



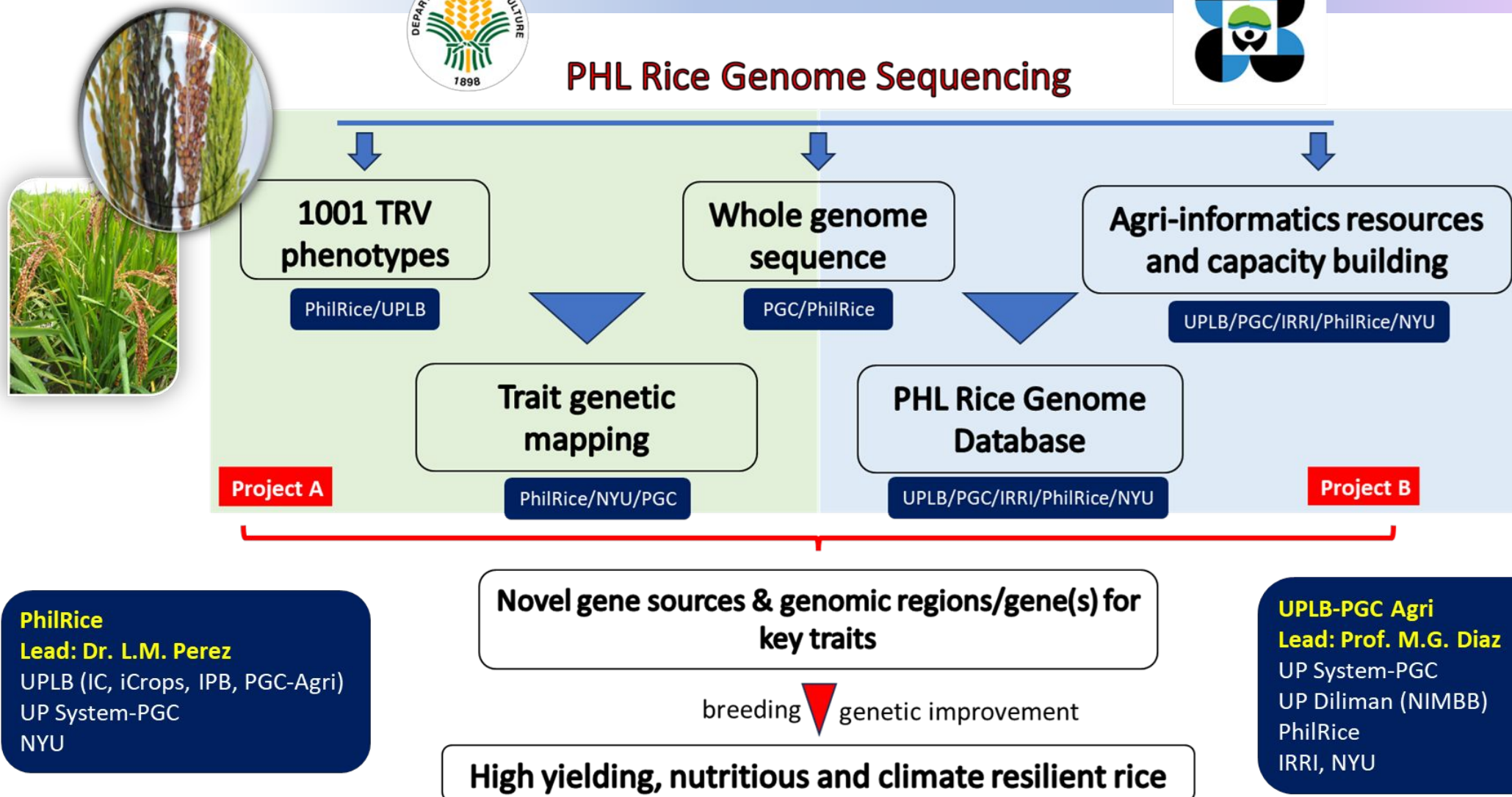
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Program for Agriculture  
Livestock, Fisheries



