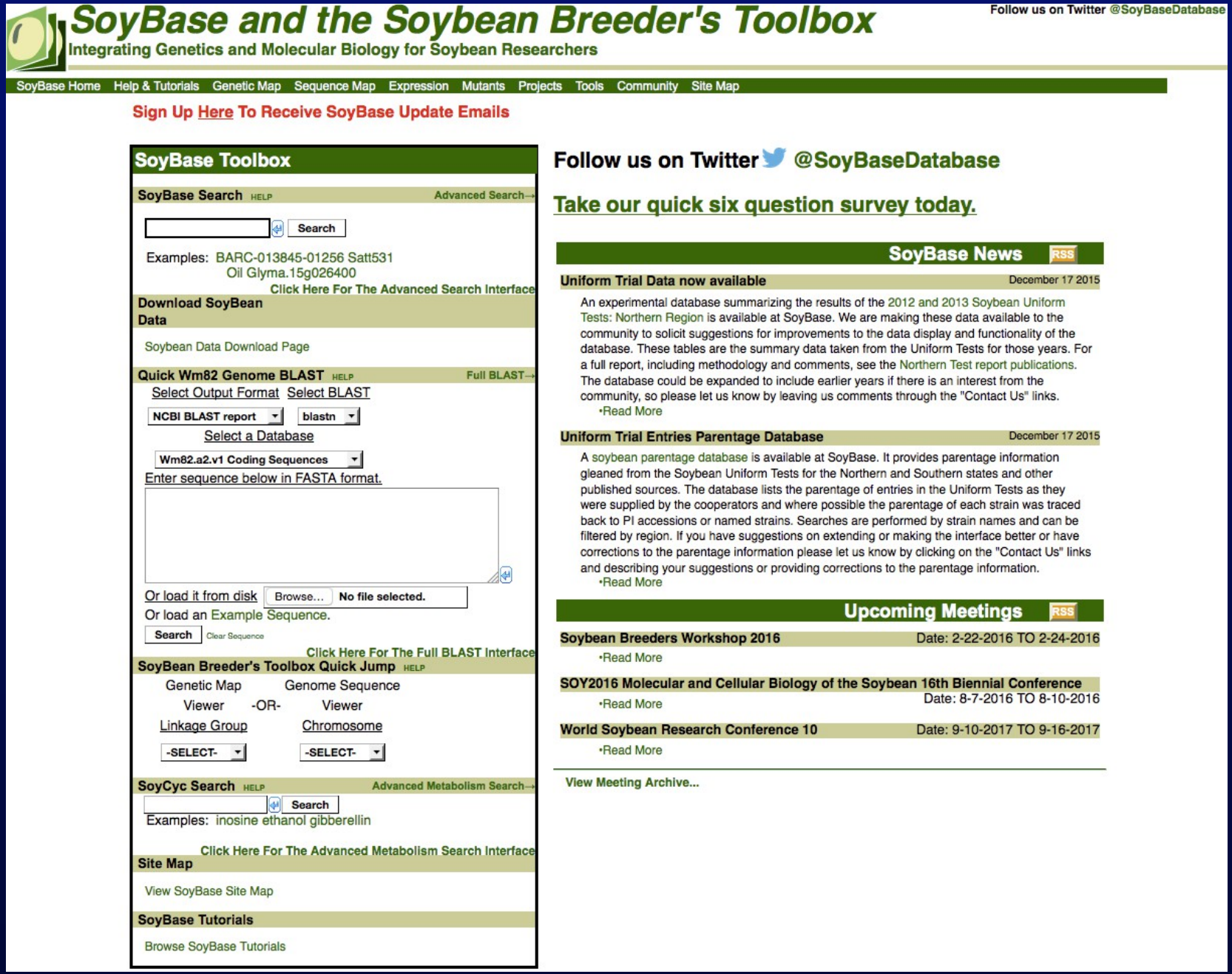
SoyBase, the USDA-ARS Soybean Genetics and Genomics Database

