

Assignment 3: Homework for the NPGS GRIN-Global after Webinar 3



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This exercise should be completed *before* you attend
the *4th* webinar session.

**"To see things in the seed, that is genius."
Lao Tzu**

Log in

Login to the Curator Tool (CT). Typically, immediately after I login to the CT, I start the Search Tool to open it, and I launch the Public Website and login to it.



The online GRIN-Global guides have a table of contents. The TOC entries are “clickable.” When you click on an item in the TOC, you should jump to that section in the guide.

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Codes

Several recently asked questions...

(1) How do I determine what the “codes” mean?

Codes are used throughout GG to ensure only certain values are entered in a given field. Contrast that to a text field, where a user could enter anything. In the CT, it is easy to recognize when a code is being used. Two ways:

(1) Move the mouse over the column headings. Fields using codes will indicate that in the rollover tip. The tip indicates the Code Group Name. In this example, values allowed in the Life Sex column must be a value in the **ACCESSION_LIFE_SEX** code group.

The screenshot shows a table with columns: Accessions, Inventory, Orders, Cooperators, Accession Source, Accession Source Cooperator, Accession Inventory Name, Inventory Ac, and a dropdown menu. The 'Life Sex' column is highlighted, and a tooltip appears over it with the text: "life_sex_code -- flowering plant sexuality. Must be a value in the ACCESSION_LIFE_SEX Code Group."

(2) In Edit mode, an empty field using a code will look like this:

The screenshot shows a table with columns: Site, Accessions, Inventory, Orders, Cooperators, Accession Source, Accession Source Cooperator, Accession Inventory Name, Inventory Ac, and a dropdown menu. The table contains several rows of data. The last row has empty fields in the 'Quantity On Hand', 'Standard Distribution Form', and 'Unit of Distribution' columns, each containing the text "[Null]".

A question in the webinar was raised about **Standard Distribution Form**. This was asked specifically regarding Maintenance Policy. However, the same germplasm distribution codes used in many places in GG. The codes are in a group called the **GERMPLASM_FORM**.

| Inventory Name | Accession | Accession Action | Inventory | Cooperator | Order Request Item | Order Request | Web Order Request | Web Order Request Item | Web Order Request Action | |
|-----------------|------------------|------------------|----------------|------------|------------------------------|-------------------|-------------------|------------------------|----------------------------|----------|
| Inventory Index | Inventory Number | Inventory Suffix | Inventory Type | Accession | Inventory Maintenance Policy | Is Distributable? | Is Available? | Inventory Status | Standard Distribution Form | Owned By |

distribution_default_form_code -- Default form for distributions of this inventory sample. **Must be a value in the GERMPPLASM_FORM Code Group.** Examples: Budwood (B)

So how do you know what the codes mean? Read on...

The Codes have two related dataviews which you can search. One has the Codes, whereas the second has not only the codes (their “Values”), but also their Titles and their Descriptions.

| Site | Code Value Language | Inventory | Inventory Maintenance Policy | Inventory Maint Policy Season | Accession IPR | Accession | Cooperator | Order Request Action | Order F |
|------|---------------------|--------------------|------------------------------|-------------------------------|---------------|-----------|-----------------------|----------------------|---------|
| | Code Value Lang ID | Code Value | Group Name | Value | Language | Title | Description | | |
| | 11038 | GERMPPLASM_FORM.** | GERMPPLASM_FORM | ** | Español | ** | System inventory type | | |
| | 11448 | GERMPPLASM_FORM.** | GERMPPLASM_FORM | ** | Français | ** | System inventory type | | |
| | 11823 | GERMPPLASM_FORM.** | GERMPPLASM_FORM | ** | Русский | ** | ** | | |
| | 12247 | GERMPPLASM_FORM.** | GERMPPLASM_FORM | ** | العربية | ** | ** | | |
| | 13369 | GERMPPLASM_FORM.AP | GERMPPLASM_FORM | AP | ENG | AP | Associated plant | | |
| | 13370 | GERMPPLASM_FORM.AP | GERMPPLASM_FORM | AP | English | AP | Associated plant | | |
| | 13186 | GERMPPLASM_FORM.BA | GERMPPLASM_FORM | BA | ENG | BA | Bacteria | | |



The genebank’s GG database administrator (DBA) can add or remove codes as desired. Only a few codes cannot be removed. For example, GERMPPLASFORM, the ** code record cannot be removed.



