Crops, Descriptors, & Observations

NordGen Webinar Series
Session 3 – Jan. 24, 2024

Marty Reisinger, Instructor

Sessions

Session	Topic	Lecture/Demo	QA
1	Introduction / Overview	05 Dec. 2023	12 Dec. 2023
2	Creating Ancillary (Related) Records and Standards	10 Jan. 2024	17 Jan. 2024
3	**GG requirements for Establishing Crops, Traits, and Coded Values in GG**	**24 Jan. 2024**	31 Jan. 2024
4	How GG crop tables interrelate	06 Mar. 2024	13 Mar. 2024
5	Recording Observation records in GG	20 Mar. 2024	27 Mar. 2024
6	Using GG's features to search on and report on the data	17 Apr. 2024	24 Apr. 2024
7	Review of Crops and Descriptors	01 May. 2024	08 May. 2024
8	NordGen's Crop Methods and Projects Mapping and Start-Up (Teached by NordGen)	15 May. 2024	

Today

GG requirements for Establishing Crops, Traits, and Coded Values in GG – Session 3

Examine the requisites for relating species with their descriptors

- Establishing Crops / Understanding what "Crop" means in GG
  Benefits of Adding Crop Attachments
- Learn how to use the Crop and Taxonomy Crop Map tables
- Review their own crops and identify how the observation data should be displayed (and searched) on the website
- The individual work after this session will be a review of their crops and the observation data they will want to make publicly available.

GG Terminology

- Method
- Crop
- Crop Mapping – Taxonomy Species Map
- Trait
- Code
- Language table: Trait Language and Code Language
- Attachments tables: Crop, Trait

What is a Crop?

What is a Map?

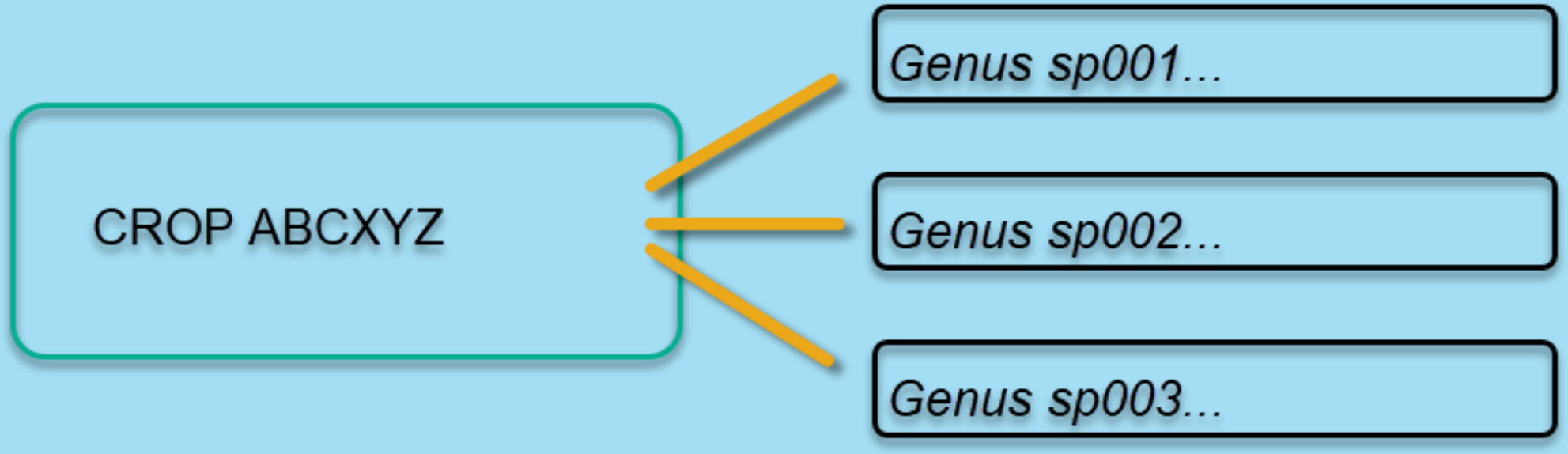
Crop

What is a Crop?

