

IMPORTING HISTORICAL DATA INTO BMS

DATA IMPORT TOOL allows users to upload historical datasets generated from other software into Breeding Management System (BMS). This can be Nursery or Trial field data.

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Obtaining GIDs to insert into the Data File

Import Germplasm List

- Before importing any field data it's important to note that the **germplasm used in the trial or nursery must be allocated with GIDs** (Germplasm Identifiers) and these must appear in the data file. If the germplasm does not have GIDs, full BMS database integration requires that you first import the germplasm list into the database and assign GIDs to all germplasm and then enter those GIDs in the data file before importing data.

- Sort historical data by ENTRY NO per replication to identify germplasm used in the trial or nursery. **NOTE:** You only need germplasm entries of one replication to make a germplasm list to avoid duplicated GIDs. In this example we have 42 germplasm entries which have been replicated twice, therefore the total number of entries in the germplasm list will be 42 (**Refer to IVT 17A Trial Germplasm list.xls**).

IVT 17A Trial Germplasm (2) [Compatibility Mode] - Microsoft Excel

ENTRY_NO	GID	ENTRY_CODE	DESIGNATION	CROSS	SEED_SOURCE	STOCKID	SEED_AMOUNT_G	NOTES
24	16C18934		104-3P-777/DUS#P					
25	201777_24		104-3P-777/DUS#P					
26	201778_25		16C18935	10247/DUS#P				
27	201778_26		16C18937	10250/DUS#P				
28	201779_27		16C18938	10251/DUS#P				
29	201779_28		16C18939	10252/DUS#P				
30	201780_29		16C18940	10253/DUS#P				
31	201781_30		16C18941	10254/DUS#P				
32	201781_31		16C18942	10259/P6777/DUS#P				
33	201786_32		16C18943					
34	201786_33		16C18944					
35	201787_34		16C18947	10271/P-777/DUS#P				
36	201788_35		16C18951	CML543/CML550/CLREY934/YCML550				
37	201788_36		16C18951	COKHL0228/CLM550/CLRCY934/YCML550				
38	201790_37		16C18952	COKHL0323/CML550/CLRCY934/YCML550				
39	201791_38		16C18953	BOKCHL0099/CML550/CLRCY934/YCML550				
40	201855_39		SC719	SC719				
41	2007389_40		SC727	SC727				
42	200657_41		SC637	SC637				
43	2003429_42		PANTMB1	PANTMB1				
44								
45								
46								

- You need a BMS germplasm template to import any germplasm. Download BMS template from **IMPORT GERMPLASM** under **INFORMATION MANAGEMENT** section.

Integrated Breeding... Integrated Breeding... Integrated Breeding... Integrated Breeding... Breeding Man... MULANYA, M... Main

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BREEDING ACTIVITIES

- Manage Germplasm
- Manage Nurseries
- Manage Trials

INFORMATION MANAGEMENT

- Import Germplasm** (selected)
- Browse Studies
- Head to Head Query
- Manage Ontologies
- Import Datasets

STATISTICAL ANALYSIS

PROGRAM ADMINISTRATION

IMPORT GERMPLASM ?

Choose Import File

Choose the file you would like to import. You can download a template [here](#).

Browse

Cancel Next

Breeding Management System 5.0

- The germplasm template (.xls) has three sheets:
- Description**-Has meta data about the list
- Observation**- Has germplasm details where ENTRY NO and DESISGNATION (germplasm name) are mandatory
- Codes**- Provides optional column headers to customize germplasm details e.g the DVRNM appearing in the column header of observation sheet refer to derivative name in codes sheet.

- In Description sheet, fill the details of germplasm name, description and the date the list was created.

- When you have completed filling in details in the germplasm list, **SAVE** and return to BMS.
- Back to the BMS>Information management>Import germplasm. Browse to germplasm import file(.xls), upload the **GERMPLASM LIST** (Example file:AVT 17A Germplasm.xls) and select **NEXT**.

- Fill in the appropriate details concerning the germplasm list using the dropdown arrows.

- There are two options when assigning GIDs:
- Assigning new GIDs-adding all entries to new records and assigning new GIDs
- Matching existing GIDs- Selecting existing germplasm whenever found to match Germplasm names in the import list to the ones existing in the database. It's advised to use this option to avoid duplication of GIDs.
- Select existing germplasm whenever found option and **FINISH**

REVIEW IMPORT FILE DETAILS

Please review and confirm the details of your import records.

Total Entries: 42

ENTRY_NO	ENTRY_CODE	DESIGNATION	CROSS	GID	STOCKID	SEED_SOURCE
1		16C18000	1171P6777/DU58P			
2		16C18001	10175P6777/DU58P			
3		16C18004	10180P6777/DU58P			
4		16C18005	10181/DU58P			
5		16C18006	10186P6777/DU58			
6		16C18007	10189P6777/DU58P			

SELECT GID ASSIGNMENT OPTIONS

GID Assignment Options:

Automatically accept single matches whenever found

Back **Finish**

- In case the germplasm in the import list matches with more than one in the database then you will have to select for the appropriate name from the existing list and select for the match to be used for other instances found in the import list.
- Select continue, highlight the folder you will use and **SAVE** the list.

Save List As

Please select a folder to save the list.

Total Entries: 42

List Location

List Details

* indicates a mandatory field

List Name: * IVT 17A Trial Germplasm

List Owner: Admin Admin

Description: IVT 17A Trial Germplasm

List Type: * GERMLPLASM LISTS

List Date: * 2017-06-04

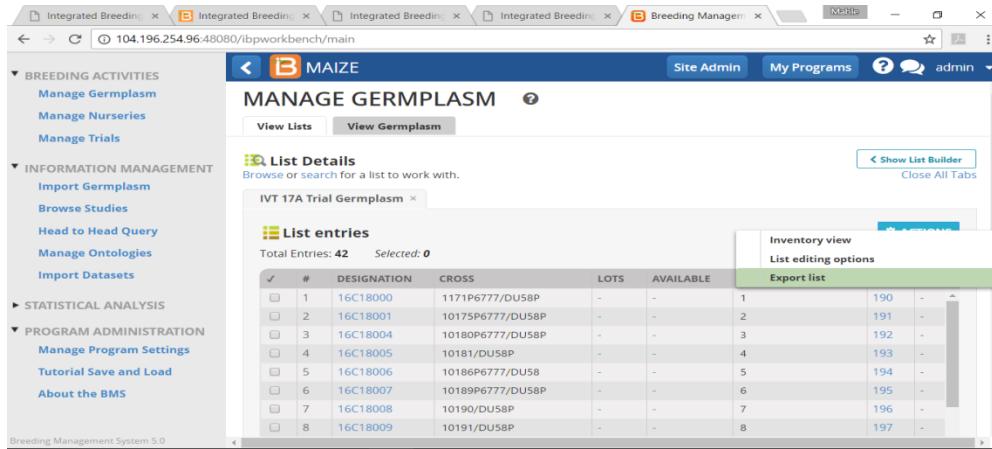
Notes:

Cancel **Save**

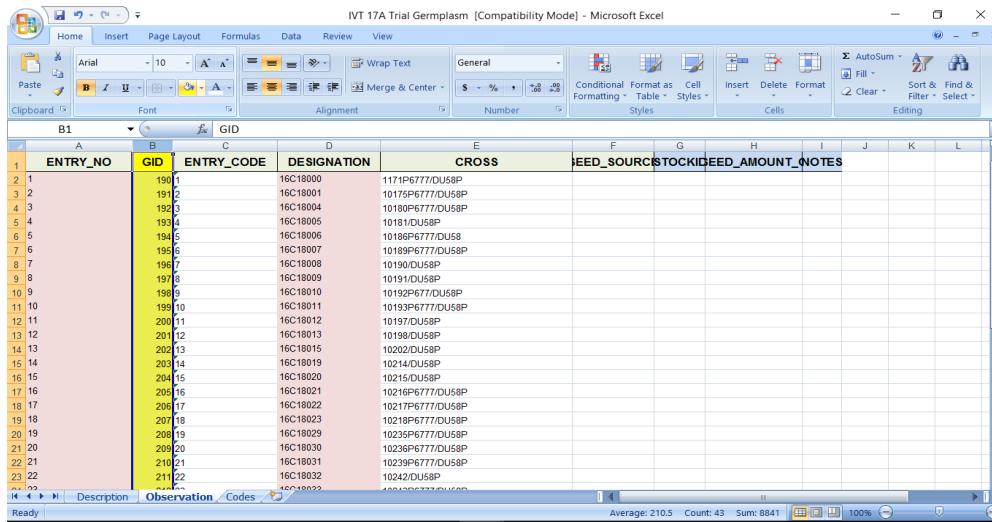
Export germplasm list to retrieve GIDs

The imported germplasm list must be exported from BMS to retrieve the GIDs.

