# Virtual Inventory – testing



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### Comments

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## **Overview**

Virtual Inventory involves several interrelated dataviews:

- Inventory
- Inventory Maintenance Policy (IMP)
- Inventory Maintenance Policy Season (IMPS)



The IMPS in this test version now is being used to determine virtual inventory as well as its original purpose, the seasonal date range when inventory is available for public requesting.

Refer also to the Inventory and the Seasonal Availability guides. (Seasonal availability is currently implemented in GG.)



http://grin-global.org/docs/gg\_inventory.docx

http://grin-global.org/docs/gg\_inventory\_seasonal\_availability.docx

## Server Information – Requirements for Testing Seasonal and Virtual Inventory

The code and respective dataviews are being tested currently on a server in Ames. This means that:

- a separate Curator Tool (CT) account (& password) is required
- your CT must point to the server using the server's credentials: arsiaamp3ggtest.agron.iastate.edu

Hist Editor		— C Any name you prefer
List (Friendly) Name AmesTest1024 trng NPGSweb AmesTest1 Kurts GGCE2 localhost rpts GGCE demo	Move Up	Properties List Display Name: Ames Test 1024 Use SSL Use LDAP Server Name (or IP Address): arsiaamp 3GG Test.agron.iastate.edu
List (Friendly) Name	Move Down	Examples: grin-global-test1.agron.iastate.edu ncrpis-arwen.agron.iastate.edu 129.186.234.51 130.186.234.4

- when you log into this server, you will need to "Load All" update all the lookup tables.
   ("Lookups" must be in synch with the records on the respective server.)
- email <u>pete.cyr@usda.gov</u> the admin of this test server to get a CT account
- The Public Website (PW) must point to the corresponding server: https://arsiaamp3ggtest.agron.iastate.edu/GRINGlobal/search

Ô	GRIN-Global	×	Search Accessions GRIN-Global × □ Index of file:///C:/Users/Marty.F×	Search Accessions GRIN-Global	×	+ `
←	$\rightarrow$ C <b>@</b>	0	A https://arsiaamp3ggtest.agron.iastate.edu/GRINGlobal/search			▣ ★
USE	United States Departn	nent	of Agriculture	▶	1	Cart



Login to the test server as described directly above. Allow time – update your lookup tables – be patient.



At the present time, you cannot fully process the web request, that is, the request will be waiting for NRR approval!

## **Inventory Basics (without seasons)**



Inventory records *are available only* when the two flag fields, **Is Default Inventory?** and **Is Available?**, are equal to "Y."

Some important GG basics to remember:

- all new inventory records require an IMP to be specified
- before creating an Inventory record, you must have an IMP. The first step in creating an
  inventory is planning who will own the Inventory records? In this testing, create the IMP first –
  ensuring that you own the IMP and therefore the inventory records that are created that use
  that IMP.



If you use someone else's IMP when creating new inventory records, you will not be able to edit those inventory records unless the owner gives you permission.

• when a new Inventory record is created, it initially gets its default distribution quantity filled from the corresponding field in the IMP

#### Is Default Inventory? and Is Available? changed to Y // Y

G	iet Site	Get Order R	Request Ac	cessions Inve	entory Inventory Main	tenance Policy	INV Maint Po	licy Season	Get Cooperato	r Get Inventory Via	bility Get We	b Order Reque	st Get Wel
	Invent Numb	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	Is Default Inventory?	Is Auto Deducted?	ls Available?	Availability Status	Quantity On Hand	Quantity On Hand Units	Standard Distribution Form
F	1	MAR	••	RRG 1 MAR	SYSTEM	NC7				No value specified		[Null]	[Null]
	1	MAR	SD	RRG 1 MAR	RRG-NC7-SD10	NC7				Available	2500.00000	count	SD

Available:

Basic Info         Source Info         Show all columns         Show/hide columns         Excel         Search:											
Showing 1	to 1 of 1 entries						Previous 1 Next				
	ACCESSION 🔶	NAME 🔶	TAXONOMY	ORIGIN	<b>REPOSITORY</b>	IMAGE 🔶	AVAILABILITY				
	Search ACCESSION	Search NAM	Search TAXONOMY								
	RRG 1 MAR	RRG 1 MAR	Humulus lupulus L.		NC7						

## **Seasonal Inventory Basics**

#### Create Seasonal Dates within the Inventory Maint Policy Season (IMPS) dataview

To establish seasonal dates, a "season" record must be created using the **Inventory Maint Policy Season** (IMPS) dataview. In turn, this season record requires an existing **Inventory Maintenance Policy (IMP)** record. To work properly, three records must be related:

