

Migration of IWIS to ICIS-based IWIS3

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Outline

- IWIS Functionalities
- Progress Made
 - Conversion Program from IWIS to IWIS3 (ICIS-based IWIS)
- Issues about Data Migration
 - Pedigree Information
 - Trial Data
- Functionalities in ICIS
- Functionalities not in ICIS
- 2009 Workplan

IWIS Functionalities

- Wheat Pedigree Management System (WPM)
 - Manages the information about pedigrees;
 - It uses three major types of identifiers:
 - CID – Cross ID
 - SID – Selection ID within the cross
 - INTRID – introduction ID
 - The Trial Information is also closely related with these identifiers
 - Searches for cross and trial information given certain parameters (Cross ID, Selection ID, Pedigree, Selection History, Introduction ID, Trial ID, Entry ID etc)

IWIS Functionalities ...

- Wheat Field book
 - Generates 25 types of fieldbooks which can be directly sent to printer or saved as Excel file
 - Produces reports about lines deriving from a cross; descendants of a given line/cross; entries in trials with the given line/cross; searches for records with a specified string in a given field (Breeders Cross ID, Cross Name, Selection Histories, Trial Name, Location etc).
 - Creates trials

IWIS Functionalities

- Wheat Data Management System (WDMS)
 - produces statistics of trials, randomizes a trial given a pre-defined design, validates the data of trials and transforms data to standard measurement units
- Wheat International Nursery System (WINS)
 - handles shipments of seeds to cooperators around the world
- Wheat Germplasm Bank
 - manages information related to the Germplasm Bank such as passport information etc.

Progress Made

- Conversion Program to migrate data from IWIS to IWIS3
 - a script is run to check corresponding record of IWIS in IWIS3; it adds record in IWIS3 for new cross/line in IWIS or updates records if changes are made
 - A conversion tool is available to migrate the records of specified CIDs to IWIS3
 - Trial data from IWIS are also converted to IWIS3 using set of scripts
- The Wheat Genebank is using ICIS for managing its seed inventory

Issues about Data Migration

- Pedigree Information
 - The pedigree that comes out of IWIS is crucial for the field book generation and other related tools
 - IWIS uses generic names which are known to breeders. These names were given by the breeders to selections or crosses. These names appear in the pedigree string instead of the selection name or cross name. In the absence of the generic name, the cross or variety name is used
 - All names that need to be used (generic, cross or variety name) will be stored in a certain name type in ICIS
 - Regenerating the IWIS3 from IWIS sometimes lead to missing pedigree records from external partners

Data Migration

- Trial Data
 - Property/Scale/Method - The specified scales are sometimes not associated with the given properties of the variables;
 - Hierarchy of the studies are needed based on the type of the nursery or trial

Functionalities in ICIS

- GMS Search allows you to query the name, GID, CID, SID and attributes. It shows the trials where an entry was tested. Descendants and sister lines can also be retrieved. However, searching using a pedigree string and querying using several parameters are not yet supported. But Browse has function to search for cross given a pedigree string.
- SetGen allows users to add, modify and delete pedigree information and selection history. However, IWIS systematically shows the parsed pedigree or selection history string.

The image shows two windows side-by-side, both titled "Update Selection".

Left Window (Update Selection):

- Selection History:** CMSA07Y00967T-020B-040Y-040ZTM-9u
- CID:** 527918
- SID:** 3
- Search** button
- Unknown Elements:** (empty)
- Next** button
- Action Buttons:** Insert, Update, Delete, Clear

Right Window (Update Pedigree):

- Pedigree:** KRONSTD F2004/2^oPGR
- Parse** button
- CID:** (empty)
- Search** button
- Unknown Elements:** PGR, KRONSTD F2004, KRONSTD F2004/PGR, KRONSTD F2004/2^oPGR
- Next** button
- Action Buttons:** Insert, Update, Delete, Clear, Exit

Parsing of Selection History and Pedigree Information in IWIS

Functionalities in ICIS ...

