

IBP2012-IMIS-001. Making Germplasm Lists

Introduction:

In order to start using the Genealogy Management System (GMS) to enforce unique identification of germplasm and track pedigrees you need to import lists of germplasm from your breeding program. These can be imported with complete pedigrees, but we will consider simply importing existing lists without pedigrees.

Once germplasm are imported into the GMS it is often necessary to make lists of germplasm for different purposes by selecting entries from previous lists and adding imported lines.

Objectives:

At the end of this chapter, the user should be able to:

1. Complete an excel template with germplasm names for import to GMS;
2. Import germplasm to GMS from an excel template (without pedigrees);

A. Importing a list of germplasm from an excel template file.

Tutorial Steps:

A1. Creating a basic germplasm list in Excel

1. You can use Excel to create a file with the following format and minimum content:

GID	Entry Code	Designation	Cross	Source	Unique ID	Entry ID
1		(MATUBA#1-B1)EECOMP./Katumani/KATUMANI36-8-1/ECA-EE-POP1-B-B-1/CML445)-B		KB08A-0A05-1	D88-2-1	1
2		(P43SRF95-1-3-2#=#1/TZEESRW1-B1/KATUMANI/Katumani/KATUMANI51-5-3/ECA-EE-POP1-B-B-1/CML445)-B		KB08A-0A05-24	D88-2-2	2
3		(8TTZBSR-140-1-1-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI10-13-1/ECA-EE-POP1-B-B-2/CML445)-B		KB08A-0A05-61	D88-2-3	3
4		(P43SRC9FS100-1-1-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI21-8-3/ECA-EE-POP1-B-B-7/CML445)-B		KB08A-0A05-90	D88-2-4	4
5		(P43SRC9FS100-1-1-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI32-9-1/ECA-EE-POP1-B-B-3/CML445)-B		KB08A-0A05-114	D88-2-5	5
6		(P43SRC9FS100-1-1-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI32-13-1/ECA-EE-POP1-B-B-3/CML445)-B		KB08A-0A05-125	D88-2-6	6
7		(P43SRC9FS100-1-1-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI45-4-1/ECA-EE-POP1-B-B-1/CML445)-B		KB08A-0A05-139	D88-2-7	7
8		(P43SRC9FS100-1-1-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI45-4-1/ECA-EE-POP1-B-B-6/CML445)-B		KB08A-0A05-143	D88-2-8	8
9		(P43SRC9FS100-1-1-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI45-4-3/ECA-EE-POP1-B-B-5/CML445)-B		KB08A-0A05-153	D88-2-9	9
10		(TZL COMIP3-168-2-5-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI4-8-1/ECA-EE-POP1-B-B-1/CML445)-B		KB08A-0A05-165	D88-2-10	10
11		(TZL COMIP3-168-2-5-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI4-8-1/ECA-EE-POP1-B-B-7/CML445)-B		KB08A-0A05-171	D88-2-11	11
12		(TZL COMIP3-168-2-5-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI4-10-1/ECA-EE-POP1-B-B-1/CML445)-B		KB08A-0A05-191	D88-2-12	12
13		(TZL COMIP3-168-2-5-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI35-6-2/ECA-EE-POP1-B-B-5/CML445)-B		KB08A-0A05-215	D88-2-13	13
14		(TZL COMIP3-168-2-5-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI35-11-2/ECA-EE-POP1-B-B-3/CML445)-B		KB08A-0A05-229	D88-2-14	14
15		(TZL COMIP3-168-2-5-#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI35-13-2/ECA-EE-POP1-B-B-4/CML445)-B		KB08A-0A05-236	D88-2-15	15
16		(P43SRC9FS9-2-1-1#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI15-3-1/ECA-EE-POP1-B-B-5/CML445)-B		KB08A-0A05-255	D88-2-16	16
17		(P43SRC9FS9-2-1-1#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI15-4-1/ECA-EE-POP1-B-B-2/CML445)-B		KB08A-0A05-258	D88-2-17	17
18		(P43SRC9FS9-2-1-1#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI15-4-1/ECA-EE-POP1-B-B-3/CML445)-B		KB08A-0A05-259	D88-2-18	18
19		(P43SRC9FS9-2-1-1#=#1/TZEESRW1-B1)EECOMP./Katumani/KATUMANI15-4-2/FCA-EE-POP1-B-B-2/CML445)-B		KB08A-0A05-264	D88-2-19	19

