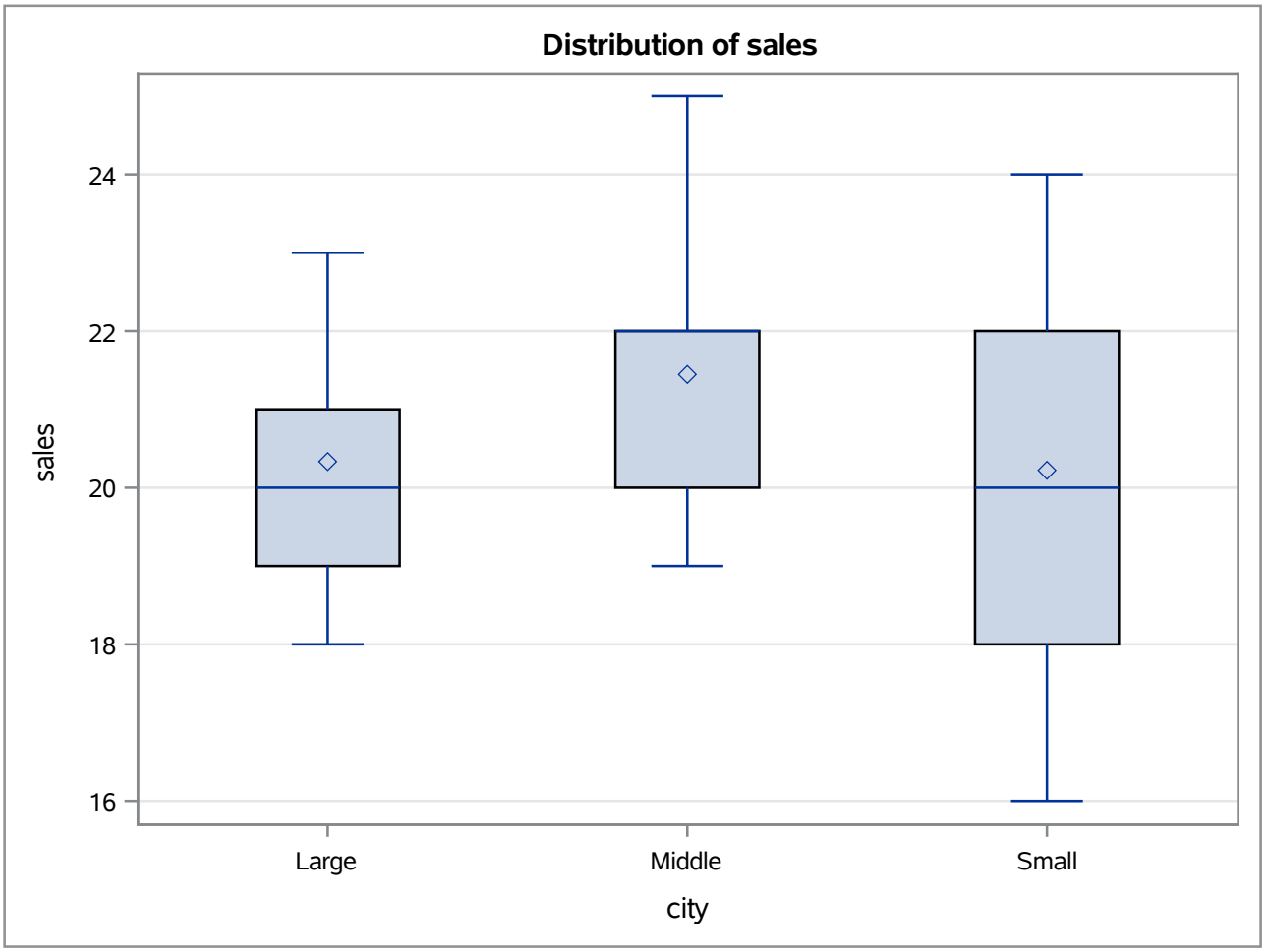
Dependent Variable: sales

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	8	74.6666667	9.3333333	3.88	0.0081
Error	18	43.3333333	2.4074074		
Corrected Total	26	118.0000000			

