Integrated Breeding Platform (IBP)

Design F1 Nursery, Advance, & Harvest F2 Seed

BMS 12.0 Tutorials

Summary

This tutorial describes how to design and plant an F1 nursery. (Field mapping and label printing steps are not covered - these activities are described in an earlier tutorial, Make Field Plan & Labels.) The tutorial also covers how to advance to the F2 generation with random bulk breeding methods and record F2 seed harvest amounts.

Start a New Nursery
- Nursery Details
- Germplasm & Checks
- Withdraw Seed for Planting
- Random Bulk Advance to F2
- Harvest F2 Seed
- Reserve F2 Seed for F2 Nursery

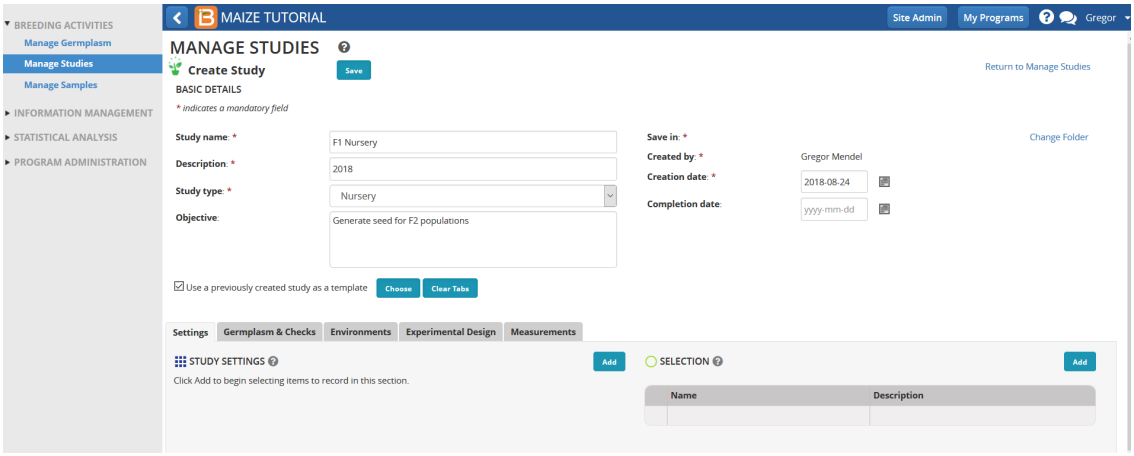
Start a New Nursery

- From the Manage Studies tool, select**Start a New Study**.

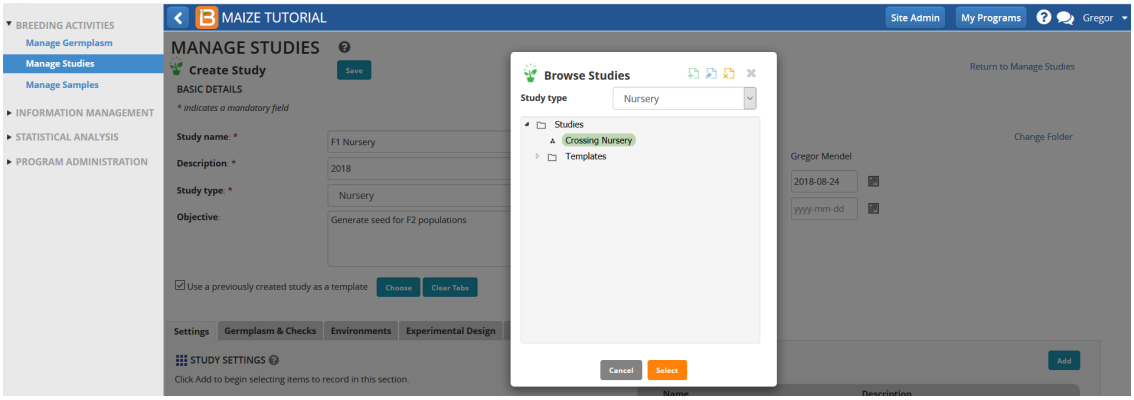


Nursery Details

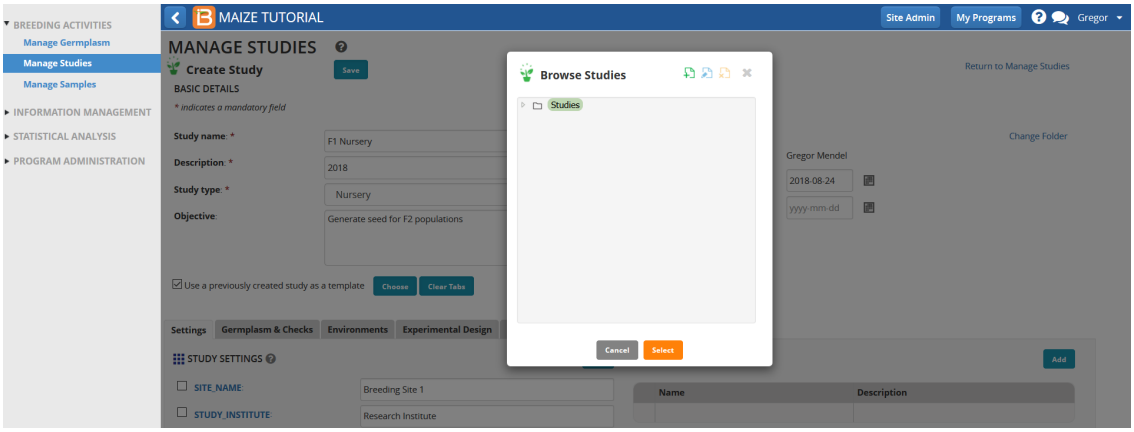
- Identify Nursery as the Study type and name and describe the F1 Nursery. Use a previously created nursery as template. Select **Choose**.



- Choose the previously created Crossing Nursery as a template.

