GLM for Yield using Variety and Planting Density
Includes Tukey Adjustment for LS Mean Yields

The GLM Procedure

Class Level Information		
Class	Levels	Values
variety	3	1 2 3
density	4	10 20 30 40

Number of Observations Read	36
Number of Observations Used	36

The GLM Procedure

Dependent Variable: yield

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	11	422.3155556	38.3923232	24.22	<.0001
Error	24	38.0400000	1.5850000		
Corrected Total	35	460.3555556			

R-Square	Coeff Var	Root MSE	yield Mean
0.917368	9.064568	1.258968	13.88889

Source	DF	Type I SS	Mean Square	F Value	Pr > F
variety	2	327.5972222	163.7986111	103.34	<.0001
density	3	86.6866667	28.8955556	18.23	<.0001
variety*density	6	8.0316667	1.3386111	0.84	0.5484

Source	DF	Type III SS	Mean Square	F Value	Pr > F
variety	2	327.5972222	163.7986111	103.34	<.0001
density	3	86.6866667	28.8955556	18.23	<.0001
variety*density	6	8.0316667	1.3386111	0.84	0.5484

The GLM Procedure
Least Squares Means
Adjustment for Multiple Comparisons: Tukey

variety	yield LSMEAN	LSMEAN Number
1	11.3333333	1
2	12.2083333	2
3	18.1250000	3

The GLM Procedure
Least Squares Means
Adjustment for Multiple Comparisons: Tukey

Least Squares Means for effect variety Pr > |t| for H0: LSMean(i)=LSMean(j) Dependent Variable: yield			
i/j	**1**	**2**	**3**
1		0.2249	<.0001
2	0.2249		<.0001
3	<.0001	<.0001	

variety	yield LSMEAN	95% Confidence Limits	
1	11.333333	10.583245	12.083422
2	12.208333	11.458245	12.958422
3	18.125000	17.374912	18.875088

Least Squares Means for Effect variety				
i	**j**	**Difference Between Means**	**Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)**	
1	**2**	-0.875000	-2.158534	0.408534
1	**3**	-6.791667	-8.075201	-5.508132
2	**3**	-5.916667	-7.200201	-4.633132

The GLM Procedure
Least Squares Means
Adjustment for Multiple Comparisons: Tukey

density	yield LSMEAN	LSMEAN Number
10	11.4777778	1
20	14.3888889	2
30	15.7777778	3
40	13.9111111	4

The GLM Procedure
Least Squares Means
Adjustment for Multiple Comparisons: Tukey

Least Squares Means for effect density
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: yield

i/j	1	2	3	4
1		0.0003	<.0001	0.0022
2	0.0003		0.1169	0.8514
3	<.0001	0.1169		0.0213
4	0.0022	0.8514	0.0213	

density	yield LSMEAN	95% Confidence Limits	
10	11.477778	10.611650	12.343905
20	14.388889	13.522762	15.255016
30	15.777778	14.911650	16.643905
40	13.911111	13.044984	14.777238

Least Squares Means for Effect density

i	j	Difference Between Means	Simultaneous 95% Confidence Limits for LSMean(i)-LSMean(j)	
1	**2**	-2.911111	-4.548299	-1.273923
1	**3**	-4.300000	-5.937188	-2.662812
1	**4**	-2.433333	-4.070521	-0.796145
2	**3**	-1.388889	-3.026077	0.248299
2	**4**	0.477778	-1.159410	2.114966
3	**4**	1.866667	0.229479	3.503855