- SetGen can be used to create trials. However, cycle and location of trials are not intuitively link in a list in SetGen but very important for IWIS. However those information about a list can now be stored as extended attributes of the list in SetGen.
- ICIS Workbook can be used to store the evaluation data but validation of data across several locations or trials are not supported
- Workbook supports some randomization layouts and can merge a trial list, layout and template. However, the settings of the merging are not saved
- Queries, reports and field books can be created using the Retriever

Functionalities not in ICIS

- **CrossInfo** – can give you the cross/selection/name/fieldbook/entry information for a given set of input parameters in Excel. The input fields which can be Cross ID, Selection ID, Pedigree, Selection History, INTRID, Trial ID, Entry etc. are copied from an Excel file and pasted in the CrossInfo form. The result of the query includes both cross/pedigree information and trial information. This can be exported to Excel.

Cross Info ...

Microsoft Excel - Book5

A1 Selection History

	A	B	C	D	E	F	G
1	Selection History	Pedigree	CID	SID	INTRID	Specific Name	Cross
2	II26745-66Y-2M-1Y-0M	PI/TT/SN64/3/2*CN067	267396	4 BW			
3	II25332-6M-3R-10M-5Y-0M	CNO/7C	267398	5 BW			
4	II1M-2Y-0M	CNO/7C	267399	2 BW			
5	II25000-4M-1T-23M-1Y-0M	TOB/CNO	267400	5 BW			
6	II7078-1R-6M-1R-1M-0MEX	FKN/N10B	6665	4 BW			
7	II27455-3R-7M-1Y-0M	BJ/CAL	267401	4 BW			
8	II24908-53M-1Y-4M-1Y-0M	TOB/CNO67	6904	11 BW			
9	II23584-18M-10Y-3M-3Y	BLUEBIRD	6980	88 BW			
10	II25000-6M-6Y-1M-1Y-0Y	TOB/CNO	267400	10 BW			
11	II25000-13M-2Y-2M-2Y-0M	TOB/CNO	267400	15 BW			
12	II25000-26M-1Y-1M-1Y-0M	TOB/CNO	267400	20 BW			
13	II23584-15Y-6M-0Y-0MEX-?	BLUEBIRD	6980	17 CW			
14	II25000-45M-1Y-1M-1Y-0M	TOB/CNO	267400	25 RW			

Select destination and press ENTER or choose Paste Sum=1892491

Options

Cross/Selection Fields

- Cross Year
- Cross Location
- Cross Country
- Cross Organization
- Cross Program
- FAO In-trust
- Specific Name
- Pedigree
- Selection History
- Selection Year
- Selection Location
- Selection Country
- Name Country Grandparent Level
- Name Year 0
- Name Abbreviation INTRID

Trial/Entry Fields

- Entries with Offset
- Female Info (ftid,focc,fent)
- Male Info (mtid,mocc,ment)
- Source Info (stid,socc,sent)
- Trial Name
- Trial Abbreviation
- Trial Cycle
- Trial New Cycle
- Trial Offset
- Trial Organization
- Trial Program
- Trial Check Frequency
- Folio