- Inventory
- Inventory Maintenance Policy
- Inventory Maint Policy Season

Two field items in the three records relate:

- 1. The inventory record's Inventory Maintenance Policy ties the inventory to the IMPS.
- 2. The inventory record's Standard Distribution Form must match the IMPS Distribution Form.



ccession Get Inv	rentory Get Inven	ory N	Naintenance Policy	Get Inventory Maint I	Policy Season Bet /	Accession Inventory N	ame Get Cooperato	ar Get C 🚺 🗹	Show All Colum
entory int Policy ason ID	Inventory Maintenance Policy	F	Distribution Form	Standard Distribution Quantity	Unit of Distribution	seasonal_start_date	Seasonal Start Date	seasonal_end_date	Seasonal End Date
	Walnuts		BD	3.00000	count	MM/dd	10/1/2022	MM/dd	12/1/2022
	MAR-HUM-CT		ст 🔰 🛸	3.00000	count	MM/dd	6/1/2022	MM/dd	6/30/2022

G	et Site Get	Order Req	uest /	Accessions	Inventory	Inventory Maintena	ance Policy INV	INV Maint Policy Season Get Cooperator Get Inventory Viability Get Web Order Request Get Web C						
	Inventory ID	Inventory Prefix	Invent Numb	Inventory Suffix	Inventory Type	Accession 🔺	Inventory Maintenance Policy	Inventory Maintenance Site	ls Default Inventory?	Is Auto Deducted?	ls Available?	Availability Status	Quantity On Hand	Quantity On Hand Units
	5625375	RRG	1	MAR		RRG 1 MAR	SYSTEM	NC7	N	N	N	No value specified		
	5625376	RRG	1	MAR	SD	RRG 1 MAR	RRG-NC7-SD10	NC7	N	N	N	Available	2500.00000	count

#### Multiple Inventory records: Seeds & Cuttings – and season availablity

The Public Website displays a shopping cart icon with an embedded + sign to indicate when multiple inventory items are available.

Basic Info	Source Info Show	all columns Sho	w/hide columns Show	10 rows Excel			Search:	
Showing 1	I to 1 of 1 entries				J			Previous 1
	ACCESSION 🔶	NAME 🔶	ΤΑΧΟΝΟΜΥ	ORIGIN	REPOSITORY	IMAGE	$\Leftrightarrow$	AVAILABILITY
	Search ACCESSION	Search NAM	Search TAXONOMY					
	RRG 1 MAR	RRG 1 MAR	Humulus lupulus L.		NC7			Ä
Showing 1	L to 1 of 1 entries							

If the user selects by the accession (the left checkbox), when seeds are available they will be selected by default. In the example below, to select cuttings, the user must click on the cart icon and then select the cutting option.

Summary Data		Availability
Taxonomy: Top Name:	<i>Humulus lupulus</i> L. RRG 1 MAR	E Form Quantity Note Inventory Cart
Origin: Maintained: Received by USDA-	- North Central Regional PI Station 22 Jul 2024	Cutting 5 count CT
NPGS:	22 301 2024	Seed 10 count SD
		Showing 1 to 2 of 2 entries <b>Note</b> : When you select cuttings, you will receive unrooted cuttings, not rooted plants, unless specific arrangements have been made with the curator. Add to Cart

The exclamation marks in this example are off topic – nothing related to this multiple or seasonal inventory topic. What do they indicate? The accession's species is included in the **Taxonomy Regulation Map** table, indicating some state regulation should be considered when working with this species.

Get Site Get Order Request Accessions Invento					Inventory Maintena	nce Policy INV	V INV Maint Policy Season Get Cooperator			Get Inventory Viability	Get Web Ord	Get Web Order Request		
ntory (	Invent Numb	Inventory Suffix	Inventory Type	Accession	Inventory Maintenance Policy	Inventory Maintenance Site	ls Default Inventory	Is Auto Deducted?	ls Available?	Availability Status	Quantity On Hand	Quantity On Hand Units	Standard Distribution Form	
	1	MAR		RRG 1 MAR	SYSTEM	NC7	N	N	N	No value specified				
	1	MAR	SD	RRG 1 MAR	RRG-NC7-SD10	NC7	Y	N	Y	Available	2500.00000	count	SD	
	1	MAR	СТ	RRG 1 MAR	RRG-NC7-PL1	NC7	Y	N	Y	Available	1.00000	count	СТ	

