

# Exercise: Crop Traits and Observations



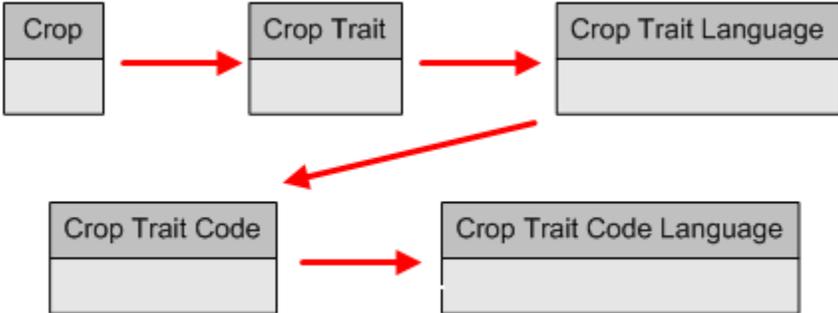
**Revision Date**  
Friday, August 02, 2013



Some of the crop-related dataviews are currently in transition – for example, some column headings may differ from the following screen captures. Nevertheless, you should be able to complete the exercises by following the screens as shown.

## Crops and Crop Traits Overview

There are five crop-related dataviews that need to be considered when setting up the crops and crop traits for your organization. The following illustrates the general flow in inputting /editing data in the crop-related dataviews that you should follow in establishing new crop traits:

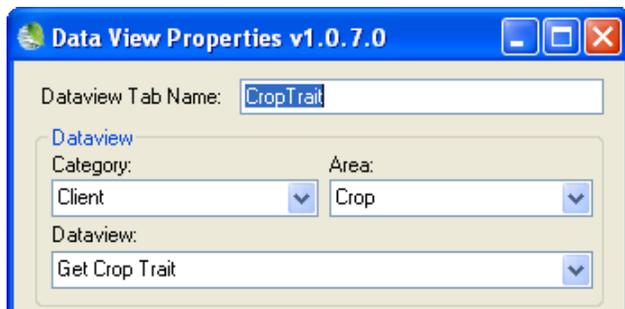
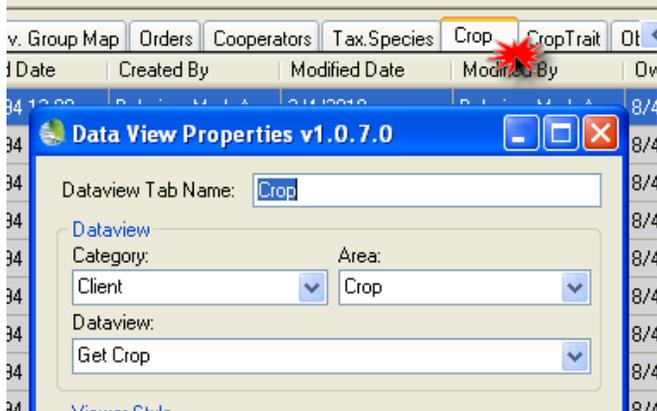


The **Crop** dataview is the “grand” parent dataview. That is, if you don’t have the crop defined in the Crop dataview, you cannot enter in any of the traits related to the crop or the various possible code values that each trait can handle.

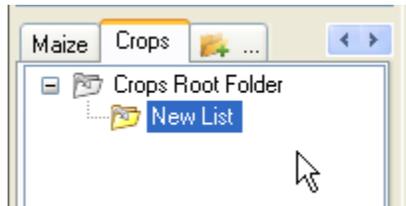
Conversely, you cannot delete a crop from the Crop table if it has traits associated to it. Similarly, traits cannot be removed from the Crop Trait dataview unless all of the dependent data in the children dataviews has been removed first.

## I. Practice Using the Curator Tool to Enter Observations

- a. Display several Crop-related dataviews in the datagrid: **Crop** and **Crop Trait**:



- b. Create a new Tab folder in the left List Panel – name it “**Crops.**”



- c. On the grid panel on the right, display the **Crop** dataview; select several of your “favorite” crops (use Ctrl and click to select multiple rows) and drag to your new folder:

Orders	Cooperators	Tax.Species	Crop	CropTrait	Obs	Inv.GroupMap	Inv.V
		Crop ID	Crop	Note	Created		
		71	ALLIUM-WILD	Contains data on	8/4/199		
		266	ALMOND	Contains	1/29/20		
		159	AMARANTH	Contains	1/12/19		
		119	APIUM	Contains	8/4/199		
		115	APPLE	Contains	8/4/199		
		265	APRICOT	Contains	1/29/20		
		130	ASTRAGALUS	Contains	8/4/199		
		184	BAMBARA-GROUNDNUT	Contains	2/26/19		
		251	BAMBOO	Contains	5/11/20		
		1	BARLEY	Contains	8/4/199		
		127	BARLEY-GENETICS	Contains	8/4/199		
		253	BASSIA	Contains	10/24/2		
		285	BLACKBERRY	Contains	7/11/20		
		286	BLACK-RASPBERRY	Contains	7/11/20		
		288	BLUEBERRY	Contains	7/11/20		
		138	BRASSICA	Contains data on	8/4/199		

- d. Rename the **New List** folder to “**Favorite Crops**”

Orders	Cooperators	Tax.Species	Crop	CropTrait	Obs
		Crop ID	Crop	Note	
		266	ALMOND	Contains	
		115	APPLE	Contains	
		265	APRICOT	Contains	
		288	BLUEBERRY	Contains	
		256	CACAO	Contains	

- e. Select your **Favorite Crops** folder on the left panel. In the datagrid on the right, display the **Crop Trait** dataview. As you select each individual crop item in the left panel, the datagrid on the right will display the traits associated with that crop.

Crop Trait ID	Crop	Trait Loded Name	Title	Description	Is Peer Reviewed?
265001	APRICOT	BLUSHCOLOR	BLUSHCOLOR	Overcolor of the skin of fully	N
265002	APRICOT	BRCHHABIT	BRCHHABIT	Typical angle of branching	N
265003	APRICOT	BRIX	BRIX	Soluble solids in random	N
265004	APRICOT	CROPPING	CROPPING	The yield per unit area of land	N
265005	APRICOT	EATQUALITY	EATQUALITY	A combined assessment of	N
265006	APRICOT	FLESHCHAR	FLESHCHAR	Characteristics of fruit flesh	N
265007	APRICOT	FLESHCOLOR	FLESHCOLOR	Predominant color of flesh at	N

- f. (Before completing this exercise, under **Other Options**, check how many records your Curator Tool is currently set up to display. Consider keeping **Max Rows Allowed** set to 1000 or so for these exercises.)

Select one of your favorite crop items on the left panel. Display another dataview in the datagrid: (**Get Crop Trait Observation**) – name it: **Crop Trait Observations** (or **Observations**)

Data View Properties v1.0.7.0

Dataview Tab Name: Observations

Dataview

Category: Client Area: Crop

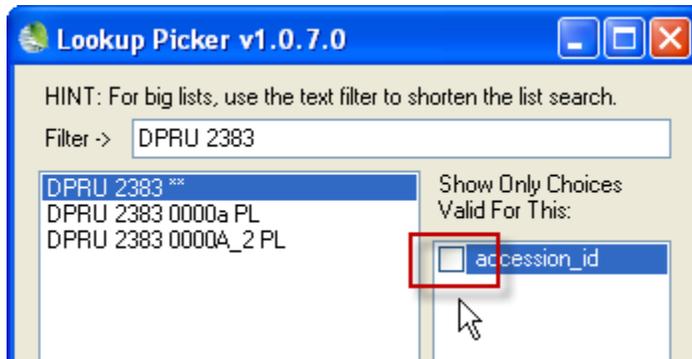
Dataview: Get Crop Trait Observation

Accession Inventory Name	Accessions	Inventory	Orders	Cooperators	Crop	Crop Trait	Crop Trait Observation	Crop Trait Code
Crop Trait Observation ID	Accession	Inventory			Crop	Crop Trait		Code Definition
7389376	PI 107187	DPRU 342 0000B PL			APRICOT	Eating Quality	3	
7389405	PI 125598	DPRU 692 0000A PL			APRICOT	Eating Quality	3	
7389420	PI 128556	DPRU 341 0000A PL			APRICOT	Eating Quality	3	
7389428	PI 316519	DPRU 729 0000C PL			APRICOT	Eating Quality	5	
7389452	PI 506389	DPRU 1281 0000A PL			APRICOT	Eating Quality	9	
7389463	PI 536683	DPRU 1608 0000A PL			APRICOT	Eating Quality	3	
7389525	PI 552877	DPRU 1995 0000A PL			APRICOT	Eating Quality	3	
7387729	DPRU 693	DPRU 693 0000A PL			APRICOT	Flesh Characteristics		
7387747	DPRU 707	DPRU 707 0000A PL			APRICOT	Flesh Characteristics		

- g. Add one or two new observations to some inventory records. Locate some inventory with which you are familiar.

Using the example shown here, I would select one of the real inventory items. (In contrast to the system generated \*\* inventory records.)