## PHL Rice Genome Sequencing



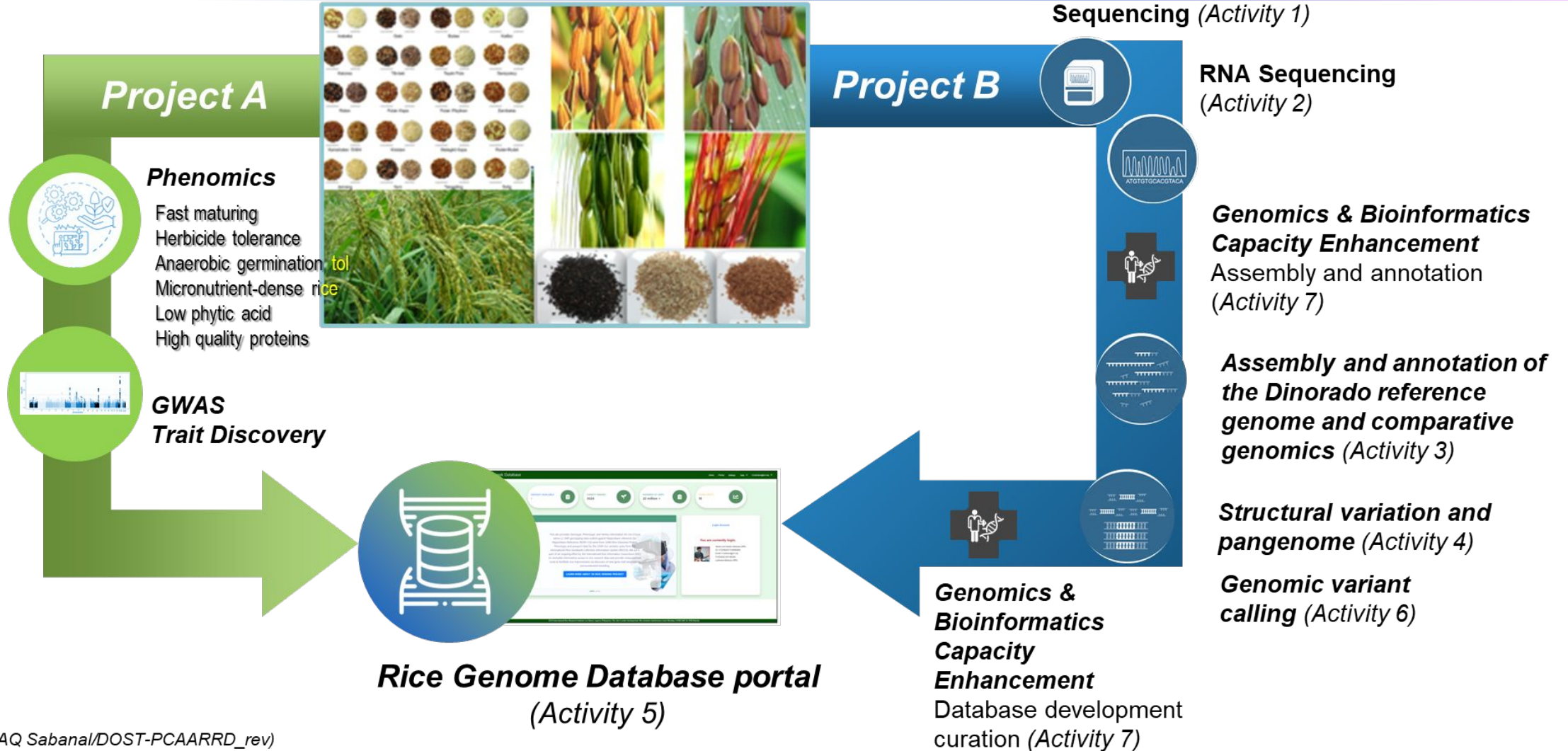


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**Whole Genome**



**1,001 PH Traditional Rice Varieties**





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## **Activity 5: Implementation of the Philippine Rice Genome Database Portal Consisting of SNP-Seek Database and Associated Tools**

*Lead: Arian J. Jacildo, Institute of Computer Science (ICS), College of Arts and Sciences (CAS),  
University of the Philippines Los Baños*