Site Get Order Request Accessions Inventory Inventory Maintenance Policy INV Maint Policy Season Get Cooperator Get Inventory Viability Get Web Order Request Get										iet Web (						
	Inventory ID	Inventory Prefix	Inventory Number	Invento Suffix	Inventory Type	Accession 🔺	Inventory Maintenance Policy	Inventory Maintenan Site	Is Default Inventory?	ls Available?	Standard Distribution Form	ls Au Ded	ito	Availability Status	Quantity On Hand	Quanti On Hai Units
	5625392	M@R	3	RRG	**	M@R 3 RRG	SYSTEM	NC7	N	N		N		No value		
	5625401	M@R	3	RRG	SD	M@R 3 RRG	M@R-SD	NC7	Y	Y	SD	Ν		Available		count
	5625403	M@R	3	RRG	PL	M@R 3 RRG	M@R-BD	NC7	Y	Y	BD	Ν		Available		count

If you look at the CT and it appears that multiple inventory should be available:

... but on the PW you only see one form available, you know then that there must be an associated **Inventory Maint Policy Season** (IMPS) connected to one of the **Inventory Maintenance Policy** (IMPs). I looked and looked at the CT above – only when I noticed the Out of Season message in the PW did I realize this:



The related IMPS for the above is:

Get Site	Get Order R	equest Accessions	Inventory Inventor	ory Maintenance Policy	INV Ma	int Policy Season	Get Cooperator	Get Cooperator Get Inventory Viability Get Web Order Requ				
	Inventory Maint Policy Season ID	Inventory Maintenance Policy	Distribution Form	Standard U Distribution D Quantity	nit of istribution	Season Start Date Format	Season Start Date	Season End Date Format	Season End Date	is_virtual		
	45	M@R-BD	BD	4.00000		MM/dd	11/01	MM/dd	11/04 B	NC		

The **M@R-BD** IMP connected the inventory to the IMPS. The date when this screen was viewed was 11/7, hence out of season. This is not a virtual inventory, but physical – an inventory record exists as we see in the top image on this page.

## **Virtual Inventory**

#### Inventory Maint Policy Season (IMPS)

This IMPS dataview was initially designed to accommodate a start and ending date for indicating the season when the inventory item was available (or not). As mentioned on <u>page 2</u>, three records are related together – the **Inventory** to the **Inventory Maintenance Policy** to the **Inventory Maint Policy Season.** 

In this GG test version, in addition to the seasonal aspect, the IMPS can also be used to denote *virtual inventory* records. The general idea is that maybe, besides cuttings, leaves can also be requested, but only for a specific period. A living plant can of course have leaves, pollen, roots, etc. Most likely these various forms will not all be available at the same time. Also, the decision to distribute any of these items is dependent on the curator and site policies and staff constraints.



To use the *Virtual Inventory* feature, the accession must have one Physical inventory record with an IMP that has an associated **Inventory Maint Policy Season** (IMPS).

For example, if you have a living plant. Create an inventory record for that plant. What is the typical Distribution form? Cuttings or Budwood? The Inventory record will denote that **Standard Distribution Form**.

t O	Irder Reque	st Acces	sions	Inventory	nventory Maintenan	ce Policy IN	V Maint Policy S	Season G	et Cooperator	Get Inventory	Viability Ge	et Web Order I	Request	Get W 🔹 🕨
ory	Inventory Prefix	Inventory Number	Inven Suffix	to Inventor Type	Accession	Inventory Maintenanc Policy	Inventory Maintenan Site	ls Default Inventory	ls ? Available?	Standard Distribution Form	Is Auto Deducted?	Availability Status	Quantity On Hand	Quantity On Hand Units
7	M@R	7	RRG	PL	M@R 7 RRG	M@R-LV	NC7	Y	Y	СТ	N	Available		count

The Virtual Inventory is then created within an IMPS that relates to the IMP. The IMPS denotes the virtual form that can be distributed during a set season.

ite Get Orde	er Request Acces	sions Inventory	Inventory Maintenance	Policy INV	Maint Policy Seasor	Get Cooperator	Get Inventory	Viability Get Web	Order Request Ge
Inventory Maint Policy Season ID	Inventory Maintenance Policy	Distribution Form	Standard Distribution Quantity	Unit of Distribution	Season Start Date Format	Season Start Date	Season End Date Format	Season End Date	is_virtual
46	M@R-LV	LV	50.00000		MM/dd	11/01	MM/dd	11/04	Y



#### After the date has been changed to include the current date:

Site Get Order Request Accessions Inventory Inventory Maintenance Policy INV Maint Policy Season Get Cooperator Get Inventory Viability Get Web Order Request Get Vi

