KBase
PREDICTIVE BIOLOGY

Plant Science

KBase hosts a suite of resources, Apps, and workflows designed specifically to explore plant genomics data. We also give you the ability to easily explore and model plant-microbe interactions. Visit kbase.us to learn more about how KBase can enhance your plant science research!

KBase has Plant Science...

Data

Access data from both JGI's Phytozome and MycoCosm that you can then easily analyze within a Narrative. Build metabolic models of your organism or with data from PlantSEED.

Apps

Use Apps to run quality control on reads, annotate plant transcripts with metabolic functions, group orthologous proteins from multiple genomes, analyze differential expression, build gene trees, and more!
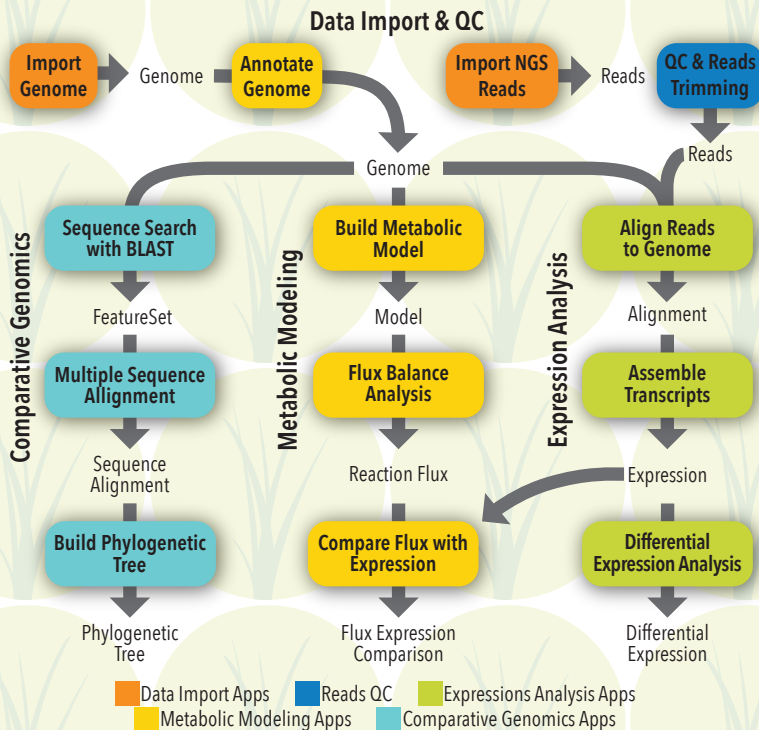
Workflows

Create your own workflows by combining Apps or follow various tutorials to identify gene families, model plant-microbe metabolic interactions, analyze RNA-seq data, and explore the PlantSEED database in KBase.

Resources

Follow our Narrative Tutorial to learn how to use the RNA-seq Pipeline. KBase provides reference guided RNA-seq pipelines for microbial, fungal, and plant genomes obtained from the Illumina platform.

Plant Genomics Workflows in KBase

Data Import & QC

Import Genome → Genome → **Annotate Genome**

Import NGS Reads → Reads → **QC & Reads Trimming**

Genome

Reads

Comparative Genomics

Sequence Search with BLAST → FeatureSet → **Multiple Sequence Allignment** → Sequence Alignment → **Build Phylogenetic Tree** → Phylogenetic Tree

Metabolic Modeling

Build Metabolic Model → Model → **Flux Balance Analysis** → Reaction Flux → **Compare Flux with Expression** → Flux Expression Comparison

Expression Analysis

Align Reads to Genome → Alignment → **Assemble Transcripts** → Expression → **Differential Expression Analysis** → Differential Expression

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- **Data Import Apps**
- **Reads QC**
- **Expressions Analysis Apps**
- **Metabolic Modeling Apps**
- **Comparative Genomics Apps**

Visit these links to explore our Plant Science capabilities!

Do you have questions, comments, or want to collaborate? Reach out!

engage@kbase.us

Connect with us on Twitter by following

@DOEKBase