How many trials pr. cross 100

Use Trial/Entry Fields

Merge output fields, e.g. year 1970(1989) means 1970 correct, user value 1989

Use CC3 for country Use column abbreviations

Put non-preferred names in rows below in the grid Show GID

Show all Sel for CID Show all INTRIDs for each CID+SID

Show Full Location Name

OK Exit

i CrossInfo based on Excel Import/Export IWIS_W03 v.4.42.6 11-Jul-2005

Help Options Trial ID

Lines with Error 1 Unresolved lines 0 Total Lines 3

Input fields with error given a color and/or corrected

Selection History 0 Pedigree 0 CID 0 SID 0 INTRID 1 TID+ENT 0

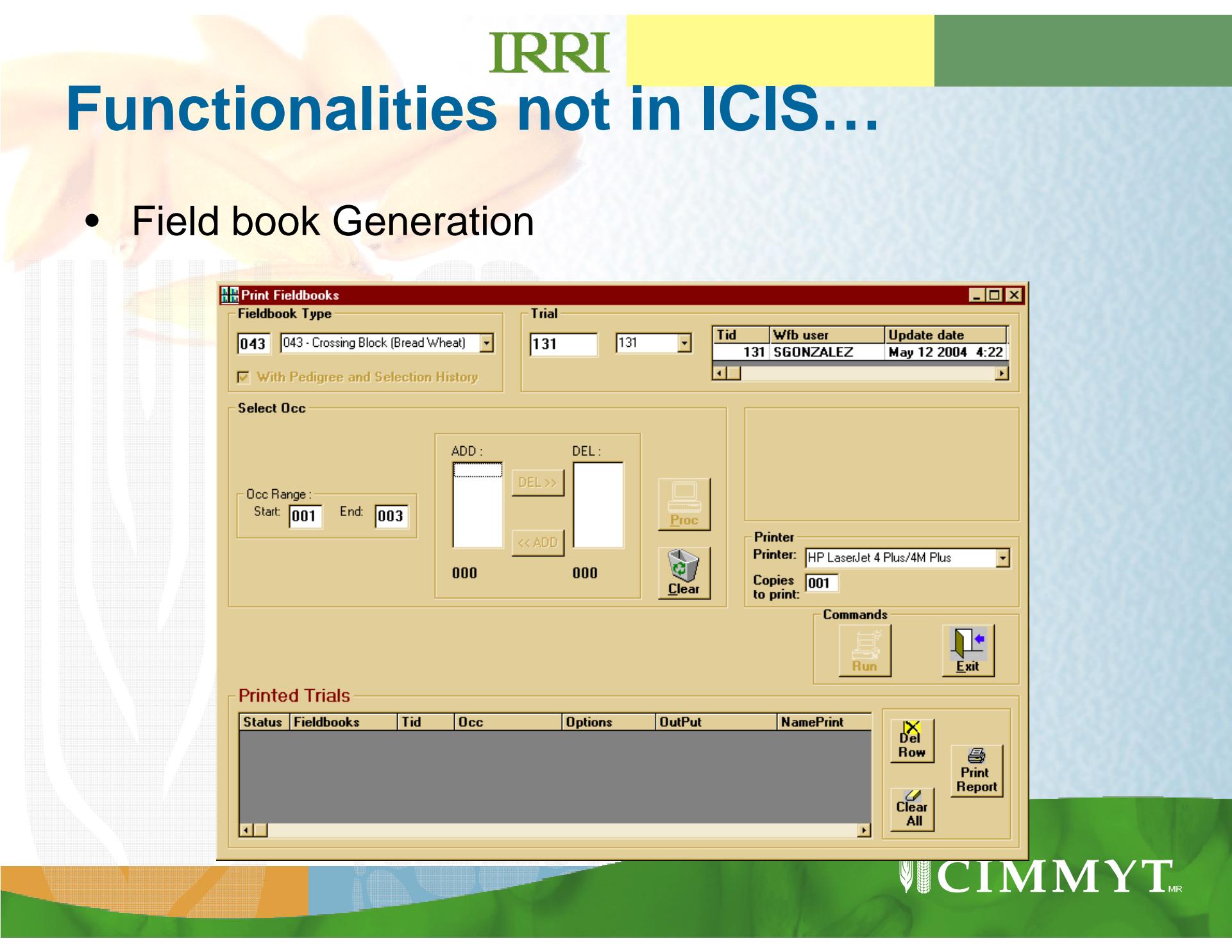
Selection History	Pedigree	CID	SID	INTRID
CM95950-28Y-0M-1LMP-4M-0RES	CHIL/BUC	17393	322	BW18746
	TID	ENT	INTRID	Trial Name
	51846	9976	BW22942	CWGR2005COL2,1
	51852	3263	BW18746	INCREASE BANK I
	60935	871		LINEAS RESISTEN
CM85836-4Y-0M-0Y-14M-0Y-0PZ	ATTILA	8890	57	BW24291
	TID	ENT	INTRID	Trial Name
	51846	9977	BW22943	CWGR2005COL2,1
	51874	5601	BW24291	CWGR2005-ICARD
	51852	3226	BW18711	INCREASE BANK I
CM88386-23M-0SY-0H-1Y-0M	TAN/PEW//SARA	20496	9	BW17750
	TID	ENT	INTRID	Trial Name
	51846	9978	RW22944	CWGR2005COL2,1

