



Canadian Food
Inspection Agency

Agence canadienne
d'inspection des aliments

Canadian Food Inspection Agency



Our vision:

To excel as a science-based regulator, trusted and respected by Canadians and the international community.

Our mission:

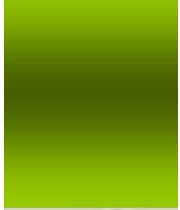
Dedicated to safeguarding food, animals and plants, which enhances the health and well-being of Canada's people, environment and economy.

Quality Control for Reference Materials

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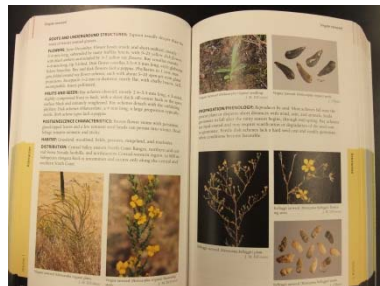


Reference Resources for Seed Identification?

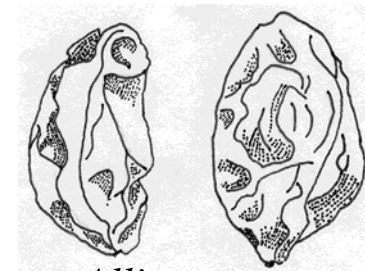
seed identification

Besides specialist knowledge, experience, memory...

- Seed specimens
- Botany and taxonomy information
- Morphological features via seed/ fruit illustration or digital images
- Taxonomy or identification keys
- More.....???



Anthemis cotula



Allium porrum



Accreditation Requirement

seed identification

- **7.1 Management requirements**
 - a) Organization and Management**
 - b) ii** Adequate facilities and equipment must be available to carry out testing activities.



Accreditation Requirement

seed identification

SeedLAAP: 7.2 Technical requirements e) Measurement Traceability

All measuring and testing equipment having an effect on the accuracy or validity of tests must be calibrated (e.g. balances, thermometers, anemometers) or **verified** (e.g. thermometers, germinators, precision blowers, **herbariums**, substrate, chemicals) before being put into service and thereafter, and **records of** the calibrations and **verification must be kept**.





Accreditation Requirement

s e e d i d e n t i f i c a t i o n

Seed LAAP Appendix A

**Seed specimen reference collection
(minimum):**

- all Schedule I crop kinds
- all Weed Seed Order specimens
- 25 other weeds



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Verification of Reference Collection

seed identification

What to verify?

- True to the species
- Provide typical features of the species
- Provide main range of variations of the species

How to conduct a verification?

- Seed identification expertise
- Have reference specimens or source for the verification

Available service provider:

- CFIA
- ISTA, AOSA, USDA labs



Reference Maintenance

seed identification

➤ Storage:

- Provide protection for specimens and easy use for testing need

- Do not cause damage to seed features
- Can be labeled
- Damage can be minimized during use

- Maintenance:

- Remove contaminated and damaged seeds
- Update / replace labels



Common storage

seed identification



Glass vial



slides



Tin



Zip bags



Coin holders





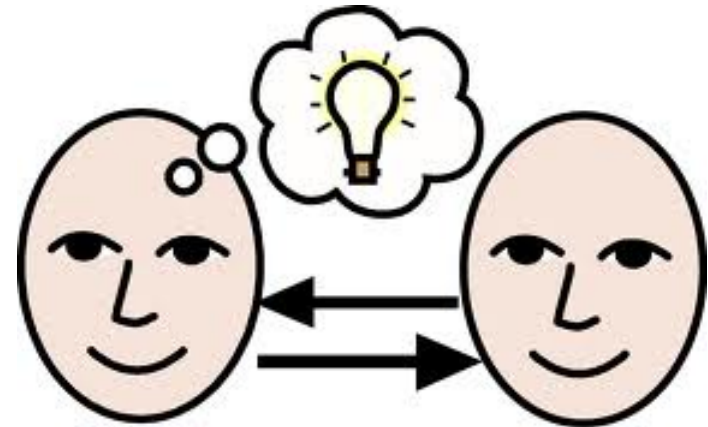
Good Practices to share...

seed identification

Where did you get your reference?

How did the lab verify them?

How did your lab perform the maintenance?





Where did you get your reference?

seed identification

- Input from the workshop participants:
 - SSTS seed images, web sources, e.g., seedimages.com
 - SSTS seed collection binders
 - Verified seeds from identifications sent to SSTS
 - CFIA PT photos kept on record
 - Purchase of old herbariums or commercial sources
 - Collect seeds directly from plants in the field
 - Separated screenings from seed cleaning facilities
 - Seed swap from CSAAC



How did the lab verify them?

seed identification

- Input from the workshop participants:
- CFIA – National Seed Herbarium
- Buddy labs



How did your lab perform the maintenance?

seed identification

- Input from the workshop participants:
- Changing unclear and wrong labels
- Check for insect infestation or moldy seeds
- Remove deteriorated seeds, contaminants, other seeds
- Check or update for name changes
- Verify that the samples have not been contaminated with use
- Working herbarium with vials that don't get open

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