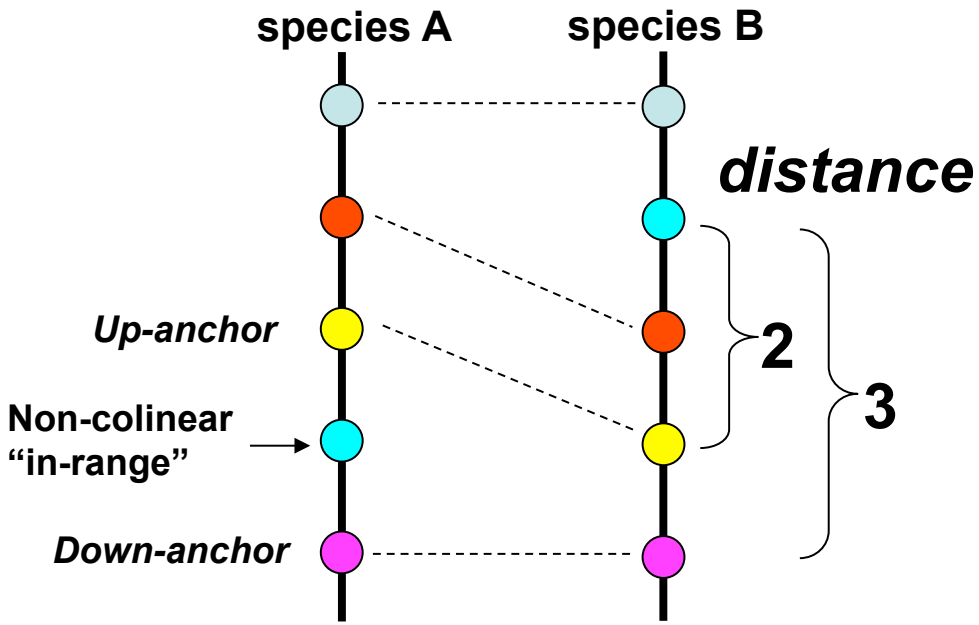
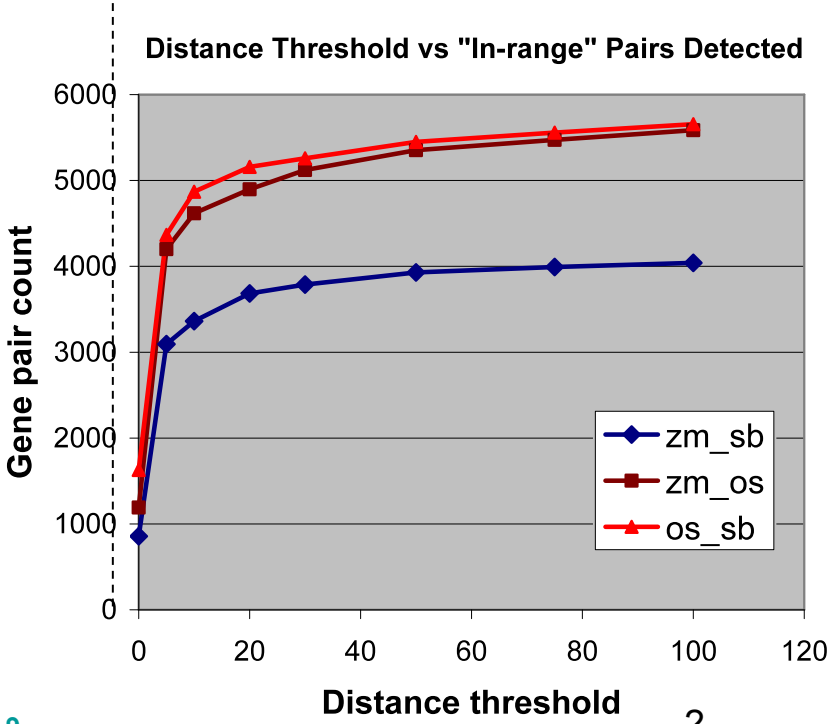
Aim1 Objectives

- Proposal: Evaluate WGA data in reference to gene-level synteny (based on colinear orthologs).
  - Find missing annotations, conserved non-coding, nature of rice “hypothetical” genes, signatures of moved genes.
- Curate incoming genomes with respect to annotation.
  - Develop generic attribute tags to describe low-confidence genes
  - E.g. MSU6 56.7 K loci, 16 K TE, 11 K “hypothetical”