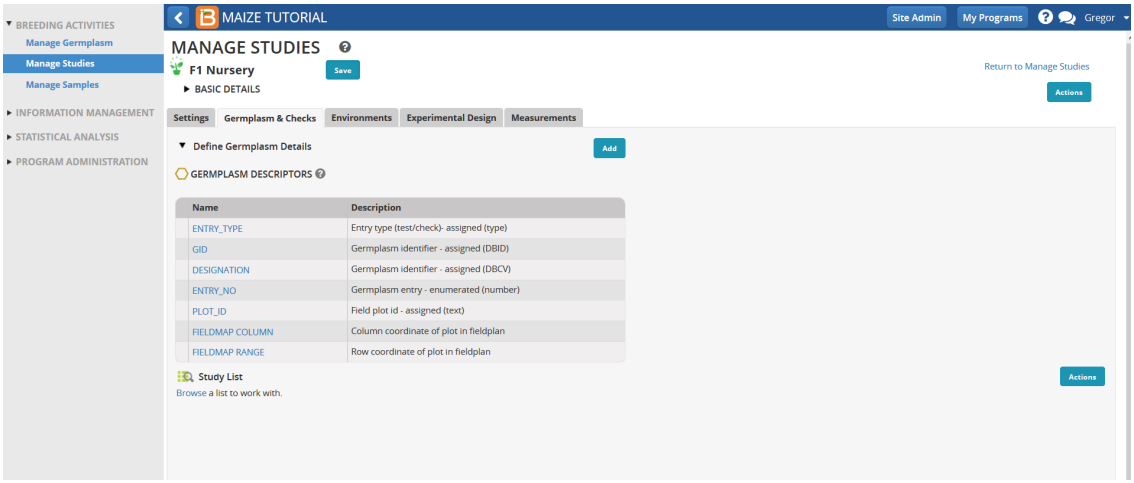


- The settings specified in the crossing nursery now populate the F1 nursery.
- **Save** Nursery

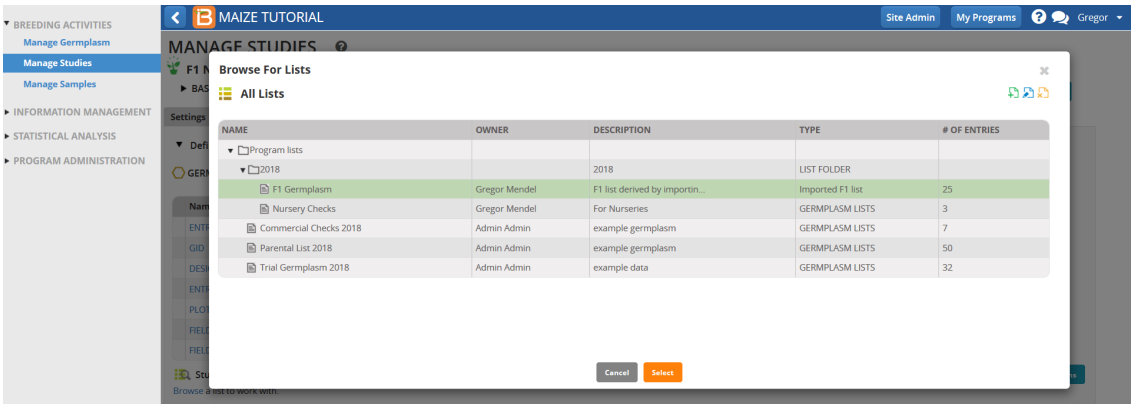


Germplasm & Checks

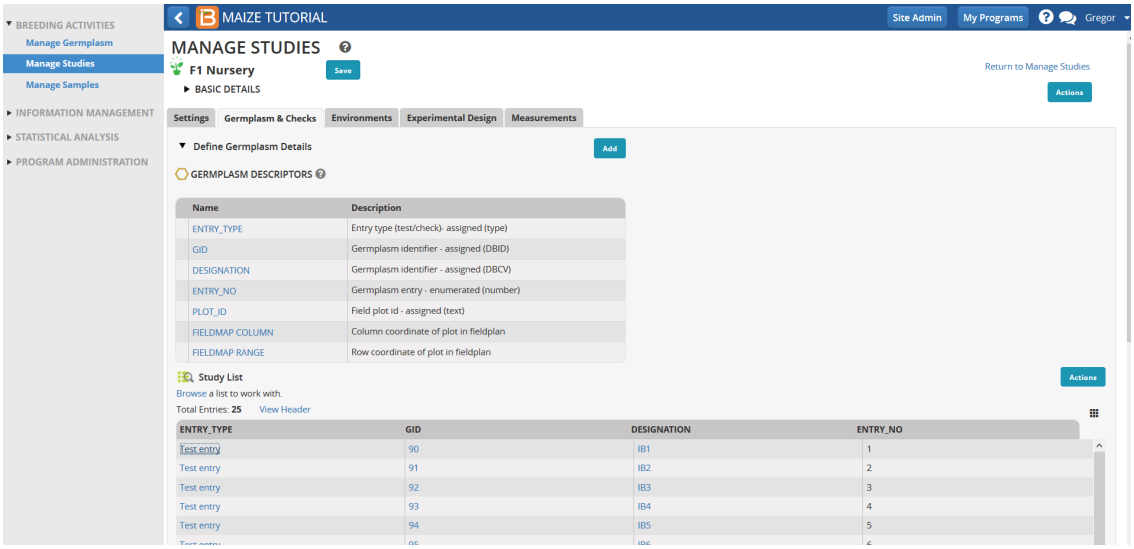
- Select the **Germplasm & Checks tab** and **Browse** for the F1 nursery list.



- Select the 25 entry F1 Germplasm list - these will be the F1 nursery test entries. Maize F1 nurseries generally have no checks.

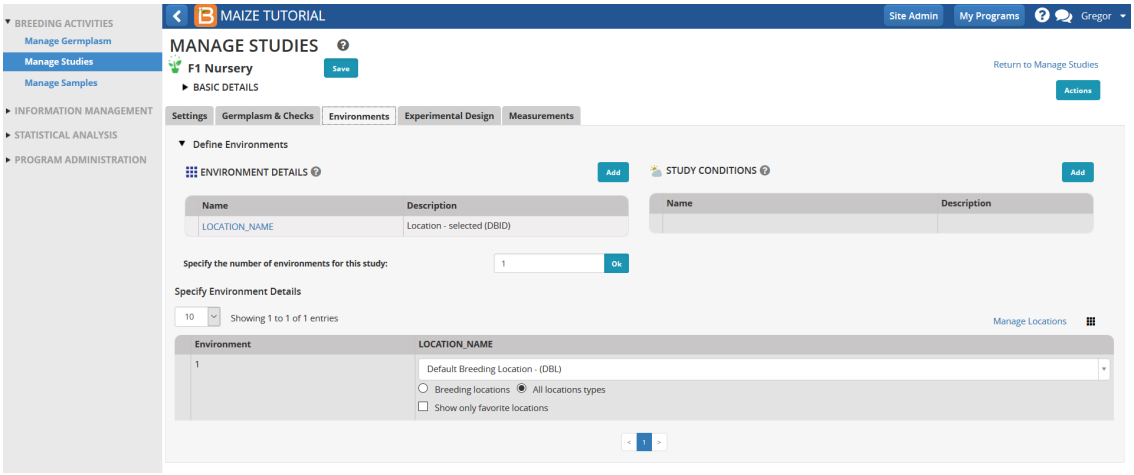


- **Save** the nursery.