Inventory Maint Policy Season ID	Inventory Maintenance Policy	Distribution Form	Standard Distribution Quantity	Unit of Distribution	Season Start Date Format	Season Start Date	Season End Date Format	Season End Date	is_virtual
46	M@R-LV	LV	50.00000	[Null]	MM/dd	11/01	MM/dd	11/25	2
								N	

Availa	Availability													
	Form	Quantity	Note	Inventory	Cart									
	Cutting	7 count		M@R 7 RRG PL	1									
	Leaves	50 count		M@R 7 RRG LV virtual	]=									
Showir	ng 1 to 2 of 2	2 entries												

While the leaves are very real, they do not need corresponding inventory records – hence the meaning of "virtual" as used in GRIN-Global.



The IMPS dataview was initially designed to denote an "availability season." The curator sets up a date range once, and does not need to edit each year, etc. On one IMPS record, the curator can adjust the season, such as when there is a "late spring," and the flowering (pollen) or the leafing may occur later than usual. By adjusting the one IMPS record to edit the season start and end dates, the season for all inventory records related to that IMPS, via the Inventory Maintenance Policy (IMP) will be adjusted accordingly.



In the current GG model, if an item, whether real or virtual, is being requested, and the current date is not within the IMPS' availability date range, the item cannot be requested. On the PW, a note to that effect will be displayed:

0	Form	Quantity	Note	Inventory	Cart
0	Cutting	5 count		MAR 5 RRG PL	T
0	Seed	10 count		MAR 5 RRG SD	
Out	t of Season				
The	item(s) is/ar	e currently not	available: re	quest when ava	ilable:

## Setting up Multiple Virtual Inventory for the same Accession

You can set up multiple virtual inventory items referring back to the same Inventory Maintenance Policy (IMP). In the following example, these 5 **Inventory Maint Policy Season** (IMPS) records are linked to the IMP M@R-virt-all.

nventory Naintenance	Distribution	Standard	11-2-6					
	Tom	Quantity	Distribution	Season Start Date Format	Season Start Date	Season End Date Format	Season End Date	is_virtual
@R-virt-all	LV	1.00000		MM/dd	11/01	MM/dd	11/25	Y
@R-virt-all	PO	2.00000		MM/dd	11/01	MM/dd	11/25	Y
@R-virt-all	FR	3.00000		MM/dd	11/01	MM/dd	11/25	Y
@R-virt-all	RT	4.00000		MM/dd	11/01	MM/dd	11/25	Y
@R-virt-all	ст 🔥	5.00000		MM/dd	11/01	MM/dd	11/25	N D
	PR-virt-all PR-virt-all PR-virt-all PR-virt-all PR-virt-all	PR-virt-all LV PR-virt-all PO PR-virt-all FR PR-virt-all RT PR-virt-all CT	PR-virt-all         LV         1.00000           PR-virt-all         PO         2.00000           PR-virt-all         FR         3.00000           PR-virt-all         RT         4.00000           PR-virt-all         RT         5.00000	PR-virt-all         LV         1.00000           PR-virt-all         PO         2.00000           PR-virt-all         FR         3.00000           PR-virt-all         RT         4.00000           PR-virt-all         CT         5.00000	PR-virt-all         LV         1.00000         MM/dd           PR-virt-all         PO         2.00000         MM/dd           PR-virt-all         FR         3.00000         MM/dd           PR-virt-all         RT         4.00000         MM/dd           PR-virt-all         RT         5.00000         MM/dd	PR-virt-all         LV         1.00000         MM/dd         11/01           PR-virt-all         PO         2.00000         MM/dd         11/01           PR-virt-all         FR         3.00000         MM/dd         11/01           PR-virt-all         FR         3.00000         MM/dd         11/01           PR-virt-all         RT         4.00000         MM/dd         11/01           PR-virt-all         CT         5.00000         MM/dd         11/01	PR-virt-all         LV         1.00000         MM/dd         11/01         MM/dd           PR-virt-all         PO         2.00000         MM/dd         11/01         MM/dd           PR-virt-all         FR         3.00000         MM/dd         11/01         MM/dd           PR-virt-all         FR         3.00000         MM/dd         11/01         MM/dd           PR-virt-all         RT         4.00000         MM/dd         11/01         MM/dd           PR-virt-all         CT         F.00000         MM/dd         11/01         MM/dd	PR-virt-all         LV         1.00000         MM/dd         11/01         MM/dd         11/25           PR-virt-all         PO         2.00000         MM/dd         11/01         MM/dd         11/25           PR-virt-all         FR         3.00000         MM/dd         11/01         MM/dd         11/25           PR-virt-all         RT         4.00000         MM/dd         11/01         MM/dd         11/25           PR-virt-all         RT         5.00000         MM/dd         11/01         MM/dd         11/25

Note that I am considering the **IMPS** cuttings (CT) record as my primary record – in the sense that this has a corresponding *physical* inventory record. The Inventory record is for a plant, it is not virtual (b) but its distribution form is cuttings (a). Seel also the image below.