R-Square	Coeff Var	Root MSE	sales Mean
0.632768	7.507656	1.551582	20.66667

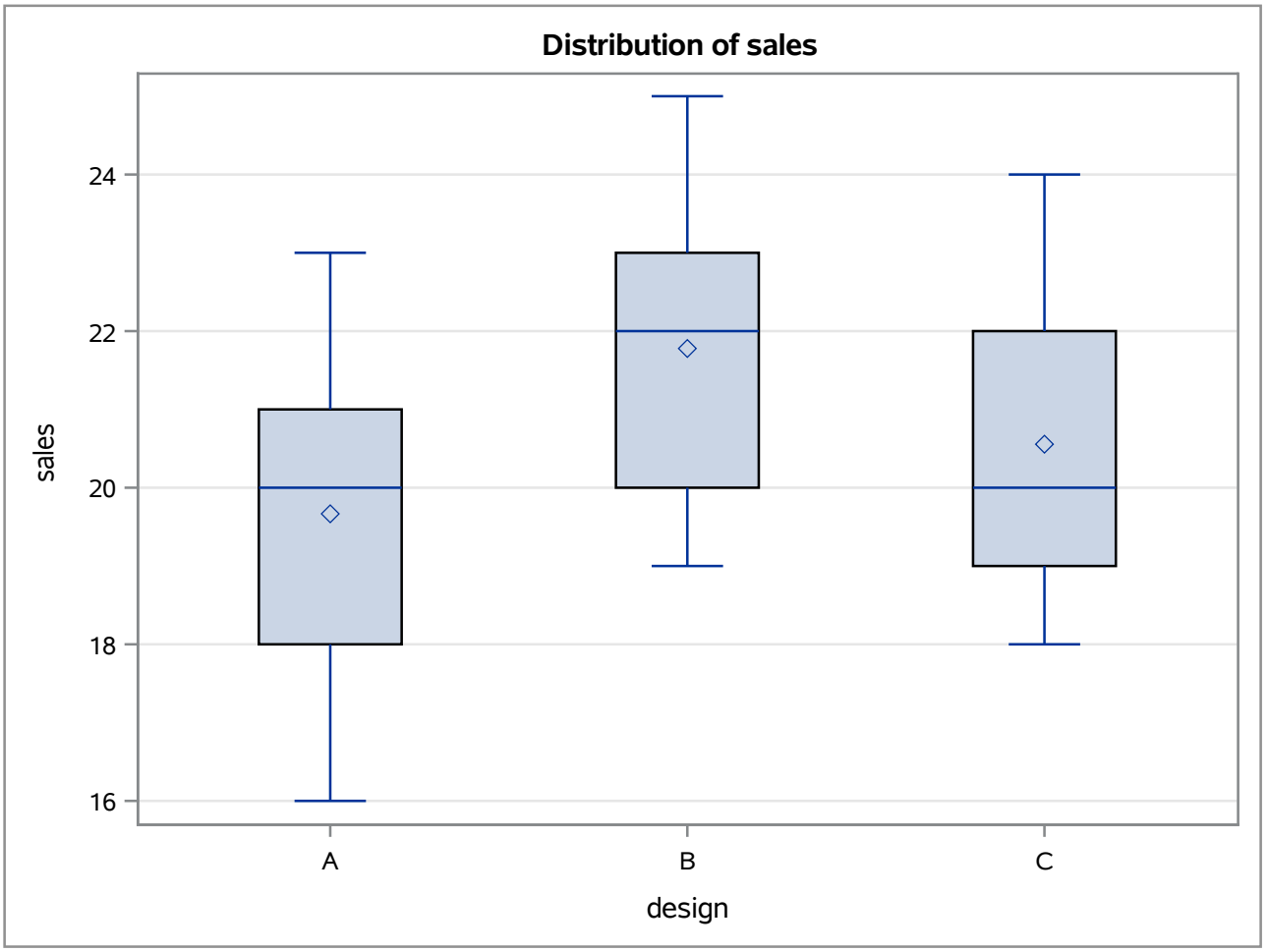
Source	DF	Anova SS	Mean Square	F Value	Pr > F
city	2	8.22222222	4.11111111	1.71	0.2094
design	2	20.22222222	10.11111111	4.20	0.0318
city*design	4	46.22222222	11.55555556	4.80	0.0082