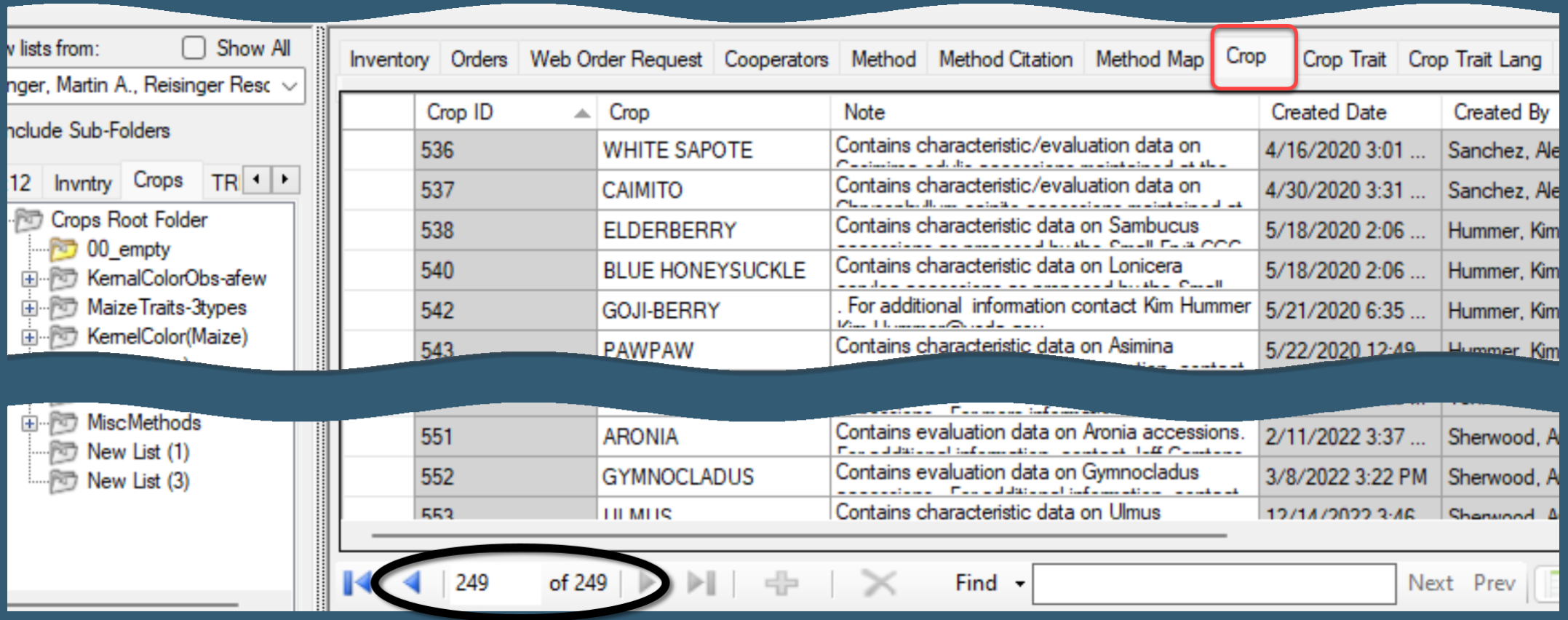
In GG, a name used to aggregate species.

Crop

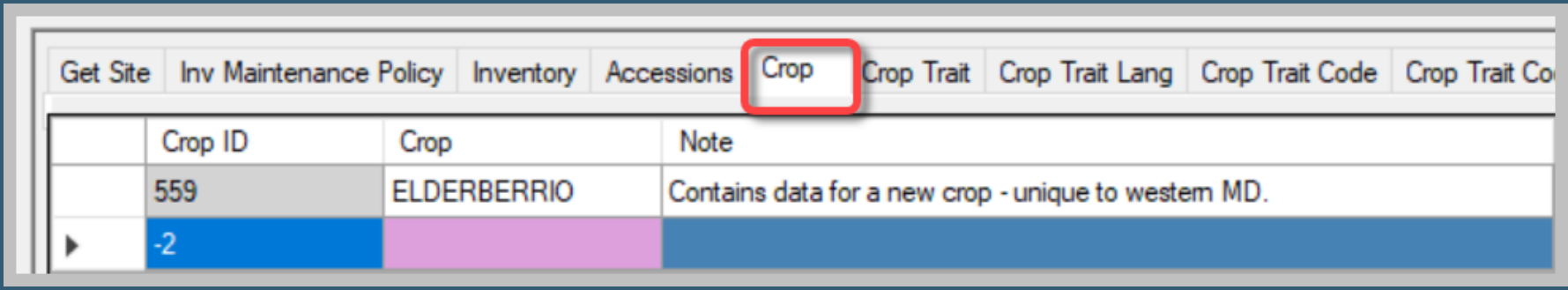
Curators typically decide which species to include in a crop.