David Grant

Vickie Carollo Blake
Kevin Feeley
Rex Nelson
Nathan Weeks
Steven B. Cannon


SoyBase and the Soybean Breeder's Toolbox
Integrating Genetics and Molecular Biology for Soybean Researchers
Follow us on Twitter @SoyBaseDatabase
SoyBase Home Help & Tutorials Genetic Map Sequence Map Expression Mutants Projects Tools Community Site Map
Sign Up Here To Receive SoyBase Update Emails
SoyBase Toolbox
SoyBase Search HELP
Advanced Search→
Search
Examples: BARC-013845-01256 Satt531
Oil Glyma.15g026400
Click Here For The Advanced Search Interface
Download SoyBean Data
Soybean Data Download Page
Quick Wm82 Genome BLAST HELP
Full BLAST→
Select Output Format Select BLAST
NCBI BLAST report
blastn
Select a Database
Wm82.a2.v1 Coding Sequences
Enter sequence below in FASTA format.
Or load it from disk
Browse...
No file selected.
Or load an Example Sequence.
Search
Clear Sequence
Click Here For The Full BLAST Interface
SoyBean Breeder's Toolbox Quick Jump HELP
Genetic Map Viewer
-OR-
Genome Sequence Viewer
Linkage Group
Chromosome
-SELECT-
-SELECT-
SoyCyc Search HELP
Advanced Metabolism Search→
Search
Examples: inosine ethanol gibberellin
Click Here For The Advanced Metabolism Search Interface
Site Map
View SoyBase Site Map
SoyBase Tutorials
Browse SoyBase Tutorials
Follow us on Twitter @SoyBaseDatabase
Take our quick six question survey today.
SoyBase News RSS
Uniform Trial Data now available
December 17 2015
An experimental database summarizing the results of the 2012 and 2013 Soybean Uniform Tests: Northern Region is available at SoyBase. We are making these data available to the community to solicit suggestions for improvements to the data display and functionality of the database. These tables are the summary data taken from the Uniform Tests for those years. For a full report, including methodology and comments, see the Northern Test report publications. The database could be expanded to include earlier years if there is an interest from the community, so please let us know by leaving us comments through the "Contact Us" links.
•Read More
Uniform Trial Entries Parentage Database
December 17 2015
A soybean parentage database is available at SoyBase. It provides parentage information gleaned from the Soybean Uniform Tests for the Northern and Southern states and other published sources. The database lists the parentage of entries in the Uniform Tests as they were supplied by the cooperators and where possible the parentage of each strain was traced back to PI accessions or named strains. Searches are performed by strain names and can be filtered by region. If you have suggestions on extending or making the interface better or have corrections to the parentage information please let us know by clicking on the "Contact Us" links and describing your suggestions or providing corrections to the parentage information.
•Read More
Upcoming Meetings RSS
Soybean Breeders Workshop 2016
Date: 2-22-2016 TO 2-24-2016
•Read More
SOY2016 Molecular and Cellular Biology of the Soybean 16th Biennial Conference
Date: 8-7-2016 TO 8-10-2016
•Read More
World Soybean Research Conference 10
Date: 9-10-2017 TO 9-16-2017
•Read More
View Meeting Archive...

SoyBase Site Map and Navigation

SoyBase Site Map

Table of Contents

- SoyBase Home Page and Toolbox
- Genetic and Physical Map Resources
- Sequence Map Resources
- Anaylsis Tools
- Community Resources
- SoySeq Expression Atlas
- Mutant Populations
- Download SoyBase Data

SoyBase Home Page and Toolbox

Quickly Search All of SoyBase (in SoyBase Toolbox)
Advanced Search Page
Tools for extracting and downloading all or subsets of the data in SoyBase
- Download genetic map coordinates for selected features
- Download sequences for genetic loci
- Convert Wm82.a1.v1.1 Gene Model Names to Wm82.a2.v1 Names
- Download genome sequence coordinates for selected features
- Download genome sequence coordinates for selected features by chromosome
- Download genome or predicted protein sequence for gene calls
- Download annotations for selected gene calls
- Download gene model flanking sequence
- Download gene model 3' and 5' UTR sequences
- Download SoySNP50K Data
- External Data Sources

BLAST sequence similarity search
- Quick BLAST Against Wm82.a2 Genome Sequence (in SoyBase Toolbox)
- Advanced SoyBase BLAST Page

SoyCyc Soybean Metabolic Enzyme Database
- Quick SoyCyc Search (in SoyBase Toolbox)

Quick Jump to a Linkage Group in Genetic Maps (in SoyBase Toolbox)
Quick Jump to a Chromosome in Sequence Browser (in SoyBase Toolbox)
- Description of New Genome Nomenclature

Soybean Growth and Developmental Ontologies
Soybean Sequence Data and Literature
Soybean Community Resources
- SoyBase News
- Meeting Announcements
- Community Job Announcements

About SoyBase and Soybeans
How to Cite SoyBase
Submit Your Data to SoyBase
Contact SoyBase

Selected Examples of Data Sets and Tools

- SoyNAM Project
- Variety Announcements
- Pedigrees for Selected Cultivars
- Uniform Test Data
- GRIN Descriptor Data
- SNP Haplotype Viewer
- Milestones Sequencing Project
- Expression andMethylation Data
- Submitting Data to SoyBase

SoyNAM Project Page

Nested Association Mapping (NAM) of Genes Controlling Soybean Yield and Other Key Traits

Our goal is to improve the yield potential of soybean varieties. To this end we have mapped the chromosomal locations of genes that control yield and other important agronomic traits in both domestic and exotic germplasm using a Nested Association Panel composed of 40 important soybean varieties and cultivars crossed to a common hub parent. Further details about the SoyNAM Project are avaliable. Funding was provided by the North Central Soybean research Program (NCSRP) and the United Soybean Board (USB).