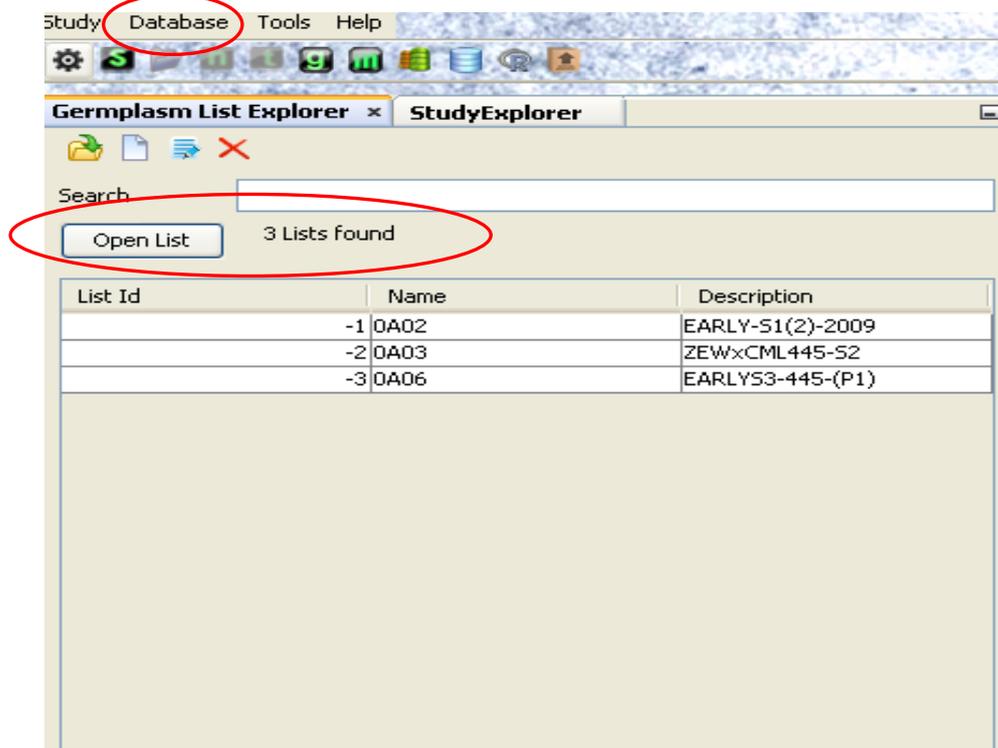
This format is required if the file is to be entered directly into the IB Fieldbook and the columns Designation and Entry ID are the minimum that must be completed. Other details are optional. With a file in this format it is possible to directly to create a fieldbook, but in order to have the data from the fieldbook linked unambiguously to pedigree and genotyping data it is desirable to obtain Germplasm Identifiers (GIDs) and Unique IDs for the entries. To do this you must import the list into the GMS of the breeding database using the Germplasm List Creation feature as explained in the next section.