- Select Manage lists from the menu. Browse to the imported germplasm list and open it. Close the selector window to view the list.
- From the actions menu select export list and You **MUST LOCK THE LIST** with the padlock icon appearing under the **ACTIONS** before you can export it.



- From the exported germplasm list, Select the observation sheet to view the GIDs.



Obtaining Location_IDs to insert into the Data File

It is important to have LOCATION_NAMES and IDs in the data import files if the data is to be correctly assigned to environments. However the current Data Import tool does no look up location IDs so you need to find the IDs by looking directly in the Locations table of the database or by setting up a template trial with all the locations you intend to use (you may have to add some new ones) and then looking in the ENVIRONMENTS dataset of the template using the Browse Studies feature from the Information Management menu:

Browse or search for a study to work with.

AVT200 16-17 ×		
Study Details		
Factors		
Variates		
Datasets		
Dataset of AVT200 16-17-ENVIRONMENT		
TRIAL_INSTANCE	LOCATION_NAME	LOCATION_ID
1	RARS EARLY	20001
4	KRC EARLY	20005
8	SAVE VALLEY	11067
10	CHIREDZI	11045
11	MATOPOS	20013
12	CHISUMBANJE	20015
28	BALAKA (RS)	20065
29	SAVE VALLEY IRRIGATION	20088
30	CHIREDZI IRRIGATION	20012

For frequent use it is desirable to maintain a file of Location Names and IDs.

Obtaining Person_IDs to insert into the Data File

You may want to specify the PI_NAME (if using Fieldbook Wizard) or the COOPERATOR for each location if using either import method. To load this data you need to enter the persons name exactly as in the BMS and also the persons ID (in variables PI_NAME_ID or COOPERATOR_ID). To find these IDs you need to create a template study (not using the name of the study you intend to import) and add the person you want to find the ID of as PI or COOPERATOR and use Browse Studies to look in the FACTORS section for the PI name and ID:

Factors						
NAME	DESCRIPTION	PROPERTY	SCALE	METHOD	DATATYPE	VALUE
STUDY_TYPE	Study type	Study	Type of STUDY_TYPE	Assigned	Categorical	Trial
TRIAL_INSTANCE	Trial instance - enumerated (number)	Trial instance	Number	Enumerated	Numeric	
START_DATE	Start date	Start date	Date (yyyymmdd)	Assigned	Date	20170602
LOCATION_NAME	Location - selected (DBCV)	Location	Location name	Assigned	Location	
GID	Germplasm identifier - assigned (DBID)	Germplasm id	Germplasm id	Assigned	Germplasm List	
END_DATE	End date	End date	Date (yyyymmdd)	Assigned	Date	20171231
LOCATION_ID	Location - selected (DBID)	Location	Location id	Assigned	Location	
DESIGNATION	Germplasm identifier - assigned (DBCV)	Germplasm id	Germplasm name	Assigned	Germplasm List	
PI_NAME	Principal investigator - assigned (DBCV)	Person	Person name	Assigned	Person	Christopher McLaren
COOPERATOR	COOPERATOR NAME	Person	Person name	Conducted	Person	
ENTRY_NO	Germplasm entry - enumerated (numb	Germplasm ent	Number	Enumerated	Numeric	
PI_NAME_ID	Principal investigator - assigned (DBID)	Person	Person id	Assigned	Person	6
COOPERATOR_ID	COOPERATOR ID-Assigned (DBID)	Person	Person id	Conducted	Person	
CROSS	The pedigree string of the germplasm	Cross history	Text	Assigned	Character	

Or in the ENVIRONMENT dataset to fine the name and ID of COOPERATORS

Dataset of AVTYY600-Meaning-ENVIRONMENT					
TRIAL_INSTANCE	LOCATION_NAME	LOCATION_ID	COOPERATOR	COOPERATOR_ID	CROP_SEAS
1	RARS EARLY	20001	Christopher McLaren	6	2017 B sea
3	RARS LATE	20003	Christopher McLaren	6	2017 B sea
4	KRC EARLY	20005	Christopher McLaren	6	2018 A sea
8	ART MEDIUM	20010	Christopher McLaren	6	2017 B sea
15	LUSAKA WEST	11530	Christopher McLaren	6	2017 B sea
22	GART	20082	Christopher McLaren	6	2017 B sea
23	KAFUE	20078	Christopher McLaren	6	2018 A sea

It may be useful to retain a file of the persons and their IDs for easy reference.

Format the Historical Data

There are **TWO** options of file formats which can be used for historical data import into BMS:

1. Use of Excel import wizard format is the most flexible format for importing historical data. It requires one sheet containing factors and variates for the dataset to be imported. There are **FOUR** mandatory columns: **TRIAL_INSTANCE**, **ENTRY_NO**, **PLOT_NO** and **GID** to import phenotypic observations. However, it is desirable to import **LOCATION_NAME** and **LOCATION_ID** as well. You can also include additional descriptive data such as environment codes, season codes, entry names, and design factors. While this is the most flexible format it requires manual mapping of factors and traits.

2. Use of excel Field book format (Fieldbook format file.xls). This format applies to files which have been previously generated from BMS e.g. trials or nurseries and exported out. Such files are perfectly formatted for historical data import into BMS. This format does not require manual mapping and so if you have many similar trials it is a very efficient way to import the data.

Data import from an excel file using the excel wizard.

Structure of an Excel File for data import

- **The Excel import wizard format** for data import reads one file at a time. The column headers highlighted in green are **FACTORS** and those in blue are **VARIATES**. There are **FOUR** mandatory columns: **TRIAL_INSTANCE**, **ENTRY_NO**, **PLOT_NO** and **GID**. The colors are just for illustration, and any other column headers can be used for other labels and traits.

TRIAL_INSTANCE	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

Add the data for factors and variates

- Copy and paste the information in your trial into the **EXCEL IMPORT WIZARD TEMPLATE** as shown below. The **TRIAL_INSTANCE** column should contain distinct integers identifying distinct trial sites or environments. The optional column **Location** could contain location names (repeated for each plot at that location).
- The **Name** column in the example above could contain the germplasm name or **DESIGNATION** and mapping the columns will be easier if the column is in fact headed **DESIGNATION**. The **CROSS** column could contain a cross string for each entry. **Name**, **GID** and **CROSS** can all be filled from the germplasm list file using the VLOOKUP function as described in the last section of this file. IF the **CROSS** column is present, no cells can be empty – just add “-”, this is a known bug.
- In the column header named **GID**, copy the GIDs from the germplasm list that was exported from BMS. You can use the Excel VLOOKUP function as described in the last section of this file. Ensure that the **ENTRY NO** or **DESIGNATION** (name of germplasm) that appear in the Germplasm list match exactly those of the trial.
- PLOT_NO** must just contain integers 1,2 ...n where n is the number of plots in each trial instance, for each trial instance. If the Trial design is different from the template format then you will need to edit the factors in the headers. If you have an incomplete block design be sure to use the header **BLOCK_NO** for the sub-block factor (and not **BLK** or **BLK_NO**) – this is a known bug.
- If you intend to add **LOCATION_NAME** and **LOCATION_ID** (which you should), you must add those columns to the data sheet and fill them with the values from your locations file or from the template view (as shown above). Each plot for each location must have the same value of name and ID.

Run the Data Import Application

- Launch the **INFORMATION MANAGEMENT** from BMS then select **DATA IMPORT TOOL**. Select the import **EXCEL USING DATA IMPORT WIZARD** and select an excel file to import and **SUBMIT**.

- Specify the observation sheet containing phenotypic data within the excel file. Select the appropriate column header and close. Enter study name, title and type.