NAM Parents

140 Recombinant Inbred Lines (RILs) were developed from each cross between the NAM parents and IA3023.

Click on a NAM Parent for details about that Population.

High Yielding Lines	Lines With Diverse Ancestry	PIs With High Yields in Drought	Hub Parent
4J105-3-4	LG03-2979	PI 398881	IA3023
5M20-2-5-2	LG03-3191	PI 427136	
CL0J095-4-6	LG00-3372	PI 437169B	
CL0J173-6-8	LG04-4717	PI 507681B	
HS6-3976	LG04-6000	PI 518751	
LD00-3309	LG05-4292	PI 561370	
LD01-5907	LG05-4317	PI 404188A	
LD02-4485	LG05-4464	PI 574486	
LD02-9050	LG05-4832		
Magellan	LG90-2550		
Maverick	LG92-1255		
NE3001	LG94-1128		
Prohio	LG94-1906		
S06-13640	LG97-7012		
Skylla	LG98-1605		
TN05-3027			
U03-100612			

You can also browse through images of the populations with our image browser.

View Results of Analyses

Coming Soon

See SoyNAM QTL in SoyBase sequence browser

See SoyNAM QTL in SoyBase genetic maps

Download Data

Click here to see the distribution in the soybean genome of the SoyNAM SNPs.

Click here to download the phenotypic data for all SoyNAM Populations.

Click here to download the SNP haplotypes for all 40 SoyNAM Populations.

Request Seed

Click here to request Parent seed.
Click here to request RIL seed.

SoyNAM Parent Report

SoyNAM Population NAM40

NAM Parent PI 398881

Parent Pedigree View record at ars-grin.gov

Maternal x Paternal Cross IA3023 x PI 398881

F1 Seed Source Jim Specht - Univ. of Nebraska

Field Images of Parent

Early

Late

View all images in the image browser.

Parent Descriptors

Stem Type: I
Flower Color: P
Pubescence Color: T
Pod Color: Br
Seed Coat Luster: D
Seed Coat Color: Y
Hilum Color: Bl

Population Phenotype Data

Replicated trials were used to measure yield, maturity, plant height,... for the NAM Parents and RILs.

Click here to download the phenotypic data for this SoyNAM Population.

Click here to download SNP haplotypes for this SoyNAM Population.

Request Seed

Click here to request Parent and/or RIL seed for this SoyNAM Population

SoyNAM Parent Image Browser

TN05-3027

5M20-2-5-2

CL0J173-6-8

Prohio

LD01-5907

TN05-3027

Add to comparison cart

Comparison Cart

Information about TN05-3027

Parent Name: TN05-3027
Block: x
Entry: Ent01
NAM Number: NAM02
NAM Population Name: NAM02
NAM Population Pedigree: TN05-3027 x IA3023
F1 Seed Source: Vince Pantalone - Univ. of Tennesee

Descriptors

Stem Type: I
Flower Color: W
Pubescence Color: G
Pod Color: Br
Seed Coat Luster: I
Seed Coat Color: Y
Hilum Color: Bf

Field Planting Guide

Row# ↓	<100 ft> 1	2	3	4	5	6	7	8	<100 ft> 9	10	11	12	13	14	15	16	Tier # ←
1	Ent01 - NAM02 - TN05-3027								Ent02 - NAM03 - 4J105-3-4								
2	Ent03 - NAM04 - 5M20-2-5-2								Ent04 - NAM05 - CL0J095-4-6								
3	Ent05 - NAM06 - CL0J173-6-8								Ent06 - NAM08 - HS6-3976								
4	Ent07 - NAM09 - Prohio								Ent08 - NAM10 - LD00-3309								
5	Ent09 - NAM11 - LD01-5907								Ent10 - NAM12 - LD02-4485								
6	Ent11 - NAM13 - LD02-9050								Ent12 - NAM14 - Magellan								
7	Ent13 - NAM15 - Maverick								Ent14 - NAM17 - S06-13640								
8	Ent15 - NAM18 - NE3001								Ent16 - NAM22 - Skylla								
9	Ent17 - NAM23 - U03-100612								Ent18 - NAM24 - LG03-2979								
10	Ent19 - NAM25 - LG03-3191								Ent20 - NAM26 - LG04-4717								
11	Ent21 - NAM27 - LG05-4292								Ent22 - NAM28 - LG05-4317								
12	Ent23 - NAM29 - LG05-4464								Ent24 - NAM30 - LG05-4832								
13	Ent25 - NAM31 - LG90-2550								Ent26 - NAM32 - LG92-1255								
14	Ent27 - NAM33 - LG94-1128								Ent28 - NAM34 - LG94-1906								
15	Ent29 - NAM36 - LG97-7012								Ent30 - NAM37 - LG98-1605								
16	Ent31 - NAM38 - LG00-3372								Ent32 - NAM39 - LG04-6000								
17	Ent33 - NAM40 - PI 398881								Ent34 - NAM41 - PI 427136								