Using the template \NURSERYMANAGER\Examples\GermplasmLists\EB09A-MaizeList.xls, two basic lists have been prepared and stored in Directory \NURSERYMANAGER\Examples\GermplasmLists\. These contain a set of female parents in MaizeF_GermplasmList.xls and a set of matched male parents in MaizeM_GermplasmList.xls

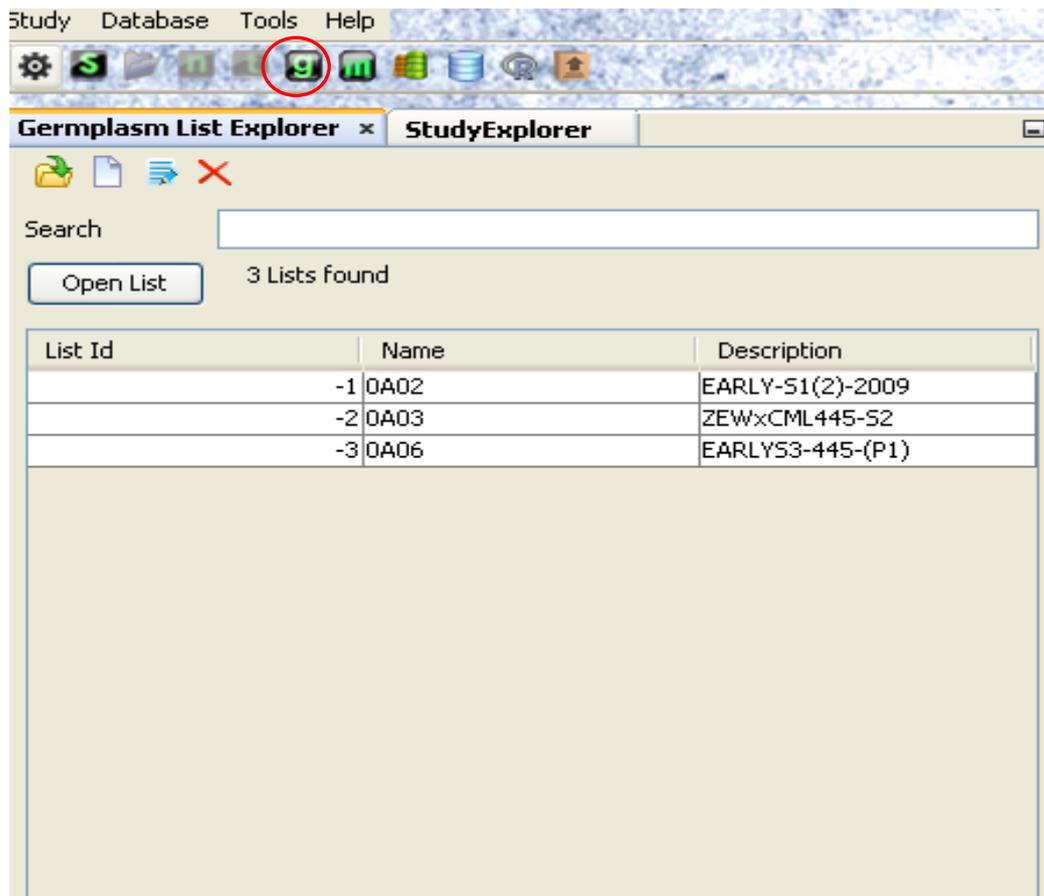
Open these file in excel and check the use of the template format.

