

Table S1: A three-way ANOVA of effects of temperature (T), light (L), storage time (S), and their interactions on germination of *Ixiolirion songaricum* of seeds stored dry at laboratory conditions.

| Source | d.f. | SS | MS | F-value | P-value |
|------------------|------|-----------|-----------|---------|---------|
| Temperature (T) | 3 | 106813.43 | 35604.48 | 1143.00 | < 0.05 |
| Light (L) | 1 | 141365.49 | 141365.49 | 4539.00 | < 0.05 |
| Storage time (S) | 4 | 315.40 | 78.85 | 2.53 | < 0.05 |
| T × L | 3 | 50878.66 | 16959.55 | 544.49 | < 0.05 |
| T × S | 12 | 5464.13 | 455.34 | 14.62 | < 0.05 |
| L × S | 4 | 994.36 | 248.59 | 7.98 | < 0.05 |
| T × L × S | 12 | 4005.52 | 333.79 | 10.72 | < 0.05 |

Table S2: A three-way ANOVA of effects of temperature (T), light (L), retrieval time (R), and their interactions on germination of *Ixiolirion songaricum* of seeds stored (buried) in soil in the experimental garden.

| Source | d.f. | SS | MS | F-value | P-value |
|--------------------|------|-----------|----------|---------|---------|
| Temperature (T) | 3 | 125432.23 | 41810.74 | 2439.00 | < 0.05 |
| Light (L) | 1 | 64158.10 | 64158.10 | 3743.00 | < 0.05 |
| Retrieval time (R) | 3 | 7338.97 | 2446.32 | 142.72 | < 0.05 |
| T × L | 3 | 31638.39 | 10546.13 | 615.28 | < 0.05 |
| T × R | 9 | 11284.18 | 1253.80 | 73.15 | < 0.05 |
| L × R | 3 | 7601.49 | 2533.83 | 147.83 | < 0.05 |
| T × L × R | 9 | 10469.98 | 1163.33 | 67.87 | < 0.05 |

Table S3: A three-way ANCOVA of effects of style length (T), light (L), storage time (S), and their interactions on germination of *Ixiolirion songaricum* of seeds stored dry at laboratory conditions, with seed mass (SM) as a covariate.

| Source | d.f. | SS | MS | F-value | P-value |
|---------------------------------------|------|----------|----------|---------|---------|
| Seed mass (SM) | 1 | 2.73 | 2.73 | 0.24 | 0.63 |
| Type of variation in style length (T) | 2 | 1112.01 | 556.01 | 47.76 | < 0.05 |
| Light (L) | 1 | 64159.05 | 64159.05 | 5511.43 | < 0.05 |
| Storage time (S) | 2 | 31278.58 | 15639.29 | 1343.46 | < 0.05 |
| T × L | 2 | 852.59 | 426.30 | 36.62 | < 0.05 |
| T × S | 4 | 531.69 | 132.92 | 11.42 | < 0.05 |
| L × S | 2 | 28458.90 | 14229.45 | 1222.35 | < 0.05 |
| T × L × S | 4 | 433.98 | 108.50 | 9.32 | < 0.05 |

Table S4: A two-way ANOVA of effects of variation in style length (T), treatment (T'), and their interaction on percentage of fruit and seed set, number of seeds per fruit, and seed mass of *Ixiolirion songaricum*.

| Source | d.f. | SS | MS | F-value | P-value |
|------------------------|------|-----------|----------|---------|---------|
| Percentage of seed set | | | | | |
| T | 2 | 45237.09 | 22618.55 | 16.24 | < 0.05 |
| T' | 4 | 271428.58 | 67857.15 | 48.72 | < 0.05 |
| T × T' | 8 | 24984.85 | 3123.11 | 2.24 | < 0.05 |
| Seed mass | | | | | |
| T | 2 | 6568.02 | 3284.01 | 40.53 | < 0.05 |
| T' | 4 | 8334.49 | 2083.62 | 25.72 | < 0.05 |
| T × T' | 8 | 2085.84 | 260.73 | 3.22 | < 0.05 |

Table S5: A three-way ANCOVA of effects of style length (T), treatment (T'), storage time (S), and their interactions on germination of *Ixiolirion songaricum* seeds stored dry at laboratory conditions, with seed mass (SM) as a covariate.

| Source | d.f. | SS | MS | F-value | P-value |
|--|------|-----------|-----------|---------|---------|
| Seed mass (SM) | 1 | 98.86 | 98.86 | 1.01 | 0.32 |
| Type of variation in style length (T) | 2 | 3740.86 | 1870.43 | 19.18 | < 0.05 |
| Treatment of artificial pollination (T') | 4 | 3244.25 | 811.06 | 8.32 | < 0.05 |
| Storage time (S) | 2 | 237859.23 | 118929.61 | 1219.46 | < 0.05 |
| T × T' | 8 | 1001.47 | 125.18 | 1.28 | 0.26 |
| T × S | 4 | 1640.69 | 410.17 | 4.21 | < 0.05 |
| T' × S | 8 | 2513.62 | 314.20 | 3.22 | < 0.05 |
| T × T' × S | 16 | 858.53 | 53.66 | 0.55 | 0.91 |