Practice! Open the Code Value Language dataview in the Search Tool, and explore!

Perhaps the easiest way to determine what the codes and their meanings are is to run a SQL query on your Public Website. *You must be logged in to the Public Website.* (Only internal genebank staff whose PW account has been enabled can do this. We haven’t discussed this concept of running SQL queries yet, but will.)

The SQL Code is below, but also in the online guide at https://www.grin-global.org/docs/gg_sql_examples.docx

```

SELECT
  cv.code_value_id,
  cv.group_name as group_name,
  cv.value, cvl.title, cvl.description
FROM
  code_value cv
  LEFT JOIN code_value_lang cvl ON cv.code_value_id = cvl.code_value_id
  AND cvl.sys_lang_id = 1

```

The screenshot shows the U.S. National Plant Germplasm System interface. At the top, there is a green header with the system name and a navigation menu including 'Accessions', 'Descriptors', 'Reports', 'GRIN Taxonomy', 'GRIN', 'Help', and 'Contact Us'. A 'Tools' dropdown menu is open, showing options like 'Web Query', 'Create Query', and 'Download Cui'. Below the header is a 'Load SQL from' section with a 'BROWSE...' button and an 'Upload' button. A text box on the left contains an SQL query:

```
SELECT
  cv.code_value_id,
  cv.group_name as group_name,
  cv.value, cvl.title, cvl.description
FROM
  code_value cv
  LEFT JOIN code_value_lang cvl ON
  cv.code_value_id = cvl.code_value_id
```

Below the query editor, there is a 'Limit rows to:' field set to '10000' and an 'Execute SQL' button. The results are displayed in a table with columns: 'code_value_id', 'group_name', 'value', 'title', and 'description'. The table shows two entries:

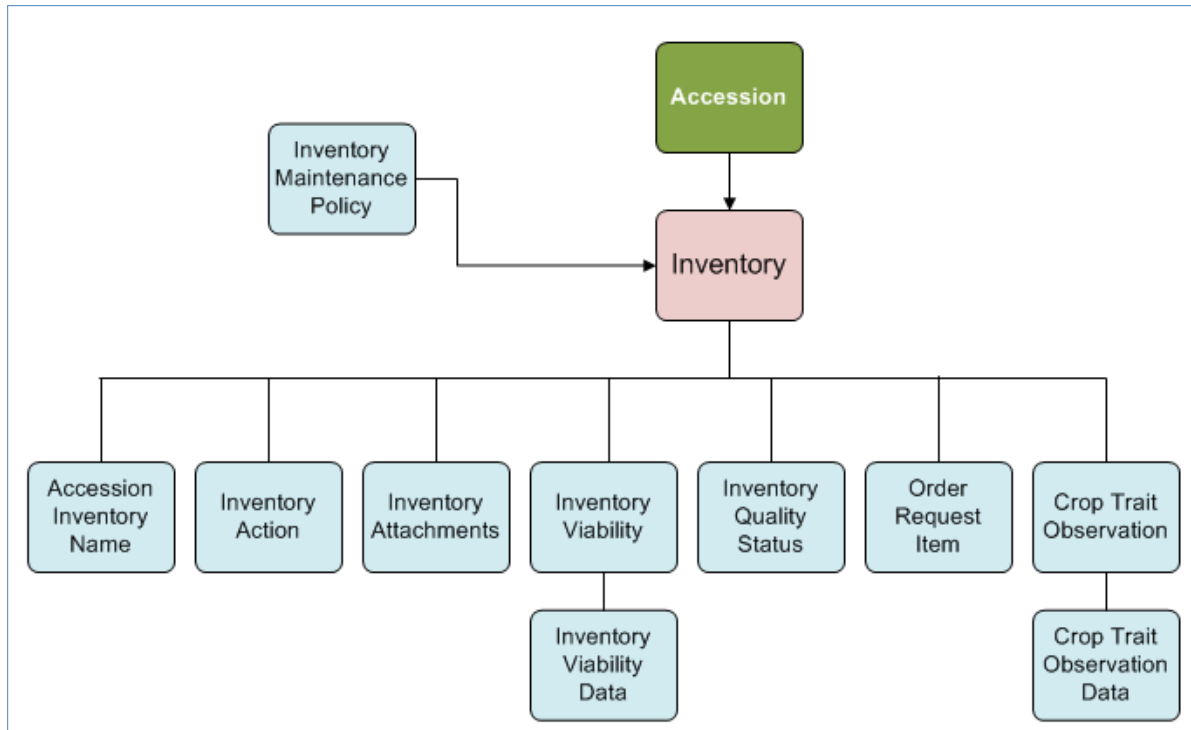
| code_value_id | group_name | value | title | description |
|---------------|-------------------|----------|-------------------|--|
| 1 | IMPROVEMENT_LEVEL | BREEDING | Breeding material | Material used to support breeding activities, developed through plant breeding, e.g. pre-breeding lines. |
| 2 | IMPROVEMENT_LEVEL | CLONE | Clone | Clone |