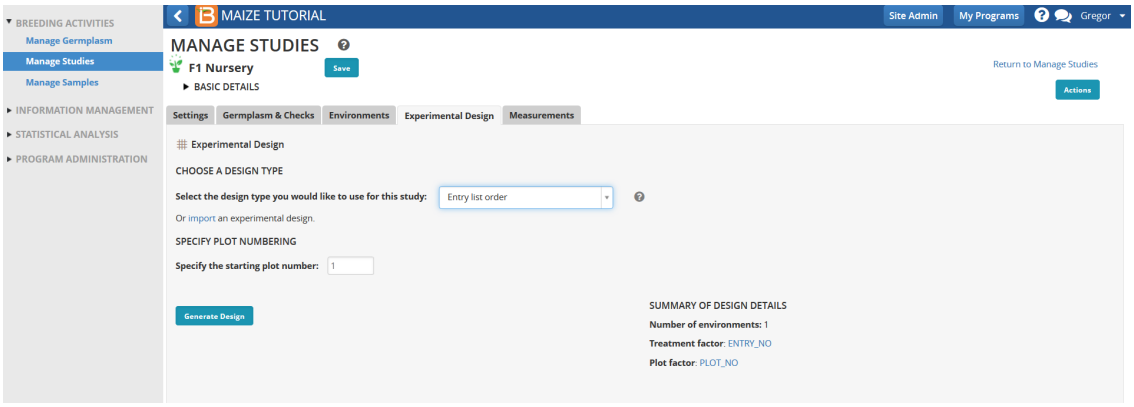


- Open the the **Environment tab**

Default Breeding Nursery is highlighted.



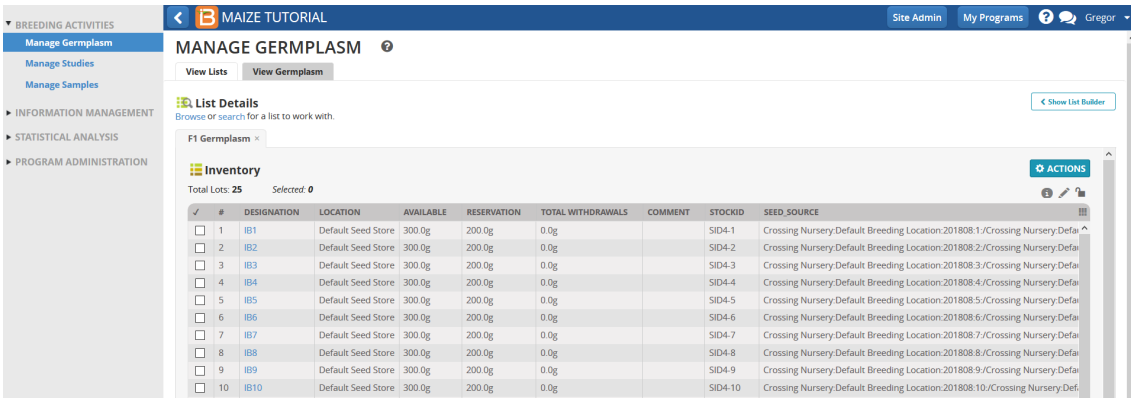
- In the Experimental Design tab, select Entry list order as the design type.
- **Generate Design**
- **Save**



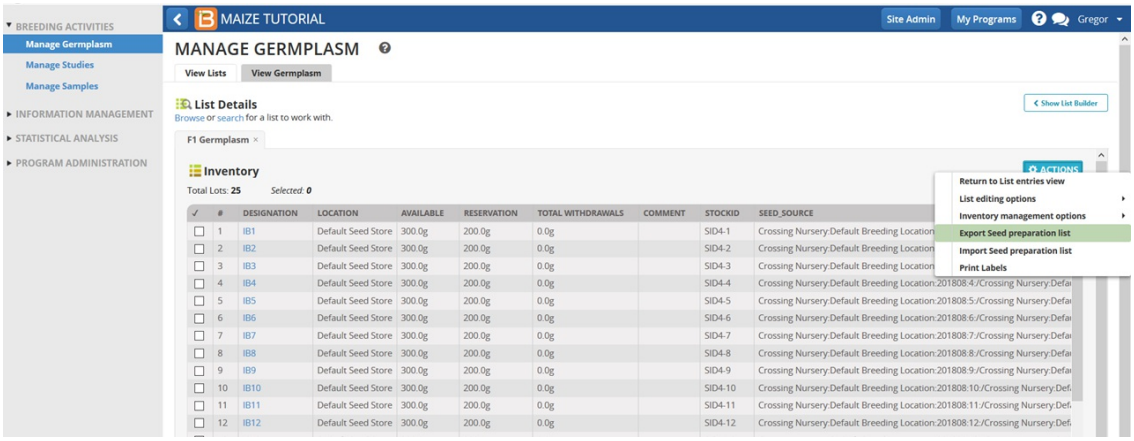
Withdraw Seed for Planting

- Return to Manage Germplasm and open the F1 Germplasm list in Inventory View.

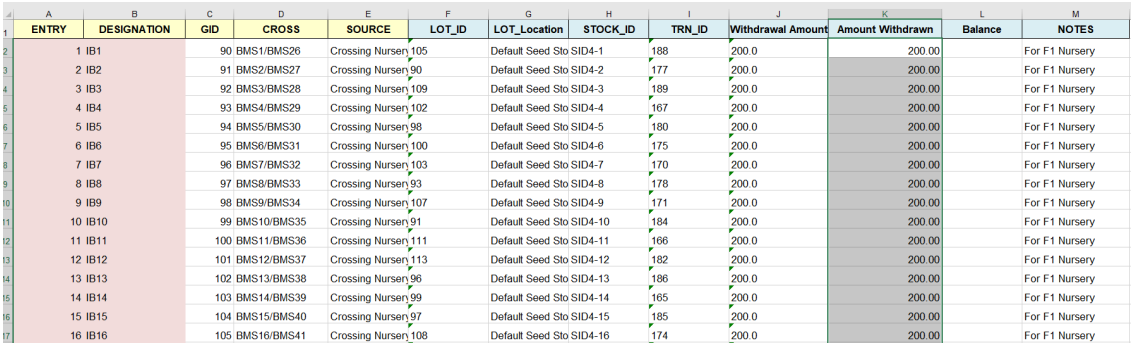
In the previous tutorial, we reserved 200g of seed from each entry for the F1 nursery. This amount is indicated in the Reservation column.



- **Export Seed Preparation list** from inventory view.

