

# Observations

(...continued – “Part 3”)

Crops & Traits  
“Descriptors”

# Before adding Obs...

Crop



Taxonomy Species Map



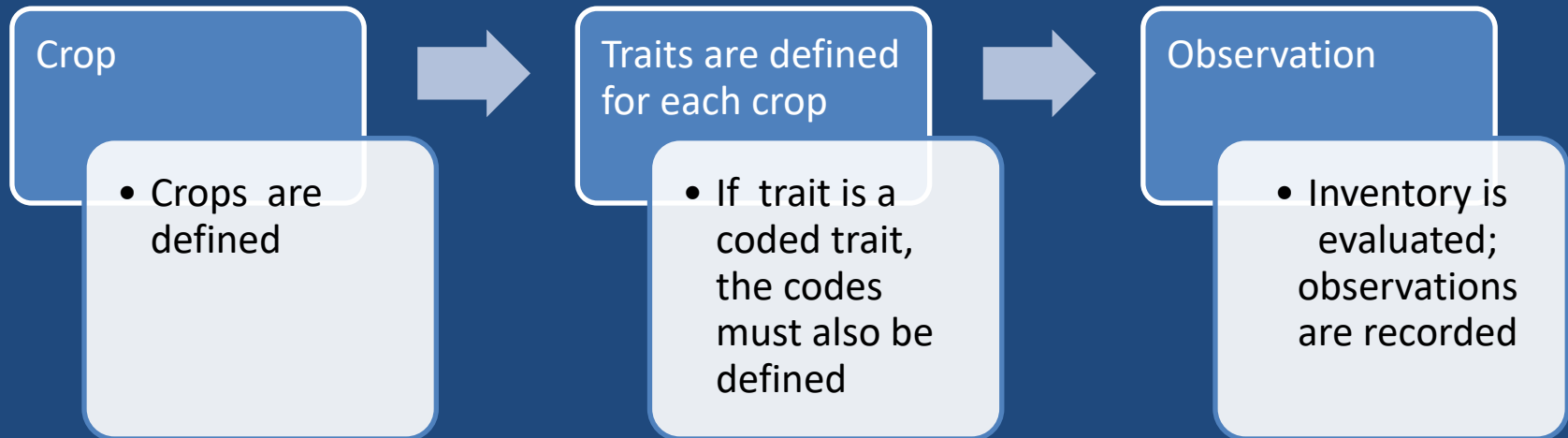
Trait



Codes

Method

# General Workflow




# PW: Descriptor Page

U.S. National Plant Germplasm System

Accessions **Descriptors** Reports GRIN Taxonomy ▾ GRIN ▾ Help Contact Us Tools ▾ Your Prof

Main menu



### Search descriptors

- Step 1: Select crop from dropdown list
- Step 2: Select traits, then click "Select values" button
- Step 3: Choose values for traits, additional criteria (optional), then click "Search" button

Search criteria Results table

**Step 1 – Choose Crop** New Search



Quiz!

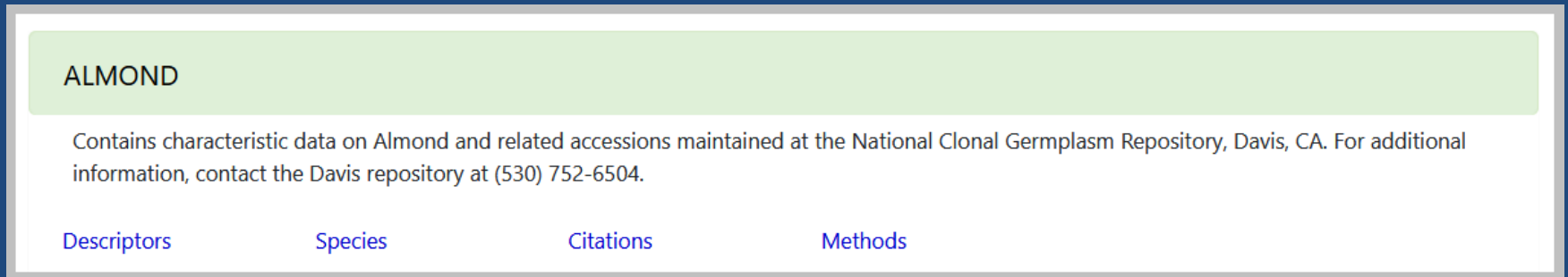
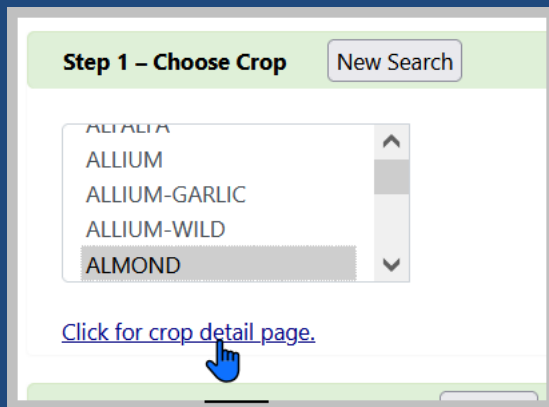
When will you see  
a crop's descriptors  
listed on the GG  
Public Website?