< >

Preference of input: Selection History, Pedigree, CID+SID, INTRID, TID+ENT

Import Clipboard Export Grid Exit

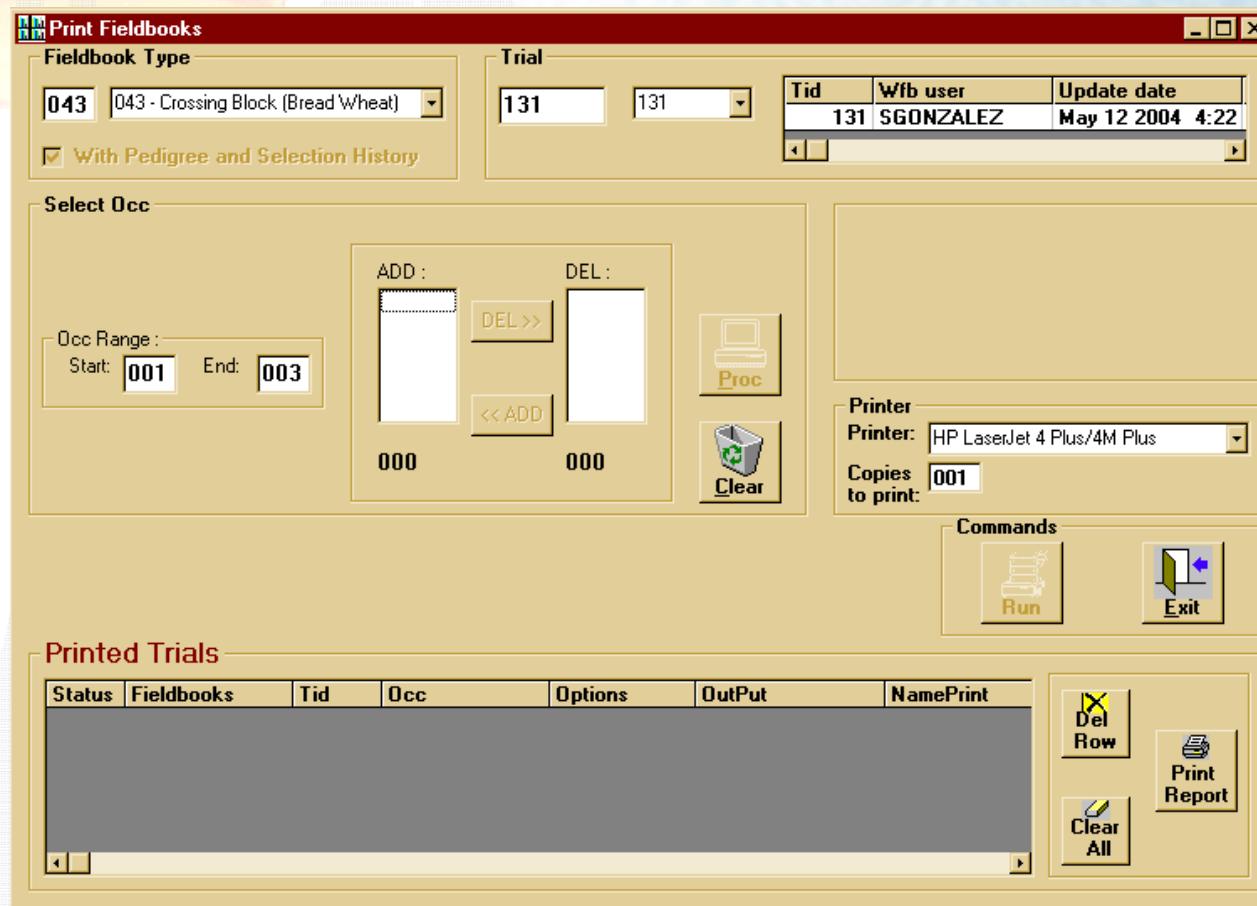
The Preference of input determines in which order input fields are used to identify lines