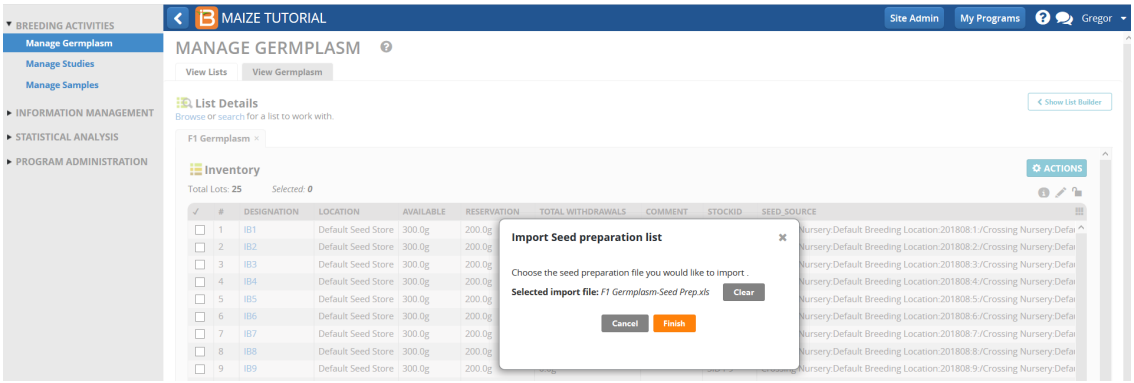


- All reserved entries are included on the seed preparation list. Fill the Amount Withdrawn column with 200g for each entry and save (.xls).

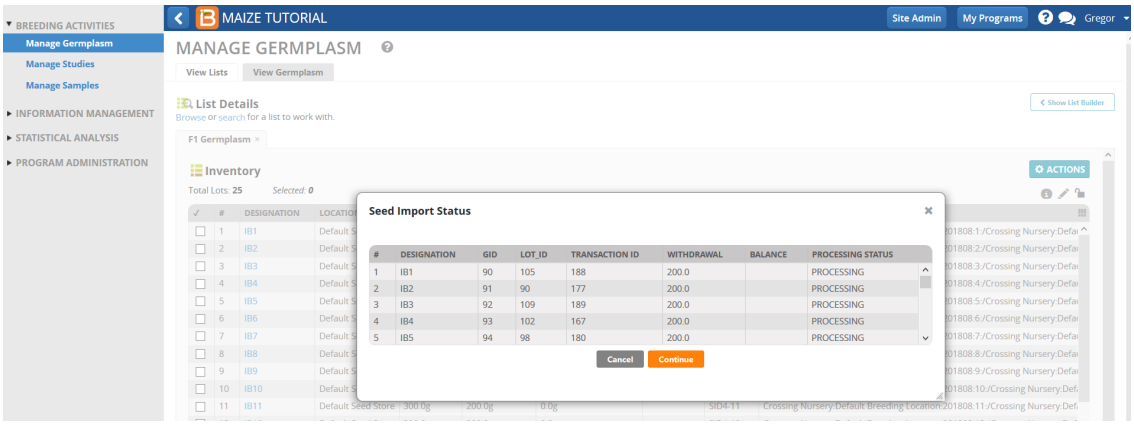


	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ENTRY	DESIGNATION	GID	CROSS	SOURCE	LOT_ID	LOT_Location	STOCK_ID	TRN_ID	Withdrawal Amount	Amount Withdrawn	Balance	NOTES
2	1	IB1	90	BMS1/BMS26	Crossing Nursery	105	Default Seed Sto	SID4-1	188	200.0	200.00		For F1 Nursery
3	2	IB2	91	BMS2/BMS27	Crossing Nursery	90	Default Seed Sto	SID4-2	177	200.0	200.00		For F1 Nursery
4	3	IB3	92	BMS3/BMS28	Crossing Nursery	109	Default Seed Sto	SID4-3	189	200.0	200.00		For F1 Nursery
5	4	IB4	93	BMS4/BMS29	Crossing Nursery	102	Default Seed Sto	SID4-4	167	200.0	200.00		For F1 Nursery
6	5	IB5	94	BMS5/BMS30	Crossing Nursery	98	Default Seed Sto	SID4-5	180	200.0	200.00		For F1 Nursery
7	6	IB6	95	BMS6/BMS31	Crossing Nursery	100	Default Seed Sto	SID4-6	175	200.0	200.00		For F1 Nursery
8	7	IB7	96	BMS7/BMS32	Crossing Nursery	103	Default Seed Sto	SID4-7	170	200.0	200.00		For F1 Nursery
9	8	IB8	97	BMS8/BMS33	Crossing Nursery	93	Default Seed Sto	SID4-8	178	200.0	200.00		For F1 Nursery
10	9	IB9	98	BMS9/BMS34	Crossing Nursery	107	Default Seed Sto	SID4-9	171	200.0	200.00		For F1 Nursery
11	10	IB10	99	BMS10/BMS35	Crossing Nursery	91	Default Seed Sto	SID4-10	184	200.0	200.00		For F1 Nursery
12	11	IB11	100	BMS11/BMS36	Crossing Nursery	111	Default Seed Sto	SID4-11	166	200.0	200.00		For F1 Nursery
13	12	IB12	101	BMS12/BMS37	Crossing Nursery	113	Default Seed Sto	SID4-12	182	200.0	200.00		For F1 Nursery
14	13	IB13	102	BMS13/BMS38	Crossing Nursery	96	Default Seed Sto	SID4-13	186	200.0	200.00		For F1 Nursery
15	14	IB14	103	BMS14/BMS39	Crossing Nursery	99	Default Seed Sto	SID4-14	165	200.0	200.00		For F1 Nursery
16	15	IB15	104	BMS15/BMS40	Crossing Nursery	97	Default Seed Sto	SID4-15	185	200.0	200.00		For F1 Nursery
17	16	IB16	105	BMS16/BMS41	Crossing Nursery	108	Default Seed Sto	SID4-16	174	200.0	200.00		For F1 Nursery

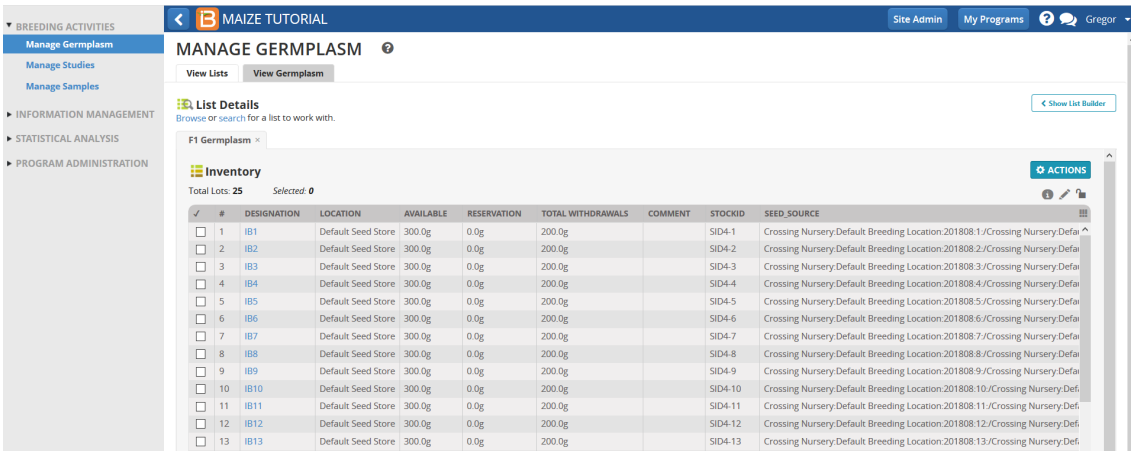
- Select **Import Seed Preparation list** from the Actions menu. Browse and upload the saved Seed Preparation list. Select **Finish**.