When *adding a new observation*, you must *de-select* the **accession\_id** filter, because the **accession\_id** for a new record at that point has not been determined.



- h. Edit an existing observation.

When *editing an existing observation*, keep the **accession\_id** filter *selected*, and then backspace to list the potential inventory for that accession.

Tax.Species	Cooperators	Accessions	Crop	CropTrait	Observations	Inv.GroupMap	Inv.Viability	Inv. Maint.Policy	Inventory Viability Data
		Accession	Inventory	Crop	Crop Trait	Crop Trait Code Value	Crop Trait Value Code		
7389338		DPRU 2380	DPRU 2380 0000A_2 PL	APRICOT	BRIX				
7389339		DPRU 2380	DPRU 2380 0000A_2 PL	APRICOT	EATQUALITY	9 - Extremely high	1		
7389340		DPRU 2380	DPRU 2380 0000A_2 PL	APRICOT	FLESHCHAR				
7389341		DPRU 2380	DPRU 2380 0000A_2 PL	APRICOT	FLESHCOLOR	9 - Excellent (Mo...	1		
7389342		DPRU 2380	DPRU 2380 0000A_2 PL	APRICOT	FRTFLAVOR				
7389343		DPRU 2380	DPRU 2380 0000A_2 PL	APRICOT	FRTLENGTH				
7389344		DPRU 2380	DPRU 2380 0000A_2 PL						
7389345		DPRU 2380	DPRU 2380 0000A_2 PL						
7389347		DPRU 2380	DPRU 2380 0000A_2 PL						
7389348		DPRU 2380	DPRU 2380 0000A_2 PL						
7389351		DPRU 2382	DPRU 2382 0000A_2 PL						
7389352		DPRU 2382	DPRU 2382 0000A_2 PL						
7389353		DPRU 2382							
7389354		DPRU 2382	DPRU 2382 0000A_2 PL						
7389355		DPRU 2382	DPRU 2382 0000A_2 PL						

## II. Practice Adding a New Trait

Presently there is no restriction on who can create a CROP or crop-related traits. You can add a new Crop very easily -- open the CROP dataview and add a record. A majority of GRIN-Global users will most likely never need to add a new crop, but at some time they may be required to add a new trait.

Remember of course that traits are affiliated with a specific crop.

### Crop Trait dataview

In the following example there are 30 existing traits for the **APRICOT** crop. I clicked on **Edit** and the **Add new (+)** buttons to add a new row. Several fields are required (the purple colored cells). Remember that you cannot edit cells that are gray, so apparently we will need to also add records in other dataviews to completely define the Trait. Shown here I am adding a new trait to be called **MARFLAVOR**.

Accession Inventory Name	Accessions	Inventory	Orders	Cooperators	Crop	Crop Trait	Crop Trait Observation	Crop Trait Co
Crop Trait ID	Crop	Trait Coded Name	Title	Description	Is Peer Reviewed?	Category		
265014	APRICOT	FRUITWIDTH	Fruit Width	Width of fruit from...	<input type="checkbox"/>	Infl		
265015	APRICOT	GRNDCOLOR	Ground Color	Ground color of t...	<input type="checkbox"/>	Infl		
265016	APRICOT	PERCBLUSH	Percent Blush	Portion of fruit sur...	<input type="checkbox"/>	Infl		
265017	APRICOT	PETALCOLOR	Color of Flower Petals	Typical color of f...	<input type="checkbox"/>	Infl		
265018	APRICOT	PITBURN	Pit Burn	Presence or abse...	<input type="checkbox"/>	Infl		
265020	APRICOT	PUBESCENCE	Skin Pubescence	Presence of skin ...	<input type="checkbox"/>	Infl		
265021	APRICOT	RIPEDATE	Date of Ripeness	Date first fruit ripe...	<input type="checkbox"/>	Phe		
265022	APRICOT	SKINCHAR	Skin Characteristics	Texture and taste...	<input type="checkbox"/>	Que		
265023	APRICOT	SKINCRACK	Skin Cracking Susceptibility	Skin cracking su...	<input type="checkbox"/>	Infl		
265024	APRICOT	STONEADHER	Stone Adherence	Stone adherence...	<input type="checkbox"/>	Infl		
265025	APRICOT	THORNS	Thorns	Prepency of bra...	<input type="checkbox"/>	Mor		
265026	APRICOT	TREEHABIT	Tree Habit (of branches)	Natural habit of u...	<input type="checkbox"/>	Pro		
265027	APRICOT	FIRMNESS	Firmness of flesh	Firmness of flesh.	<input type="checkbox"/>	Que		
265028	APRICOT	FLESHTEXT	Texture of Flesh	The texture of th...	<input type="checkbox"/>	Que		
265029	APRICOT	JUICINESS	Flesh Juiciness	Flesh juiciness.	<input type="checkbox"/>	Que		
265030	APRICOT	STONESIZE	Stone Size	Size of stone.	<input type="checkbox"/>	Infl		
265031	APRICOT	SEPALCOLOR	Sepal Color	Predominant colo...	<input type="checkbox"/>	Infl		
-31					<input type="checkbox"/>	[Nu]		