Crops

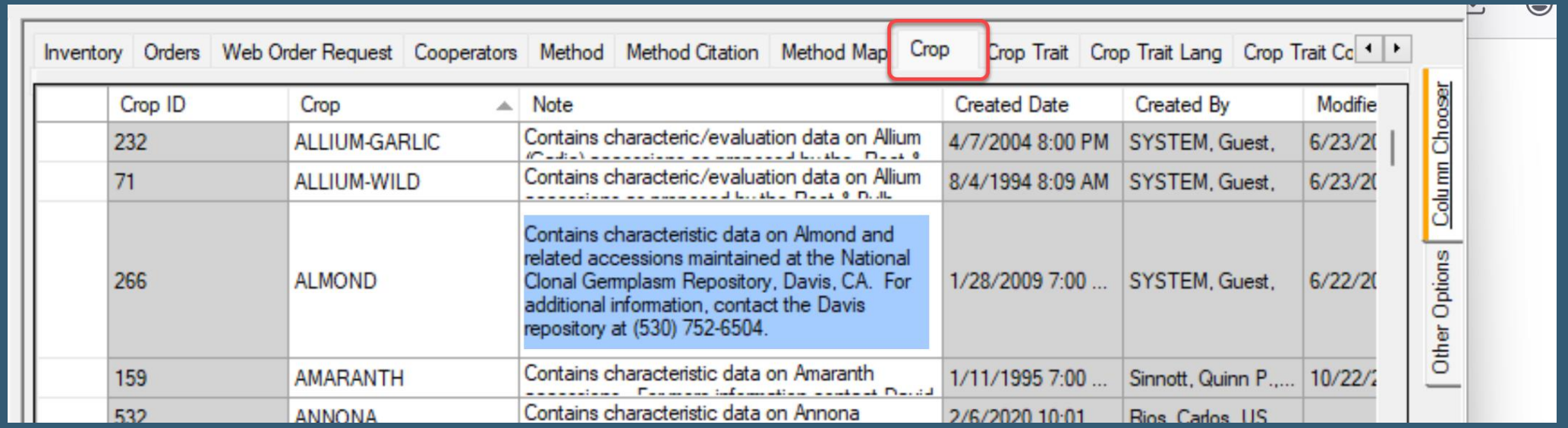

lists from:
Show All
nclude Sub-Folders
12
Invntry
Crops
TR
Crops Root Folder
00_empty
KernalColorObs-afew
MaizeTraits-3types
KernelColor(Maize)
MiscMethods
New List (1)
New List (3)
Inventory
Orders
Web Order Request
Cooperators
Method
Method Citation
Method Map
Crop
Crop Trait
Crop Trait Lang
Crop ID
Crop
Note
Created Date
Created By
536
WHITE SAPOTE
Contains characteristic/evaluation data on
4/16/2020 3:01 ...
537
CAIMITO
Contains characteristic/evaluation data on
4/30/2020 3:31 ...
538
ELDERBERRY
Contains characteristic data on Sambucus
5/18/2020 2:06 ...
540
BLUE HONEYSUCKLE
Contains characteristic data on Lonicera
5/18/2020 2:06 ...
542
GOJI-BERRY
. For additional information contact Kim Hummer
5/21/2020 6:35 ...
543
PAWPAW
Contains characteristic data on Asimina
5/22/2020 12:49
551
ARONIA
Contains evaluation data on Aronia accessions.
2/11/2022 3:37 ...
552
GYMNOCLADUS
Contains evaluation data on Gymnocladus
3/8/2022 3:22 PM
553
ULMUS
Contains characteristic data on Ulmus
12/14/2022 3:46
249
of 249
Find
Next
Prev

Add a Crop


Get Site
Inv Maintenance Policy
Inventory
Accessions
Crop
Crop Trait
Crop Trait Lang
Crop Trait Code
Crop Trait Co
Crop ID
Crop
Note
559
ELDERBERRIO
Contains data for a new crop - unique to western MD.
-2

crop_note

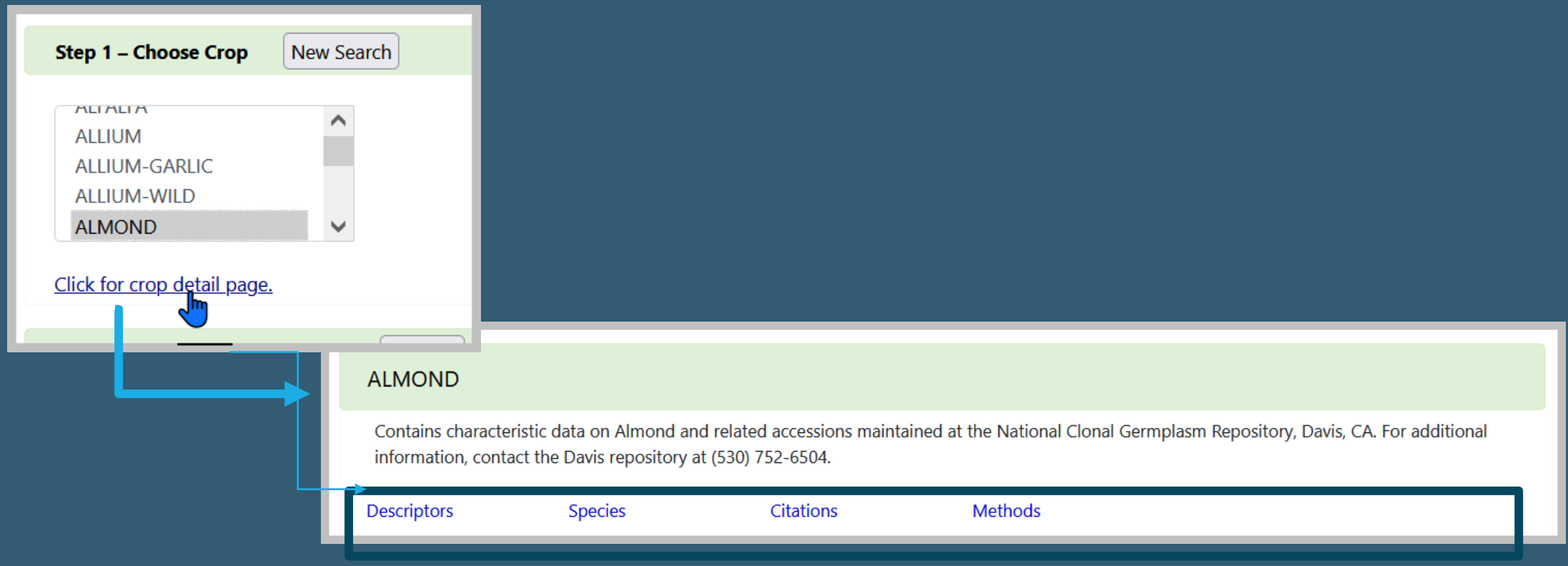
Displays on the PW “Crop Detail Page”



