

Seeds for the Future



- *Seed is a foundation for forest restoration and conservation projects. To maintain their viability, seed should be collected, stored, and treated properly.*

Seed for the Future



- *Seed collection*
- *Seed banking*
- *Seed storage for seedbank*
- *Identify seed storage behavior*

Seed Collection



- *At least one seed collection trip is needed every month.*
- *Fruit or seed trees are usually collected when they are fully ripe (changing their colors/attracting seed-dispersing animals/starting to split open).*

Seed Collection



- *One of the most important things to maintain genetic diversity, fruits/seeds should be collected from many trees, at least 10 parent trees.*
- *To select vigor seeds and eliminate fungi infection, the various types of processing required depends on the fruit types.*

Seed Banking



- *Seed bank project has important objectives to conserve diversity of plant/tree species through their seeds and keep seed resources for forest restoration project.*

Seed Banking



- *The mission of seedbank includes many procedures such as seed collection and identification, seed cleaning and pre-processing of storage and suitable storing methods.*

Seed Storage for Banking



- *The suitable storage of seed after seed collection is very important to preserve their vigor and vitality.*

Seed Storage for Banking



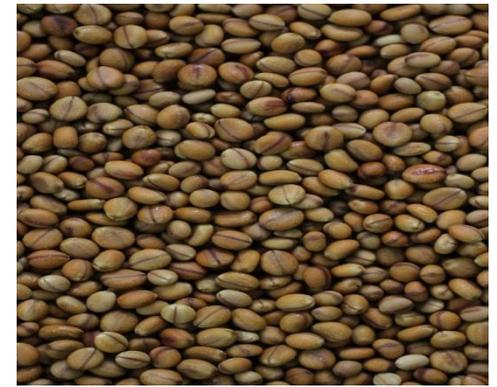
- *Some seeds can last from a few years to a hundred years.*
- *In contrast, some species cannot survive under desiccation or resist the effects of drying, so seeds cannot be stored conventionally.*

Seed Storage for Banking



- *Therefore, the morphological characteristic and seed storage behaviors are essential information to determine the appropriate storage method for each species.*

Identify Seed Storage Behavior



Seed can be identified to **three** groups following their response to dry condition or seed storage behaviors.

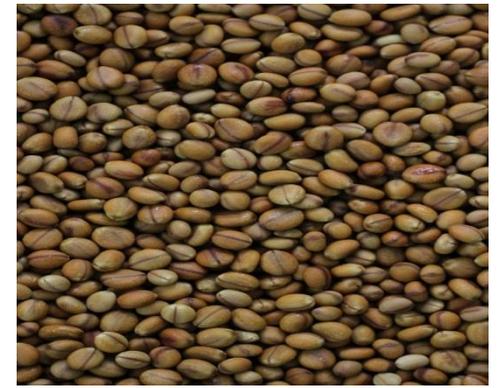
Orthodox seed – seeds can tolerance to desiccation and reduce percent moisture content to at least 5% without damage or lost the viability to germination. The longevity is increased by decreasing of seed storage moisture content and temperature.

Recalcitrant seed

Intermediate seed



Identify Seed Storage Behavior



Seed can be identified to **three** groups following their response to dry condition or seed storage behaviors.

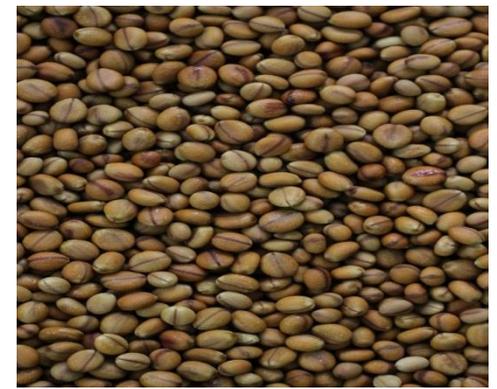
Orthodox seed

Recalcitrant seed – seeds cannot survive desiccation below a comparative high moisture content, responses to loss of water in seed. Recalcitrant seed can be damaged by remaining water that creates ice crystals during conventional storage.

Intermediate seed



Identify Seed Storage Behavior



Seed can be identified to **three** groups following their response to dry condition or seed storage behaviors.

Orthodox seed

Recalcitrant seed

Intermediate seed – seed has the combination characteristic between orthodox and recalcitrant seed. Intermediate seed is able to survive desiccation to dry seed storage moisture content, sometime 7-10% moisture content. However, it is sensitive to low temperature storage.

FORRU Mission on Seeds

Our mission is to do research studies about tree species that related to species conservation and forest restoration project.



Global Tree Seed Bank Program



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Global Tree Seed Bank Program



- **Securing some of the most threatened, rare and useful tree species in the world.**
- **Funded by the Garfield Weston Foundation and co-ordinated by the Royal Botanic Gardens, Kew.**

Global Tree Seed Bank Program



- **The programme has collected over 3000 species and aims to collect a further 2000 species in its current phase.**

Global Tree Seed Bank Program



- In Thailand, project partners Bangkok Forestry Herbarium (BKF) and FORRU-CMU will together collect and conserve seeds of at least 300 native Thai tree and shrub species.
- BKF and FORRU will also produce conservation assessments and distribution maps on 225 Thai woody species with support from Plant Assessment Unit (PAU) of the Royal Botanic Gardens, Kew.



NOTE

- Thank you very much for your attention.
 - Now, let's see some seeds !
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- Please also visit FORRU.org.