Variety Release Announcements

Variety Release Notices

Variety Name	Description	Date
CM422	CM422, a conventional MG V soybean with resistance to soybean rust (Rpp4), Phytophthora root rot (Rps1k), and stem canker.	2014-11-17
DB04-10836	DB04-10836 is a high yielding selection with resistance to SCN race 3 and moderate resistance to southern root-knot nematode. DB04-10836 also has resistance to southern stem canker.	2015-05-15

Interested in seeing your variety release announcement here?
Fill out and return this Excel spreadsheet.

Questions or comments? Contact Us

Variety Release Announcements

	A	B	C	D	E	F	G	H
1	**Soybase Variety Release Worksheet V1.1**							
2								
3	Send this completed form along with any additional files by email to the SoyBase Curator (david.grant@ars.usda.gov)							
4	Note: Items in yellow are mandatory							
5								
6	Variety Name:							
7								
8								
9	Full Description:							
10								
11								
12	Author(s):	(Names of the authors of the release -- name is mandatory, contact info optional)						
13	Name	Address	Phone Number	Email				
14								
15								
16	Variety Parentage:	(The maternal and paternal parentage information)						
17	Maternal	Paternal						
18								
19								
20	Contact for information and Seed requests:			(Contact information for further information and/or seed reqests)				
21	Name	Address	Phone Number	Email				
22								
23								
24	URL(s):	(URLs for release notices or Journal articles)						
25	URL 1							
26								
27								
28	Additional File(s):	(e.g. a PDF of the announcement, etc;)						
29	Filename 1							
30								

Variety Release Announcements

Variety Release Notices

←Back

Variety Name: CM422

CM422 is a maturity group V high-yielding cultivar with resistance to Asian soybean rust (ASR). Resistance to ASR was derived from PI 459025 via L87-0482 (PI 547879). This is the first southern US cultivar release with Rpp4 resistance to ASR. CM422 originated as a single F6 plant derived from the cross 5601T x L87-0482. 5601T was derived from the cross Hutcheson x TN89-39. L97-0482 was derived from Williams 82 x PI 459025. The cross of 5601T x L87-0482 was made at Stoneville, MS in 2004. CM422 was tested for three years (2009-2011) in Paraguay across 13 environments and across 12 environments in 2010 and 2011.

Authors

J.R. Smith
J.D. Ray
R. Frederick
A. Mengistu
A. Morel
W. Morel
E. Rodriquez

Germplasm Release Documents

CM422-1.pdf

To order seed, contact:

J.R. Smith (Rusty.Smith@ars.usda.gov)
141 Experiment Station Rd, Stoneville, MS

SoyBase Pedigree Tool

View Uniform Field Trial Data Here

Uniform Soybean Tests Parentage Information

The soybean parentage information in this database was partially gleaned from the Uniform Soybean Tests for the Southern and Northern regions as well as other sources such as USDA technical bulletins, variety registrations and PVP applications. The strains that appear here were part of the uniform trials and not the preliminary trials. In most cases, the pedigree of individual strains was followed back to named strains in both maternal and paternal lineages where possible. In some cases, the parentage of strains was not specified by the cooperators in the tests. In those cases the maternal and paternal parents are labeled as "Unspecified". In some cases, the actual parental information is partially or completely unknown. In those cases the unknown parentages is labeled with "Unknown". When available, synonyms for the strains were also collected. If a strain was named its PI number was also included as a synonym. In cases where the strain was found to be covered by PVP protection, the PVP registration number was also included. Because this list was based on participants in the Soybean Uniform Trials, not all named soybean strains are listed. For a complete list of named strains the user should consult GRIN.

To find the immediate parents of a line or cultivar tested in the Uniform Soybean Tests, type the cultivar name or strain indentifier in the box below.

Find Line: Search

To limit the list below to either Northern or Southern strains, choose a region.

Limit by Region: All Tests Limit by Test ?