Map data columns to ontology variables

- The BMS will attempt to map the excel sheet column headers to corresponding database terms. Carefully review the mapped terms to ensure that the BMS correctly matched the truly meaning and measurement of the imported data.
- Review the details of the suggested matches by selecting re-map icon and Search for alternative matches by typing in the appropriate field (either **TRIAL ENVIRONMENT**, **GERMPLASM**,**TRIAL DESIGN** or **VARIATE GROUP**)

- In this example the term **LOCATION** is mapped under the **TRIAL ENVIRONMENT GROUP**. IF you have added LOCATION_NAME and LOCATION_ID instead they should go to the ENVIRONEMNT group. Similarly Season_Code or management codes should go into this group.

The screenshot shows the 'SCMZ CROSS CUTTING ACTIVITIES' interface. On the left, there's a sidebar with categories like BREEDING ACTIVITIES, INFORMATION MANAGEMENT, and PROGRAM ADMINISTRATION. The 'Import Datasets' option is selected. In the center, a modal window titled 'MAP HEADERS TO STANDARD VARIABLE' is open. It has a section for 'Select a Variable Group' with 'Trial Environment' selected. Below that is a search bar for 'Search and Select a Standard Variable'. At the bottom right of the modal are 'Cancel' and 'Apply Mapping' buttons. The background shows some standard variable mappings like 'ENTRY_NO → ENTRY_NO' and 'Location → LOCATION_NAME'.

- For the **UN-MAPPED TERMS**, drag and drop them to their appropriate grouping either (**TRIAL ENVIRONMENT, GERMPLASM, TRIAL DESIGN or VARIATE GROUP**). If the alternative term is an actual match ,select apply mapping. If a match is not found, you will have to go back to ontology manager to add the new variable.

The screenshot shows the 'SCMZ CROSS CUTTING ACTIVITIES' interface with the 'Import Datasets' option selected in the sidebar. In the center, there's a 'DATASET IMPORTER' tool. It has a 'MAP HEADERS TO STANDARD VARIABLE' section with instructions: 'Drag and drop headers from the left panel to the right panel to group them on their corresponding panels and apply Standard Variable mapping on it.' Below this are buttons for 'Study Details', 'Save Mapping', and 'Manage Variables in Ontology Browser'. There are two main mapping sections: 'Un-Mapped' (0 items) and 'Trial Environment Group' (2 items). The 'Trial Environment Group' section contains two mappings: 'TRIAL_INSTANCE → TRIAL_INSTANCE' (Property: Trial instance, Scale: Number, Method: Enumerated) and 'Location → LOCATION_NAME' (Property: Location, Scale: Location name, Method: Assigned).

- When mapping is complete, save it and select confirm header mapping.

MAP HEADERS TO STANDARD VARIABLE

Drag and drop headers from the left panel to the right panel to group them on their corresponding panels and apply Standard Variable mapping on it.

You can re-map headers that already have Standard Variables mapped to them.

Click the Save Mapping button to preview and apply the mappings.

Study Details **Save Mapping** **Manage Variables in Ontology Browser**

Un-Mapped	Mapped
Location	Trial Environment Group TRIAL_INSTANCE → TRIAL_INSTANCE Property: Trial instance Scale: Number Method: Enumerated
	Germplasm Entry Group ENTRY_NO → ENTRY_NO Property: Germplasm Scale: Number Method: Enumerated

Import the data values

- Select the first row of the data and import the observations. The phenotypic observations for this trial will be saved in the database and you will receive a message for successful importation.

DATASET IMPORTER

This tool helps you convert your regular workbook into a DMS Workbook.

OPEN SHEET

Select First Row Data

First Row Data: 1,1,RARS,16C18000,2017754,1171P6777/DU58P,1,35,6,23,68,

Number of observation rows: 84

Import Observations

- You will receive a notification if import is successful.

DATASET IMPORTER

This tool helps you convert your regular workbook into a DMS Workbook.

IMPORT PROJECT DATA

Import Successfull!

You may now close this page or go back to the uploaded page.

- You can retrieve the trial by selecting Manage Trials from the MENU and BROWSE for the Trial!

Data import from a Fieldbook formatted file

Import the Germplasm List

- You have to import a germplasm list into BMS to generate GIDs as indicated above.
- Export the list to get the GIDs to insert into the Fieldbook

Obtain a Fieldbook Template

- The fieldbook format option expects the data to be delivered in a file formatted according to the BMS fieldbook format like files exported from trials already in BMS. The easiest way to obtain such a file is to create a template trial which matches the trial you wish to import in terms of variables – factors and traits. This template should not have the same name as the trial you want to import. Then export the fieldbook from the template as though you were going to collect the data. The fieldbook format has two sheets: Description and Observation sheet.

Format the file for a single location

- Set the Study Name, Title, Objective, Start Date, End Date. The Study Type MUST be set to T for Trial. These values remain the same for subsequent files for each location. Edit the value fields in the CONDITION and CONSTANT sections on the **Description sheet** to reflect the information for the environment you are loading. In particular you can enter the LOCATION_NAME and LOCATION_ID in the CONSTANT section.
- You must delete the row describing PLOT_ID from the description sheet, and the corresponding column from the observation sheet. You can similarly delete rows and corresponding columns for any variables for which you do not have data.

	A	B	C	D	E	F	G
1	STUDY	SC Fieldbook Trial Import Format					
2	TITLE	IVT for Ultra ultra early mid altitude					
3	OBJECTIVE	Intermediate hybrid evaluation					
4	START DATE	20170604					
5	END DATE						
6	STUDY TYPE	T					
8	CONDITION	DESCRIPTION	PROPERTY	SCALE	METHOD	DATA TYPE	VALUE
9	BSIZE	Block Size for incomplete block de: ED - block size	Number	Assigned	N		
10	COOPERATOR	COOPERATOR NAME	Person	Person name	Conducted	C	8373
11	COOPERATOR_ID	COOPERATOR ID -Assigned (DBI)	Person	Person id	Conducted	C	8372
12	Crop_season_Code	Season - Assigned (Code)	Season	Code of Crop_season	Assigned	C	
13	EXPT_DESIGN	Experimental design - assigned (typ: Experimental design		Type of EXPT_DESIGN	Assigned	C	
14	LOCATION_ABBR	Location code - assigned (LOC_AF	Location	LOC_ABBR	Assigned	C	RIBD
15	LOCATION_NAME	Location - selected (DBCV)	Location	Location name	Assigned	C	RA1
16	LOCATION_NAME_ID	Location - selected (DBID)	Location	Location id	Assigned	C	Rattray Arnold Research
17	NREP	Number of replications in an exper ED - nrep	Number	Assigned	N		8190
18	PDATE	Date of Planting	Planting date	Date (yyyymmdd)	Assigned	N	100238
19	PI_NAME	Principal investigator - assigned (D Person	Person	Person name	Assigned	C	
20	PI_NAME_ID	Principal investigator - assigned (D Person	Person	Person id	Assigned	C	
21	PlotArea_m2	Plot size	m**2	Applied	N		
22	STUDY_INSTITUTE	Study institute - conducted (DBCV)	Institute	Text	Conducted	C	Seed Co
23	Target_Region	Target Region Variable	Target Region	Target_Region_Scale	Assigned	C	X
24	TRIAL_INSTANCE	Trial instance - enumerated (num: Trial instance	Number	Enumerated	N		

- Copy the GIDS using **VLOOKUP FUNCTION** from the germplasm list into a column header **GID** in the trial observation sheet as described in the last section of this file. You can also copy DESIGNATION and CROSS in this way if required.

