As far as we know, there isn't a solid way to calculate percent variance explained for variables with a non-Gaussian distribution. The way that we handled this was to refit our non-Gaussian models (generalized linear mixed models) to general linear mixed models, then extract PVE for the last year of data collection. These new PVEs will be estimates. This is not a perfect solution but it will help us approximate PVE for these variables.

Table 1: Test for variance among families and populations

|  | **Ramets before flowering** | | **Ramets after flowering** | | **Mortality** | |
| --- | --- | --- | --- | --- | --- | --- |
| Group | Variance | PVE | Variance | PVE | Variance | PVE |
| Family | 0.441 | 6.927 | 0.183 | 5.643 | 0.007 | 2.746 |
| Population | 0.000 | 0.000 | 0.011 | 0.324 | 0.003 | 1.410 |
| Block | 0.431 | 6.773 | 0.346 | 10.655 | 0.011 | 4.354 |
| Residual | 5.497 | 86.299 | 2.709 | 83.378 | 0.226 | 91.490 |

Table 2: Assess how much variance is explained by urbanization

Urbanization = Distance to the City Center

|  | **Ramets before flowering** | | **Ramets after flowering** | | **Mortality** | |
| --- | --- | --- | --- | --- | --- | --- |
| Group | Variance | PVE | Variance | PVE | Variance | PVE |
| Family | 0.438 | 6.877 | 0.184 | 5.669 | 0.007 | 2.738 |
| Population | 0.000 | 0.000 | 0.008 | 0.248 | 0.004 | 1.571 |
| Block | 0.435 | 6.833 | 0.348 | 10.728 | 0.011 | 4.359 |
| Residual | 5.496 | 86.291 | 2.708 | 83.355 | 0.226 | 91.332 |

Table 3: Assess how much variance is explained by urbanization

Urbanization = Urbanization Score

|  | **Ramets before flowering** | | **Ramets after flowering** | | **Mortality** | |
| --- | --- | --- | --- | --- | --- | --- |
| Group | Variance | PVE | Variance | PVE | Variance | PVE |
| Family | 0.450 | 7.049 | 0.184 | 5.650 | 0.007 | 2.701 |
| Population | 0.000 | 0.000 | 0.015 | 0.446 | 0.004 | 1.586 |
| Block | 0.433 | 6.787 | 0.347 | 10.656 | 0.011 | 4.376 |
| Residual | 5.497 | 86.164 | 2.708 | 83.248 | 0.226 | 91.338 |