IRRI

Functionalities not in ICIS...

- Field book Generation



Sample Fieldbook

Female parent
Male parent

Pedigree

Selection History

Source Trial

Y07-08	BW	TID	40693	OCC	1	FITopBWIR	Page	2
1 SERI/RAYON//5/KIRITATI//4/SERI.1B*2/3/KAUZ*2 CM237X00015-0B						FitopBWIR	1 B/7007	
KIRITATI//2*PBW65/2*SERI.1B CM237X00115-0B						CBSVII.	27 B/7007	
2 PBW65/2*PASTOR//TACUPETO F2001*2/BRAMBLING CM237X00015-0B						FitopBWIR	1 B/7007	
KAMB1*2/BRAMBLING						CBSVII.	45 B/7007	
3 PBW65/2*PASTOR/3/KIRITATI//ATTILA*2/PASTOR CM237X00015-0B								
4 PBW65/2*PASTOR/3/KIRITATI//PBW65/2*SERI.1B CM237X00015-0B								
5 PBW65/2*PASTOR/3/KIRITATI//PRL/2*PASTOR CM237X00015-0B								
6 PBW65/2*PASTOR/5/KIRITATI/4/SERI.1B*2/3/ KAUZ*2/BOW//KAUZ CM237X00015-0B						B/7007	1 B/7007	
7 PBW65/2*PASTOR/4/PFAU/SERI.1B//AMAD/3/ WAXWING CM237X00015-0B						B/7007	1 B/7007	
8 PBW65/2*PASTOR/3/PFAU/WEAVER*2//KIRITATI CM237X00015-0B						B/7007	1 B/7007	
9 PBW65/2*PASTOR//WAXWING*2/KIRITATI CM237X000115-0B						B/7007	1 B/7007	
10 PBW65/2*PASTOR//WBLL1*2/KIRITATI CM237X000115-0B						B/7007	1 B/7007	
11 PBW65/2*PASTOR//PWN CM237X000115-0B						B/7007	1 B/7007	
12 PBW65/2*PASTOR//KIRITATI CM237X000115-0B						B/7007	1 B/7007	
13 PBW65/2*PASTOR//KBIRD CM237X000115-0B						B/7007	1 B/7007	
14 AL TAR 84/AE-SQUARROSA (221)/3*BORL95/3/ URES/JUN//KAUZ/4/WBLL1/5... CM237X00015-0B						B/7007	1 B/7007	
15 ATTILA/3*BCN*2//BAV92/3/KIRITATI/WBLL1 CM237X000115-0B						B/7007	1 B/7007	
16 ATTILA/3*BCN//BAV92/3/PASTOR/4/KIRITATI// ATTILA/2*PASTOR CM237X000115-0B						B/7007	1 B/7007	
17 ATTILA/3*BCN//BAV92/3/PASTOR/4/KIRITATI// PRL/2*PASTOR CM237X000115-0B						B/7007	1 B/7007	
18 ATTILA/3*BCN//BAV92/3/PASTOR/4/WAXWING*2/ KIRITATI CM237X000115-0B						B/7007	1 B/7007	
19 ATTILA/3*BCN//BAV92/3/PASTOR/4/KBIRD CM237X000115-0B						B/7007	1 B/7007	
20 BAV92//DENIA/KAUZ/3/HUITES/4/KIRITATI//						B/7007	1 B/7007	