Prior year accomplishment: Synteny Detection Method

- Method developed for maize (Science paper).
- Reduced to practice as Gramene Runnables and DB by Zhenyuan (Jerry) Lu
- All ortholog pairs (from Compara) => assign numeric order
- DAGchainer* to find colinear chains (minimum length of 5 genes and no more than 10 genes intervening 2 neighbors)
- Add “in-range” pairs based on proximity to nearest colinear anchors

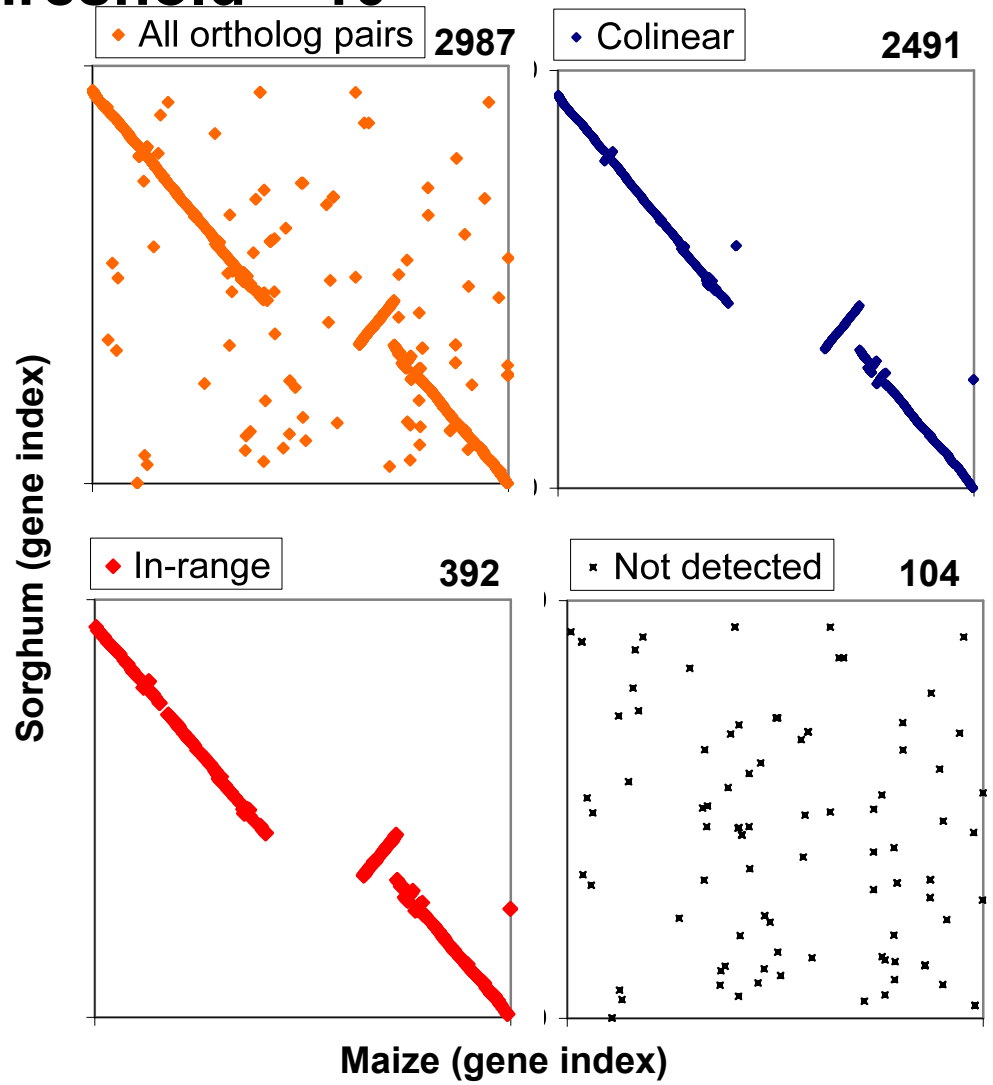




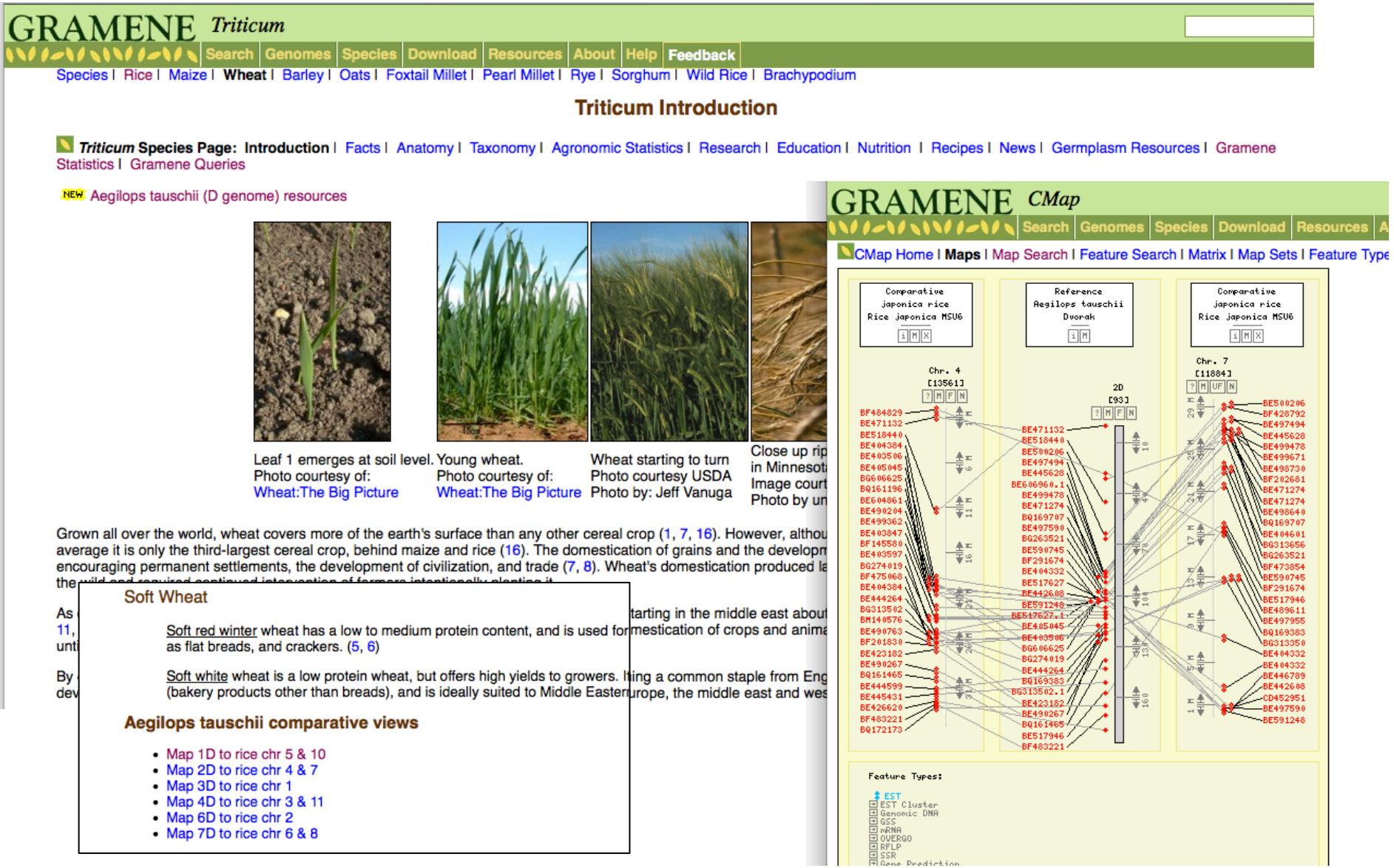
*Haas BJ, et al. Bioinformatics. 2004 Dec 12;20(18):3643-6. Epub 2004 Jul 9.