A2. Importing a Nursery List from an Excel Spreadsheet

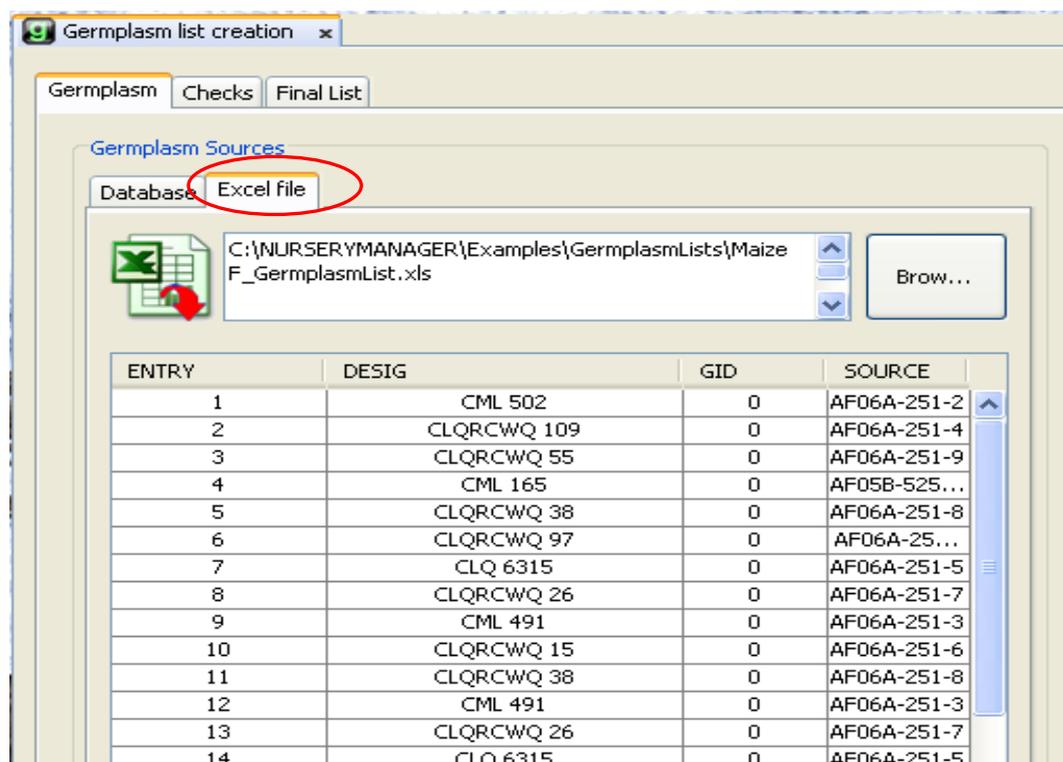
1. Launch the Breeding manager application from the IB Workbench. Select Germplasm lists from the Database menu to see the existing Germplasm lists



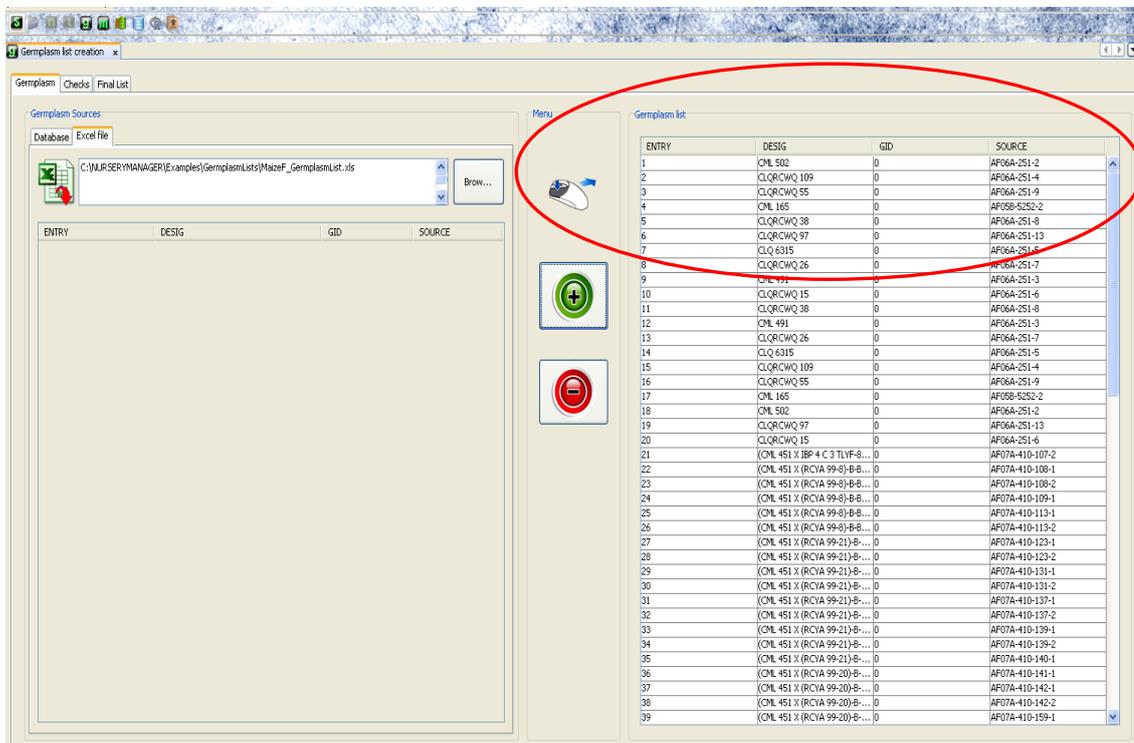
3. Click the (g) icon to open the Germplasm List Creation page:



4. Click on the Excel File Tab below the heading Germplasm Sources. Browse to the directory \NURSERYMANAGER\Examples\GermplasmLists\ containing the import file MaizeF_GermplasmList.xls and open it.



5. Highlight the first entry and then type Ctrl-a to select all entries. Drag the selected entries to the Germplasm List panel on the right of the screen:



6. Click on the Final List tab in the Germplasm list creation panel. Enter the list name UCR2010F and the list description. “MaizeF_GermplasmList Female parents” in the boxes. Click the Without Checks radio button, then click on the save icon.

Germplasm list creation x

Germplasm Checks Final List

List name: MaizeF_GermplasmList

Description: MaizeF_GermplasmList Female parents

SAVE

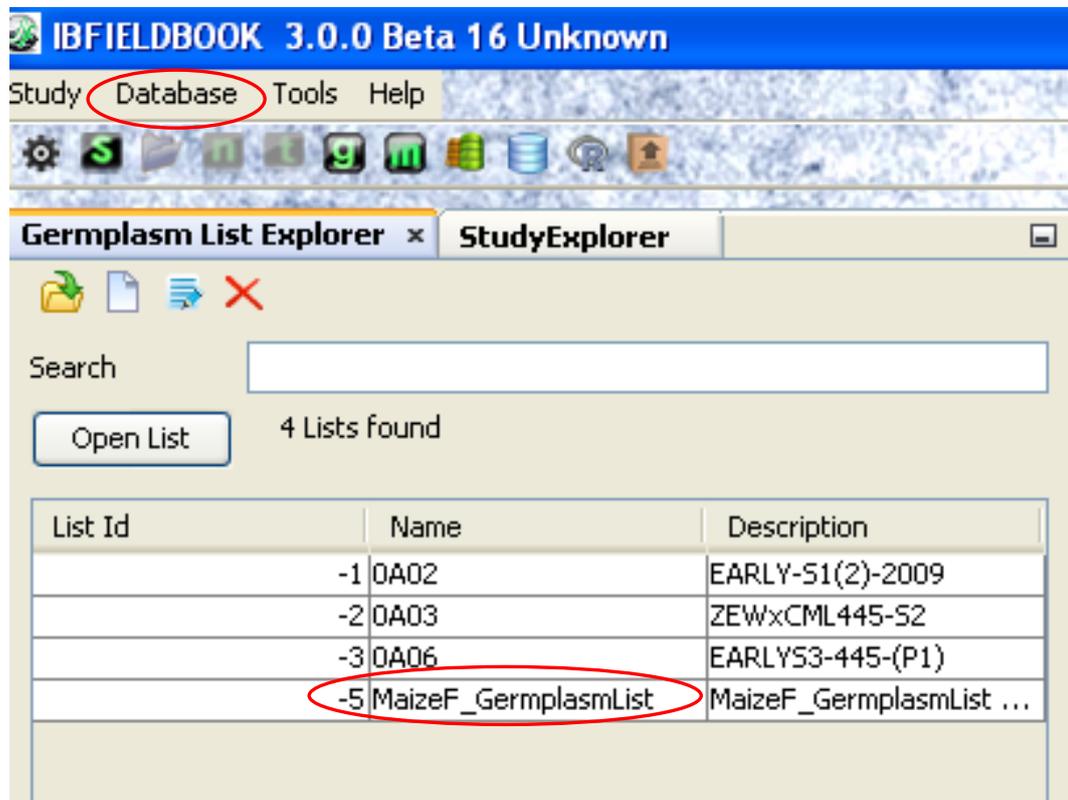
With checks

Without checks

Total entries: 99

ENTRY	DESIG	GID	SOURCE
1	CML 502	0	AF06A-251-2
2	CLQRCWQ 109	0	AF06A-251-4
3	CLQRCWQ 55	0	AF06A-251-9
4	CML 165	0	AF05B-5252-2
5	CLQRCWQ 38	0	AF06A-251-8
6	CLQRCWQ 97	0	AF06A-251-13
7	CLQ 6315	0	AF06A-251-5
8	CLQRCWQ 26	0	AF06A-251-7
9	CML 491	0	AF06A-251-3
10	CLQRCWQ 15	0	AF06A-251-6
11	CLQRCWQ 38	0	AF06A-251-8
12	CML 491	0	AF06A-251-3
13	CLQRCWQ 26	0	AF06A-251-7
14	CLQ 6315	0	AF06A-251-5
15	CLQRCWQ 109	0	AF06A-251-4
16	CLQRCWQ 55	0	AF06A-251-9
17	CML 165	0	AF05B-5252-2
18	CML 502	0	AF06A-251-2
19	CLQRCWQ 97	0	AF06A-251-13
20	CLQRCWQ 15	0	AF06A-251-6
21	(CML 451 X IBP 4 C 3 TLVF-88-2-3-2-1-B)-B-34-3-2	0	AF07A-410-107-2
22	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-4-1-1	0	AF07A-410-108-1
23	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-4-1-2	0	AF07A-410-108-2
24	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-4-2-1	0	AF07A-410-109-1