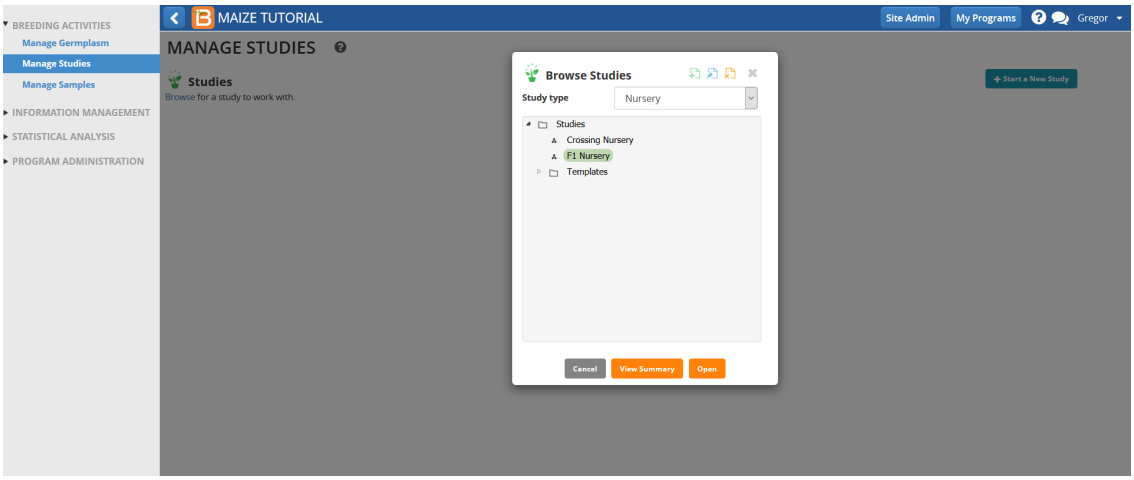
- **Continue**.



The 200g of seed is reported in the TOTAL WITHDRAWALS column. The F1 nursery is now ready to be planted in the field to be advanced to the F2 generation.

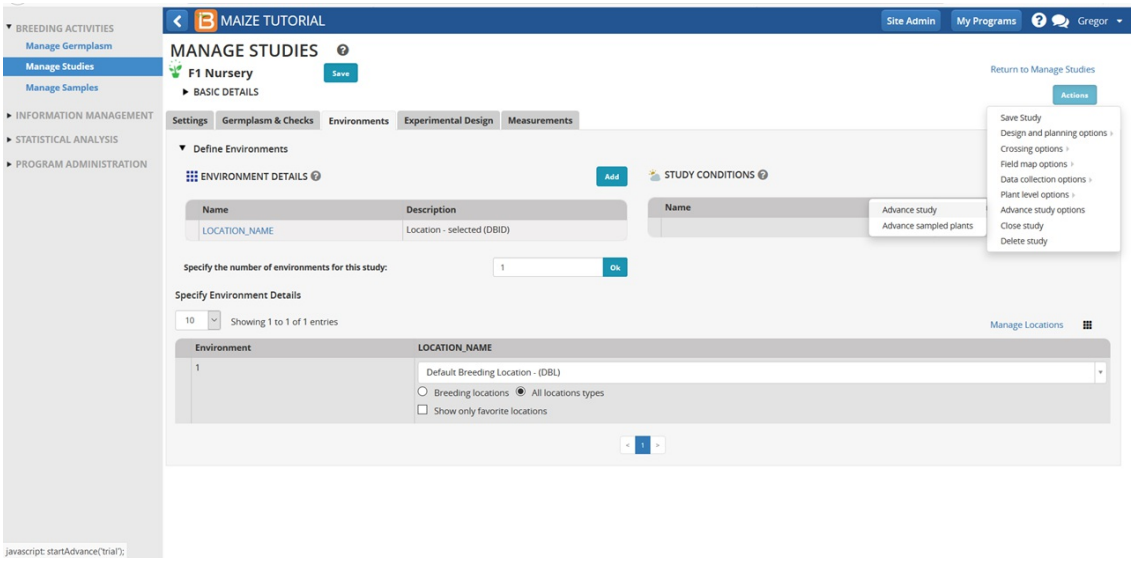


- From the Manage Studies tool, **browse** and open the **F1 Nursery**.