The online document, SQL Library, has many handy SQL queries which are simple to use. Generally, you copy from the SQL “as is” from the document and paste into the Query box on the Public Website. The document is at https://www.grin-global.org/docs/gg_sql_examples.docx

Inventory

The main inventory table is the parent to many children tables. In GRIN-Global, in the Curator Tool, we have many dataviews to facilitate the entering of data into the parent Inventory record and the children records – the Curator Tool is programmed to manage these relationships.



All inventory records relate to accession records, and all are linked to an [Inventory Maintenance Policy](#).

System Inventory Records

We mentioned that whenever an Accession record is created, a default inventory record is automatically created by GG. We refer to this default inventory record as the “system” inventory record. The “system” inventory record *does not* refer to physical inventory stored on a shelf or in a field somewhere.

For example, in the example below, I created two child inventory records for Accession PHV 95002 mar.

| Accessions | Acc.Name | Inventory | Inv.Name | Orders | Cooperators | Tax.Species | Crop | CropTrait | Obs |
|--------------|------------------|------------------|------------------|----------------|---------------|------------------------------|------|-----------|-----|
| Inventory ID | Inventory Prefix | Inventory Number | Inventory Suffix | Inventory Type | Accession | Inventory Maintenance Policy | | | |
| 3924881 | PHV | 95002 | mar | ** | PHV 95002 mar | SYSTEM | | | |
| 3925195 | PHV | 95002 | mar | SD | PHV 95002 mar | SYSTEM | | | |
| 3925196 | PHV | 95002 | mar | BD | PHV 95002 mar | Pistachio | | | |

Three inventory records are displayed – the two I created, with the **Inventory Types SD and BD**, and the virtual inventory record. The virtual record will always have the ****** for **Inventory Type**.



Practice!

In the Curator Tool, display the **Inventory** dataview tab:

| Inventory ID | Accession | Inventory Prefix | Inventory Number | Inventory Suffix | Inventory Type | Inventory Maintenance Policy | Inventory Maintenance Site | Is Default Inventory? | Is Av. |
|--------------|------------|------------------|------------------|------------------|----------------|------------------------------|----------------------------|-----------------------|--------|
| 5663500 | MAR 32 RRG | MAR | 32 | RRG | SYSTEM | INC7 | N | N | |
| 5663501 | MAR 33 RRG | MAR | 33 | RRG | ** | | | N | |
| 5663502 | MAR 34 RRG | MAR | 34 | RRG | ** | | | N | |
| 5663503 | MAR 35 RRG | MAR | 35 | RRG | ** | | | N | |
| 5663504 | MAR 36 RRG | MAR | 36 | RRG | ** | | | N | |
| 5663505 | MAR 37 RRG | MAR | 37 | RRG | ** | | | N | |
| 5663506 | MAR 38 RRG | MAR | 38 | RRG | ** | | | N | |
| 5663507 | MAR 39 RRG | MAR | 39 | RRG | ** | | | N | |

Take a few minutes to review the inventory dataview and the many inventory fields. The online Inventory document goes into detail about each field: https://www.grin-global.org/docs/gg_inventory.docx