25	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-12-1-1	0	AF07A-410-113-1
26	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-12-1-2	0	AF07A-410-113-2
27	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-3-2-1	0	AF07A-410-123-1
28	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-3-2-2	0	AF07A-410-123-2
29	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-15-1-1	0	AF07A-410-131-1
30	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-15-1-2	0	AF07A-410-131-2
31	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-24-1-1	0	AF07A-410-137-1
32	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-24-1-2	0	AF07A-410-137-2
33	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-25-1-1	0	AF07A-410-139-1
34	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-25-1-2	0	AF07A-410-139-2
35	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-34-1-1	0	AF07A-410-140-1
36	(CML 451 X (RCYA 99-20)-B-B-42-2)-B-2-1-1	0	AF07A-410-141-1
37	(CML 451 X (RCYA 99-20)-B-B-42-2)-B-2-2-1	0	AF07A-410-142-1
38	(CML 451 X (RCYA 99-20)-B-B-42-2)-B-2-2-2	0	AF07A-410-142-2

7. When the message “Your list was saved” is cleared, select Germplasm from the Database menu again and you will see the new list as the last item in the Germplasm Explorer Window.



8. Highlight the new list (click on the ListID) and then click Open List. A Germplasm List Tab opens showing the list entries. Since all of the entry Designations in this list match germplasm in the database they have all been stored with their positive GIDs from the central database. If names did not match new entries with negative GIDs would have been added to the local database. Only persons with access to this local database would be able to see them.