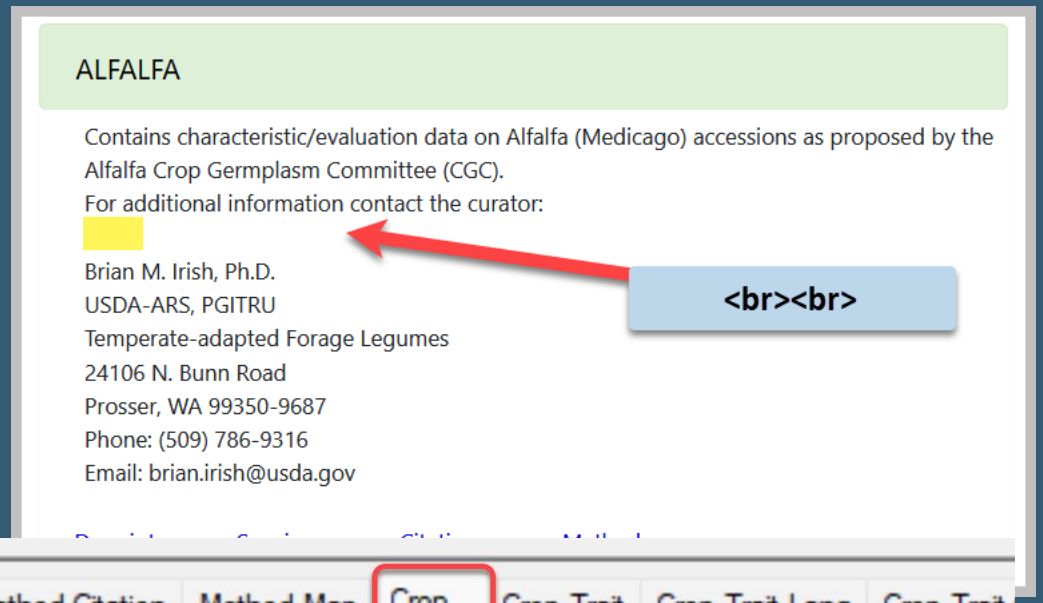
Crop ID	Crop	Note	Created Date	Created By	Modifie
232	ALLIUM-GARLIC	Contains characteric/evaluation data on Allium	4/7/2004 8:00 PM	SYSTEM, Guest,	6/23/2(
71	ALLIUM-WILD	Contains characteric/evaluation data on Allium	8/4/1994 8:09 AM	SYSTEM, Guest,	6/23/2(
266	ALMOND	Contains characteristic data on Almond and related accessions maintained at the National Clonal Germplasm Repository, Davis, CA. For additional information, contact the Davis repository at (530) 752-6504.	1/28/2009 7:00 ...	SYSTEM, Guest,	6/22/2(
159	AMARANTH	Contains characteristic data on Amaranth	1/11/1995 7:00 ...	Sinnott, Quinn P.,...	10/22/2
532	ANNONA	Contains characteristic data on Annona	2/6/2020 10:01	Rios, Carlos, US	

crop_note

Displays on the PW "Crop Detail Page"



Formatting crop_note



tory | Orders | Web Order Request | Cooperators | Method | Method Citation | Method Map | Crop | Crop Trait | Crop Trait Lang | Crop Trait

Crop ID	Crop	Note	Cr
527	AEGILOPS	Contains evaluation/characterization data on Aegilops spp. accessions in the National	10
68	ALFALFA	Contains characteristic/evaluation data on Alfalfa (Medicago) accessions as proposed by the Alfalfa Crop Germplasm Committee (CGC). For additional information contact the curator: Brian M. Irish, Ph.D. USDA-ARS, PGITRU Temperate-adapted Forage Legumes 24106 N. Bunn Road Prosser, WA 99350-9687 Phone: (509)	8/

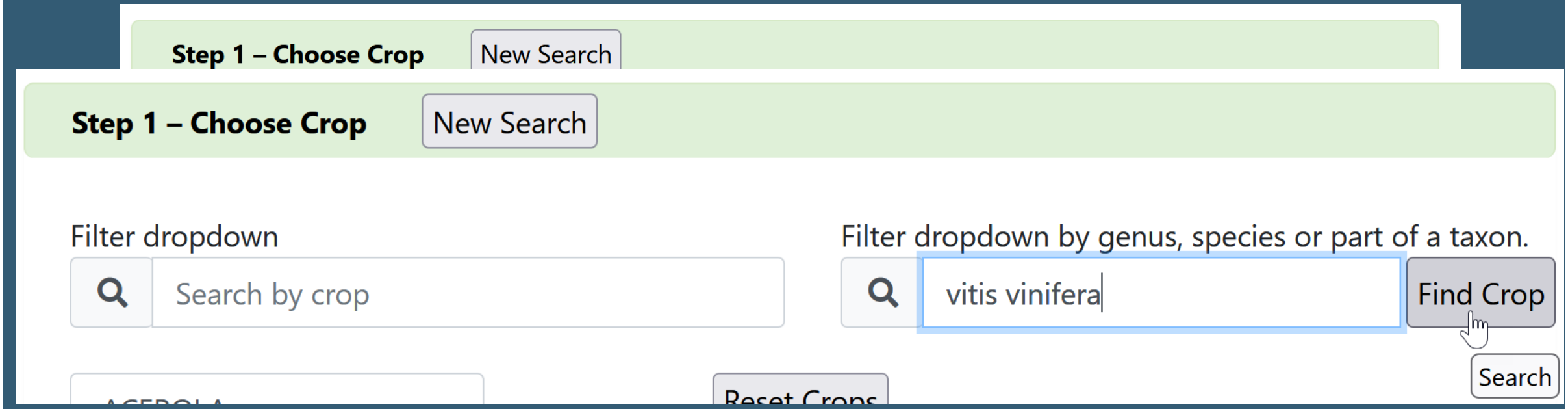
the Alfalfa Crop Germplasm Committee (CGC).
curator:

Brian M. Irish, Ph.D.
USD

Can a species be included in more than one crop?

Yes, because of GG's ability to map multiple species to multiple crops

Can a species be in more than one crop?