# 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\_note

## ALFALFA

Contains characteristic/evaluation data on Alfalfa (Medicago) accessions as proposed by the Alfalfa Crop Germplasm Committee (CGC).

For additional information contact the curator:

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<br><br>

[Descriptors](#)   [Species](#)   [Citations](#)   [Methods](#)

Crop	Note	Created Date	Created By
OAT	Contains evaluation/characterization data on Oat (Avena) accessions in the National Small Grains Collection (NSGC). The descriptor list was developed in cooperation with the Oat Crop Germplasm Committee. For additional information on the data and	8/4/1994 8:09 AM	SYSTEM, Gue
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) 786-9316  Email: brian.irish@usda.gov </br>	8/4/1994 8:09 AM	SYSTEM, Gue



# Adding Taxonomy Crop Map records

The screenshot shows a software interface with a tabbed menu at the top. The 'Taxonomy Crop Map' tab is selected and highlighted with a red rectangular box. Below the tabs is a table with the following columns: Taxonomy Crop Map ID, Taxon, Crop, Alternate Crop Name, and Common Name. The table contains two rows. The first row has the ID 25986, Taxon Sambucus canadensis, Crop ELDERBERRIO, and Alternate Crop Name N/A. The second row has the ID -2 and is highlighted with a blue background and a yellow border.

Taxonomy Crop Map ID	Taxon	Crop	Alternate Crop Name	Common Name
25986	Sambucus canadensis	ELDERBERRIO	N/A	
-2				



Can a species be included in more than one crop?

# Adding Taxonomy Crop Map records

Search Results

Inv Maintenance Policy	Inv Maint Policy Season	Get Cooperator	Taxonomy Crop Map	Get Inventory	Get Site	Crop Trait	Ge
			Medicago polymorpha var. denticulata				
Taxonomy Crop Map ID	Taxon	Crop	Alternate Crop Name				
19398	Medicago polymorpha var. denticulata	MEDIC	N/A				
21772	Medicago polymorpha var. denticulata	ALFALFA	N/A				

# Trait records

# Traits\*

- what data is *expected when recording an observation?*

Crop Trait Observation ID	Accession	Inventory	Crop	Crop Trait	Coded Value	Trait Code	Numeric Value	Text Value	Method	Sample Size
-1		1	2	3	5				4	

\* “Descriptors”

# Traits: 3 Types of values

- *text, numeric, or coded*

Crop Trait Observation ID	Accession	Inventory	Crop	Crop Trait	Coded Value	Trait Code	Numeric Value	Text Value	Method	Sample Size
-1		1	2	3	5				4	