GID	Designation	Entry CD	Source	Entry Id
-111	CML 502	E0001	AF06A-251-2	1
-112	CLQRCWQ 109	E0002	AF06A-251-4	2
-113	CLQRCWQ 55	E0003	AF06A-251-9	3
-114	CML 165	E0004	AF05B-5252-2	4
-115	CLQRCWQ 38	E0005	AF06A-251-8	5
-116	CLQRCWQ 97	E0006	AF06A-251-13	6
85560	CLQ 6315	E0007	AF06A-251-5	7
-117	CLQRCWQ 26	E0008	AF06A-251-7	8
-118	CML 491	E0009	AF06A-251-3	9
-119	CLQRCWQ 15	E0010	AF06A-251-6	10
-115	CLQRCWQ 38	E0011	AF06A-251-8	11
-118	CML 491	E0012	AF06A-251-3	12
-117	CLQRCWQ 26	E0013	AF06A-251-7	13
85560	CLQ 6315	E0014	AF06A-251-5	14
-112	CLQRCWQ 109	E0015	AF06A-251-4	15
-113	CLQRCWQ 55	E0016	AF06A-251-9	16
-114	CML 165	E0017	AF05B-5252-2	17
-111	CML 502	E0018	AF06A-251-2	18
-116	CLQRCWQ 97	E0019	AF06A-251-13	19
-119	CLQRCWQ 15	E0020	AF06A-251-6	20
-120	(CML 451 X IBP 4 C 3 TLYF-88-2-3-2-1-B)-...	E0021	AF07A-410-107-2	21
-121	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-4-...	E0022	AF07A-410-108-1	22
-122	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-4-...	E0023	AF07A-410-108-2	23
-123	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-4-...	E0024	AF07A-410-109-1	24
-124	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-1-...	E0025	AF07A-410-113-1	25
-125	(CML 451 X (RCYA 99-8)-B-B-2-1-1-B)-B-1-...	E0026	AF07A-410-113-2	26
-126	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-3-...	E0027	AF07A-410-123-1	27
-127	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-3-...	E0028	AF07A-410-123-2	28
-128	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-1-...	E0029	AF07A-410-131-1	29
-129	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-1-...	E0030	AF07A-410-131-2	30
-130	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-2-...	E0031	AF07A-410-137-1	31
-131	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-2-...	E0032	AF07A-410-137-2	32
-132	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-2-...	E0033	AF07A-410-139-1	33
-133	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-2-...	E0034	AF07A-410-139-2	34
-134	(CML 451 X (RCYA 99-21)-B-B-17-1-B)-B-3-...	E0035	AF07A-410-140-1	35
-135	(CML 451 X (RCYA 99-20)-B-B-42-2)-B-2-1-1-...	E0036	AF07A-410-141-1	36
-136	(CML 451 X (RCYA 99-20)-B-B-42-2)-B-2-2-1-...	E0037	AF07A-410-142-1	37
-137	(CML 451 X (RCYA 99-20)-B-B-42-2)-B-2-2-2-...	E0038	AF07A-410-142-2	38
-138	(CML 451 X (RCYA 99-20)-B-B-42-2)-B-15-...	E0039	AF07A-410-159-1	39

9. Repeat steps 3 to 6 for the list of male parents MaizeM_GermplasmList.xls. And the ends of this process the directory of lists looks as follows:

The screenshot shows the IBFIELDBOOK 3.0.0 Beta 16 Unknown application. The 'Germplasm List Explorer' window is open, displaying a search for 'MaizeM_GermplasmList' which has found 5 lists. The 'Open List' button is circled in red. The main window shows the details for the selected list, 'MaizeM_GermplasmList', with 93 entries found. The table below lists the entries with their GID, Designation, Entry ID, Source, and Entry Id.