- Copy the rest of the data from the historical data file into the observation sheet of the fieldbook. Save the file and review the trial to confirm that the mandatory column headers (**TRIAL_INSTANCE, ENTRY_NO, PLOT_NO** and **GIDs**) are present. A complete fieldbook formatted trial with the two sheets is as below

Description sheet

Fieldbook Import format [Compatibility Mode] - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J
1	STUDY	SC Fieldbook Trial Import Format								
2	TITLE	IVT for Ultra ultra early mid altitude								
3	OBJECTIVE	Intermediate hybrid evaluation								
4	START DATE	20170604								
5	END DATE									
6	STUDY TYPE	T								
8	CONDITION	DESCRIPTION	PROP/SCALE	METHOD	DATA TYPE	VALUE	LABEL			
9	BSIZE	Block Size for incomplete block design	ED - b Number	Assigned	N	6	TRIAL			
10	COOPERATOR	COOPERATOR NAME	Person Person	Conducted	C		TRIAL			
11	COOPERATOR_ID	COOPERATOR ID -Assigned (DBID)	Person Person id	Conducted	C		TRIAL			
12	Crop_season_Code	Season - Assigned (Code)	Season	Code of C	Assigned	C	STUDY			
13	EXPT_DESIGN	Experimental design - assigned	Type	Experi Type of E	Assigned	C	RIBD	TRIAL		
14	LOCATION_ABBR	Location code - assigned (LOC_AB)	Location	LOC_AB	Assigned	C	RA1	TRIAL		
15	LOCATION_NAME	Location - selected (DBCV)	Location	Location i	Assigned	C	Rattray Arnold Research	TRIAL		
16	LOCATION_NAME_ID	Location - selected (DBID)	Location	Location i	Assigned	C		TRIAL		
17	NREP	Number of replications in an experim	ED - n	Number	Assigned	N	2	TRIAL		
18	PDATE	Date of Planting	Plantin	Date (yyy	Assigned	N		TRIAL		
19	PI_NAME	Principal investigator - assigned (DE)	Person Person	n	Assigned	C		STUDY		
20	PI_NAME_ID	Principal investigator - assigned (DE)	Person Person id	Assigned	C		STUDY			
21	PlotArea_m2	Plot size	Plot si	m**2	Applied	N	6	TRIAL		
22	STUDY_INSTITUTE	Study institute -conducted (DBCV)	Institut	Text	Conducted	C	Seed Co	STUDY		
23	Target_Region	Target Region Variable	Target	Target_R	Assigned	C	X	STUDY		
24	TRIAL_INSTANCE	Trial instance - enumerated (number)	Trial in Number		Enumerated	N	1	TRIAL		

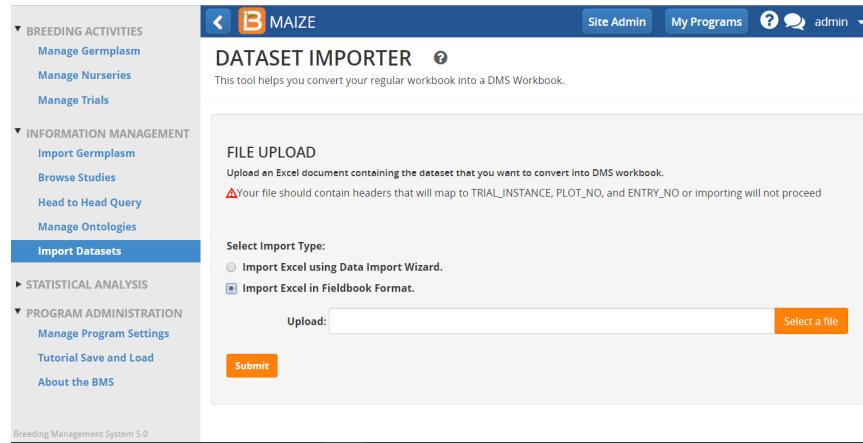
Observation Sheet

Fieldbook Import format [Compatibility Mode] - Microsoft Excel

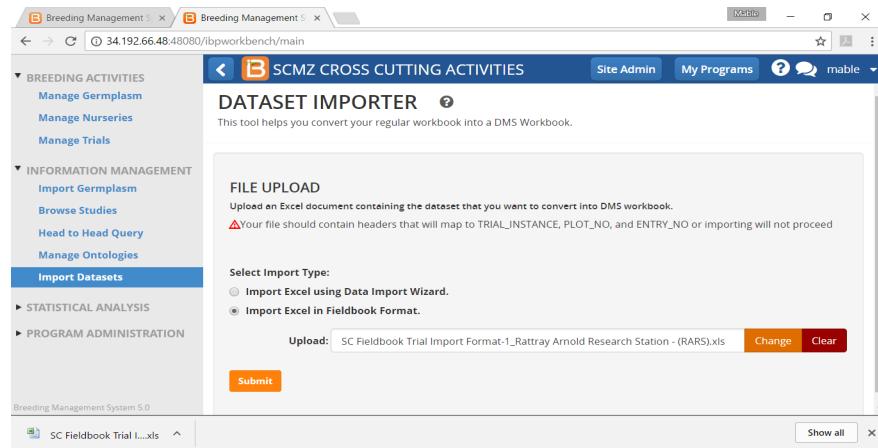
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1	ENTRY_TYPE	GID	DESIGNATION	ENTRY_NO	PLOT_ID	CROSS	REP_NO	PLOT_NO	BLOCK_NO	Ant Date	AD	ASI	Cmp	Silk Date	SD	PH_M_crt
2	T	2018083	SC1	1			1	18	3		50					
3	T	2018083	SC1	1			2	69	5		45					
4	T	2018084	SC2	2			1	25	5		67					
5	T	2018084	SC2	2			2	50	2		46					
6	T	2018085	SC3	3			1	24	4		34					
7	T	2018085	SC3	3			2	70	5		38					
8	T	2018086	SC4	4			1	20	4		56					
9	T	2018086	SC4	4			2	56	3		45					
10	T	2018087	SC5	5			1	22	4		58					
11	T	2018087	SC5	5			2	83	7		65					
12	T	2018088	SC6	6			1	42	7		54					
13	T	2018088	SC6	6			2	74	6		53					
14	T	2018089	SC7	7			1	31	6		51					
15	T	2018089	SC7	7			2	52	2		52					
16	T	2018090	SC8	8			1	19	4		60					
17	T	2018090	SC8	8			2	76	6		61					
18	T	2018091	SC9	9			1	9	2		62					
19	T	2018091	SC9	9			2	57	3		64					
20	T	2018092	SC10	10			1	5	1		36					
21	T	2018092	SC10	10			2	58	3		78					
22	T	2018093	SC11	11			1	41	7		78					
23	T	2018093	SC11	11			2	84	7		54					
24	T	2018094	SC12	12			1	37	7		65					

Import the File using the Fieldbook Wizard

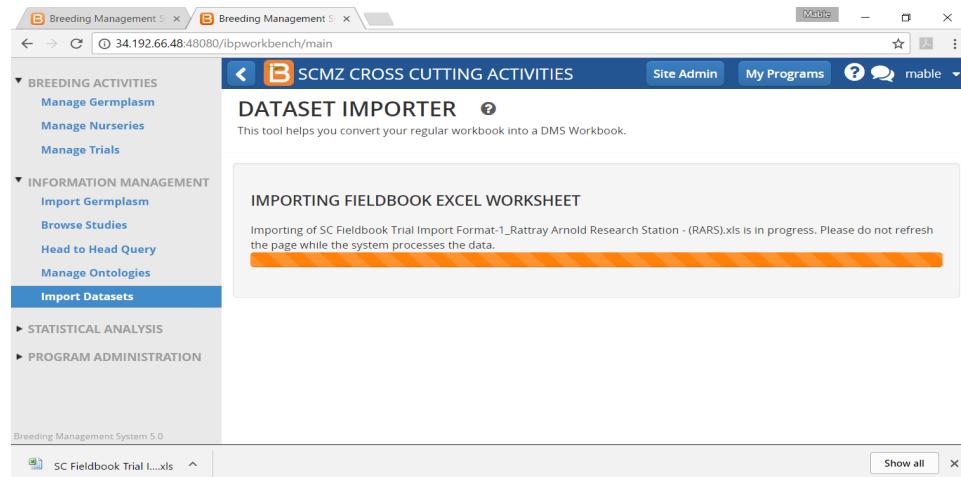
- In the BMS, select **IMPORT DATASETS** from the INFORMATION MANAGEMENT. Select, **IMPORT EXCEL IN FIELDBOOK FORMAT.**



- Select the fieldbook formatted file and upload it.



- BMS will automatically map the terms in the fieldbook formatted trial with the database.



- When import is successful you will receive a notification.