Important points to remember about Inventory

- when creating a new inventory record, perhaps the most important required field is the **Inventory Maintenance Policy (IMP)**
- when you create a new inventory record, many (*but not all*) of the fields in the **Inventory Maintenance Policy** will fill in their matching fields in the new inventory record (see p. 14 in the inventory guide to see the complete illustration & details)

| Inventory Maint Policy ID | Maintenance Name | Form Type | Quantity On Hand Units | Web Availability Note | Is Auto Deducted? | Distribution Default Form | Standard Distribution Quantity | Unit of Distribution | Distribution Critical Amount | Replenishment Critical Amount | Regeneration Method |
|---------------------------|------------------|-----------|------------------------|--------------------------------------|-------------------------------------|---------------------------|--------------------------------|----------------------|------------------------------|-------------------------------|---------------------|
| 1 | SYSTEM | ** | [Null] | A | B | ** | C | D | E | F | G |
| 690 | Humulus-RRG-SD | SD | count | | <input checked="" type="checkbox"/> | SD | 25.00000 | count | 2000.00000 | 5000.00000 | [Null] |
| 691 | Humulus-RRG-CT | CT | count | Cuttings are seasonally available... | <input checked="" type="checkbox"/> | CT | 5.00000 | count | 20.00000 | 50.00000 | [Null] |
| 692 | Humulus-RRG-IV | IV | count | | <input checked="" type="checkbox"/> | IV | 3.00000 | count | 10.00000 | 20.00000 | [Null] |

- whoever owns the **Inventory Maintenance Policy** record that was used to create the Inventory record, automatically owns the new inventory record (owners can easily be changed later - if necessary / when desired; we will learn how later)
- the **Inventory Maintenance Site** field is determined by the owner of the inventory record
- each inventory record must have a unique identifier consisting of 4 fields: **Inventory -Prefix, -Number, -Suffix, and -Type**
- an accession on the Public Website will be listed as “*Not Available*” unless the accession has an Inventory record which has two fields set to “Y” – the **Is Distributable?** and the **Is Available?** fields

(Note: in the TRAINING database, the **Is Distributable?** field is incorrectly labeled as “**Is Default Inventory?**”)

Review Question: Which of the following inventories can be distributed?

| Inventory ID | Accession | Inventory Prefix | Inventory Number | Inventory Suffix | Inventory Type | Inventory Maintenance Policy | Inventory Maintenance Site | Is Default Inventory? | Is Available? | Is Auto Deducted? | Inventory Status |
|--------------|------------|------------------|------------------|------------------|----------------|------------------------------|----------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------|
| 5663581 | RRG 2 mar | RRG | 2 | axel00 | SD | MAR-rg-nc7 | NC7 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Available |
| 5663799 | RRG 13 mar | RRG | 13 | mar | SD | MAR-Seeds | NC7 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Domant lot |
| 5663801 | RRG 10 mar | RRG | 10 | mar | SD | MAR-Seeds | NC7 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Available |

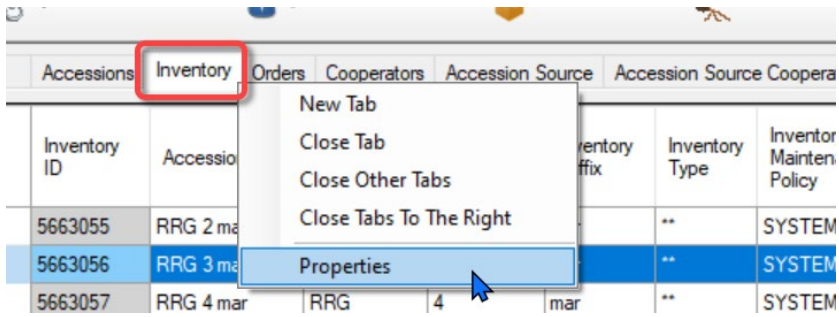
If you think the **RRG 13 mar SD** inventory can be distributed, you are correct! To me, what makes this a bit unclear is the **Inventory Status** field. That field does not control whether the order wizard will use the inventory or not.

Some additional comments about inventory.