Example: Maize Chr. 1 vs Sorghum Chr. 1

Distance Threshold = 10

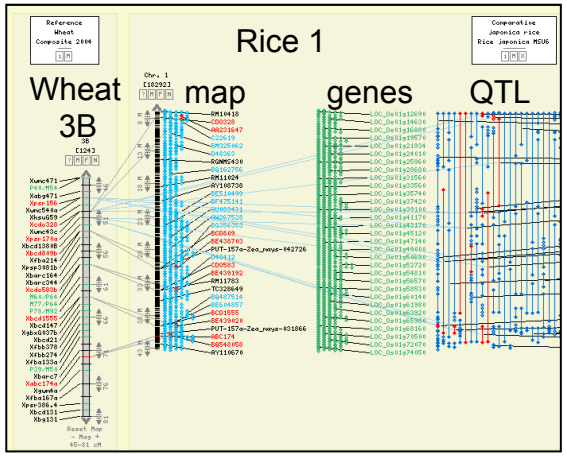


Preconfigured links added to Wheat species page to enter relevant Cmap views



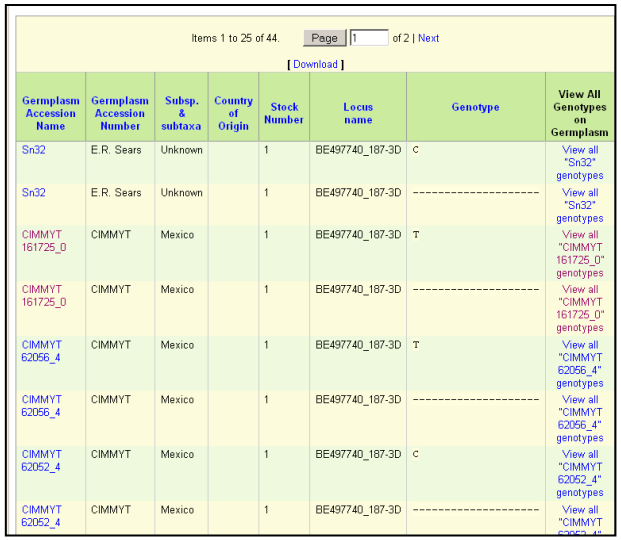
Missing Links:
Find Genes and Variation Data for wheat Via Rice Synteny

Genetic interval of interest



Need links to facilitate

SNP Markers



Items 1 to 25 of 44. Page 1 of 2 | Next

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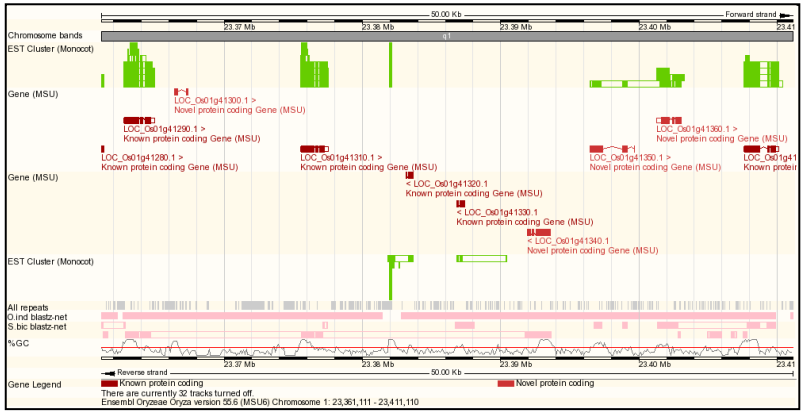
Germplasm Accession Name	Germplasm Accession Number	Subsp. & subtaxa	Country of Origin	Stock Number	Locus name	Genotype	View All Genotypes on Germplasm
Sn32	E.R. Sears	Unknown		1	BE497740_187-3D	C	View all "Sn32" genotypes
Sn32	E.R. Sears	Unknown		1	BE497740_187-3D	----------	View all "Sn32" genotypes
CIMMYT 161725_0	CIMMYT	Mexico		1	BE497740_187-3D	T	View all "CIMMYT 161725_0" genotypes
CIMMYT 161725_0	CIMMYT	Mexico		1	BE497740_187-3D	----------	View all "CIMMYT 161725_0" genotypes
CIMMYT 62056_4	CIMMYT	Mexico		1	BE497740_187-3D	T	View all "CIMMYT 62056_4" genotypes
CIMMYT 62056_4	CIMMYT	Mexico		1	BE497740_187-3D	----------	View all "CIMMYT 62056_4" genotypes
CIMMYT 62052_4	CIMMYT	Mexico		1	BE497740_187-3D	C	View all "CIMMYT 62052_4" genotypes
CIMMYT 62052_4	CIMMYT	Mexico		1	BE497740_187-3D	----------	View all "CIMMYT

Wheat EST

Rice Browser



- http://www.gramene.org/db/cmap/viewer?data_source=Build30;session_id=3c705f187ed4d10d254897703ea7463b;step=6;session_mod=start=1=grjp2009a-1=7000000;
- http://www.gramene.org/Oryza_sativa/Location/View?r=1:23361111-23411110;time=1262729945075.075
- http://www.gramene.org/db/diversity/diversity_view?action=show_allele_data&div_experiment_id=1&cdv_marker_id=24&db_name=diversity_wheat