The screenshot shows a web-based application interface for 'SCMZ CROSS CUTTING ACTIVITIES'. The left sidebar contains navigation links for breeding activities, information management, statistical analysis, and program administration. The main content area is titled 'DATASET IMPORTER' and displays a message: 'IMPORTING FIELDBOOK EXCEL WORKSHEET' followed by 'Fieldbook file has been successfully imported! You may now close this page or go back to the upload page.'

Retrieve dataset

- You can add subsequent locations to the same trial by editing the CONDITION and CONSTANT sections of the Description sheet and pasting the GIDs and data for the next location in the observation sheet. Leave the Study name and other Study level variables unchanged.
- Retrieve the fieldbook formatted trial from the **MANAGE TRIALS** and **BROWSE** to select the file.

The screenshot shows the 'MANAGE TRIALS' page. The left sidebar includes 'BREEDING ACTIVITIES' and 'INFORMATION MANAGEMENT' sections. The main area lists trials with icons for edit, delete, and details. One trial, 'SC Fieldbook Trial Import Format', is highlighted with a green border.

- You can also retrieve the trial from the **BROWSE STUDIES** option under the **INFORMATION MANAGEMENT** and select the trial.

The screenshot shows the 'Browse Studies' page. The left sidebar includes 'INFORMATION MANAGEMENT' and 'PROGRAM ADMINISTRATION' sections. The main area lists studies with icons for edit, delete, and details. One study, 'SC Fieldbook Trial Import Format', is highlighted with a green border. A tooltip 'Click to view study details' is visible over one of the study entries.

- Close the Browse studies window and select **DATASETS** and then **PLOT DATA** to view the Trial.

Loading data for multiple locations in the same fieldbook file

You can load data for multiple locations in the same fieldbook file but you need to change the structure of the template.

- Move rows describing TRIAL labels (as indicated in column H) from the CONDITION section of the Description sheet to the FACTOR section. (Leave only rows describing STUDY conditions)

A	B	C	D	E	F	G	H
8 CONDITION	DESCRIPTION	PROPERTY	SCALE	METHOD	DATA TYPE	VALUE	LABEL
9 PI_NAME	Principal investigator - assign Person		Person name	Assigned	C	Tavengwa Ndowa	STUDY
10 PI_NAME_ID	Principal investigator - assign Person		Person id	Assigned	C	39	STUDY
11 STUDY_INSTITUTE	Study institute - conducted (E Institute		Text	Conducted	C	Seed Co	STUDY
12 Target_Region	Target Region Variable	Target Region	Target_Region_Scale	Assigned	C	N	STUDY
14 FACTOR	DESCRIPTION	PROPERTY	SCALE	METHOD	DATA TYPE	VALUE	LABEL
15 TRIAL_INSTANCE	Trial instance - enumerated (Trial instance		Number	Enumerated	N		TRIAL
16 LOCATION_NAME	Location - selected (DBCV) Location		Location name	Assigned	C		TRIAL
17 LOCATION_ID	Location - selected (DBID) Location		Location id	Assigned	C		TRIAL
18 COOPERATOR	COOPERATOR NAME - Person		Person name	Conducted	C		TRIAL
19 COOPERATOR_ID	COOPERATOR ID -Assigned Person		Person id	Conducted	C		TRIAL
20 Crop_season_Code	Season - Assigned (Code) Season		Code of Crop_season	Assigned	C		TRIAL
21 EXPT_DESIGN	Experimental design - assign Experimental design		Type of EXPT_DESI	Assigned	C		TRIAL
22 NREP	Number of replications in an ED - nrep		Number	Assigned	N		TRIAL
23 BSIZE	Block Size for incomplete blk ED - block size		Number	Assigned	N		TRIAL
24 PlotArea_m2	Plot size	Plot size	m**2	Applied	N		TRIAL
25 SEEDING_DATE	Date Seeded - applied (yyyymmdd) Planting date		Date (yyyymmd) of Applied	Applied	N		TRIAL
26 GID	Germplasm identifier - assign Germplasm id		Germplasm id	Assigned	C		ENTRY
27 DESIGNATION	Germplasm identifier - assign Germplasm id		Germplasm name	Assigned	C		ENTRY
28 ENTRY_NO	Germplasm entry - enumeral Germplasm entry		Number	Enumerated	N		ENTRY
29 CROSS	The pedigree string of the ge Cross history		Text	Assigned	C		ENTRY
30 REP_NO	Replication - assigned (numt Replication factor		Number	Enumerated	N		PLOT
31 PLOT_NO	Field plot - enumerated (numr Field plot		Number	Enumerated	N		PLOT
32 BLOCK_NO	Block - assigned (number) Blocking factor		Number	Enumerated	N		PLOT

- Move rows describing TRIAL variables (as indicated in column H) from the CONSTANT section of the Description sheet to the VARIATE section.

A	B	C	D	E	F	G	H
34 CONSTANT	DESCRIPTION	PROPERTY	SCALE	METHOD	DATA TYPE	VALUE	SAMPLE LEVEL
35 VARIATE	DESCRIPTION	PROPERTY	SCALE	METHOD	DATA TYPE	VALUE	SAMPLE LEVEL
37 SITE_SOIL_PH	Soil acidity - pH meter (pH)	Soil acidity	pH	Measured	N		TRIAL
38 Rainfall	Total rainfall over the growing	Rainfall	mm	Measured	N		TRIAL
39 Irrigation	Total irrigation over the grow	Irrigation	mm	Measured	N		TRIAL
40 Fertilizer	Fertilizer applied during the	Fertilizer use	Text	Applied	C		TRIAL
41 AD	Also Ant_DT_day: Anthesis t	Anthesis time	Day	Days to anthesis - CcN			PLOT
42 SD	Also Silk_DT_day: Silking tin	Silking time	Day	DTS - Computation	N		PLOT

- Insert columns in the observation sheet and enter the names of the new variables you have just added to the FACTOR and VARIATE sections into the first row. The variable names must be exactly as

they appear in the description sheet and in the same order they appear in the CONDITION and VARIATE sections of that sheet.

A	B	C	D	E	F	G	H	I	J	K	L
TRIAL_INSTANCE	LOCATION_NAME	LOCATION_ID	COOPERATOR	COOPERATOR_ID	Crop_season_Code	EXPT_DESIGN	NREP	BSIZE	PlotArea_m2	SEEDING_DATE	GID
2	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	200994
3	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	200777

and

R	S	T	U	V	W
BLOCK_N	SITE_SOIL_PH	Rainfall	Irrigation	Fertilizer	AD
1	2.66	108	100	40	69

- Append the data for the concatenated set of locations to the Observation sheet as for the Excel import mode described above. Take care that the location CONDITIONS and CONSTANTS contain the same value for every plot at that location.

- Note I had some trouble with Crop_Season_code where I had to enter the meaning of the code (2017 B season) rather than the code itself (17B). The same is true for Target Region which is a STUDY condition on the description sheet. You can look up the meanings of the valid values in the scales section of the Ontology Browser.

A	B	C	D	E	F	G	H	I	J	K	L	M	N
TRIAL_INSTANCE	LOCATION_NAME	LOCATION_ID	COOPERATOR	COOPERATOR_ID	Crop_season_Code	EXPT_DESIGN	NREP	BSIZE	PlotArea_m2	SEEDING_DATE	GID	DESIGNATEENTRY_NOC	
2	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	200994	12C28564!	17 1
3	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	200772	15C3052	7 1
4	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2009950	12C28570!	15 1
5	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2007766	15C3062	13 1
6	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2007214	STD3	25 1
7	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2010337	12C28577!	20 1
8	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2010332	12C28582!	6 1
9	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2007755	15C3051	5 1
10	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2010338	12C28581!	21 1
11	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2009946	12C28575!	22 1
12	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2007754	15C3050	8 1
13	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2007533	SC402	3 1
14	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2007161	STD2	24 1
15	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2010334	12C28567!	16 1
16	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2007160	STD1	23 1
17	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	2010411	SC608	1 1
18	8 ART MEDIUM	20010 Tavengwa Ndow		39	2017 B season	RIBD	3	5	5	20170602	200775	10C8427	11 1