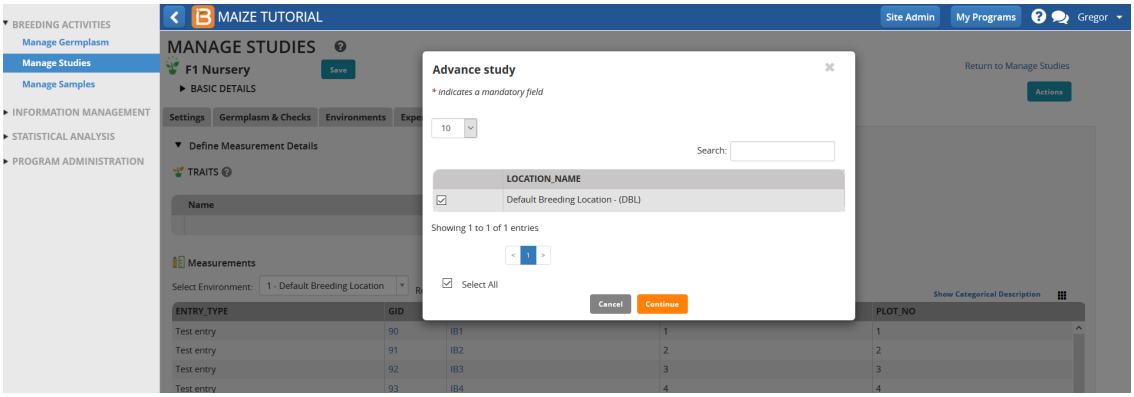


Random Bulk Advance to F2

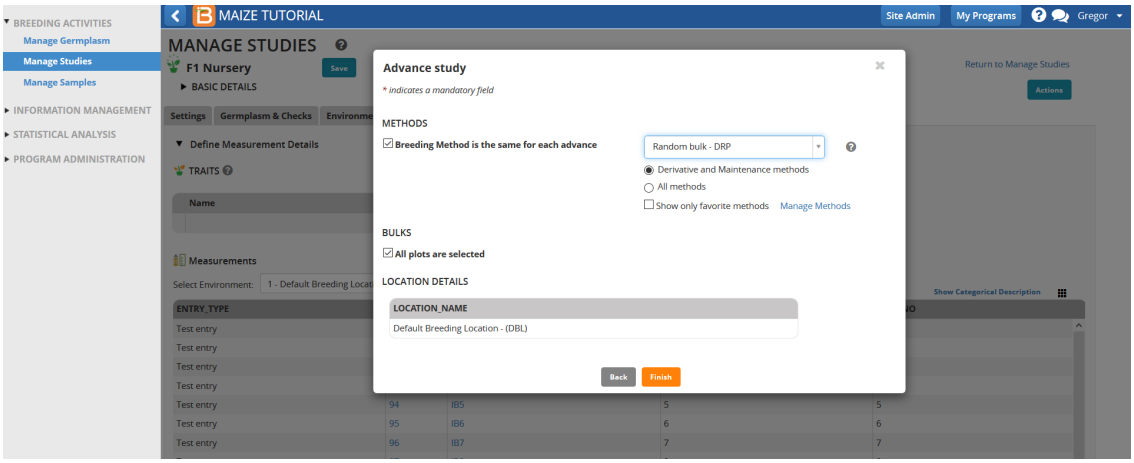
- Select **Advance study** from the Advance study options in the Actions menu.



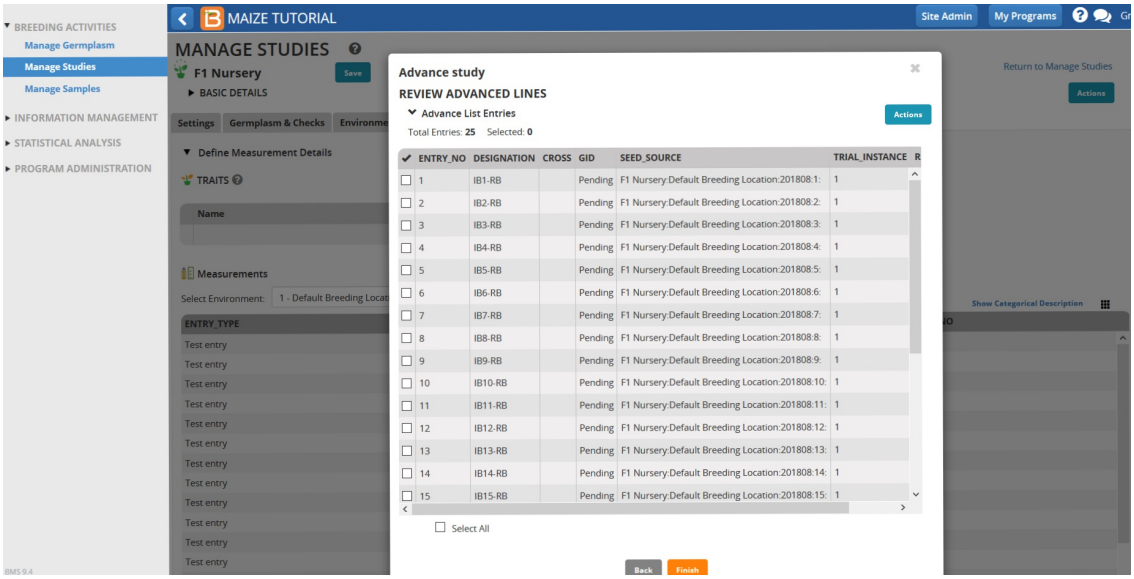
- **Continue**



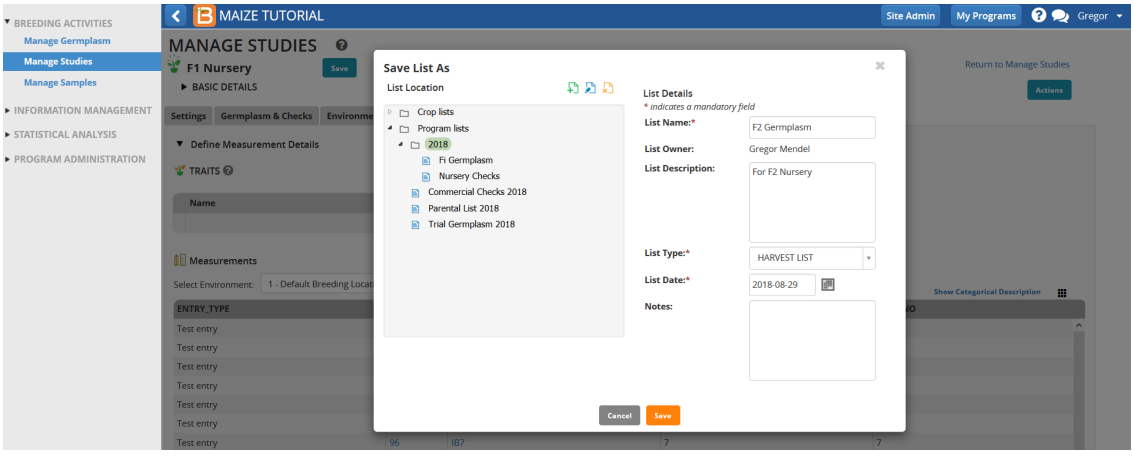
- Choose the random bulk breeding method to produce F2 generation by selfing the F1 population and bulking all seed from each plot. Select **Finish**.



- Review the pending F2 lines and select **Finish**.

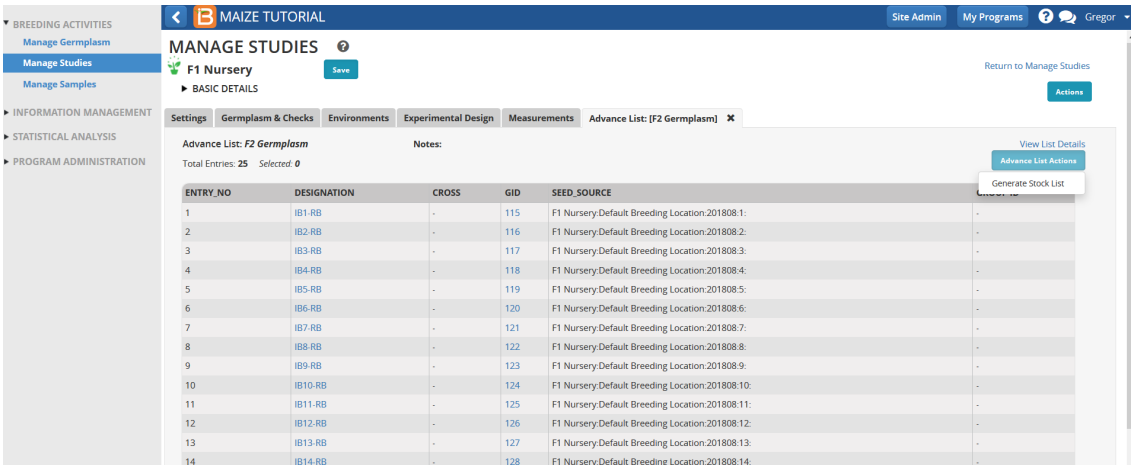


- Name, describe, and save the F2 Germplasm list in the 2018 folder.

