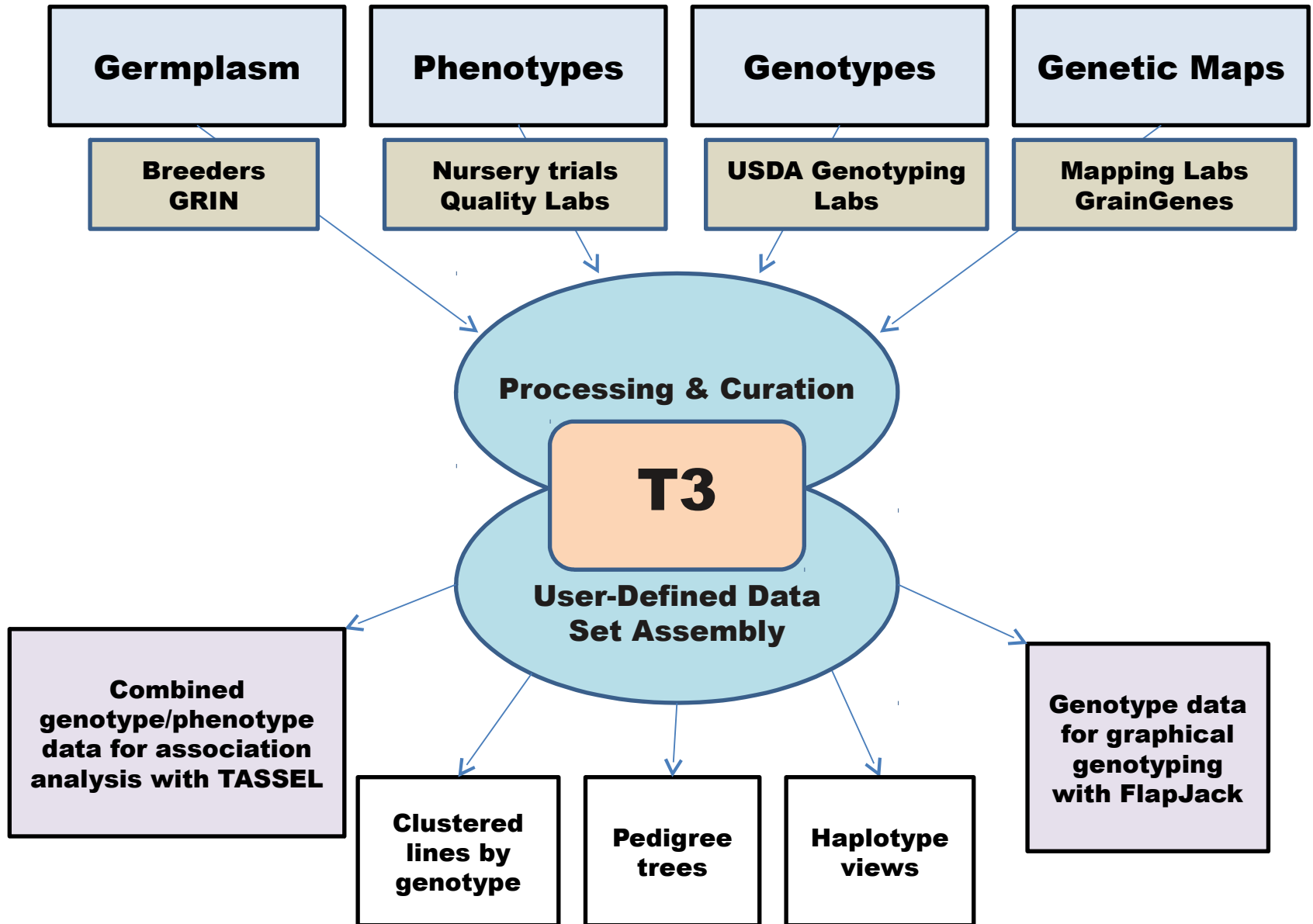


T3 Input / Output



T3 is Two Independent Databases for Barley and Wheat to support the T-CAP project

Barley

triticeaetoolbox.org/barley

Database is a continuation of The Hordeum Toolbox (THT), developed for the Barley CAP project (2006-2010)

Genotype Data

- > 13.5M BOPA datapoints from THT
- > 16 M datapoints from Infinium 9K analysis of the Barley Core Collection

Phenotype Data

- > 100K datapoints from THT

Blue/Purple color scheme

Wheat

triticeaetoolbox.org/wheat

Database is new, built on the THT model

Genotype Data

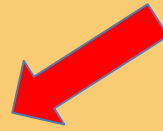
- > 24.5 M datapoints from Infinium 9K analysis of the Wheat Core Collection and WOPA datapoints from the US breeding collection.

Phenotype Data

- ~4K datapoints from a Stripe Rust assay on the Wheat Core Collection

Red/Orange color scheme

The Triticeae Toolbox

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Quick Links

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\(Tassel format\)](#)[Download Genotype
\(Flapjack format\)](#)[Overview](#)[CAP Data Programs](#)[Content Status](#)[Acknowledgments](#)[Terms of Use](#)

Toolbox (T3)

generated by the [Triticeae Coordinated Agricultural Project \(T-CAP\)](#), funded by the National Institute for Food and Agriculture, United States Department of Agriculture ([USDA](#)). T3 contains SNP, phenotypic, and pedigree data from wheat and barley in the CAP. [More...](#)

Participants: The templates for submitting your data about phenotype trials, phenotype results, and the lines tested are here.

