

Seeds for the Future

Development of a Seed Bank Program

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Native plant species worldwide are becoming increasingly threatened by habitat loss. One strategy to help preserve plant biodiversity is through the establishment of seed banks. At the K.C. Irving Environmental Science Centre and Harriet Irving Botanical Gardens (K.C. Irving Centre), seed bank procedures are being developed for effective long term storage of native plant species of the Acadian Forest Region.

Seed bank research at the K.C. Irving Centre has involved the development of procedures in six key areas:



1. Collection

- Populations identified and flowering monitored
- Sampling for testing and voucher specimens for Herbarium
- Transport and short term storage prior to processing

2. Processing

- Assessment of seed maturity and viability
- After-ripening period
- Cleaning and seed extraction
- Determination of seed number



3. Germination testing

- Sub-samples tested prior to and following desiccation and freezing treatments
- Current target minimum germination frequency of 60%

4. Desiccation

- Desiccation chamber with controlled temperature and humidity
- Gradual reduction of internal moisture levels

5. Freezing

- Desiccated samples placed in freezer at -20 C
- Sub-samples removed periodically for germination tests
- Results to date show no decline in germination after 2-4 months at -20 C.

6. Regeneration

- Mature plants obtained to replenish the seed stock
- Plants arising from germination tests used for testing

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