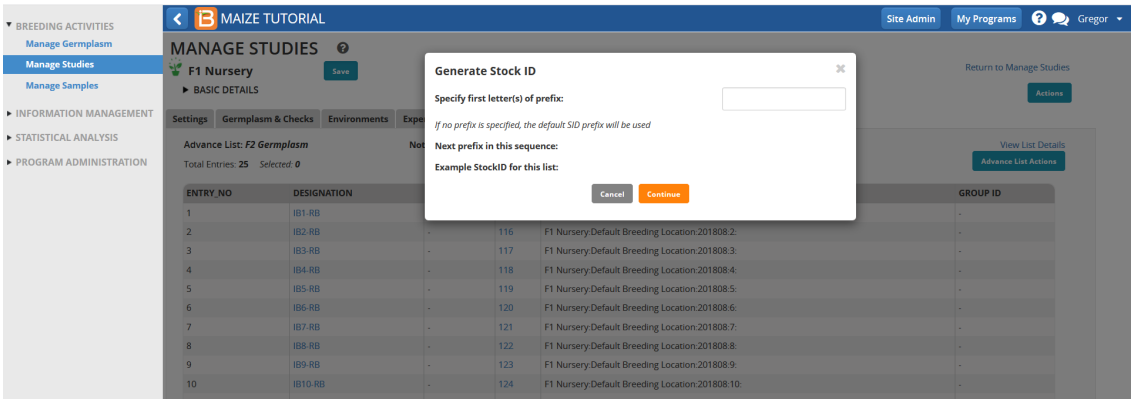


Harvest F2 Seed

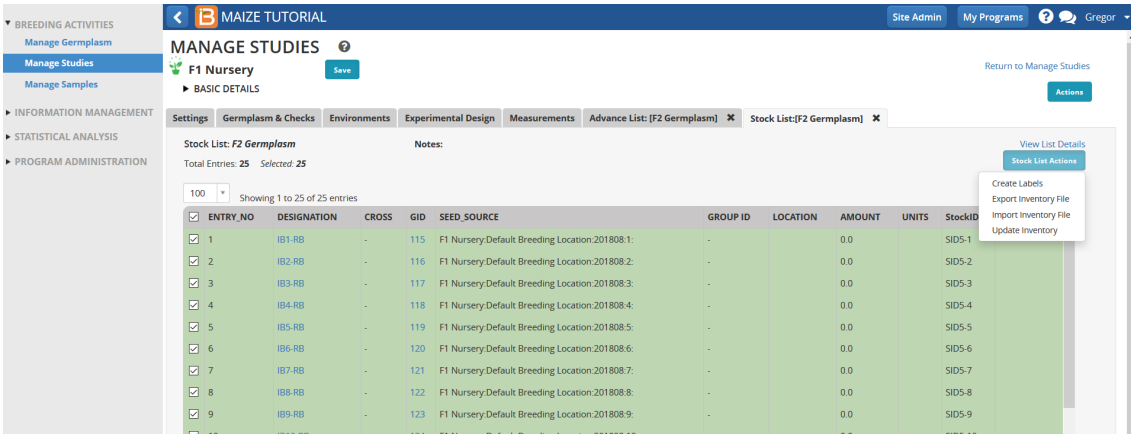
- Select **Generate Stock List** to record the amount harvested from Advance List Actions menu.



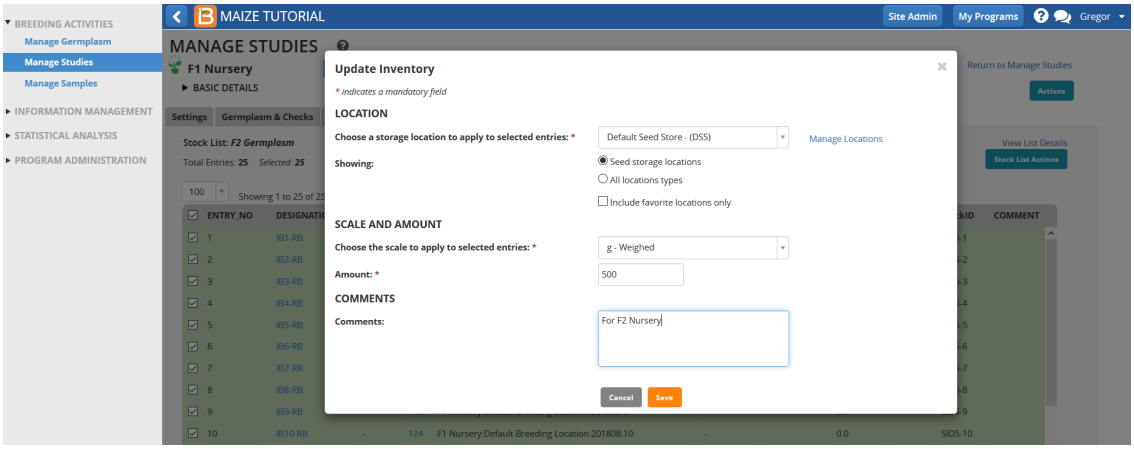
- **Continue**.



- Highlight all 25 entries and select **Update Inventory** from the Stock List Actions menu.

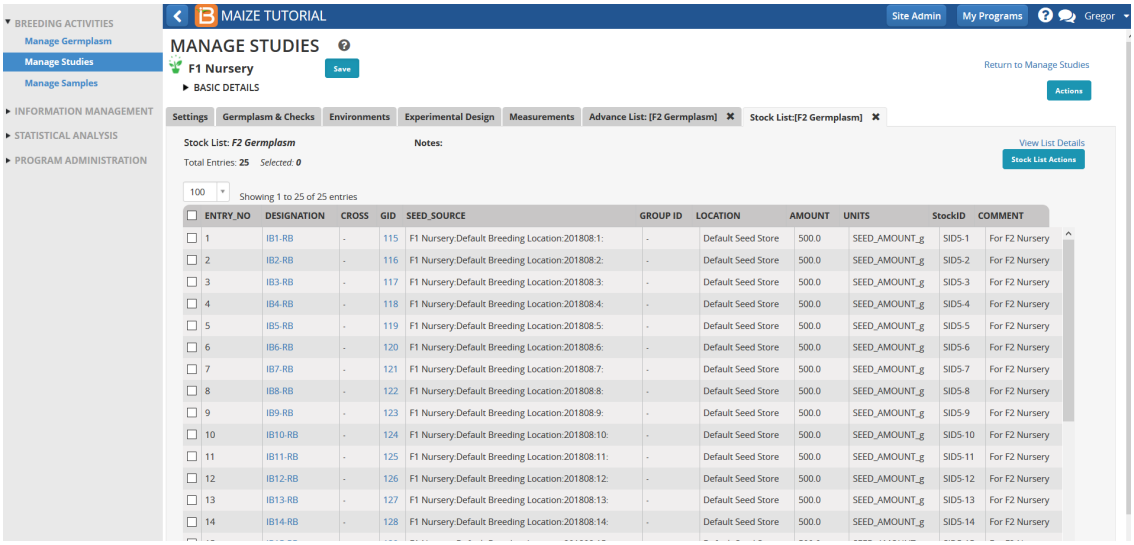


- Choose a seed storage location and g -Weighed as the units of measurement. Enter 500 for the seed amount and **Save**.