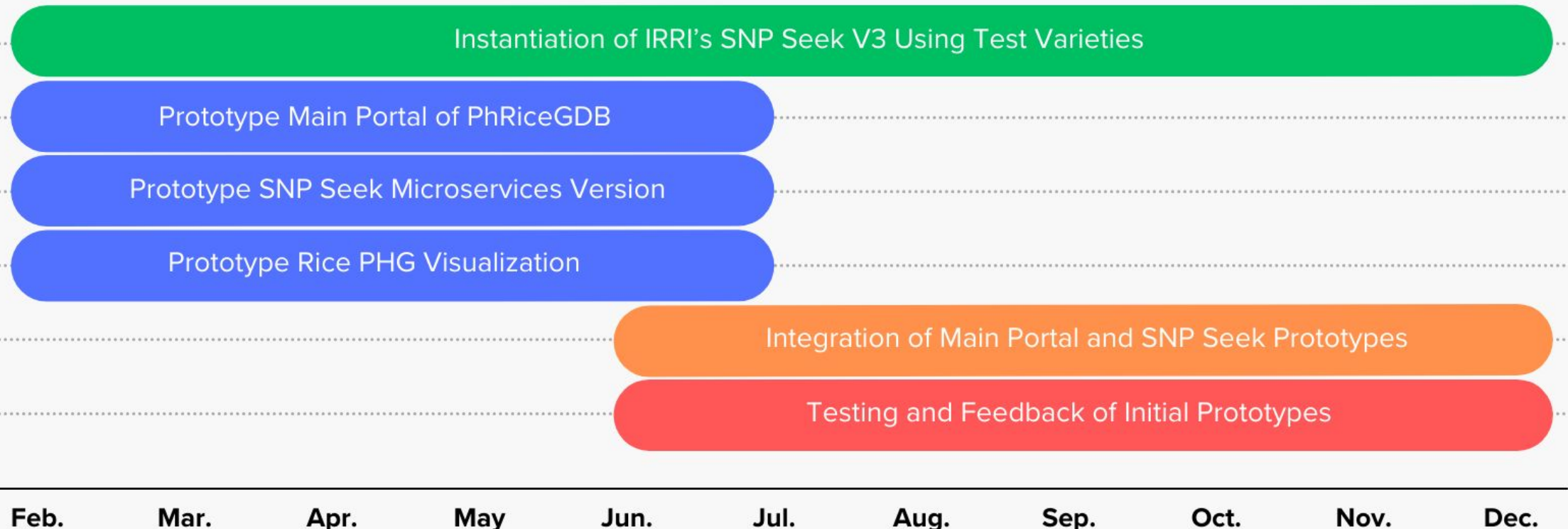
**Objective:** To establish the Philippine Rice Genome Database (Ph Rice GDB) and provide trainings on usage, data curation, and associated analytical tools.





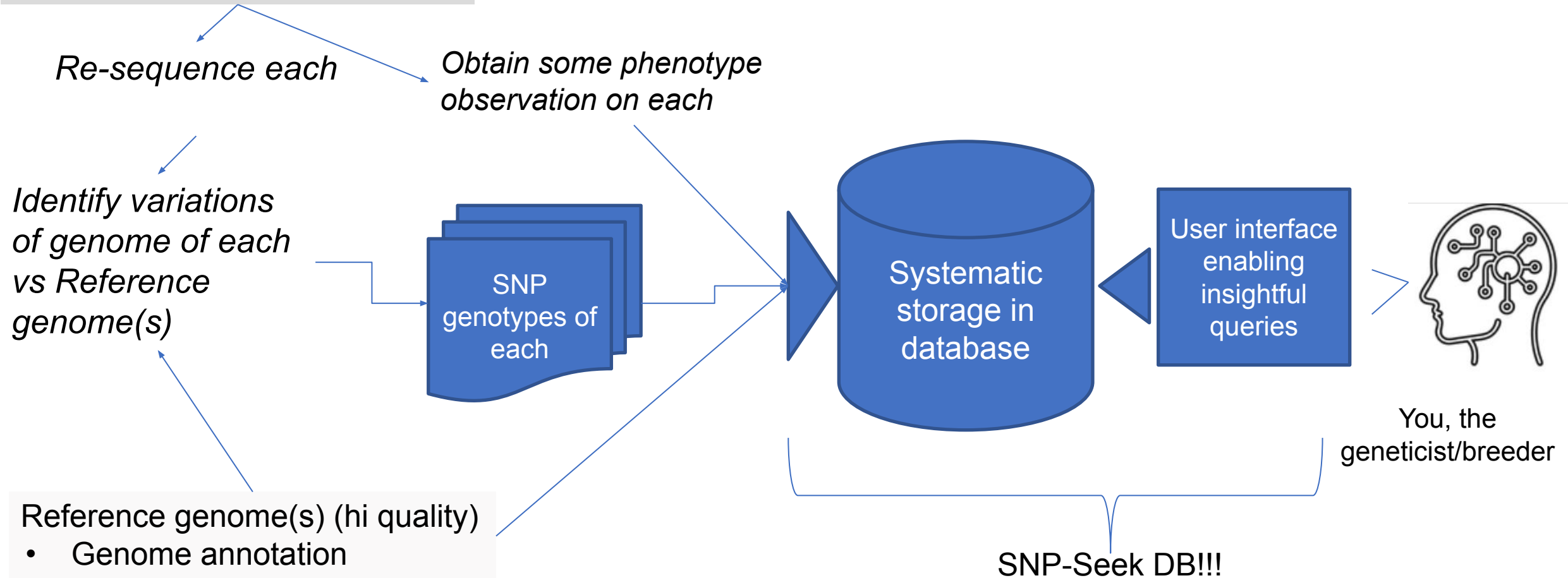
## Activity 5: Implementation of the Philippine Rice Genome Database Portal Consisting of SNP-Seek Database and Associated Tools

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## Subset of Diversity Collection