Looking for a specific strain or cultivar?
Browse Full Alphabetical List of All Strains

Records

Cultivar	Synonyms	Maternal Parent X Paternal Parent
(HC)Gnome	Gnome 85	Gnome (6) **X** Williams 82
0351-29		Unspecified **X** Unspecified
052-903		Unspecified **X** Unspecified
059-903	PI 438471	Introduction
0D032-3118		Unspecified **X** Unspecified
11-54-132		M10 **X** Capital
11-54-240		(Lincoln (2) x Richland) **X** Korean

SoyBase Pedigree Tool

To find the immediate parents of a line or cultivar tested in the Uniform Soybean Tests, type the cultivar name or strain indentifier in the box below.

Find Line: Williams 82 Search Reset

To limit the list below to either Northern or Southern strains, choose a region.

Limit by Region: All Tests Limit by Test ?

Reset

Looking for a specific strain or cultivar?

Browse the W Section of Alphabetical Strain List

Browse Full Alphabetical List of All Strains

Record for Cultivar Williams 82

Cultivar	Synonyms	Maternal Parent X Paternal Parent	Comment	Google Search (New Window)
Williams 82	PI 518671 L24A	Williams (7) **X** Kingwa		Scour Google For This Line

Records Containing Williams 82

Cultivar	Synonyms	Maternal Parent X Paternal Parent	Comment
(HC)Gnome	Gnome 85	Gnome (6) **X** Williams 82	
A Elgin BC	PI 518666 Elgin 87	Elgin (5) **X** Williams 82	PVP 8800086
A Hardin BC(k)		Hardin (5) **X** Williams 82	
A Harper BC	PI 518667 Harper 87	Harper (6) **X** Williams 82	PVP 8800087
ABSR 101BC	PI 546487 Archer	(BSR 101 (5) x Williams 82) **X** [BSR 101 (5) x (Harosoy x Altona)]	PVP 9100040
AHW-Pella BC	PI 509044 Pella 86	Pella (5) **X** Williams 82	
Amcor 89	PI 546375	Amcor **X** Williams 82	
Archer	PI 546487 ABSR 101BC BSR 101BC	(Williams 82 x BSR 101) **X** (PRX 54-59 x BSR 101)	PVP 9100040, See PI 546487 for parentage explaination
Asgrow A2234	A2234	(Calland x Amsoy) **X** (Century (3) x Williams 82)	

Uniform Test Data

Uniform Test Data

This is an experimental display of the data in the Northern Uniform Tests for the years 2012 and 2013. It is designed to closely approximate the main results tabels in published reports for those years. The reader is encouraged to consult the reports for the Soybean Uniform Tests for the Northern and Southern Regions for the complete reports. To use this tool:

First Step

Choose the type of data you want to see (Strains and Parentage, Descriptive and Disease Data, Regional Summary, Yield, Yield Rank, Lodging, Plant Height, Seed Quality, Seed Size, Protein, Oil or Strain Description) by clicking on their text.

Second Step

Choose the maturity group and years to see by clicking on the radio buttons. The default is to see the parentage for maturity group 00 for all years.

Last Step

The last step is to click the text 'Set Maturity Group, Year, Strain'. The data will be sorted by strain and then by year for comparison. Not all strains were tested in both years so some strains will only have values in one year.

We are actively soliciting your suggestions for how to make this tool better. If you have suggestions, please contact us with your suggestions here.

Table of Contents

Strains and Parentage	Descriptive and Disease Data	Regional Summary	Yield (bu/a)	Yield Rank	Lodging (Score)	Plant Height (inches)	Seed Quality	Seed Size (g/100)	Protein (% by wt, 13% moisture)	Oil (% by wt, 13% moisture)	Strain Descriptions

Filter Reports By Maturity Group, Year and/or Strain

Select Maturity Group: (•) 0 ( ) I ( ) II ( ) III ( ) IV

Select Year: (•) ALL ( ) 2013 ( ) 2012

Select Strain: ALL [Set Maturity Group, Year, Strain]

Strains and Parentage for Maturity Group 0 for ALL years

Click to Download Data from this Table↓

Uniform Test Maturity Group 0, All Years

Year	Maturity Group	Strain	Parentage	Seed Source	Gen. Comp.	Unique Traits
2013	0	MN0071 (00)	Harmony X OT92-8	Orf	F5	
2012	0	MN0071 (00)	Harmony X OT92-8	Orf	F5	
2013	0	Cavalier	Sargent X ND96-1006	Helms	F4	
2012	0	Cavalier	Sargent X ND96-1006	Helms	F4	

Uniform Test Data

Table of Contents

Strains and Parentage	Descriptive and Disease Data	Regional Summary	Yield (bu/a)	Yield Rank	Lodging (Score)	Plant Height (inches)	Seed Quality	Seed Size (g/100)	Protein (% by wt, 13% moisture)	Oil (% by wt, 13% moisture)	Strain Descriptions