Example

GRAPE-DAVIS

Species

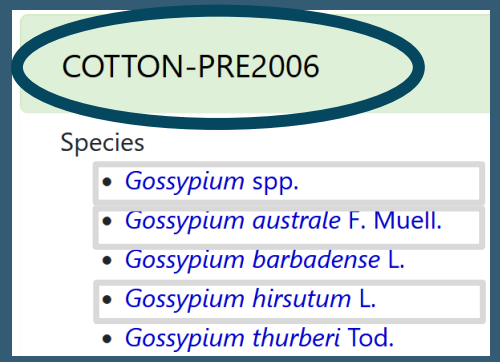
- *Ampelopsis* spp.
- *Ampelopsis delavayana* Planch. var. *delavayana*
- *Ampelopsis delavayana* Planch. var. *glabra* (Diels & Gilg) C. L. Li
- *Ampelopsis glandulosa* (Wall.) Momiy. var. *brevipedunculata* (Maxim.) Momiy.
- *Ampelopsis vitifolia* Planch.
- *Parthenocissus quinquefolia* (L.) Planch.
- *Vitis* hybr.
- *Vitis* spp.
- *Vitis* ×*andersonii* Rehder
- *Vitis* ×*bourquiniana* W. A. Taylor
- *Vitis rupestris* Scheele
- *Vitis shuttleworthii* House
- *Vitis tiliifolia* Humb. & Bonpl. ex Willd.
- *Vitis treleasei* Munson ex L. H. Bailey
- *Vitis vinifera* L.
- *Vitis vinifera* L. subsp. *sylvestris* Hegi
- *Vitis vinifera* L. subsp. *vinifera*
- *Vitis vulpina* L.

GRAPE-GENEVA

Species

- *Ampelopsis cordata* Michx.
- *Ampelopsis glandulosa* (Wall.) Momiy. var. *brevipedunculata* (Maxim.) Momiy.
- *Parthenocissus* spp.
- *Vitis* hybr.
- *Vitis* spp.
- *Vitis* ×*andersonii* Rehder
- *Vitis* ×*champinii* Planch.
- *Vitis palmata* Vahl
- *Vitis piasezkii* Maxim. var. *pagnuccii* (Rom. Caill. ex Planch.) Rehder
- *Vitis piasezkii* Maxim. var. *piasezkii* Maxim.
- *Vitis popenoei* J. H. Fennel
- *Vitis riparia* Michx.
- *Vitis romanetii* Rom. Caill.
- *Vitis rupestris* Scheele
- *Vitis vinifera* L. subsp. *vinifera*
- *Vitis vulpina* L.

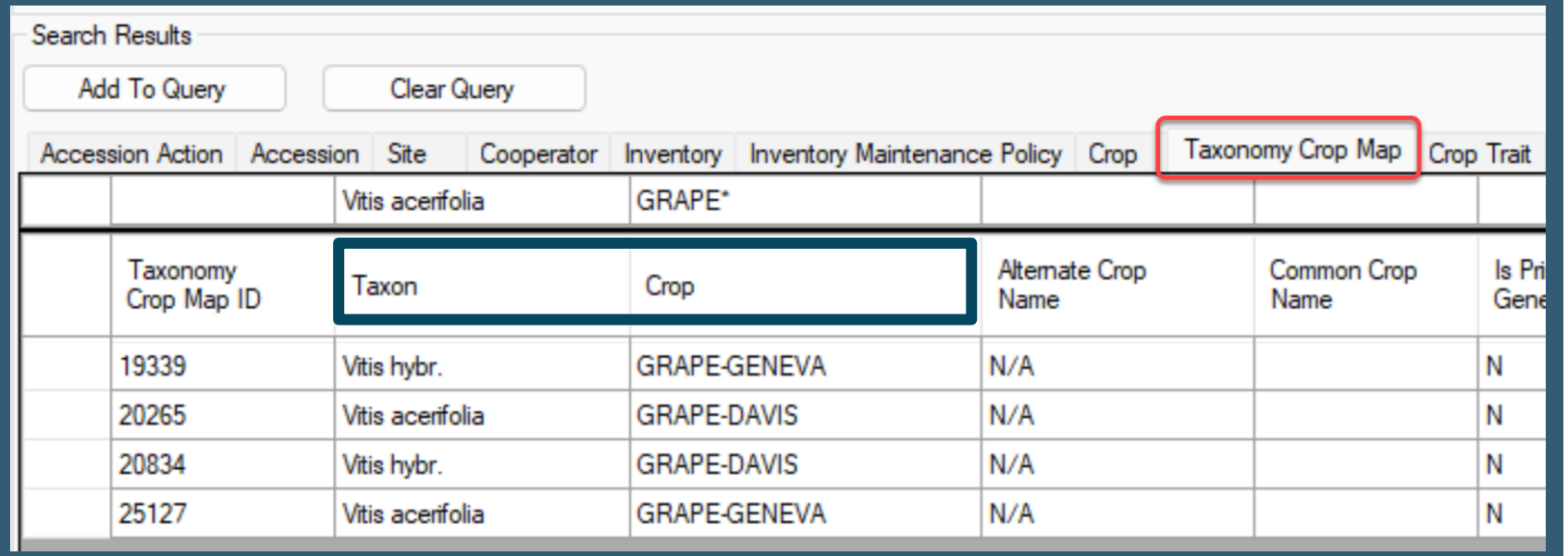
Example


COTTON-PRE2006
Species
Gossypium spp.
Gossypium australe F. Muell.
Gossypium barbadense L.
Gossypium hirsutum L.
Gossypium thurberi Tod.