and

R	S	T	U	V	W	X	Y	Z	AA	AB	AC		
BLOCK_N	SITE_SOIL_PH	Rainfall	Irrigation	Fertilizer	AD	SD	ASI	NP	PH	EH	EPR		
1	2.66	108	100	40	69	70	1	47	2.35	1.35	0.574468		
1	2.66	108	100	40	70	69	-1	46	2.25	1.1	0.488889		
1	2.66	108	100	40	73	74	1	48	2.05	1.2	0.585366		
1	2.66	108	100	40	68	69	1	48	2.45	1.35	0.55102		
1	2.66	108	100	40	70	71	1	47	2.5	1.54	0.616		
2	2.66	108	100	40	70	71	1	48	2.71	1.45	0.535055		
2	2.66	108	100	40	71	73	2	46	2.6	1.4	0.538462		
2	2.66	108	100	40	67	68	1	48	2.5	1.15	0.46		
2	2.66	108	100	40	74	76	2	46	2.6	1.4	0.538462		
2	2.66	108	100	40	69	70	1	48	2.4	1.3	0.541667		
3	2.66	108	100	40	59	61	2	48	2.38	0.95	0.39916		
3	2.66	108	100	40	57	58	1	46	2.3	1.1	0.478261		
3	2.66	108	100	40	68	69	1	48	2.48	1.3	0.524194		
3	2.66	108	100	40	73	72	-1	47	2.3	1.21	0.526087		
3	2.66	108	100	40	70	71	1	46	2.54	1.32	0.519685		
4	2.66	108	100	40	67	68	1	48	2.46	1.2	0.487805		
4	2.66	108	100	40	70	71	1	48	2.63	1.3	0.494297		
4	2.66	108	100	40	69	70	1	48	2.36	1.16	0.491525		
4	2.66	108	100	40	69	70	1	48	2.48	1.29	0.520161		
4	2.66	108	100	40	73	74	1	48	2.65	1.5	0.566038		

Using the VLOOKUP function to copy GIDs into an excel file.

- Open the formatted Trial (either the simple excel file or a Fieldbook file) and insert the VLOOKUP formula into the first cell just below the GID column header on the sheet containing the observations. In our case this will be cell E2. To insert the formula, type =VLOOKUP(in cell GID column.
- In this example, the VLOOKUP formula will be in will be cell E2.

The screenshot shows a Microsoft Excel spreadsheet titled "IVT 17A Trial using Excel wizard format [Compatibility Mode] - Microsoft Excel". The formula bar at the top has the formula `=VLOOKUP`. The cell E2 contains the formula `=VLOOKUP(B2, [formula expanded], 1, 0)`. The expanded formula shows the lookup value from B2 (1171P6777/DUS8P), the table array from A1 to C43, the column index number 1, and the range lookup value 0. The table below has columns: YIELD, TRIAL, INSTAN, ENTRY_NO, Location, Name, GID, CROSS, REP, PLOT_NO, BLOCK_NO, NP, AD. The data starts from row 2.

YIELD	TRIAL	INSTAN	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP	AD
1	1	1	1 RARS	16C18000	=VLOOKUP			1	35	6	23	68
2	1	2	2 RARS	16C18001	[formula expanded]	1171P6777/DUS8P		1	38	7	30	69
3	1	3	3 RARS	16C18004				1	21	4	25	69
4	1	4	4 RARS	16C18005				1	30	5	26	68
5	1	5	5 RARS	16C18006				1	34	6	30	69
6	1	6	6 RARS	16C18007				1	32	6	26	68
7	1	7	7 RARS	16C18008				1	7	2	26	69
8	1	8	8 RARS	16C18009				1	18	3	28	68
9	1	9	9 RARS	16C18010				1	14	3	27	69
10	1	10	10 RARS	16C18011				1	39	7	31	68
11	1	11	11 RARS	16C18012				1	3	1	31	69
12	1	12	12 RARS	16C18013				1	25	5	32	69
13	1	13	13 RARS	16C18015				1	16	3	25	69
14	1	14	14 RARS	16C18019				1	36	6	28	70
15	1	15	15 RARS	16C18020				1	12	2	26	67
16	1	16	16 RARS	16C18021				1	17	3	30	68
17	1	17	17 RARS	16C18022				1	37	7	27	68
18	1	18	18 RARS	16C18023				1	29	5	28	69
19	1	19	19 RARS	16C18029				1	23	4	25	68
20	1	20	20 RARS	16C18030				1	24	4	27	71
21	1	21	21 RARS	16C18031				1	26	5	31	69
22	1	22	22 RARS	16C18032				1	37	5	30	68
23	1	23	23 RARS	16C18033				1	27			

- The VLOOKUP formula has 4 elements;
 - Lookup value**- the value you want to look for
 - Table Array**- range where your lookup value is located (the lookup value must be in the first column of this range)
 - Col Index Num**- The column number in the range containing the return value (relative to the first or look-up column)
 - Range Lookup**- matching choice you want (can be either TRUE meaning it's an approximate match or FALSE meaning it's an exact match)
- In this example, the lookup value is Entry NO.1 which is in cell B2. We will use Entry No. because is the common column header in the two sheets.

This screenshot is identical to the one above, showing the same Excel spreadsheet and formula expansion in cell E2. The formula `=VLOOKUP(B2, [formula expanded], 1, 0)` is expanded to show the lookup value B2 (1171P6777/DUS8P) and the table array A1 to C43.

YIELD	TRIAL	INSTAN	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP	AD
1	1	1	1 RARS	16C18000	=VLOOKUP			1	35	6	23	68
2	1	2	2 RARS	16C18001	[formula expanded]	1171P6777/DUS8P		1	38	7	30	69
3	1	3	3 RARS	16C18004				1	21	4	25	69
4	1	4	4 RARS	16C18005				1	30	5	26	68
5	1	5	5 RARS	16C18006				1	34	6	30	69
6	1	6	6 RARS	16C18007				1	8	2	29	69
7	1	7	7 RARS	16C18008				1	32	6	26	68
8	1	8	8 RARS	16C18009				1	7	2	26	69
9	1	9	9 RARS	16C18010				1	18	3	28	68
10	1	10	10 RARS	16C18011				1	14	3	27	69
11	1	11	11 RARS	16C18012				1	39	7	31	68
12	1	12	12 RARS	16C18013				1	3	1	31	69
13	1	13	13 RARS	16C18015				1	25	5	32	69
14	1	14	14 RARS	16C18019				1	16	3	25	69
15	1	15	15 RARS	16C18020				1	36	6	28	70
16	1	16	16 RARS	16C18021				1	12	2	26	67
17	1	17	17 RARS	16C18022				1	17	3	30	68
18	1	18	18 RARS	16C18023				1	37	7	27	68
19	1	19	19 RARS	16C18029				1	29	5	28	69
20	1	20	20 RARS	16C18030				1	23	4	25	68
21	1	21	21 RARS	16C18031				1	24	4	27	71
22	1	22	22 RARS	16C18032				1	26	5	31	69
23	1	23	23 RARS	16C18033				1	37	5	30	68

- Enter the Table array [IVT 17A Trial Germplasm list.xls] Observation'!\$A\$2:\$C\$43] which is the range including our LOOKUP VALUE and the GID column we need to copy. In this case the Table Array is to come from the Germplams List. (You can also copy the lookup array from the other file into another sheet or even the same sheet of the destination file before you set this range if you prefer.)
- If your excel Version does not automatically generate dollar signs in the formula as (\$A\$2:\$C\$43) then you will have to add dollar signs (\$) to the table array address so that A2:C43 becomes \$A\$2:\$C\$43. Putting the dollar signs in the table array makes the cell references absolute so

that when you copy the formula down the GID column, the VLOOKUP function will still be looking at the same table (Germplasm list) you referred to.

The screenshot shows a Microsoft Excel spreadsheet titled "IVT 17A Trial Germplasm list [Compatibility Mode] - Microsoft Excel". The formula `=VLOOKUP(B2,[IVT 17A Trial Germplasm list.xls]Observation!A2:C43,2,0)` is entered into cell B1. The formula is highlighted with a red box. The status bar at the bottom left shows "42R x 3C". The spreadsheet contains a table with columns: ENTRY_NO, GID, DESIGNATION, ENTRY_CODE, CROSS, SEED_SOURCE, STOCKID, and SEED_AMOUNT_G NOTES. The first few rows of data are visible.

