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 | 0.508 | 7.789 | 0.192 | 5.830 | 0.017 | 7.035 |
| Population | 0.008 | 0.130 | 0.000 | 0.000 | 0.002 | 0.837 |
| Block | 0.435 | 6.672 | 0.356 | 10.791 | 0.012 | 4.716 |
| Residual | 5.569 | 85.409 | 2.750 | 83.379 | 0.217 | 87.412 |

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 | 0.512 | 7.884 | 0.190 | 5.826 | 0.018 | 7.163 |
| Population | 0.011 | 0.165 | 0.000 | 0.000 | 0.003 | 1.067 |
| Block | 0.409 | 6.310 | 0.337 | 10.314 | 0.011 | 4.474 |
| Residual | 5.558 | 85.641 | 2.739 | 83.860 | 0.216 | 87.295 |

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 | 0.512 | 7.827 | 0.198 | 5.999 | 0.018 | 7.079 |
| Population | 0.031 | 0.473 | 0.000 | 0.000 | 0.002 | 0.923 |
| Block | 0.435 | 6.645 | 0.354 | 10.747 | 0.012 | 4.729 |
| Residual | 5.563 | 85.054 | 2.744 | 83.254 | 0.216 | 87.269 |