COTTON
Species
Gossypium hybr.
Gossypium spp.
Gossypium anapoides J. M. Stewart et al.
Gossypium anomalum Wawra
Gossypium anomalum Wawra subsp. anomalum
Gossypium anomalum Wawra subsp. senarense (Fenzl ex Wawra) Vollesen
Gossypium arboreum L.
Gossypium areysianum Deflers
Gossypium aridum (Rose & Standl.) Skovst.
Gossypium armourianum Kearney
Gossypium australe F. Muell.
Gossypium barbadense L.
Gossypium harknessii Brandegee
Gossypium herbaceum L.
Gossypium herbaceum L. var. africanum (G. Watt) J. B. Hutch. ex S. C. Harland
Gossypium hirsutum L.
Gossypium incanum (O. Schwartz) Hillc.

What is a Map?

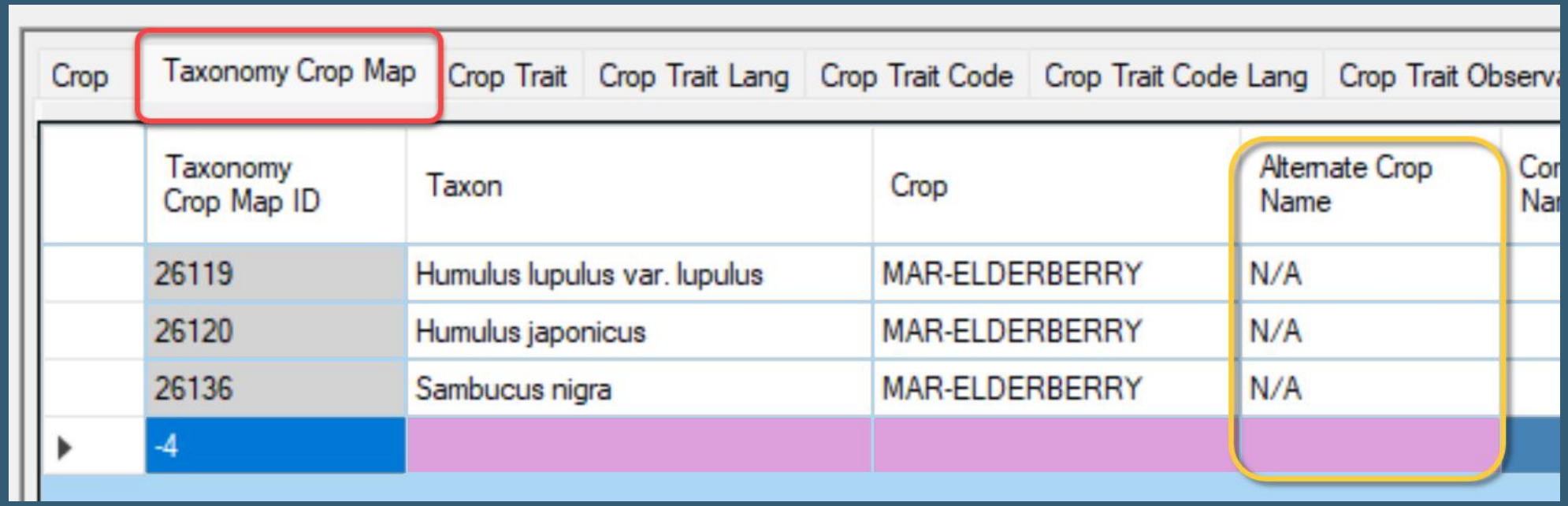
In GG, a means to connect records "many to many"