# Defining a Trait

Crop Trait	Crop Trait Lang	Crop Trait Code	Crop Trait Code Lang	Get Order Request	Get Cooperator	Method	Taxonomy Crop Map	Crop Trait Observation	Crop Trait Observation Data	Ge
Crop Trait ID	Crop	Trait Name	Trait Title	Trait Description	Is Peer Reviewed	Category	Data Type	Is Coded?	Maximum Length	Nu
375965	ELDERB...	ELDERNOTATI...	Notes	Field notes	<input type="checkbox"/>	General information	Alpha/numeric descriptor	<input type="checkbox"/>		
375966	ELDERB...	ELHEIGHT	Height (m)	Ht measured at center stem	<input type="checkbox"/>	Morphological descriptors	Numeric descriptor	<input type="checkbox"/>	5	#.#
375967	ELDERB...	BERRYCOLOR	Bery color	Dominant color of the berries	<input type="checkbox"/>	Morphological descriptors	Alpha/numeric descriptor	<input checked="" type="checkbox"/>	1	
-4					<input type="checkbox"/>	[Null]	[Null]	<input type="checkbox"/>		

# Defining a trait: *Numeric* values

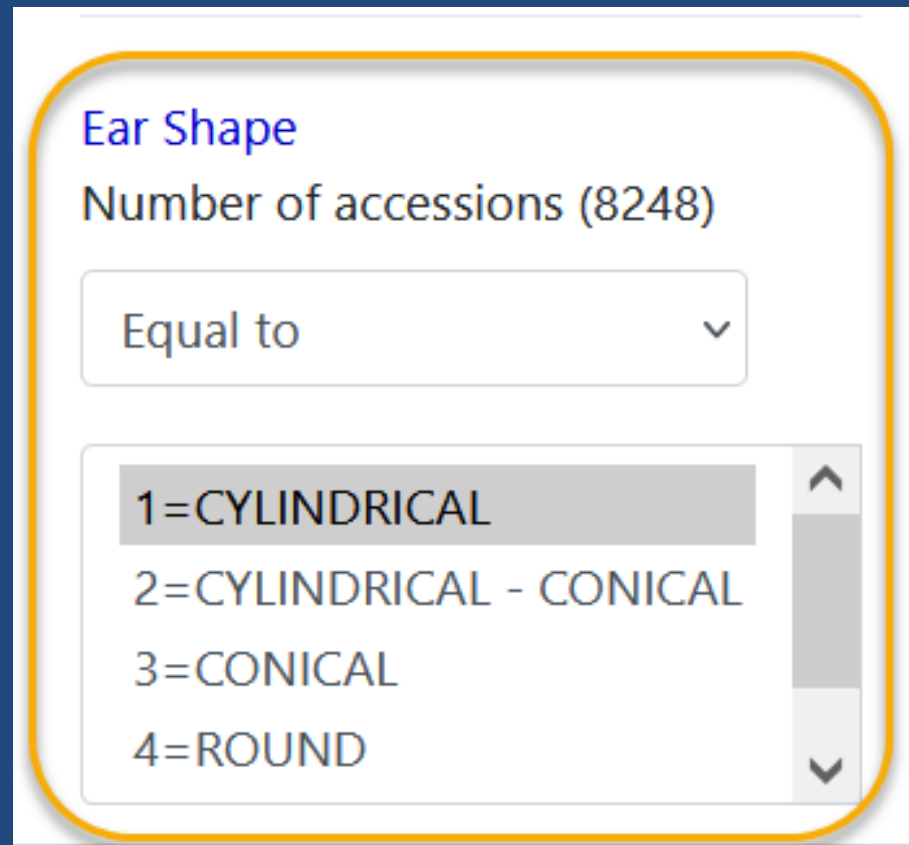
The Data Type must use “*Numeric descriptor*”

Crop	Trait Name	Trait Title	Trait Description	Is Peer Reviewed?	Category	Data Type	Is Coded?	Maximum Length
MAIZE	EAR-HEIGHT	Ear Height	HEIGHT OF THE TOP EAR ON THE CENTRAL STALK FROM GROUND LEVEL TO THE NODE WHERE THE EAR ATTACHES TO THE STALK.	Y	Morphological descriptors	Numeric descriptor	N	4



# Coded values

- Use a scale of codes – designed *specifically* for the trait



Ear Shape

Number of accessions (8248)

Equal to ▾

1=CYLINDRICAL

2=CYLINDRICAL - CONICAL

3=CONICAL

4=ROUND

The screenshot shows a web interface for a trait named 'Ear Shape'. It displays the number of accessions as 8248. Below this is a dropdown menu currently set to 'Equal to'. A scrollable list of four coded values is shown below the dropdown: '1=CYLINDRICAL', '2=CYLINDRICAL - CONICAL', '3=CONICAL', and '4=ROUND'. The first option is highlighted with a grey background. The list has upward and downward arrow buttons on the right side.