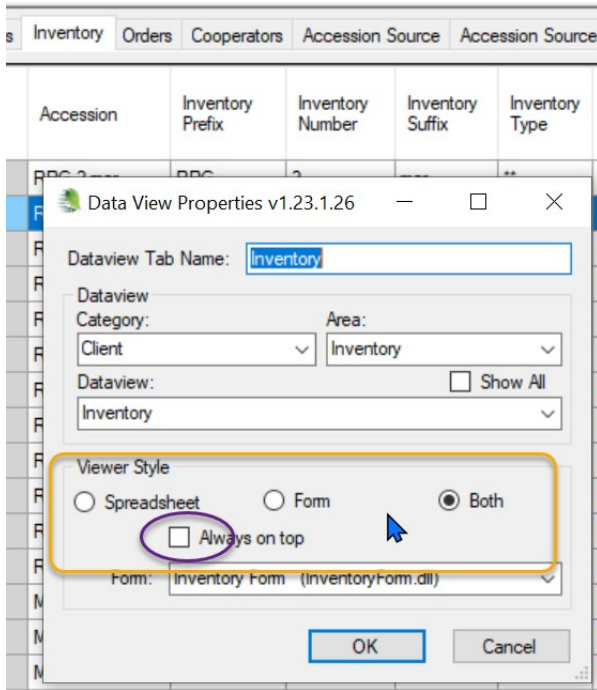
The inventory record has many fields, and in the grid (“spreadsheet”) mode, you often must scroll. The Inventory dataview has an optional form. You can use the form to edit and review data, and you can even use the form and the grid simltanetously:

The screenshot shows the GRIN-Global v1.23.1.26 interface. On the left, there is a grid view of inventory records. The 'Inventory' tab is selected. The grid shows several records, with the record for Inventory ID 5663799 highlighted. On the right, a detailed form for this inventory record is displayed. The form includes fields for Accession Name (RRG 13 mar), Inventory ID (5663799), Taxon (Humulus lupulus), Inventory Prefix (RRG), Inventory Number (13), Inventory Suffix (mar), and Inventory Type (SD). Other fields include Inventory Maintenance Site (NC7), Parent Inventory (RRG 13 mar), Inventory Status (Available), and various checkboxes and input fields for distribution and maintenance settings.

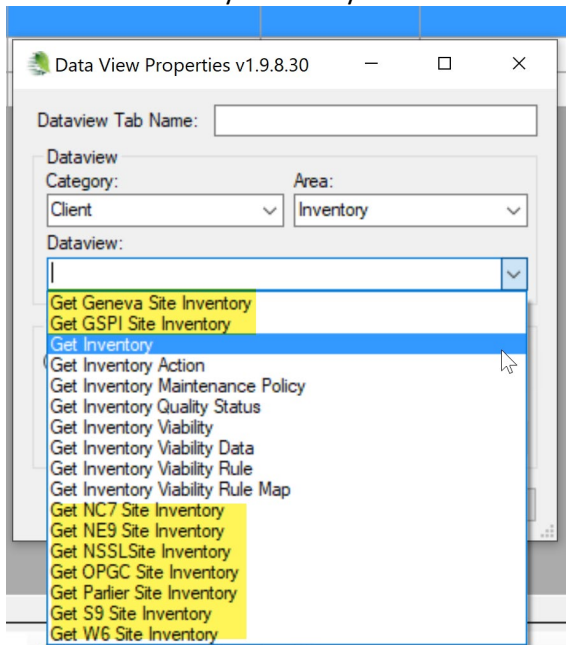
Forms are accessed by right-clicking on the Inventory tab name and then selecting the dataview’s Properties:



(Forms exist for Accessions, inventory, and Orders.)



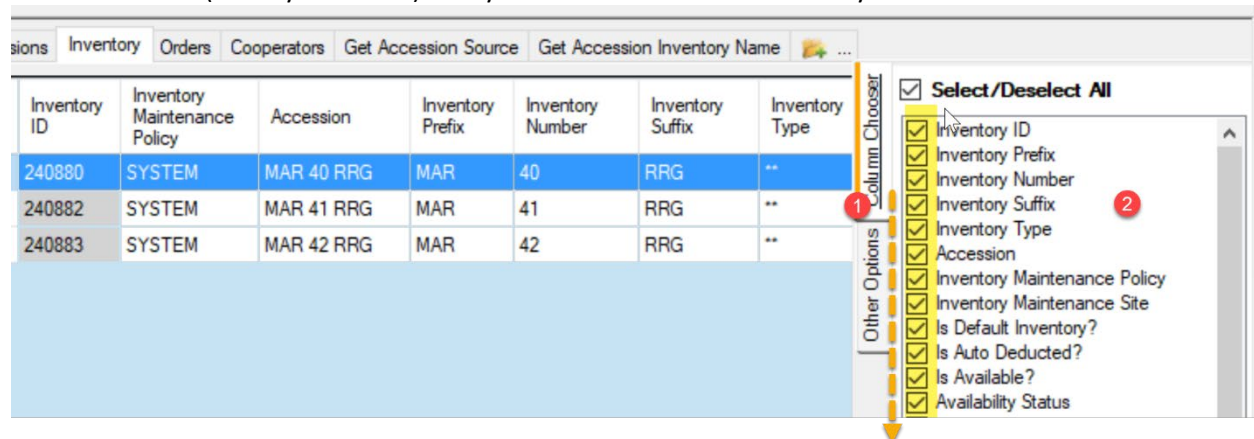
Observe how many Inventory related dataviews are in the database