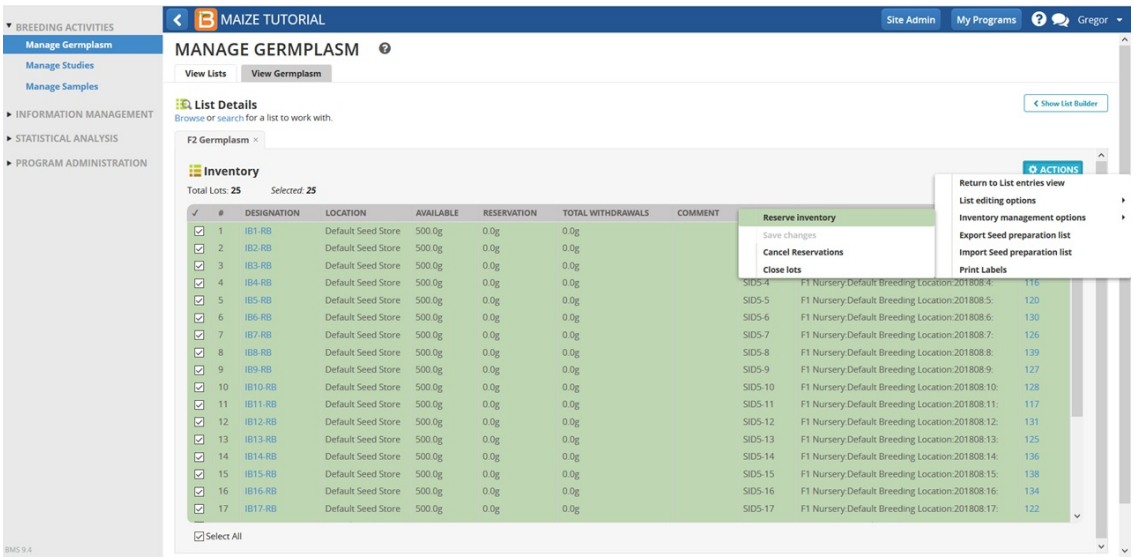
Review Germplasm list with Stock IDs

500 grams of seed has now been applied to all 25 F2 germplasm entries.

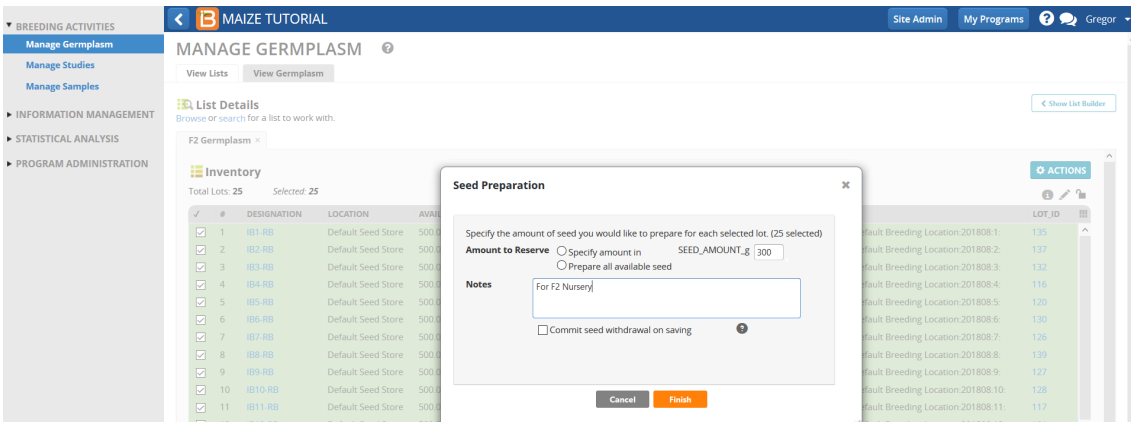


Reserve F2 Seed for F2 Nursery

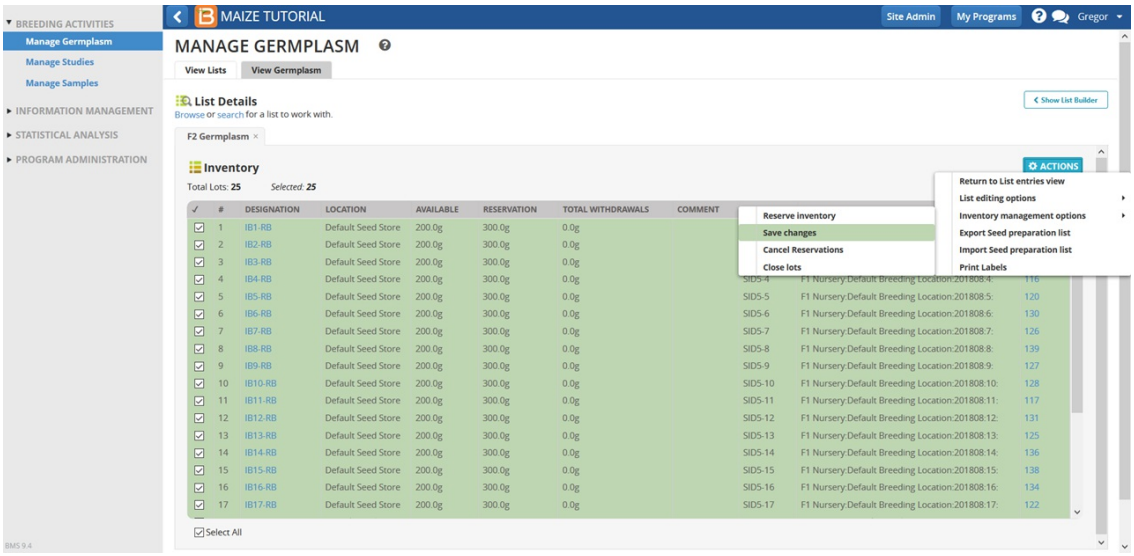
- Return to Manage Germplasm. **Browse** and select the F2 Germplasm list. Select **Inventory View** from the Actions menu. Highlight all entries and select **Reserve Inventory** from the Inventory Management Option in the Actions menu.



- Specify 300g for each entry for the F2 nursery. Select **Finish**.



- **Save changes** under Inventory Management Option.



Reserved seed amount is now indicated in the Reservation column. F2 inventory reservations are now ready for planting the F2 nursery.