# Coded Trait example

## Harvest Maturity

Number of accessions (11)

Harvest maturity- Season of maturity for picking

Equal to

- 5=Intermediate (Redhaven, Maria Aurelia)
- 6=Intermediate/Late (Cresthaven, Nectared 4)
- 7=Late (Fillette, Nectared 6)
- 8=Very late (Summerqueen, Golden State)

# Coded values

Crop	Trait Name	Trait Title	Trait Description	Is Peer Reviewed?	Category	Data Type	Is Coded?	Maximum Length
MAIZE	EAR-SHAPE	Ear Shape	SHAPE OF THE UPPERMOST EAR	Y	Morphological descriptors	Alpha/numeric descriptor	Y	1

Crop Trait Code ID	Crop	Trait Name	Crop Trait	Trait Description	Trait Code	Code Title	Code Description
3956	MAIZE	EAR-SHAPE	Ear Shape	SHAPE OF THE UPPERMOST EAR	1	CYLINDRICAL	CYLINDRICAL
3957	MAIZE	EAR-SHAPE	Ear Shape	SHAPE OF THE UPPERMOST EAR	2	CYLINDRICAL - CONICAL	CYLINDRICAL - CONICAL
3958	MAIZE	EAR-SHAPE	Ear Shape	SHAPE OF THE UPPERMOST EAR	3	CONICAL	CONICAL
3959	MAIZE	EAR-SHAPE	Ear Shape	SHAPE OF THE UPPERMOST EAR	4	ROUND	ROUND
3960	MAIZE	EAR-SHAPE	Ear Shape	SHAPE OF THE UPPERMOST EAR	5	FASCIATED	FASCIATED

# Titles & Descriptions

Crop Trait	Crop Trait Lang	Crop Trait Code	Crop Trait Code Lang	Get Order Request	Get Cooperator	Method	Taxonomy Crop Map	Crop Trait Observation	Crop Trait Observation
Crop Trait ID	Crop	Trait Name	Trait Title	Trait Description	Is Peer Reviewed	Category	Data Type	Is Coded?	
▶ 375965	ELDERBERRIO	ELDERNOTATION	Notes	Field notes	N	General information	Alpha/numeric descriptor	N	
375966	ELDERBERRIO	ELHEIGHT	Height (m)	Ht measured at center stem	N	Morphological descriptors	Numeric descriptor	N	
375967	ELDERBERRIO	BERRYCOLOR	Berry color	Dominant color of the berries	N	Morphological descriptors	Alpha/numeric descriptor	Y	

# GG's *Crop* Lang Tables

- Crop Trait Lang
- Crop Trait Code Lang

# Crop Trait Lang

Crop Trait	Crop Trait Lang	Crop Trait Code	Crop Trait Code Lang	Get Order Request	Get Cooperator	Method	Taxonomy Crop Map	Crop Trait Observatio
	Crop Trait Lang ID	Crop	Crop Trait	Language	Trait Title	Trait Description		Create
	73508	ELDERBERRIO	Notes	English	Notes	Field notes		2/16/2
	73509	ELDERBERRIO	Height (m)	English	Height (m)	Ht measured at center stem		2/16/2
	73507	ELDERBERRIO	Berry color	English	Berry color	Dominant color of the berries		2/16/2
▶	-4							2/23/2

# Crop Trait Lang

Crop Trait	Crop Trait Lang	Crop Trait Code	Crop Trait Code Lang	Get Order Request	Get Cooperator	Method	Taxonomy Crop Map	Crop Trait Observatio
	Crop Trait Lang ID	Crop	Crop Trait	Language	Trait Title	Trait Description		Create
	73508	ELDERBERRIO	Notes	English	Notes	Field notes		2/16/2
	73509	ELDERBERRIO	Height (m)	English	Height (m)	Ht measured at center stem		2/16/2
	73507	ELDERBERRIO	Berry color	English	Berry color	Dominant color of the berries		2/16/2
▶	-4							2/23/2

results which have observation data for all selected descriptors

[Berry color](#)