Filter Reports By Maturity Group, Year and/or Strain

Select Maturity Group: (•) 0 ( ) I ( ) II ( ) III ( ) IV

Select Year: (•) ALL ( ) 2013 ( ) 2012

Select Strain: ALL [Set Maturity Group, Year, Strain]

Yield (bu/a)

Click to Download Data from this Table↓

Uniform Test Maturity Group 0, All Years

Yield (bu/a)

Year	Maturity Group	Strain	Bristol, SD	Casselton, ND	Casselton, SD	Grand Bend, ND	Morris, MN	Ottawa, ONT	Rosemount, MN	St. Germain de-Grantham, QUE	St. Mathieu de-Beloeil, QUE	St. Pauls, ONT	Volga, SD	Watertown, SD	Woodstock, ONT
2012	0	Sheyenne (0)	35.6	70.0			37.9	27.2	45.6		94.1	66.6	45.3		52.7
2013	0	Sheyenne (0)		61.2			30.8	57.7	30.8		91.4	42.7	40.1	59.4	43.8
2012	0	MN1410 (I)	29.9												
2013	0	MN1410 (I)													
2012	0	Surge (L)	28.1												

Table of Contents

Strains and Parentage	Descriptive and Disease Data	Regional Summary	Yield (bu/a)	Yield Rank	Lodging (Score)	Plant Height (inches)	Seed Quality	Seed Size (g/100)	Protein (% by wt, 13% moisture)	Oil (% by wt, 13% moisture)	Strain Descriptions

Filter Reports By Maturity Group, Year and/or Strain

Select Maturity Group: (•) 0 ( ) I ( ) II ( ) III ( ) IV

Select Year: (•) ALL ( ) 2013 ( ) 2012

Select Strain: ALL [Set Maturity Group, Year, Strain]

Protein (% by wt, 13% moisture)