The ANOVA Procedure



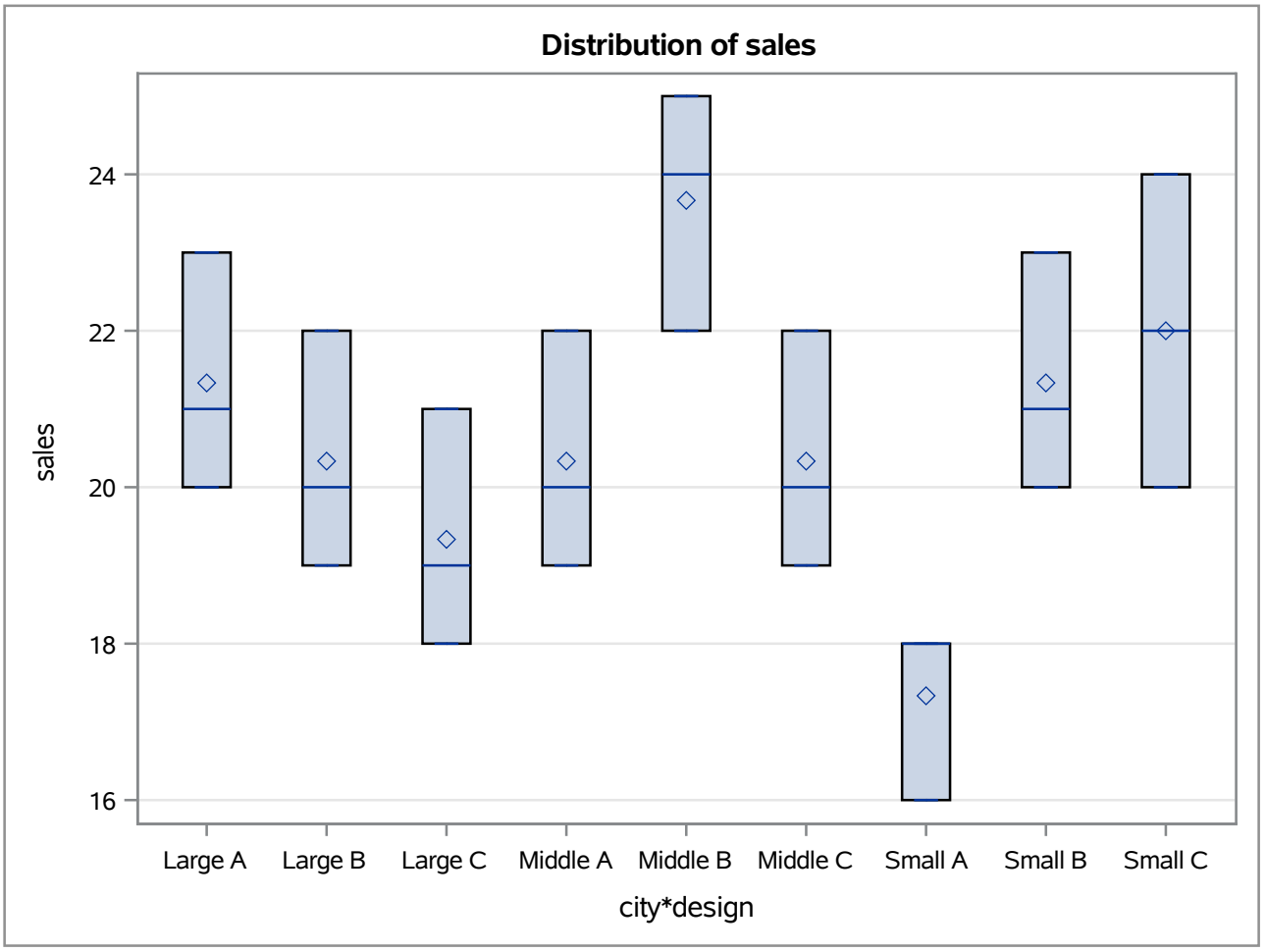
Level of city	N	sales	
		Mean	Std Dev
Large	9	20.3333333	1.58113883
Middle	9	21.4444444	2.12785756
Small	9	20.2222222	2.58736245

The ANOVA Procedure



Level of design	N	sales	
		Mean	Std Dev
A	9	19.6666667	2.17944947
B	9	21.7777778	1.98606255
C	9	20.5555556	1.87823794

The ANOVA Procedure



Level of city	Level of design	N	sales	
			Mean	Std Dev
Large	**A**	3	21.3333333	1.52752523
Large	**B**	3	20.3333333	1.52752523
Large	**C**	3	19.3333333	1.52752523
Middle	**A**	3	20.3333333	1.52752523
Middle	**B**	3	23.6666667	1.52752523
Middle	**C**	3	20.3333333	1.52752523
Small	**A**	3	17.3333333	1.15470054
Small	**B**	3	21.3333333	1.52752523
Small	**C**	3	22.0000000	2.00000000

Obs	city	design	_TYPE_	_FREQ_	mean
1	Large	A	3	3	21.3333
2	Large	B	3	3	20.3333
3	Large	C	3	3	19.3333
4	Middle	A	3	3	20.3333
5	Middle	B	3	3	23.6667
6	Middle	C	3	3	20.3333
7	Small	A	3	3	17.3333
8	Small	B	3	3	21.3333
9	Small	C	3	3	22.0000