```
Data flowers;
  input Block Trmt Prop_flower Count_flower;
  Datalines;
1 1 0.01 191
2 1 0.02 285
3 1 0.01 93
4 1 0.01 357
5 1 0.04 160
6 1 0.01 521
7 1 0.01 263
8 1 0.01 159
9 1 0.01 156
10 1 0.01 114
11 1 0.01 128
12 1 0.01 324
1 2 0.10 39
2 2 0.25 83
3 2 0.16 42
4 2 0.10 10
5 2 0.16 36
6 2 0.11 12
7 2 0.03 44
8 2 0.17 52
9 2 0.11 25
10 2 0.18 18
11 2 0.20 54
12 2 0.16 89
1 3 0.15 24
2 3 0.25 48
3 3 0.15 25
4 3 0.83 41
5 3 0.85 100
6 3 0.91 118
7 3 0.98 67
8 3 0.92 93
9 3 0.83 4
10 3 0.94 38
11 3 0.89 16
12 3 0.99 19
1 4 0.01 1
2 4 0.02 5
3 4 0.01 8
4 4 0.01 4
5 4 0.04 9
6 4 0.01 5
7 4 0.01 3
8 4 0.01 1
9 4 0.01 5
10 4 0.01 9
11 4 0.01 7
12 4 0.01 8
;
Run;
```

```
Proc glimmix data=flowers plots=studentpanel;
  class block trmt;
  model count_flower = trmt;*/ dist=poisson link=log;
 * model prop_flower = trmt;*/ dist=beta link=logit;
  random block;
  output out=second predicted=pred residual=resid residual(noblup)=mresid
student=studentresid student(noblup)=smresid;
Run;

/* Linearity of fixed effects - both as a scatter and a boxplot */
Proc sgplot data=second;
  scatter y=smresid x=trmt;
  refline 0;
Run;

Proc sgplot data=second;
  vbox smresid / group=trmt datalabel;
Run;

/* Homogeneity of effects */
Proc sgscatter data=second;
  plot studentresid*(pred trmt block);
Run;

/* Q-Q plot and Shapiro-Wilk for normal distribution */
Proc univariate data=second normal plot;
  var studentresid;
Run;
```