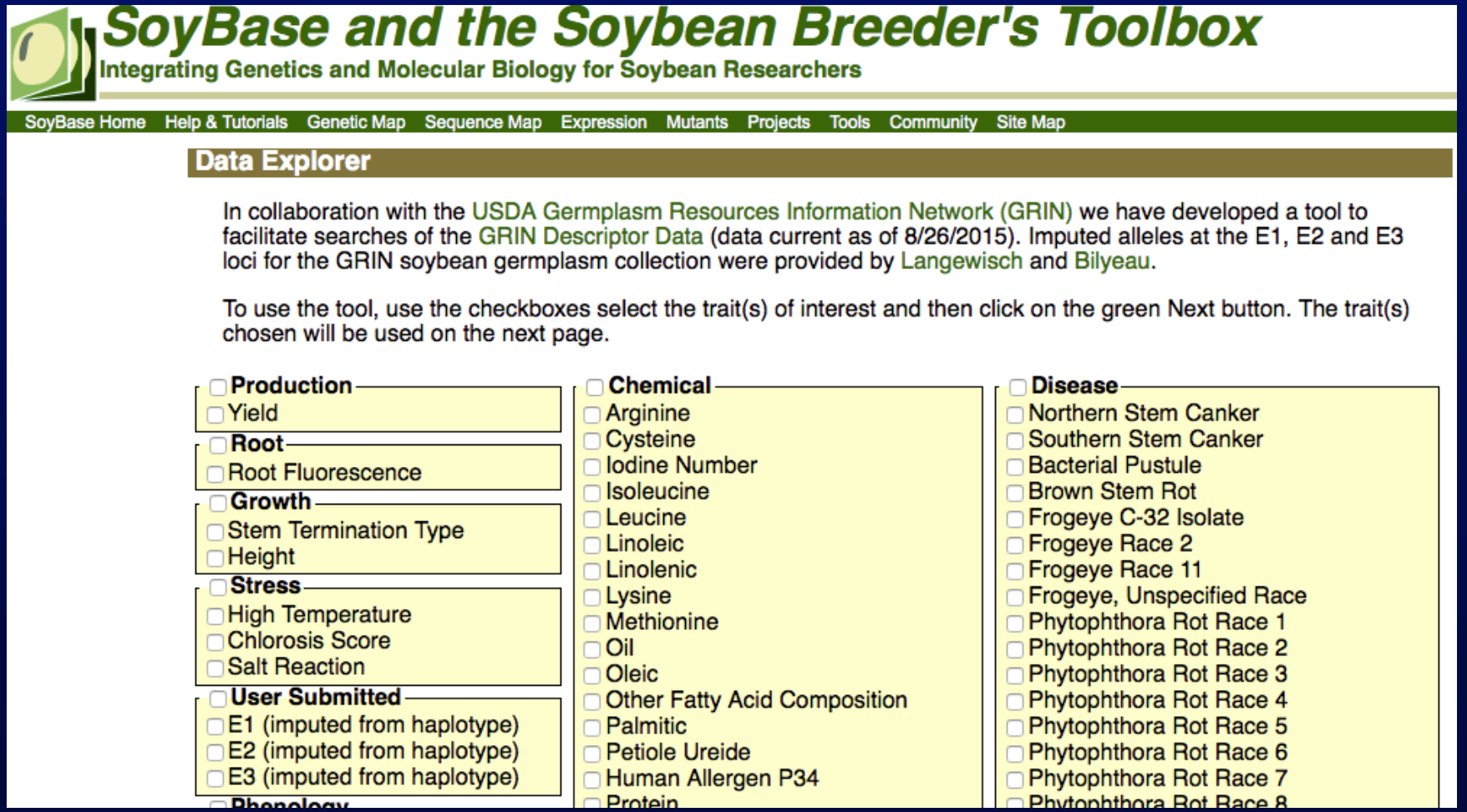
Click to Download Data from this Table↓

Uniform Test Maturity Group 0, All Years

Protein (% by wt, 13% moisture)

Year	Maturity Group	Strain	Casselton, ND	Casselton, SD	Grand Bend, ND	Morris, MN	Ottawa, ONT	Rosemount, MN	St. Germain de-Grantham, QUE	St. Mathieu de-Beloeil, QUE	St. Pauls, ONT	Volga, SD	Woodstock, ONT
2012	0	AG0532	31.5	NA	31.3	34.7	NA	37.1	NA	NA	NA	NA	NA
2013	0	AG0532	NA	37.2	NA	34.8	NA	36.6	36.0	NA	NA	NA	NA
2012	0	AG0231 (E)	31.9	NA	28.3	34.4	NA	36.1	NA	NA	NA	NA	NA
2013	0	AG0231 (E)	NA	33.8	NA	34.4	NA	35.7	35.8	NA	NA	NA	NA
2012	0	AG0808	29.8	NA	26.6	31.6	NA	33.0	NA	NA	NA	NA	NA
2013	0	AG0808	NA	32.8	NA	33.8	NA	35.2	33.9	NA	NA	NA	NA

SoyBase GRIN Descriptor Data Tool



SoyBase GRIN Descriptor Data Tool

- **Production**
  - Yield
- **Root**
  - Root Fluorescence
- **Growth**
  - Stem Termination Type
  - Height
- **Stress**
  - High Temperature
  - Chlorosis Score
  - Salt Reaction
- **User Submitted**
  - E1 (imputed from haplotype)
  - E2 (imputed from haplotype)
  - E3 (imputed from haplotype)
- **Phenology**
  - Flowering
  - Maturity Date
  - Twining Date
  - Maturity Group
- **Insect**
  - Defoliation
  - Leaf Hopper Injury
  - Mexican Bean Beetle Damage
  - Beet Armyworm
  - Soybean Looper
  - Velvetbean Caterpillar
  - Corn Ear Worm
  - Soybean Aphid Resistance
- **Nematode**
  - Reniform Nematode
  - Cyst Nematode Race 1
  - Cyst Nematode Race 2
  - Cyst Nematode Race 3
  - Cyst Nematode Race 4
  - Cyst Nematode Race 5
  - Cyst Nematode Race 14
  - Cyst Nematode
- **Chemical**
  - Arginine
  - Cysteine
  - Iodine Number
  - Isoleucine
  - Leucine
  - Linoleic
  - Linolenic
  - Lysine
  - Methionine
  - Oil
  - Oleic
  - Other Fatty Acid Composition
  - Palmitic
  - Petiole Ureide
  - Human Allergen P34
  - Protein
  - Stachyose
  - Stearic
  - Sucrose
  - Threonine
  - Tryptophan
  - Valine
- **Morphology**
  - Lower Leaflet Area
  - Upper Leaflet Length
  - Pod Length
  - Late Shattering Score
  - Early Shattering Score
  - Mottling Score
  - Flower Color
  - Seed Shape Of G. Soja
  - Hilum Color
  - Leaflet Shape Of Glycine soja
  - Leaflet Size Of Glycine soja
  - Other Leaf Traits
  - Other Plant Traits
  - Other Seed Traits
  - Pod Color
  - Pubescence Color
  - Pubescence Density
  - Pubescence Form
  - Lower Leaflet Ratio
  - Upper Leaflet Shape
  - Seed Coat Color
  - Seed Coat Luster
  - Seed Shape Of Glycine Max
  - Stem Termination Score
  - Branching
  - Lodging
  - Lower Leaflet Aspect
  - Seed Quality
  - Seed Weight
- **Disease**
  - Northern Stem Canker
  - Southern Stem Canker
  - Bacterial Pustule
  - Brown Stem Rot
  - Frogeye C-32 Isolate
  - Frogeye Race 2
  - Frogeye Race 11
  - Frogeye, Unspecified Race
  - Phytophthora Rot Race 1
  - Phytophthora Rot Race 2
  - Phytophthora Rot Race 3
  - Phytophthora Rot Race 4
  - Phytophthora Rot Race 5
  - Phytophthora Rot Race 6
  - Phytophthora Rot Race 7
  - Phytophthora Rot Race 8
  - Phytophthora Rot Race 9
  - Phytophthora Rot Race 10
  - Phytophthora Rot Race 12
  - Phytophthora Rot Race 17
  - Phytophthora Rot Race 20
  - Phytophthora Rot Race 25
  - Phytophthora Rot Race 30
  - Phytophthora Rot Race 30T
  - Phytophthora Rot Race 31
  - Phytophthora Rot Race 33
  - Phytophthora Rot Race 38
  - Phytophthora Rot
  - Pythium Ultimum
  - Soybean Mosaic Virus
  - Soybean Mosaic Virus Strain G1
  - Soybean Mosaic Virus Strain G2
  - Soybean Mosaic Virus Strain G3
  - Soybean Mosaic Virus Strain G4
  - Soybean Mosaic Virus Strain G5
  - Soybean Mosaic Virus Strain G6
  - Soybean Mosaic Virus Strain G7
  - Bean Pod Mottle Virus
  - Peanut Mottle Virus
  - Soybean Rust Mixed
  - Soybean Rust Tan
  - Soybean Rust
  - Soybean Rust Red-Brown
  - Soybean Sudden Death Syndrome