After the addition of a new Trait record:

265029	APRICOT	JUICINESS	Flesh Juiciness	Flesh juiciness.	N	Qualit		
265030	APRICOT	STONESIZE	Stone Size	Size of stone.	N	Inflor		
265031	APRICOT	SEPALCOLOR	Sepal Color	Predominant color	N	Inflor		
294057	APRICOT	MARFLAVOR			Y	Qualit		

Do something similar. Create a new Crop Trait – name it something that is obvious to you and others. When creating your new crop trait, indicate that it will be a coded trait, with a length of one:

Cooperators	Crop	Crop Trait	Crop Trait Observation	Crop Trait Code	Crop Trait Code Lang	Crop Trait Lang	Crop Attach	...
	Is Peer Reviewed?	Category	Data Type	Is Coded?	Maximum Length	Numeric Format		
▶	everity	<input checked="" type="checkbox"/>	Quality descriptors	Alpha/numeric descriptor	<input checked="" type="checkbox"/>	1		

### Crop Trait Lang dataview

Open the **Crop Trait Lang** dataview, select your new **Crop Trait**, and then input its **Language**, **Title**, and **Description**. Be sure to make the **Title** and the **Description** different, since you will want to see where these are used in the other dataviews.

The screenshot shows the 'Crop Trait Lang' dataview in a software application. The table lists various crop traits for 'APRICOT' with columns for 'Crop Trait Lang ID', 'Crop', 'Crop Trait', 'Language', 'Title', 'Description', and 'Cre'. A 'Lookup Picker v1.8.10.2' dialog box is overlaid on the table. The dialog has a 'Filter' field containing 'mar', a list of results with 'MARFLAVOR' selected, and a 'Show Only Choices Valid For This:' section with 'crop\_id' checked. The dialog also includes 'Refresh List', 'OK', and 'Cancel' buttons. Below the table, there are navigation controls showing '31 of 31' and a 'Data Editing' section with 'Edit Data', 'Save Data', and 'Cancel' buttons.

now lists from:   
 isinger, Martin, USDA, ARS

Include Sub-Folders

Traits

- Dem04 Root Folder
  - apples w obs
  - APPLE
  - SORGHUM
  - Crop\_Malus
  - Crop\_Maize
  - CROPS
  - Martys accessions
  - FireBlight Examples
  - Favorite Crops
    - APPLE
    - ALMOND
    - CACAO
    - APRICOT
      - Strength of Aftertaste
        - ctc :croptraitcodeid=22110
        - ctc :croptraitcodeid=22111
        - ctc :croptraitcodeid=22112
        - ctel :croptraitcodelangid=2211
        - ctel :croptraitcodelangid=2211
        - ctel :croptraitcodelangid=2211
  - New List
  - New List (1)

Crop Trait Lang ID	Crop	Crop Trait	Language	Title	Description	Created Date
5321	APRICOT	Ground Color	English	Ground Color	Ground color of the	3/31/2009
5322	APRICOT	Percent Blush	English	Percent Blush	Portion of fruit	3/31/2009
5323	APRICOT	Color of Flower Petals	English	Color of Flower Petals	Typical color of	3/31/2009
5324	APRICOT	Pit Burn	English	Pit Burn	Presence or	3/31/2009
5326	APRICOT	Skin Pubescence	English	Skin Pubescence	Presence of skin	3/31/2009
5327	APRICOT	Date of Ripeness	English	Date of Ripeness	Date first fruit	3/31/2009
5328	APRICOT	Skin Characteristics	English	Skin Characteristics	Texture and taste	3/31/2009
5329	APRICOT	Skin Cracking Susceptibi...	English	Skin Cracking Suscepti...	Skin cracking	3/31/2009
5330	APRICOT	Stone Adherence	English	Stone Adherence	Stone adherence	3/31/2009
5331	APRICOT	Thorns	English	Thorns	Prepency of	3/31/2009
5332	APRICOT	Tree Habit (of branches)	English	Tree Habit (of branches)	Natural habit of	3/31/2009
5333	APRICOT	Firmness of flesh	English	Firmness of flesh	Firmness of flesh.	3/31/2009
5334	APRICOT	Texture of Flesh	English	Texture of Flesh	The texture of the	3/31/2009
5335	APRICOT	Flesh Juiciness	English	Flesh Juiciness	Flesh juiciness.	3/31/2009
5336	APRICOT	Stone Size	English	Stone Size	Size of stone.	3/31/2009
5337	APRICOT	Sepal Color	English	Sepal Color	Predominant color	3/31/2009
6756	APRICOT	Strength of Aftertaste	English	Strength of Aftertaste	Aftertaste Severity	8/ /2013 10:49

