Table 1: Test for variance among families and populations

Model: Overall\_mean ~ Block + (1 | Population/Family)

| Variable | Group | Variance | PVE | p |
| --- | --- | --- | --- | --- |
| Flower size: 2022 | Family:Population | 1.107 | 4.096 | 0.37 |
| Population | 1.943 | 7.189 | 0.1345 |
| Residual | 23.981 | 88.714 |  |

Table 2: Assess how much variance is explained by urbanization

Urbanization = Distance to the City Center

Model: Overall\_mean ~ Block + (1 | Population/Family) + City\_dist

| Variable | Group | Variance | PVE | p |
| --- | --- | --- | --- | --- |
| Flower size: 2022 | Family:Population | 1.083 | 3.994 | 0.374 |
| Population | 1.961 | 7.233 | 0.141 |
| Residual | 24.062 | 88.772 |  |

Table 3: Quantify variance explained by urbanization

| Variable | Predictor | χ2 | p |
| --- | --- | --- | --- |
| Flower size: 2022 | Block | 2.765 | 0.429 |
| Distance to City Center | 0.606 | 0.436 |

Table 4: Assess how much variance is explained by urbanization

Urbanization = Urbanization Score

Model: Overall\_mean ~ Block + (1 | Population/Family) + Urb\_score

| Variable | Group | Variance | PVE | p |
| --- | --- | --- | --- | --- |
| Flower size: 2022 | Family:Population | 1.244 | 4.603 | 0.358 |
| Population | 1.720 | 6.365 | 0.181 |
| Residual | 24.064 | 89.031 |  |

Table 5: Quantify variance explained by urbanization

| Variable | Predictor | χ2 | p |
| --- | --- | --- | --- |
| Flower size: 2022 | Block | 2.744 | 0.433 |
| Urbanization Score | 0.859 | 0.354 |