

LSOP Title	
Collection and Storage of Arabidopsis Seeds	
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Version	1.1
Location	UQ Node/Centre-wide
Policy/Procedure Link	ABRC Seeds OGTR
Risk Assessments	
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1.0 Scope

This procedure covers the collection of Arabidopsis seeds from siliques, as well as the storage of seeds.

This LSOP does not cover the growth of Arabidopsis.

2.0 Definitions

Siliques – the seed capsule

Inflorescences – the complete flower head of a plant including stem & flowers

Threshing - separate seeds from siliques

3.0 Materials and Equipment

1. Sieve
2. Paper Towel
3. Tubes/Paper Bags
4. Floral Sleeves
5. Plastic Bags
6. Plastic Cylinders
7. Ethanol
8. Permanent Marker
9. Dustpan or mini-vacuum



4.0 Prescribed Actions

Harvesting of siliques via plastic floral sleeves:

1. When the plant initiates bolting wrap it in a plastic floral sleeve around the plant to ensure capture of all seeds and to save them from shattering.
2. When the plant is totally dry, cut the inflorescences remove the plastic sleeve and put into the sieve ready for threshing.
- 3.

Threshing:



1. Wipe bench with ethanol.
2. Set a large, clean, white paper on a bench or table for collection of the threshed seeds.
3. Place a clean threshing sieve on top of the paper.
4. Place dry plants directly onto the sieve. If plants are larger than the sieve, they can be cut into pieces that fit the screen.
5. Crush plants using hands to remove all the seeds from siliques. Discard plant material.
6. Sieve seeds through the mesh repeatedly until they are clean and free of chaff.

NB: After sieving, the seeds are still likely to be mixed with soil and plant residue. A combination of additional sieving, gentle blowing, and visual inspection can be employed to clean the seeds completely.

7. Clean small samples by hand with the aid of a pointed tool on an opaque glass plate illuminated from below, if needed.
8. Place cleaned seed samples in small, labelled manila envelopes or open glass jars to allow seeds to air-dry. Do not use plastic due to static effects.
9. **ALWAYS** label with accession, line number, date, name and GMO
10. Clean up the bench area with mini vacuum or the dustpan and brush.



11. Wipe the surface with ethanol.

Storage of Seeds:

1. Seeds left at room temperature and ambient relative humidity lose viability within approximately 2 years.
2. Seed stored dry at 4 °C or -20 °C should last decades

3. For long-term or archival storage, the recommended temperature is subzero, preferably -20°C and preferably 20 % relative humidity.
4. To reduce frost damage, when removing seeds from storage:
 - a. For vials stored at 4°C , sealed vials must always be warmed to room temperature before opening.
 - b. For vials stored at -20°C , rapid rewarming (placing the sealed vial in a 37°C water bath for 10 min) is a recognized method to minimize frost damage.