### Crop Trait Code dataview

Open the **Crop Trait Code** dataview; create several rows. A quick way is to create one and use the Ctrl-N to duplicate the record and then edit the Code cell.

Crop Trait Code ID	Crop	Trait Coded Name	Crop Trait	Trait Description	Code	Title	Code Description
-1	APRICOT		Strength of Aftertaste		1		
-5	APRICOT		Strength of Aftertaste		5		
-4	APRICOT		Strength of Aftertaste		9		
-6							

### Crop Trait Code Lang dataview

Open the **Crop Trait Code Lang** dataview; create one row for each code. I needed three since I created three Crop Trait Code records in the previous step.

Crop Trait Code Lang ID	Crop	Crop Trait	Trait Coded Name	Crop Trait Code	Trait Title	Trait Description	Language	Code Title	Code Description
-1	APRICOT	Strength of Aftertaste	Slight	1			English	Slight - 1	Aftertaste dissipated quickly
-4	APRICOT	Strength of Aftertaste	None	5			English	None - 5	No aftertaste
-5	APRICOT	Strength of Aftertaste	Lingering	9			English	Lingering - 9	lingered for minutes
-6									

You should now be able to use the new Crop Trait and its associated Codes to create an observation record for inventory:

Crop Trait Observation ID	Accession	Inventory	Crop	Crop Trait	Code Definition	Code
7388812	DPRU 1411	DPRU 1411 0003A PL	APRICOT	Flesh Color	7	7
7388813	DPRU 1411	DPRU 1411 0004A PL	APRICOT	Flesh Color	7	7
7388814	DPRU 1411	DPRU 1411 0003A PL	APRICOT	Flesh Color	7	7
7388844	DPRU 1414	DPRU 1414 0001A PL	APRICOT	Flesh Color	2	2
7388857	DPRU 1416	DPRU 1416 0002A PL	APRICOT	Flesh Color	7	7
7388868	DPRU 1419	DPRU 1419 0001B PL	APRICOT	Flesh Color	7	7
7388869	DPRU 1419	DPRU 1419 0002A PL	APRICOT	Flesh Color	7	7
7388870	DPRU 1419	DPRU 1419 0001B PL	APRICOT	Flesh Color	7	7
7388891	DPRU 1421	DPRU 1421 0001A PL	APRICOT	Flesh Color	7	7
7388901	DPRU 1423	DPRU 1423 0003A PL	APRICOT	Flesh Color	2	2
7388902	DPRU 1423	DPRU 1423 0004A PL	APRICOT	Flesh Color	7	7
7388924	DPRU 1427	DPRU 1427 0003A PL	APRICOT	Flesh Color	7	7
7388925	DPRU 1427	DPRU 1427 0002A PL	APRICOT	Flesh Color	7	7
7388926	DPRU 1427	DPRU 1427 0003A PL	APRICOT	Flesh Color	7	7
7388950	DPRU 1429	DPRU 1429 0003A PL	APRICOT	Flesh Color	2	2
7388961	DPRU 1430	DPRU 1430 0003A PL	APRICOT	Flesh Color	7	7
-501		DPRU 1430 0003A PL	APRICOT	Strength of Aftertaste	5	

After saving, I sorted by the **Created Date** column in descending order to display my new record on the top of the grid:

Crop Trait Observation ID	Accession	Inventory	Crop	Crop Trait	Code Definition	Code
10123637	DPRU 1430	DPRU 1430 0003A PL	APRICOT	Strength of Aftertaste	5	5
7388961	PI 119848	DPRU 343 0000A PL	APRICOT	Red Over Color (blush)	7	7
7388950	PI 125598	DPRU 1429 0003A PL	APRICOT	Flesh Color	2	2

In closing, I should mention that an expected Crop Wizard will be designed to facilitate working with Crops, Traits, and Observations, but the delivery date has not been forecasted yet.

Any questions? Send to [feedback@ars-grin.gov](mailto:feedback@ars-grin.gov).