- Enter the Col Index Num. This is the column number in the range (Table array of the germplasm list) containing the actual value you want to copy in relation to the Lookup value. In this case, ENTRY NO 1 is our lookup value and we want to copy GID for ENTRY NO 1. We check in our germplasm list and the GID of ENTRY NO.1 is in column number 2.

The screenshot shows the same Microsoft Excel spreadsheet as the previous one. The formula `=VLOOKUP(B2,[IVT 17A Trial Germplasm list.xls]Observation!A2:C43,2,0)` is entered into cell B1. A blue callout bubble points to the "Col Index Num" part of the formula with the value "2". The status bar at the bottom left shows "42R x 3C". The spreadsheet contains the same table with columns: ENTRY_NO, GID, DESIGNATION, ENTRY_CODE, CROSS, SEED_SOURCE, STOCKID, and SEED_AMOUNT_G NOTES. The first few rows of data are visible.

- We then type 2 as our Col Index Num value.

IVT 17A Trial using Excel wizard format [Compatibility Mode] - Microsoft Excel

A	B	C	D	E	F	G	H	I	J
TRIAL_INSTANCE	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP
2	1	1 RARS	16C18000	=VLOOKUP(B2,[IVT 17A Trial Germplasm list.xls]Observation!\$A\$2:\$C\$43,2)					
3	1	2 RARS	16C18001		10175P6777/DU58P		1	38	7
4	1	3 RARS	16C18004		10180P6777/DU58P		1	21	4
5	1	4 RARS	16C18005		10181/DU58P		1	30	5
6	1	5 RARS	16C18006		10186P6777/DU58		1	34	6
7	1	6 RARS	16C18007		10189P6777/DU58P		1	8	2
8	1	7 RARS	16C18008		10190/DU58P		1	32	6
9	1	8 RARS	16C18009		10191/DU58P		1	7	2
10	1	9 RARS	16C18010		10192P677/DU58P		1	18	3
11	1	10 RARS	16C18011		10193P6777/DU58P		1	14	3
12	1	11 RARS	16C18012		10197/DU58P		1	39	7
13	1	12 RARS	16C18013		10198/DU58P		1	3	1
14	1	13 RARS	16C18015		10202/DU58P		1	25	5
									32

- Next, enter the RANGE LOOKUP which is the matching option. An approximate match is TRUE and Exact match is FALSE. We want an exact match so we type FALSE in the formula.

IVT 17A Trial using Excel wizard format [Compatibility Mode] - Microsoft Excel

A	B	C	D	E	F	G	H	I	J
TRIAL_INSTANCE	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP
2	1	1 RARS	16C18000	=VLOOKUP(B2,[IVT 17A Trial Germplasm list.xls]Observation!\$A\$2:\$C\$43,2)					
3	1	2 RARS	16C18001		10175P6777/DU58P		1	38	7
4	1	3 RARS	16C18004		10180P6777/DU58P		1	21	4
5	1	4 RARS	16C18005		10181/DU58P		1	30	5
6	1	5 RARS	16C18006		10186P6777/DU58		1	34	6
7	1	6 RARS	16C18007		10189P6777/DU58P		1	8	2
8	1	7 RARS	16C18008		10190/DU58P		1	32	6
9	1	8 RARS	16C18009		10191/DU58P		1	7	2
10	1	9 RARS	16C18010		10192P677/DU58P		1	18	3
11	1	10 RARS	16C18011		10193P6777/DU58P		1	14	3
12	1	11 RARS	16C18012		10197/DU58P		1	39	7
13	1	12 RARS	16C18013		10198/DU58P		1	3	1
14	1	13 RARS	16C18015		10202/DU58P		1	16	3
15	1	14 RARS	16C18019		10214/DU58P				

- Finally type the CLOSING BRACKET and ENTER.

IVT 17A Trial using Excel wizard format [Compatibility Mode] - Microsoft Excel

A	B	C	D	E	F	G	H	I	J
TRIAL_INSTANCE	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP
2	1	1 RARS	16C18000	=VLOOKUP(B2,[IVT 17A Trial Germplasm list.xls]Observation!\$A\$2:\$C\$43,2, FALSE)					23
3	1	2 RARS	16C18001		10175P6777/DU58P		1	38	7
4	1	3 RARS	16C18004		10180P6777/DU58P		1	21	4
5	1	4 RARS	16C18005		10181/DU58P		1	30	5
6	1	5 RARS	16C18006		10186P6777/DU58		1	34	6
7	1	6 RARS	16C18007		10189P6777/DU58P		1	8	2
8	1	7 RARS	16C18008		10190/DU58P		1	32	6
9	1	8 RARS	16C18009		10191/DU58P		1	7	2
10	1	9 RARS	16C18010		10192P677/DU58P		1	18	3
11	1	10 RARS	16C18011		10193P6777/DU58P		1	14	3
12	1	11 RARS	16C18012		10197/DU58P		1	39	7
13	1	12 RARS	16C18013		10198/DU58P		1	3	1
14	1	13 RARS	16C18015		10202/DU58P				

- We notice that the GID for ENTRY NO.1 has been copied in the Trial.

IVT 17A Trial using Excel wizard format [Compatibility Mode] - Microsoft Excel

TRIAL_INSTAN	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP
1	1	1 RARS	16C18000	2017754	1171P6777/DU58P	1	35	6	23
3	1	2 RARS	16C18001	2017755	10175P6777/DU58P	1	38	7	30
4	1	3 RARS	16C18004	2017756	10180P6777/DU58P	1	21	4	25
5	1	4 RARS	16C18005	2017757	10181/DU58P	1	30	5	26
6	1	5 RARS	16C18006		10186P6777/DU58	1	34	6	30
7	1	6 RARS	16C18007		10189P6777/DU58P	1	8	2	29
8	1	7 RARS	16C18008		10190/DU58P	1	32	6	26
9	1	8 RARS	16C18009		10191/DU58P	1	7	2	26
10	1	9 RARS	16C18010		10192P6777/DU58P	1	18	3	28
11	1	10 RARS	16C18011		10193P6777/DU58P	1	14	3	27
12	1	11 RARS	16C18012		10197/DU58P	1	39	7	31
13	1	12 RARS	16C18013		10198/DU58P	1	3	1	31
14	1	13 RARS	16C18015		10202/DU58P	1	25	5	32
15	1	14 RARS	16C18019		10214/DU58P	1	16	3	25
16	1	15 RARS	16C18020		10215/DU58P	1	36	6	28
17	1	16 RARS	16C18021		10216P6777/DU58P	1	12	2	26
18	1	17 RARS	16C18022		10217P6777/DU58P	1	17	3	30
19	1	18 RARS	16C18023		10218P6777/DU58P	1	37	7	27
20	1	19 RARS	16C18029		10235P6777/DU58P	1	29	5	28
21	1	20 RARS	16C18030		10236P6777/DU58P	1	23	4	25
22	1	21 RARS	16C18031		10239P6777/DU58P	1	24	4	27
23	1	22 RARS	16C18032		10242/DU58P	1	26	5	31
24	1	23 RARS	16C18033		10243P6777/DU58P	1	27	5	30

- To copy GIDs in the whole column, use the drag down tool in the bottom right corner of the cell E (GID column).

IVT 17A Trial using Excel wizard format [Compatibility Mode] - Microsoft Excel

TRIAL_INSTAN	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP
1	1	1 RARS	16C18000	2017754	1171P6777/DU58P	1	35	6	23
3	1	2 RARS	16C18001	2017755	10175P6777/DU58P	1	38	7	30
4	1	3 RARS	16C18004	2017756	10180P6777/DU58P	1	21	4	25
5	1	4 RARS	16C18005	2017757	10181/DU58P	1	30	5	26
6	1	5 RARS	16C18006		10186P6777/DU58	1	34	6	30
7	1	6 RARS	16C18007		10189P6777/DU58P	1	8	2	29
8	1	7 RARS	16C18008		10190/DU58P	1	32	6	26
9	1	8 RARS	16C18009		10191/DU58P	1	7	2	26
10	1	9 RARS	16C18010		10192P6777/DU58P	1	18	3	28
11	1	10 RARS	16C18011		10193P6777/DU58P	1	14	3	27
12	1	11 RARS	16C18012		10197/DU58P	1	39	7	31
13	1	12 RARS	16C18013		10198/DU58P	1	3	1	31
14	1	13 RARS	16C18015		10202/DU58P	1	25	5	32
15	1	14 RARS	16C18019		10214/DU58P	1	16	3	25
16	1	15 RARS	16C18020		10215/DU58P	1	36	6	28
17	1	16 RARS	16C18021		10216P6777/DU58P	1	12	2	26
18	1	17 RARS	16C18022		10217P6777/DU58P	1	17	3	30
19	1	18 RARS	16C18023		10218P6777/DU58P	1	37	7	27
20	1	19 RARS	16C18029		10235P6777/DU58P	1	29	5	28
21	1	20 RARS	16C18030		10236P6777/DU58P	1	23	4	25
22	1	21 RARS	16C18031		10239P6777/DU58P	1	24	4	27
23	1	22 RARS	16C18032		10242/DU58P	1	26	5	31
24	1	23 RARS	16C18033		10243P6777/DU58P	1	27	5	30

- The GIDs have now been copied and you need to cross check the two lists to confirm if the copying was correctly done.