… in GRIN-Global

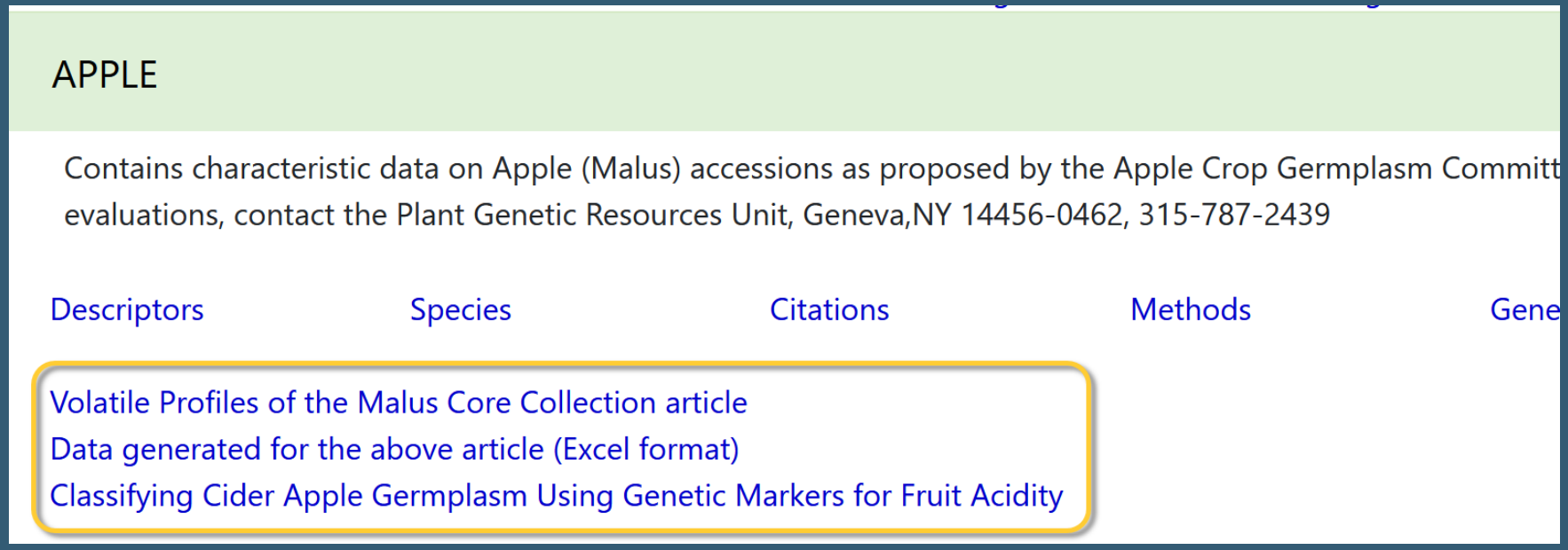
Adding Taxonomy Crop Map records

1. Add Taxon and Crop fields
2. Always insert N/A in the Alternate Crop Name field



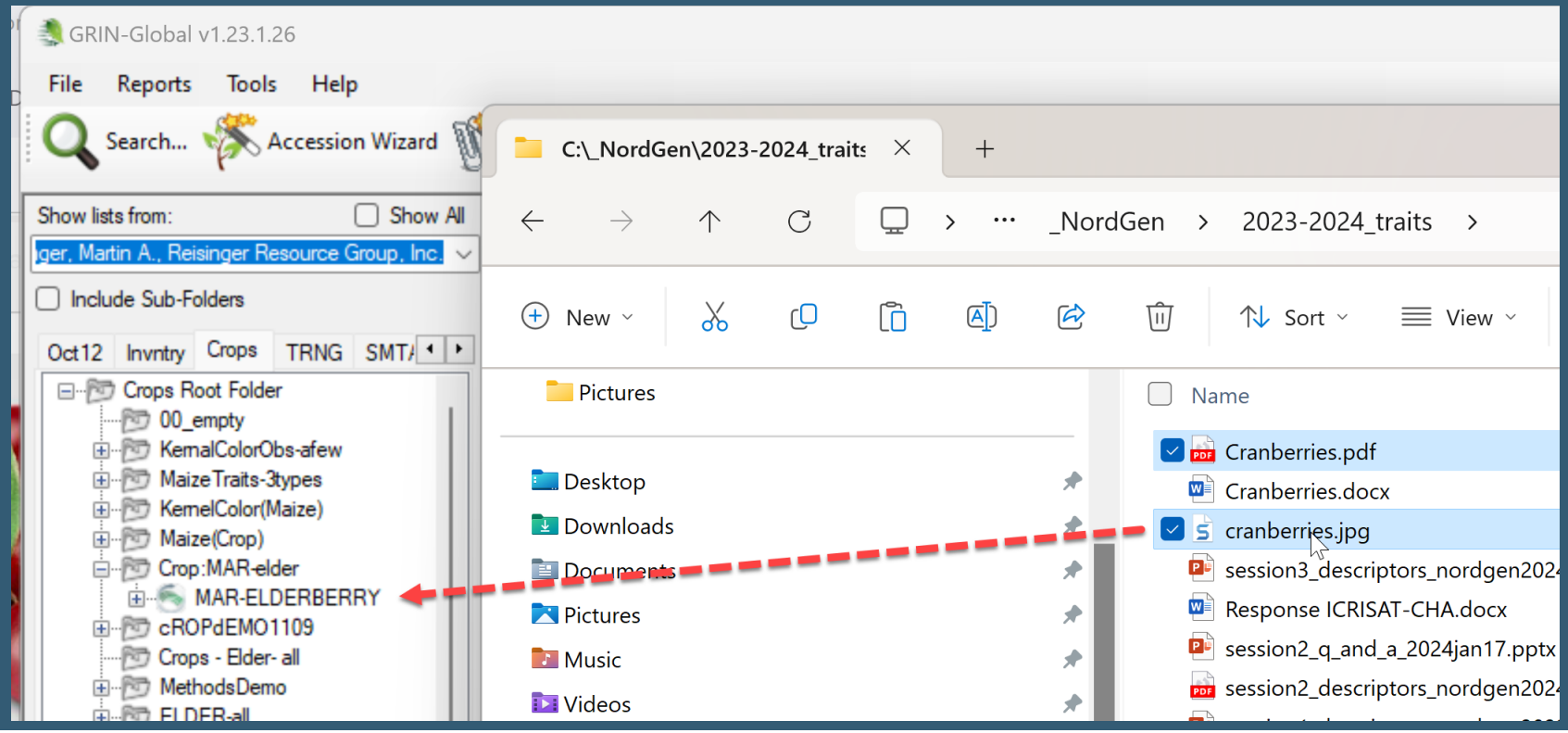
Adding Crop Attachments

Attachment links display on the PW Crop Page: Excellent way to provide details on the crop



Crop Attachments

Add using the Curator Tool's Attachment Wizard or drag files to the Crop Name in the CT



MAR-ELDERBERRY

Purple Sambucus

Descriptors Species Citations Methods

Good for you!

Demo – Building spreadsheet templates

- Crop
- Crop Map

Review of Crops

- Your's
- USDA's?
- Questions / Examples?