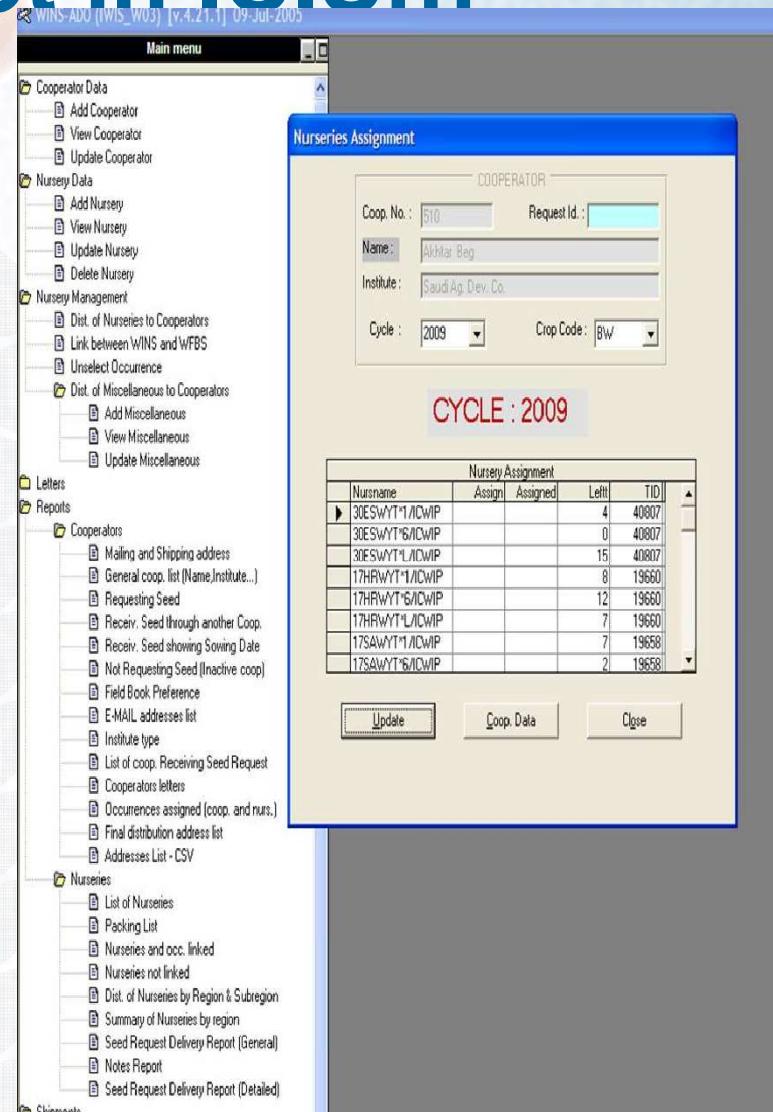
Female source trial
Male source trial

Breeder's Cross ID

Functionalities not in ICIS...

- WINS

- WGB – better support for managing passport information and updating the record of accession



Suggestions for functionalities not in ICIS

- CrossInfo
 - a similar query tool in the Retriever can be developed
 - a generic GMS query form in ICIS to be implemented
- Field books – reports in the Retriever
- WINS
 - retain the application and move trial information from IWIS3 to corresponding table in WINS
 - collaborate with IRRI for the Dispatch Module
- WGB – collaborate with IRRI for the GRIMS

2009 Workplan

- Update the IWIS3 central databases and ICIS apps/DLLs to produce the same pedigree string in IWIS3 as in IWIS
- Pilot implement IWIS3 in 3 wheat breeding programs (Irrigated, Rainfed, Durum/Triticale) for their 2009 winter cycle
- Develop reports for 5 field book types in Retriever
- Create workbook template for F1, Selection and Yield Trials
- Create a query tool for parental selection
- *Possible Issue:* How to transfer pedigree information of breeding programs from IWIS3 to IWIS to be used by the international trials?