[Data submission](#)

Search Type

<input type="text" value="Search by Breeding Program"/>	All experiments containing data from the program's lines
<input type="text" value="Search by Trait"/>	All experiments that measure the trait
<input type="text" value="Search by Year"/>	All experiment data from the selected year

T3wheat Data Submission Report 2012-09-06

[Download tables to MS Excel](#)

Trials

Phenotype Trials submitted	<u>160</u>
Genotype Trials submitted	<u>31</u>
CAP data programs	5

Lines

Line records	<u>5812</u>
Breeding programs	23
Lines with genotyping data	<u>4892</u>
Lines with phenotype data	<u>5225</u>
Species	aestivum durum other
last addition	09-06-2012

Genotype Data

Markers SNP	<u>9505</u>
Markers SSR	<u>106</u>
Markers with genotyping data	7123
Markers without genotyping data	<u>2488</u>
Total genotype data	<u>25,778,672</u>
last addition	08-07-2012

Phenotype Data

Traits	<u>78</u>
Total phenotype data	<u>127228</u>
last addition	09-04-2012

T3barley Data Submission Report 2012-09-06

[Download tables to MS Excel](#)

Trials

Phenotype Trials submitted	<u>388</u>
Genotype Trials submitted	<u>98</u>
CAP data programs	23

Lines

Line records	<u>13515</u>
Breeding programs	16
Lines with genotyping data	<u>10913</u>
Lines with phenotype data	<u>6185</u>
Species	barley
last addition	08-20-2012

Genotype Data

Markers OPA SNP Name	<u>4608</u>
Markers DArT Marker	<u>722</u>
Markers Historical	<u>279</u>
Markers SNP	<u>5032</u>
Markers GBS	<u>55782</u>
Markers with genotyping data	8942
Markers without genotyping data	<u>57481</u>
Total genotype data	<u>33,093,296</u>
last addition	03-14-2012

Phenotype Data

Traits	<u>71</u>
Total phenotype data	<u>225334</u>
last addition	08-30-2012

Trait Descriptions

Agronomic	Ontology	Description	Min Value	Max Value	Unit	Unit info
<u>grain yield</u>	<u>TO:0000396</u>	The grain yield, measured in kilograms per hectare at 14 percent moisture.	0	20000	kg ha -1	
<u>head drop (0-9)</u>	<u>TO:0020077</u>	0-9 rating scale	0	9	Head drop rating scale	head drop rating scale (0-9)
<u>head shattering</u>	<u>TO:0000473</u>	head shattering percent	0	100	percent	
<u>heading date</u>	<u>TO:0000137</u>	Number of days required for 50% of the heads to emerge completely from the boot.	0	250	days from planting	
<u>lodging</u>	<u>TO:0000068</u>	Measure of percentage of plants that lodged.	0	100	percent	
<u>plant height</u>	<u>TO:0000207</u>	Actual measurement of plant height from soil surface to the highest point in plant as identified in the study.	0	150	centimeter	
<u>spikes per area</u>		Number of flowering stems per given area	0	1000	spikes	flowering heads
<u>straw breakage</u>		Measure of percentage of plants with broken straw	0	100	percent	
Disease	Ontology	Description	Min Value	Max Value	Unit	Unit info
<u>BYD Rating (0-8)</u>	<u>TO:0020067</u>	Rating from 0-8 in the field indicating percentage of plants showing foliar discoloration/stunting; 0 = no symptoms, 1 = > 0-3%, 2 = 4-14%, 3 = 15-29%, 4 = 30-49%, 5 = 50-69%, 6 = 70-84%, 7 = 85-95%, 8 = 96-100%	0	8	Disease Rating 0-8	
<u>CRR Severity</u>	<u>TO:0020058</u>	Common root rot is a fungal disease of barley caused by Cochliobolus sativus, Fusarium culmorum and F. graminearum	0	100	percent	
<u>DON</u>	<u>TO:0000669</u>	Levels of the mycotoxin deoxynivalenol (DON)	0	200	parts per million	
<u>FHB Incidence</u>	<u>TO:0000662</u>	Fusarium Head Blight (FHB) Incidence is reported as the percentage of the number of spikes out of 10 that had at least one infected kernel.	0	100	percent	



Current T3 Team

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Mark Sorrells Cornell University, Ithaca, NY Project coordinator
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Peter Bradbury USDA-ARS, NAA, RWHCAH, Ithaca, NY Pedigree information and links to TASSEL
Mike Bonman USDA-ARS, Aberdeen, ID GRIN collaboration
Harold Bockelman USDA-ARS, Aberdeen, ID GRIN collaboration
Tim Close Botany and Plant Sciences, UC Riverside. Assembly and SNP context information from HarVEST
 barley

T3 CAP Participants throughout the U.S.A - Data Collection and Contribution

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Roger P. Wise USDA-ARS Department of Plant Pathology, Iowa State University. Principal Investigator

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Shreyartha Mukherjee Bioinformatics and Computational Biology, Iowa State University. Developer/Bioinformatics

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Gavin Monroe Software Engineering, Iowa State University Developer

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Collaborators

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