Descriptors - Categories

barley

Descriptors

Category: CHEMICAL

1. ß-glukan content (BETA_GLUKAN) Unit: ⌞%⌟; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ␣
2. Extract in % of dry matter (EXTRACT_CONT_DRY_MAT) Unit: ␣; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ␣
3. Protein content in kernel (SEED_PROT_CONT) Unit: ␣; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ␣
4. Susceptibility to DDT (SUSCP_DDT) Unit: ␣; Codes: ⌞0= [resistence to DDT], 1= [weak reaction], 2= [medium reaction], 3= [suseptible to DDT]⌟; Scale: ␣; Standard: ␣; Description: ␣

Category: DISEASE

1. Scald infection % (SCALD_INF_PCT) Unit: ⌞%⌟; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ⌞Percentage of leaf area infected by scald, Rhyncosporium secalis⌟

Category: MORPHOLOGY

1. Size distribution < 2.2 mm (SIEVING TEST (< 2.2 mm)) Unit: ⌞%⌟; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ⌞% kernels with the given size⌟
2. Size distribution > 2.5 mm (SIEVING TEST (> 2.5 mm)) Unit: ⌞%⌟; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ⌞% kernels with the given size⌟
3. Size distribution > 2.8 mm (SIEVING TEST (> 2.8 mm)) Unit: ⌞%⌟; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ⌞% kernels with the given size⌟
4. Size distribution 2.2-2.5 mm (SIEVING TEST (2.2 - 2.5 mm)) Unit: ⌞%⌟; Codes: ⌞null⌟; Scale: ␣; Standard: ␣; Description: ⌞% kernels with the given size⌟

Category: PHYSIOLOGY

1. Hartong index (VZ 45°C) (Hartong index (VZ 45°C)) VZ 45° measures low-temperature extraction, but at a warmer temperature (113 °F [45 °C]) that takes into account some enzyme action.

Descriptors - Categories

Group Name	Value	Language	Title	Description
DESCRIPTOR_CATEGORY	CHEMICAL	English	Chemical composition descriptors	Chemical composition descriptors
DESCRIPTOR_CATEGORY	COMMENT	English	General information	General information
DESCRIPTOR_CATEGORY	CYTOLOGIC	English	Cytological or cellular descriptors	Including chromosome no., etc.
DESCRIPTOR_CATEGORY	DISEASE	English	Disease descriptors	Including bacteria, fungi, mycoplasmas, viruses, etc.
DESCRIPTOR_CATEGORY	FLWR-FRUIT	English	Inflorescence and fruit descriptors	Inflorescence and fruit descriptors
DESCRIPTOR_CATEGORY	GENSTOCK	English	Genetic stock descriptors	Genetic stock descriptors
DESCRIPTOR_CATEGORY	GROWTH	English	Growth descriptors	(Heights, Habits, Vigor, etc.
DESCRIPTOR_CATEGORY	INSECT	English	Insect descriptors	Insect descriptors
DESCRIPTOR_CATEGORY	MOLECULAR	English	Molecular descriptors	Including Isozyme, RFLP, RAPD, etc.
DESCRIPTOR_CATEGORY	MORPHOLOGY	English	Morphological descriptors	Including flower, fruit, leaf, seed and other morphological characteristics
DESCRIPTOR_CATEGORY	NEMATODE	English	Nematode descriptors	Nematode descriptors
DESCRIPTOR_CATEGORY	OTHER	English	Uncategorized descriptors	Uncategorized descriptors
DESCRIPTOR_CATEGORY	PHENOLOGY	English	Phenological descriptors	Phenological descriptors
DESCRIPTOR_CATEGORY	PHYSIOLOGY	English	Physiology descriptors	Physiology descriptors
DESCRIPTOR_CATEGORY	PRODUCTION	English	Production descriptors	Including yield, 100 seed weight and other descriptors related to production
DESCRIPTOR_CATEGORY	QUALITY	English	Quality descriptors	Including Beta Glucan content, etc.
DESCRIPTOR_CATEGORY	ROOT	English	Root Descriptors	Root Descriptors
DESCRIPTOR_CATEGORY	ROOTSTOCK	English	Rootstock descriptors	Rootstock descriptors
DESCRIPTOR_CATEGORY	STRESS	English	Environmental stress descriptors	Including drought, salt, heat, cold, etc.
DESCRIPTOR_CATEGORY	TAXONOMIC	English	Taxonomic descriptors (e.g. race)	Taxonomic descriptors (e.g. race)
DESCRIPTOR_CATEGORY	SUBSET	English	A subset of a collection	A subset of a collection

Descriptors – Your's?

- Scales (coded)
- Numeric Values
- Text data

Crop

Homework

"The individual work after this session will be a review of their crops and the observation data they will want to make publicly available."

…

Homework

Prepare an Excel workbook w/ several spreadsheet tabs:

- Method
- Crop
- Traits (Descriptors)

Homework (continued)

- For each worksheet, open in the Curator Tool (CT) a corresponding dataview: Crop, Method, Crop Trait.
- These rows in Excel eventually will be dragged into the CT. For each worksheet, drag one row from the CT to Excel – to obtain the GG column headings. (These sheets will serve as templates for adding records into GG.)

Homework (continued)

- For the Crop worksheet, begin adding corresponding data for your crop(s).

  When you are ready to add to the CT, do so – drag! (The CT must be in Edit mode.)

- After you complete Crop save, the corresponding Lookup table must be updated.

Homework (continued)

- For each worksheet, begin adding corresponding data.

  (Before dragging, ensure that the CT is in Edit mode. These rows in Excel will be dragged into the CT.) Do so – drag and then save the records.

- You should ultimately have at least one Crop, one Method, and some traits per crop(s).

Other References

- USDA's Descriptors on GG: https://npgsweb.ars-grin.gov/gringlobal/descriptors

- Refer to http://rrginc.com/gg_training/ for links to the webinar's presentations (PDFs) and other links