Number of accessions (2)

Dominant color of the berries

Equal to

7-Purple

# Demo:

- Creating a Coded Trait
  - Elderberrio: Berry Color
- Adding (in bulk) coded observations
  - English
  - ENG



# Addendum

# More on Code titles & descriptions

Trait Lang	Crop Trait Code	Crop Trait Code Lang	Taxonomy Crop Map	Crop Trait Observation	C
Inventory	Crop	Crop Trait	Coded Value	Trait Code	Num
MAR 9 RRG SD	ELDERBERRIO	Demo colorMAR	9 Deep Purple	9	
MAR 9 RRGa SD	ELDERBERRIO	Demo colorMAR	5 Greenish	5	
MAR 9 RRGa SD	ELDERBERRIO	Demo colorMAR			

Lookup Picker v1.23.1.26

HINT: For big lists, use the text filter to shorten the list search.

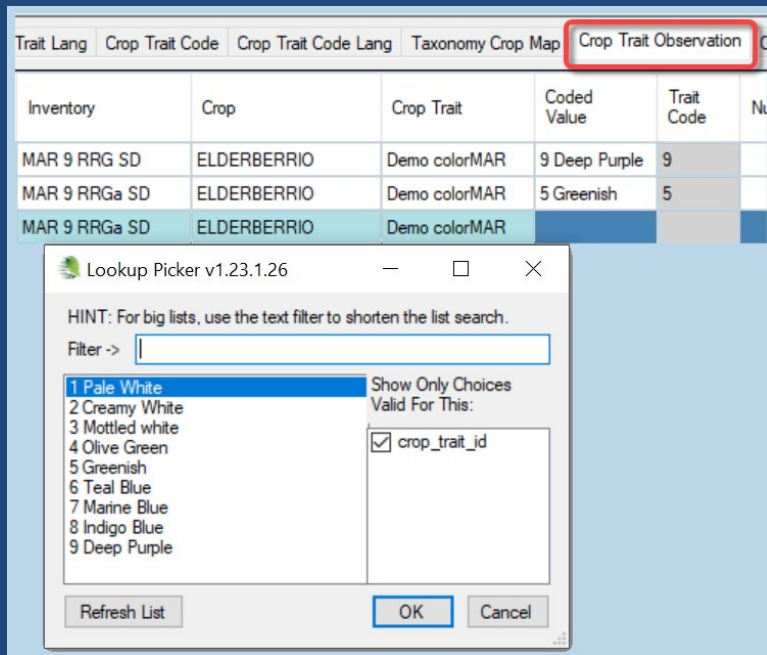
Filter ->

1 Pale White  
2 Creamy White  
3 Mottled white  
4 Olive Green  
5 Greenish  
6 Teal Blue  
7 Marine Blue  
8 Indigo Blue  
9 Deep Purple

Show Only Choices Valid For This:  
 crop\_trait\_id

Refresh List OK Cancel

# More on Code titles & descriptions



The screenshot shows a software interface with a table of crop traits and a 'Lookup Picker' dialog box. The table has columns for Inventory, Crop, Crop Trait, Coded Value, and Trait Code. The 'Lookup Picker' dialog is open, displaying a list of color options (1 Pale White to 9 Deep Purple) and a 'Valid For This:' section with a checked box for 'crop\_trait\_id'.

Trait Lang	Crop Trait Code	Crop Trait Code Lang	Taxonomy Crop Map	Crop Trait Observation
Inventory	Crop	Crop Trait	Coded Value	Trait Code
MAR 9 RRG SD	ELDERBERRIO	Demo colorMAR	9 Deep Purple	9
MAR 9 RRGa SD	ELDERBERRIO	Demo colorMAR	5 Greenish	5
MAR 9 RRGa SD	ELDERBERRIO	Demo colorMAR		

Lookup Picker v1.23.1.26

HINT: For big lists, use the text filter to shorten the list search.