## Conceptual overview of Activity 5



# Deliverable Y1: Pilot Rice Genome Database Portal

- Project Planning, Data Preparation and Transformation
  - **Feature review document**
  - **Repository** with initial project structure
- Backend Development (database)
  - Data validation and transformation **Scripts**
  - **Transformed data** into the existing database schema,
  - **HDF5 files**
- Frontend Development (web interface)
  - **Load transformed data**
  - **Frontend updates** with API integration
- Deployment & Maintenance
  - **Cloud infrastructure setup** (options: AWS, ASTI)
  - **Analytics tracking report**
  - **User manual**
  - **Training session materials**



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## Rice SNP-Seek Database

[Home](#) [Search](#) [Browse](#) [My Lists](#) [Order Seeds](#) [Download](#) [Help](#)

By using SNP-Seek, you abide by the data use license stated [here](#), and development [here](#)

This site provides Genotype, Phenotype, and Variety Information for rice (*Oryza sativa* L.). SNP genotyping data (called against [Nipponbare reference Os-Nipponbare-Reference-IRGSP-1.0](#)) came from [3,000 Rice Genomes Project](#). Phenotype and passport data for the 3,000 rice varieties came from the International Rice Genebank Collection Information System (IRGCIS). We are a part of an ongoing effort by the International Rice Informatics Consortium (IRIC) to centralize information access to rice research data and provide computational tools to facilitate rice improvement via discovery of new gene-trait associations and accelerated breeding.



### Genotypes

Query for SNPs from the 3000 genome project



### Varieties

Query for Variety passport and phenotypes



### JBrowse

Rice Genome Browser



### GWAS

GWAS Results and tools



### Help

Help and documentation

# SNP-Seek\*: Still the best tool to access/use /analyze 3K++ RG data

©2014 International Rice Research Institute

\*Alexandrov et al, *Nucleic Acid Res.*  
2014  
Mansueto et al., 2016, 2017

## Version 2

<https://snp-seek.irri.org/>  
OR  
<https://snpseek.irri.org/>





← → ↺ 🏠

🔍 snpseek.irri.org/index.zul

★ 🖨️ 🗑️ 👤 ⋮

IRGC Rice SNP-seek Database

Legacy SNP-Seek portal Search Pricing Help ▾ Login

🗑️ Collapse

🔍 Search

📅 By Genotype

🌿 By Variety

📄 By Gene Loci

DATASET AVAILABLE  
1

📋

VARIETY NAMES  
3024

🌱

NUMBER OF SNPS  
20 million +

📋

TOTAL VISITS  
18

📈

Version 3: improved interface, user-level data and tools control

Version 3 Tiered Data Access

User Tier	Available Data
Anonymous	<ul style="list-style-type: none"><li>3kRG data only</li></ul>
Registered non-IRRI	<ul style="list-style-type: none"><li>3kRG + 6 datasets already in SNP-Seek v2 against 1 reference genome</li></ul>
Registered IRRI and paid-for subscribers	<ul style="list-style-type: none"><li>3kRG x 15 reference genomes (indica MH63 now available)</li><li>Upcoming: 10K IRGC genomes (IRRI-KAUST),</li></ul>

\*McNally, Barboza et al., in preparation ...





# Deliverable multi-year : Research on Next-generation Portal

- Next-gen data structure
  - Pan genome references, variants, haplotypes
- Next-gen web services
  - more features, advanced analytic tools
- Integrated data across projects/studies
  - 3k + 10k + public data + 1k1RG



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## SNP-MERN

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### Welcome to SNP-MERN

Your gateway to advanced genomic research.

[Get Started](#)

### About IRRI

The International Rice Research Institute (IRRI) is dedicated to improving rice production and food security worldwide.

### What is SNP-MERN?

IRRI's SNP-seek reinvented with the MERN stack for a more efficient and user-friendly experience.

### Why Use SNP-MERN?

SNP-MERN provides a more efficient and user-friendly experience for advanced genomic research.



SNP-Spring

The International Rice Informatics Consortium

Hello, JP Deloso!

SIGN OUT

## Gene Loci Search

LOCUS	CONTIG	START	STOP
OsBADH2	chr8	17654302	17656478
OsGS3	chr5	12537498	12539876
OsGENE2	chr3	1002468	1002968
OsGENE3	chr4	1003702	1004202
OsGENE4	chr5	1004936	1005436
OsGENE7	chr8	1008638	1009138
OsGENE8	chr9	1009872	1010372
OsGENE11	chr12	1013574	1014074
OsGENE18	chr7	1022212	1022712
OsGENE21	chr10	1025914	1026414

### Reference Genome

IRGSP-1.0

### Search By

Gene Name/Symbol/Function

### Gene Model

All

### Search Method

Substring

### Search Query

gene

Search





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