GID	Designation	Entry ID	Source	Entry Id
-193	(CML 454 X CML 451)-8-3-1-1	E0001	AF07A-412-205-1	1
-194	(CML 454 X CML 451)-8-4-1-1	E0002	AF07A-412-206-1	2
-195	(CML 454 X CML 451)-8-4-1-2	E0003	AF07A-412-206-2	3
-196	(CML 454 X CML 451)-8-4-1-3	E0004	AF07A-412-206-3	4
-197	(CML 454 X CML 451)-8-4-2-1	E0005	AF07A-412-207-1	5
-198	(CML 454 X CML 451)-8-4-2-2	E0006	AF07A-412-207-2	6
-199	(CML 454 X CML 451)-8-4-3-1	E0007	AF07A-412-208-1	7
-200	(CML 454 X CML 451)-8-4-3-2	E0008	AF07A-412-208-2	8
-201	(CML 454 X CML 451)-8-7-1-1	E0009	AF07A-412-213-1	9
-202	(CML 454 X CML 451)-8-7-1-2	E0010	AF07A-412-213-2	10
-203	(CML 454 X CML 451)-8-7-1-3	E0011	AF07A-412-213-3	11
-204	(CML 454 X CML 451)-8-7-2-1	E0012	AF07A-412-214-1	12
-205	(CML 454 X CML 451)-8-7-3-1	E0013	AF07A-412-215-1	13
-206	(CML 454 X CML 451)-8-7-3-2	E0014	AF07A-412-215-2	14
-207	(CML 454 X CML 451)-8-7-4-1	E0015	AF07A-412-216-1	15
-208	(CML 454 X CML 451)-8-7-4-2	E0016	AF07A-412-216-2	16
-209	(CML 454 X CML 451)-8-12-1-1	E0017	AF07A-412-217-1	17
-210	(CML 454 X CML 451)-8-12-1-2	E0018	AF07A-412-217-2	18
-211	(CML 454 X CML 451)-8-14-1-1	E0019	AF07A-412-218-1	19
-212	(CML 454 X CML 451)-8-14-1-2	E0020	AF07A-412-218-2	20
-213	(CML 454 X CML 451)-8-14-2-1	E0021	AF07A-412-219-1	21
-214	(CML 454 X CML 451)-8-14-2-2	E0022	AF07A-412-219-2	22
-215	(CML 454 X CML 451)-8-14-2-3	E0023	AF07A-412-219-3	23
-216	(CML 454 X CML 451)-8-14-3-1	E0024	AF07A-412-220-1	24
-217	(CML 454 X CML 451)-8-14-3-2	E0025	AF07A-412-220-2	25
-218	(CML 454 X CML 451)-8-16-1-1	E0026	AF07A-412-221-1	26
-219	(CML 454 X CML 451)-8-16-1-2	E0027	AF07A-412-221-2	27
-220	(CML 454 X CML 451)-8-21-1-1	E0028	AF07A-412-223-1	28
-221	(CML 454 X CML 451)-8-32-1-1	E0029	AF07A-412-227-1	29
-222	(CML 454 X CML 451)-8-32-1-2	E0030	AF07A-412-227-2	30
-223	(CML 454 X CL-02603)-8-7-2-1	E0031	AF07A-412-230-1	31
-224	(CML 454 X CL-02603)-8-7-2-2	E0032	AF07A-412-230-2	32
-225	(CML 454 X CL-02603)-8-18-1-1	E0033	AF07A-412-232-1	33
-226	(CML 454 X CL-02603)-8-20-1-1	E0034	AF07A-412-234-1	34
-227	(CML 454 X CL-02603)-8-20-1-2	E0035	AF07A-412-234-2	35
-228	(CML 454 X CL-02603)-8-20-2-1	E0036	AF07A-412-235-1	36
-229	(CML 454 X CL-02603)-8-20-2-2	E0037	AF07A-412-235-2	37
-230	(CML 481 X CML 454)-8-8-1-1	E0038	AF07A-412-240-1	38
-231	(CML 481 X CML 454)-8-8-1-2	E0039	AF07A-412-240-2	39

10. Close the application as the lists are now saved and can be used by other applications such as making the F1 nursery.