In the image below, note also that the inventory record must have both flag fields equal to Y (b).

t Site	Get Orde	er Request	Accessio	ns Inver	ntory Inver	ntory Maintenance	Policy INV Maint Policy	Season Ge	t Cooperator	Get Invento	ory Viability	Get Web Orde	r Request G	iet We 💶
	Inventory ID	Inventory Prefix	Inventory Number	Invento Suffix	Inventory Type	Accession A	Inventory Maintenance Policy	Inventory Maintenan Site	ls Default Inventory?	ls Available?	Standard Distribution Form	ls Auto Deducted?	Availability Status	Quantity On Hand
	5625395	M@R	6	RRG	••	M@R 6 RRG	SYSTEM	NC7	N	N		N	No value	
	5625408	M@R	6	RRG	PL	M@R 6 RRG	M@R-virt-all	NC7	Y	Y	ст А	N	Available	

All five forms are displayed as possibilities for requesting. Suppose though that you don't want the cuttings to be distributed. Simple enough – change the season (the date range) for the cuttings in the IMPS record. See next page.

Availat	oility				
	Form	Quantity	Note	Inventory	Cart
	Cutting	5 count		M@R 6 RRG PL	1
	Fruit	3 count		M@R 6 RRG FR virtual	1
	Leaves	1 count		M@R 6 RRG LV <mark>virtual</mark>	1
	Pollen	2 count		M@R 6 RRG PO <mark>virtual</mark>	1
	Root	4 count		M@R 6 RRG RT virtual	1

Get S	ite Get Order R	equest Accessio	ns Inventory Inve	entory Maintenance	Policy INV Ma	int Policy Season	Get Cooperator	Get Cooperator Get Inventory Viability Get Web Order Request Get				
	Inventory Maint Policy Season ID	Inventory Maintenance Policy	Distribution Form	Standard Distribution Quantity	Unit of Distribution	Season Start Date Format	Season Start Date	Season End Date Format	Season End Date	is_virtual		
	46	M@R-virt-all	LV	1.00000		MM/dd	11/01	MM/dd	11/25	Y		
	48	M@R-virt-all	PO	2.00000		MM/dd	11/01	MM/dd	11/25	Y		
	49	M@R-virt-all	FR	3.00000		MM/dd	11/01	MM/dd	11/25	Y		
	50	M@R-virt-all	RT	4.00000		MM/dd	11/01	MM/dd	11/25	Y		
	51	M@R-virt-all	СТ	5.00000		MM/dd	11/01	MM/dd	11/05	N		

### Now the cuttings option is no longer displayed: (tested on 11/6)

Availab	oility				
	Form	Quantity	Note	Inventory	Cart
	Fruit	3 count		M@R 6 RRG FR virtual	]=
	Leaves	1 count		M@R 6 RRG LV virtual	7
	Pollen	2 count		M@R 6 RRG PO virtual	]=
	Root	4 count		M@R 6 RRG RT virtual	]=

## **Testing Steps**

- Create two **Inventory Maintenance Policy** records one for distributing seeds, the second for budwood.
- Create an **Accession** record.
- Create two **Inventory** records for the same accession.
  - a. One is seeds, the other is a plant. For the Seed item, the distribution form is Seeds. For the plant inventory item, the distribution form is Budwood.
- Test these inventory records to see if they are available on the Public Website. Ensure that the two Y/Y fields are working as expected. [The two flag fields, **Is Default Inventory?** and **Is Available?** must be equal to "Y" for the inventory to be available.]
- Create an **Inventory Maint Policy Season** record that uses the IMP name that was used for the *plant* inventory record. Set up a date range that includes the current date. Test by searching the PW.
- Then change the date range to exclude the current date. Test again; search the PW.
- Now for the *virtual inventory* testing. Create another IMPS record, using the same IMP name as you did in step 5, but use LV for the distribution form. Check the **is\_virtual?** field.

Include a date range, and run two tests – similar to before wrt the current date – one date range test includes the current date, the second date range test does not.

• Do another *virtual inventory* test, but this time set the distribution form to Cuttings.