The highlighted dataviews were designed for specific sites in the USDA National Plant Germplasm System (NPGS). Your organization may or may not make these available. They can be used as is or copied by the DBA. When you have some time, open them and explore. This is something you should consider doing after you have used GG for some time and understand the schema better. You might decide to use a different inventory dataview rather than the standard **Get Inventory**.

Another point to make here is that it is relatively easy to have custom dataviews. Usually an organization should use and test the GG database with its dataviews first to determine their specific needs.

Remember also (for any dataview) that you can hide columns in which you are not interested:



Managing Workflow by recording Inventory Actions

GG has several action tables – **Accessions Actions**, **Inventory Actions**, and **Order Actions**. A good practice for sites to consider is recording staff actions as the staff starts and/or completes a specific task. This helps to ensure a consistent process and workflow. Teams in the genebank can decide what tasks should be recorded.



Practice!

Open the **Inventory Action** dataview in the Search Tool, and search for some action records. Since there are many, be sure you have a reasonable number as the maximum number for the **Limit**:

Search Results

Add To Query Clear Query Limit: 200 Page Size: 100

Get Accession Inventory Name Get Accession Source Inventory Maintenance Policy Get Inventory Action ... Show All Columns

| Inventory Action ID | Inventory | Action Name | Start Date Format | Start Date | Completed Date Format | Completed Date |
|---------------------|----------------|-------------|-------------------|------------|-----------------------|----------------|
| 43 | EST2669 1 1 SD | Stored | dd/mm/yyyy | 4/28/2010 | dd/mm/yyyy | 4/28/2010 |
| 44 | EST267 1 1 SD | Planted | dd/mm/yyyy | 3/1/1999 | dd/mm/yyyy | 3/1/1999 |
| 45 | EST267 1 1 SD | Received | dd/mm/yyyy | 3/1/1999 | dd/mm/yyyy | 3/1/1999 |
| 46 | EST267 1 1 SD | Stored | dd/mm/yyyy | 6/10/1999 | dd/mm/yyyy | 6/10/1999 |

The **Action Name** column uses codes. Said before, codes can be added or removed by the DBA to match the organization's needs.



Practice!

Inventory Practice

Use one of your accessions that you created in an earlier exercise.

- a. Create two **Inventory** records for that accession.

Remember that when creating any new records, in Edit mode, the violet color in the cell indicates that that field is required.

- b. Create several **Accession Inventory Name** records. Then search in the GG Public Website for the related accession, and review its detail page to determine if the names are visible.
- c. Highlight the **Accession** item in the List Panel. Practice switching between the dataviews: **Accession**, **Inventory**, **Inventory Name**, and **Inventory Action** dataviews.
- d. Create some search queries that look for some of your specific Actions that made in step C. Drag the query text to an empty folder in the CT to create a dynamic query.

GRIN-Global Search v1.23.1.26

Basic Query

Search Now!

Find: Default accession

Matching: Any Word All Words List of Items

Search Criteria

@inventory_action.action_name_code = 'CLEANED'

Clear Text

Search Results

Add To Query Clear Query

| Accession | Inventory Name | Accession Source | Accession Action | Inventory Action |
|-----------|----------------|------------------|------------------|------------------|
| | | | Seed cleaned | |

Query Results v1.23.1.26

Found at least 1218 'possible' matches in the database.
Continue to retrieve data?

OK Cancel