Filter -> [ ]

1 Pale White  
2 Creamy White  
3 Mottled white  
4 Olive Green  
5 Greenish  
6 Teal Blue  
7 Marine Blue  
8 Indigo Blue  
9 Deep Purple

Show Only Choices  
Valid For This:  
 crop\_trait\_id

Refresh List OK Cancel

When setting up codes, consider repeating the code within the Title

# Code Titles

 Search

Demo colorMAR

Number of accessions (1)

Equal to


2=2 Creamy White

5=5 Greenish

9=9 Deep Purple

...before saving the titles  
(illustrated here codes 2-4, 6-8)

	Crop Trait Code Lang ID	Crop	Crop Trait	Trait Name	Code Definition	Trait Title	Trait Description	Lang
	27159	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	Pale White	Demo colorMAR	Berry color for the	Eng
	27162	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	2	Demo colorMAR	Berry color for the	Eng
	27163	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	3	Demo colorMAR	Berry color for the	Eng
▶	27164	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	4	Demo colorMAR	Berry color for the	Eng
	27160	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	5 - Greenish	Demo colorMAR	Berry color for the	Eng
	27165	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	6	Demo colorMAR	Berry color for the	Eng
	27166	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	7	Demo colorMAR	Berry color for the	Eng
	27167	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	8	Demo colorMAR	Berry color for the	Eng
	27161	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	9 - Deep Purple	Demo colorMAR	Berry color for the	Eng



# Code Title → Code Definition

- The Code Title ultimately overlays the Code Definition field in the CTC Lang dataview

	Crop Trait Code Lang ID	Crop	Crop Trait	Trait Name	Code Definition	Trait Title	Trait Description	Language	Code Title	Code Description
▶	27159	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	1 Pale White	Demo colorMAR	Berry color for the	English	1 Pale White	Really pale
	27162	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	2 Creamy White	Demo colorMAR	Berry color for the	English	2 Creamy White	Very pale
	27163	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	3 Mottled white	Demo colorMAR	Berry color for the	English	3 Mottled white	Pigmented
	27164	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	4 Olive Green	Demo colorMAR	Berry color for the	English	4 Olive Green	Yellow green
	27160	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	5 Greenish	Demo colorMAR	Berry color for the	English	5 Greenish	Middle of the road
	27165	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	6 Teal Blue	Demo colorMAR	Berry color for the	English	6 Teal Blue	Green with blue
	27166	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	7 Marine Blue	Demo colorMAR	Berry color for the	English	7 Marine Blue	Bluish
	27167	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	8 Indigo Blue	Demo colorMAR	Berry color for the	English	8 Indigo Blue	Dark
	27161	ELDERBERRIO	Demo colorMAR	DEMOCOLOR	9 Deep Purple	Demo colorMAR	Berry color for the	English	9 Deep Purple	Very dark



# Code Descriptions

## Distribution of Values for Demo colorMAR (DEMOCOLOR)

Code	Definition	Number of Accessions
2	Very pale	1
5	Middle of the road	1
9	Very dark	1

The screenshot shows a data table with columns: Crop Trait Code, Crop Trait Code Lang, and Taxonomy. The 'Crop Trait Code Lang' header is highlighted with a red box. A dropdown menu is open, showing a list of code descriptions for the DEMOCOLOR trait. The descriptions are: Really pale, Very pale, Pigmented, Yellow green, Middle of the road, Green with blue, Bluish, Dark, and Very dark.

Crop Trait Code	Crop Trait Code Lang	Taxonomy
DEMOCOLOR	DEMOCOLOR	1 Pale
DEMOCOLOR	DEMOCOLOR	2 Cream
DEMOCOLOR	DEMOCOLOR	3 Mottled
DEMOCOLOR	DEMOCOLOR	4 Olive
DEMOCOLOR	DEMOCOLOR	5 Green
DEMOCOLOR	DEMOCOLOR	6 Teal
DEMOCOLOR	DEMOCOLOR	7 Marigold
DEMOCOLOR	DEMOCOLOR	8 Indigo
DEMOCOLOR	DEMOCOLOR	9 Deep

Code Description

- Really pale
- Very pale
- Pigmented
- Yellow green
- Middle of the road
- Green with blue
- Bluish
- Dark
- Very dark

Definitions on the PW  
came from the Code Description field  
in the CTC Lang dataview

