Towards full adoption of ICIS at IRRI

PBGB Data Management Team

William H. Eusebio

Ma. Concepcion Lotho

IRRI-PBGB

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Target/Goal

- For plant breeder and laboratory staff to be able to manage their own IRIS local database.

- For IRRI scientist to learn to use any ICIS querying tools to retrieve information from the database

- To have all IRRI germplasm data be captured in IRIS

- To have an accurate record of germplasm movement between INGER, GRC, CESD and PBGB

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Task

- **Data** - To have all IRRI's breeding, evaluation, genebank characterization ,agronomic (germplasm related), molecular, transgenic and other laboratory data be captured accurately in IRIS.

- **Training/Support** - For IRRI research staff to have a sufficient working knowledge on how to use ICIS in storing and querying data and for scientist to utilize the system's full capabilities to assist on their research.

- **Software applications/Tools** – For ICIS developers to deliver a much improved and user friendly software and/or web based applications for scientists and researchers to use.

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What IRRI data are in ICIS/IRIS?

Plant Breeding, Genetics and Biotechnology (**PBGB**)

GROUP	YEAR Started	TOTAL ENTRIES	GMS	DMS Phenotypic	DMS Genotypic	GEMS
IRRIGATED	2000	165762	X	X		
KSMP-GUVA	2005DS	32710	X	X		
SALINITY	2004WS	47689	X	X		
SUBMERGENCE	2006WS	28103	X	X		
AFRICA	2006WS	3788	X			
HYBRID (HRDC)	2008	171	X			
WIDE HYBRIDIZATION	2008	5219	X			
GML	2007DS	3059	X			
RAINFED			x	x		
CGTAS						
JAPAN						
TRANSGENIC						

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What IRRI data are in ICIS/IRIS?

International Network for Genetic Evaluation of Rice (INGER)

GMS

    Nomination entries from 1973 to present

    Nursery list from 1973 to present

DMS

    Characterization data from 1975 to present

IMS

    Fully implemented for seed stocks monitoring and with withdrawing of seed request.

What IRRI data are in ICIS/IRIS?

Grain Quality, Nutrition, and Postharvest Center (GQNPC)

- GMS
  - All incoming seeds for grain quality and chalk analysis
  - Seed increases are also being recorded.

- DMS
  - Chalk phenotypic data
  - Grain quality data – *having difficulty in organizing data in standard format*

What IRRI data are in ICIS/IRIS?

T.T. Chang Genetic Resources Center (GRC)

GMS

All IRGC accession entries are recorded in GMS
Seed increases of genebank accession are updated
Passport information partly loaded

DMS

Characterization data – in progress

IMS

Seeds stock record in the genebank are updated

What IRRI data are in ICIS/IRIS?

- **Seed Health Unit (SHU)**

  All incoming seed are immediately recorded in IRIS by the OU database managers before SHU release seeds to the recipient scientist/breeders.

  Ancestral information of germplasm exported out from IRRI. - To generate the SMTA documents

What IRRI data are *NOT* in ICIS/IRIS?

- PBGB - pre-1976 yield trial data (Irrigated)
- PBGB - Laboratory genotypic data for:
  - Transgenic
  - GML
  - Candidate genes
  - MAS
  - IR64 mutant – *need to update*

- CESD – Germplasm related agronomic data
  - *May need to have a dedicated staff to collect and load data in IRIS*

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ICIS/IRIS users in IRRI

Data Management groups – (14)

PBGB (2), **GQNPC (1), GRC (6)** and **INGER (5)** – in loading germplasm and various type of data in the DMS

Seed Health Unit – (2)

For reviewing, verifying, and updating of the MTA and IP restrictions of imported germplasm in IRRI.

SMTA generations for exported shipments under the MLS

Central Seed Stock - (2)

To retrieve the MTA status of seed being exported out of IRRI

Plant Breeding group – (3)

Rainfed (**2**) and **KSMP-Guva (1)** – manage their own local database

Training and Support

- CRIL annually conducts the *ICIS training for plant breeders*

- CRIL provides technical support for ICIS user inside and outside IRRI

- PBGB Data Managent Team provides services and support on retrieving data from IRIS for IRRI scientist and researchers.

- PBGB Data Managent Team started conducting in-house training for PBGB plant breeders, researchers and support technical staff. *new*

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Data Curation/Curators

- **IRIS database managers** – OU-specific database staff are actively loading new germplasm entries and correcting errors in IRIS.

- **T.Hazekamp/R.Hamilton**- Currently correcting the germplasm source reference of GRC, INGER, CIAT, WARDA and USDA collection samples.

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Thank You