IVT 17A Trial using Excel wizard format [Compatibility Mode] - Microsoft Excel

A	B	C	D	E	F	G	H	I	J
TRIAL_INSTAN	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NO	BLOCK_NO	NP
1	1	1 RARS	16C18000	2017754	1171P6777/DU58P	1	35	6	23
2	1	2 RARS	16C18001	2017755	10175P6777/DU58P	1	38	7	30
3	1	3 RARS	16C18004	2017756	10180P6777/DU58P	1	21	4	25
4	1	4 RARS	16C18005	2017757	10181P6777/DU58P	1	30	5	26
5	1	5 RARS	16C18006	2017758	10186P6777/DU58	1	34	6	30
6	1	6 RARS	16C18007	2017759	10189P6777/DU58P	1	8	2	29
7	1	7 RARS	16C18008	2017760	10190P6777/DU58P	1	32	6	26
8	1	8 RARS	16C18009	2017761	10191P6777/DU58P	1	7	2	26
9	1	9 RARS	16C18010	2017762	10192P6777/DU58P	1	18	3	28
10	1	10 RARS	16C18011	2017763	10193P6777/DU58P	1	14	3	27
11	1	11 RARS	16C18012	2017764	10197P6777/DU58P	1	39	7	31
12	1	12 RARS	16C18013	2017765	10198P6777/DU58P	1	3	1	31
13	1	13 RARS	16C18015	2017766	10202P6777/DU58P	1	25	5	32
14	1	14 RARS	16C18019	2017767	10214P6777/DU58P	1	16	3	25
15	1	15 RARS	16C18020	2017768	10215P6777/DU58P	1	36	6	28
16	1	16 RARS	16C18021	2017769	10216P6777/DU58P	1	12	2	26
17	1	17 RARS	16C18022	2017770	10217P6777/DU58P	1	17	3	30
18	1	18 RARS	16C18023	2017771	10218P6777/DU58P	1	37	7	27
19	1	19 RARS	16C18029	2017772	10235P6777/DU58P	1	29	5	28
20	1	20 RARS	16C18030	2017773	10236P6777/DU58P	1	23	4	25
21	1	21 RARS	16C18031	2017774	10239P6777/DU58P	1	24	4	27
22	1	22 RARS	16C18032	2017775	10242P6777/DU58P	1	26	5	31
23	1	23 RARS	16C18033	2017776	10243P6777/DU58P	1	27	5	30

Germplasm list

A	B	C	D	E
ENTRY_NO	GID	DESIGNATION	ENTRY_CODE	
1	2017754	16C18000	1	
2	2017755	16C18001	2	
3	2017756	16C18004	3	
4	2017757	16C18005	4	
5	2017758	16C18006	5	
6	2017759	16C18007	6	
7	2017760	16C18008	7	
8	2017761	16C18009	8	
9	2017762	16C18010	9	
10	2017763	16C18011	10	
11	2017764	16C18012	11	
12	2017765	16C18013	12	
13	2017766	16C18015	13	
14	2017767	16C18019	14	
15	2017768	16C18020	15	
16	2017769	16C18021	16	
17	2017770	16C18022	17	
18	2017771	16C18023	18	
19	2017772	16C18029	19	
20	2017773	16C18030	20	
21	2017774	16C18031	21	
22	2017775	16C18032	22	
23	2017776	16C18033	23	

Trial

A	B	C	D	E
TRIAL_INSTAN	ENTRY_NO	Location	Name	GID
1	1	1 RARS	16C18000	2017754
2	1	2 RARS	16C18001	2017755
3	1	3 RARS	16C18004	2017756
4	1	4 RARS	16C18005	2017757
5	1	5 RARS	16C18006	2017758
6	1	6 RARS	16C18007	2017759
7	1	7 RARS	16C18008	2017760
8	1	8 RARS	16C18009	2017761
9	1	9 RARS	16C18010	2017762
10	1	10 RARS	16C18011	2017763
11	1	11 RARS	16C18012	2017764
12	1	12 RARS	16C18013	2017765
13	1	13 RARS	16C18015	2017766
14	1	14 RARS	16C18019	2017767
15	1	15 RARS	16C18020	2017768
16	1	16 RARS	16C18021	2017769
17	1	17 RARS	16C18022	2017770
18	1	18 RARS	16C18023	2017771
19	1	19 RARS	16C18029	2017772
20	1	20 RARS	16C18030	2017773
21	1	21 RARS	16C18031	2017774
22	1	22 RARS	16C18032	2017775
23	1	23 RARS	16C18033	2017776

- Once you have checked that the correct GIDs are going to the correct entry numbers you must copy the whole GID column in the template and paste it as values – you cannot import a file with formulas in the cells.
- This is a Complete formatted Trial ready for import into BMS.**

Nyashi Trial [Compatibility Mode] - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J
1	TRIAL_INSTANCE	ENTRY_NO	Location	Name	GID	CROSS	REP	PLOT_NC_BLOCK_NO	NP	
2	1	1	1 RARS	16C18000	2017754	1171P6777/DU58P	1	35	6	23
3	1	2	1 RARS	16C18001	2017755	1171P6777/DU58P	1	38	7	30
4	1	3	1 RARS	16C18004	2017758	10389P6777/DU58P	1	21	4	25
5	1	4	1 RARS	16C18005	2017757	10181P6777/DU58P	1	30	5	26
6	1	5	1 RARS	16C18006	2017758	10186P6777/DU58	1	34	6	30
7	1	6	1 RARS	16C18007	2017759	10189P6777/DU58P	1	8	2	29
8	1	7	1 RARS	16C18008	2017759	10190P6777/DU58P	1	32	6	26
9	1	8	1 RARS	16C18009	2017760	10191P6777/DU58P	1	7	2	26
10	1	9	1 RARS	16C18010	2017760	10192P6777/DU58P	1	18	3	28
11	1	10	1 RARS	16C18011	2017763	10193P6777/DU58P	1	14	3	27
12	1	11	1 RARS	16C18012	2017764	10194P6777/DU58P	1	39	7	31
13	1	12	1 RARS	16C18013	2017765	10195P6777/DU58P	1	3	1	31
14	1	13	1 RARS	16C18015	2017766	10202P6777/DU58P	1	25	5	32
15	1	14	1 RARS	16C18019	2017767	10214P6777/DU58P	1	16	3	25
16	1	15	1 RARS	16C18020	2017768	10215P6777/DU58P	1	36	6	28
17	1	16	1 RARS	16C18021	2017769	10216P6777/DU58P	1	12	2	26
18	1	17	1 RARS	16C18022	2017770	10217P6777/DU58P	1	17	3	30
19	1	18	1 RARS	16C18023	2017771	10218P6777/DU58P	1	37	7	27
20	1	19	1 RARS	16C18029	2017772	10219P6777/DU58P	1	29	5	28
21	1	20	1 RARS	16C18030	2017773	10220P6777/DU58P	1	23	4	25
22	1	21	1 RARS	16C18031	2017774	10239P6777/DU58P	1	24	4	27
23	1	22	1 RARS	16C18032	2017775	10242P6777/DU58P	1	26	5	31
24	1	23	1 RARS	16C18033	2017776	10243P6777/DU58P	1	27	5	30

Learn more about BMS from the Tutorials at <https://www.integratedbreeding.net>