



# Rice Genes in Oryzabase

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## Abstract

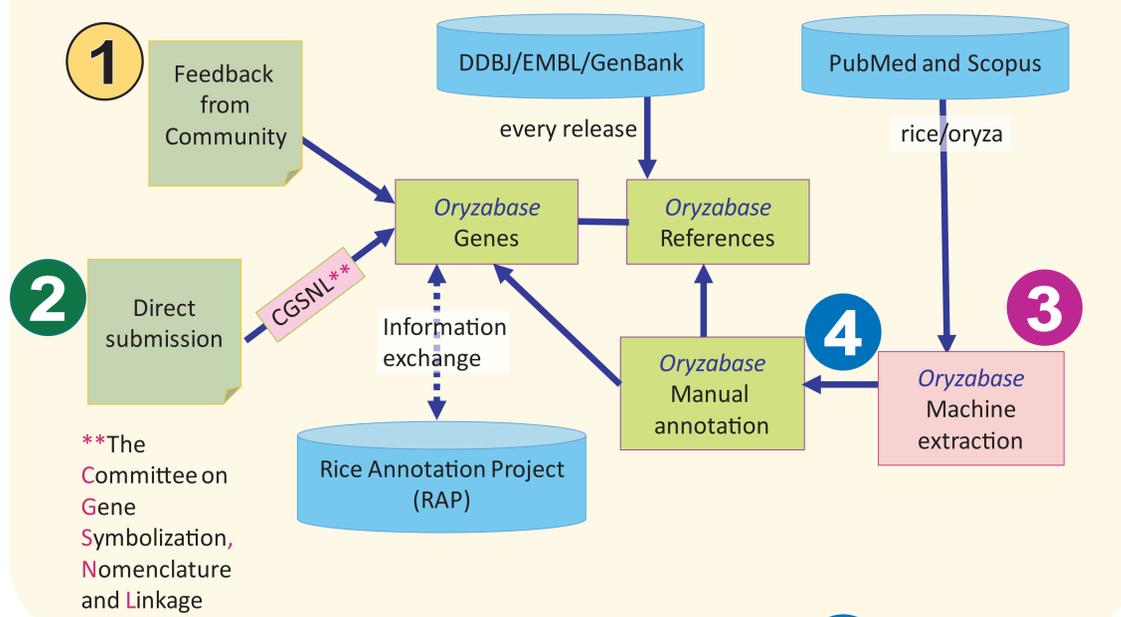
In addition to maintaining a rice gene list, Oryzabase, a database of rice science, has also been hosting a website to submit newly identified genes. The current rice gene dictionary is based on a traditional rice trait gene dictionary and extended through time with new genes which are manually retrieved from journal articles. Currently over 4000 genes are listed. However it is still insufficient in both quantity and quality.

Recently we started to apply automated extraction before manual annotation to enhance the efficiency of gene extraction. To improve the quality of information, we started collecting relevant DNA accessions and LOCUS-ID. In Oryzabase, we try to employ the help of users to overcome this information insufficiency by adding a comment box in each gene page to allow researchers to write additional information. Besides adding GO (gene ontology) and TO (trait ontology) to the genes, PO (plant ontology) has been newly assigned to enable better semantic query processing. The current status of gene extraction and ontology assignment and its related problems will be introduced.

## Oryzabase

<http://www.shigen.nig.ac.jp/rice/oryzabase/>

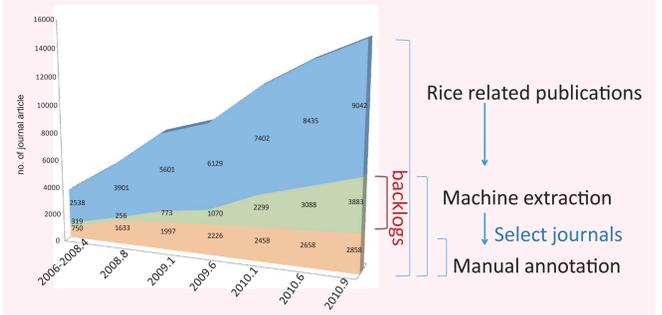
### Oryzabase gene annotation flow



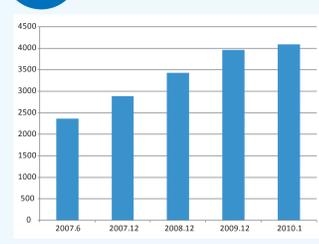
### 2 gene submission system

Collected 55 genes from direct submission (2009.1-2010.10)

### 3 machine extraction followed by manual annotation



### 4 Annual number of new genes collected by Oryzabase



### Gene page

**1** Collected additional information of 10 genes from this box (2009.12-2010.10)

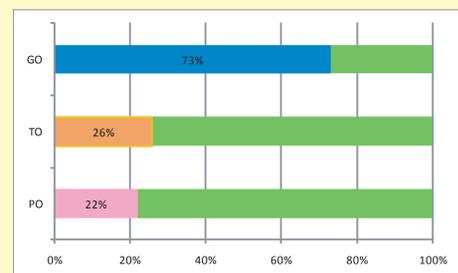
**1** Feedback to a gene

PO  
cDNA accession  
LocusID

GO  
TO

### Current status of Ontology assignment

Total 4094 trait genes  
2983 genes relate to GO.  
1074 genes relate to TO.  
919 genes relate to PO.



### New Genome Viewer

#### shigen browse

Oryza sativa japonica cultivar-group Nipponbare

Clicking on the following chromosomes will show the map of each chromosome.

#### Map Tool

You can draw maps of the Rice genome. Please input a list of locus names (i.e. AK059290). The list should contain one locus name per line.