SoyBase GRIN Descriptor Data Tool

Data Explorer

← Back one step.

This page provides two tools for searching the germplasm phenotype data. One returns a list of germplasm accessions based on the phenotype data for the trait(s) previously selected. The other accepts a list of germplasm accessions and returns a table of phenotype data for the selected trait(s).

Identify Germplasm Based on Phenotype Data

Trait	Valid Range				
Linoleic	30.3—63.6	>=	30.3	and <=	63.6
Linolenic	2.7—18.7	>=	2.7	and <=	18.7
Oil	8.1—25.6	>=	8.1	and <=	25.6
Oleic	9.0—50.3	>=	9.0	and <=	50.3
Palmitic	4.1—20.4	>=	4.1	and <=	20.4
Stearic	1.1—10.6	>=	1.1	and <=	10.6

Submit

← OR →

Retrieve Phenotype Data from a Germplasm List

PI603421A
PI507259
PI407946-2
PI90576-1
PI80837
PI89012-1
PI189940
PI60296
PI71463
PI479714

Click to Load Example List

Submit

Fetching Values For

Linoleic
Linolenic
Oil
Oleic
Palmitic
Stearic

SoyBase GRIN Descriptor Data Tool

Data Explorer Report

← Perform a new lookup.

Download result as CSV.

Search parameters:
LINOLEIC >=30.3 AND LINOLEIC <=63.6
LINOLENIC >=2.7 AND LINOLENIC <=18.7
OIL >=8.1 AND OIL <=25.6
OLEIC >=9.0 AND OLEIC <=50.3
PALMITIC >=4.1 AND PALMITIC <=20.4
STEARIC >=1.1 AND STEARIC <=10.6

Cultivar Name
FC2108
FC2109
FC3548
FC3654-1
FC3654N
FC3659
FC3981
FC4002B
FC4002N
FC4007B
FC19976-2
FC19976-1
FC19979-4
FC19979-1
FC19979-2
FC19979-7
FC19979-3
FC19979-6

SoyBase GRIN Descriptor Data Tool

Data Explorer

← Back one step.

This page provides two tools for searching the germplasm phenotype data. One returns a list of germplasm accessions based on the phenotype data for the trait(s) previously selected. The other accepts a list of germplasm accessions and returns a table of phenotype data for the selected trait(s).

Identify Germplasm Based on Phenotype Data

Trait	Valid Range				
Linoleic	30.3—63.6	>=	30.3	and <=	63.6
Linolenic	2.7—18.7	>=	2.7	and <=	18.7
Oil	8.1—25.6	>=	8.1	and <=	25.6
Oleic	9.0—50.3	>=	9.0	and <=	50.3
Palmitic	4.1—20.4	>=	4.1	and <=	20.4
Stearic	1.1—10.6	>=	1.1	and <=	10.6

Submit

← OR →

Retrieve Phenotype Data from a Germplasm List

PI603421A
PI507259
PI407946-2
PI90576-1
PI80837
PI89012-1
PI189940
PI60296
PI71463
PI479714

Click to Load Example List

Submit

Fetching Values For

Linoleic
Linolenic
Oil
Oleic
Palmitic
Stearic

SoyBase GRIN Descriptor Data Tool

Data Explorer Report

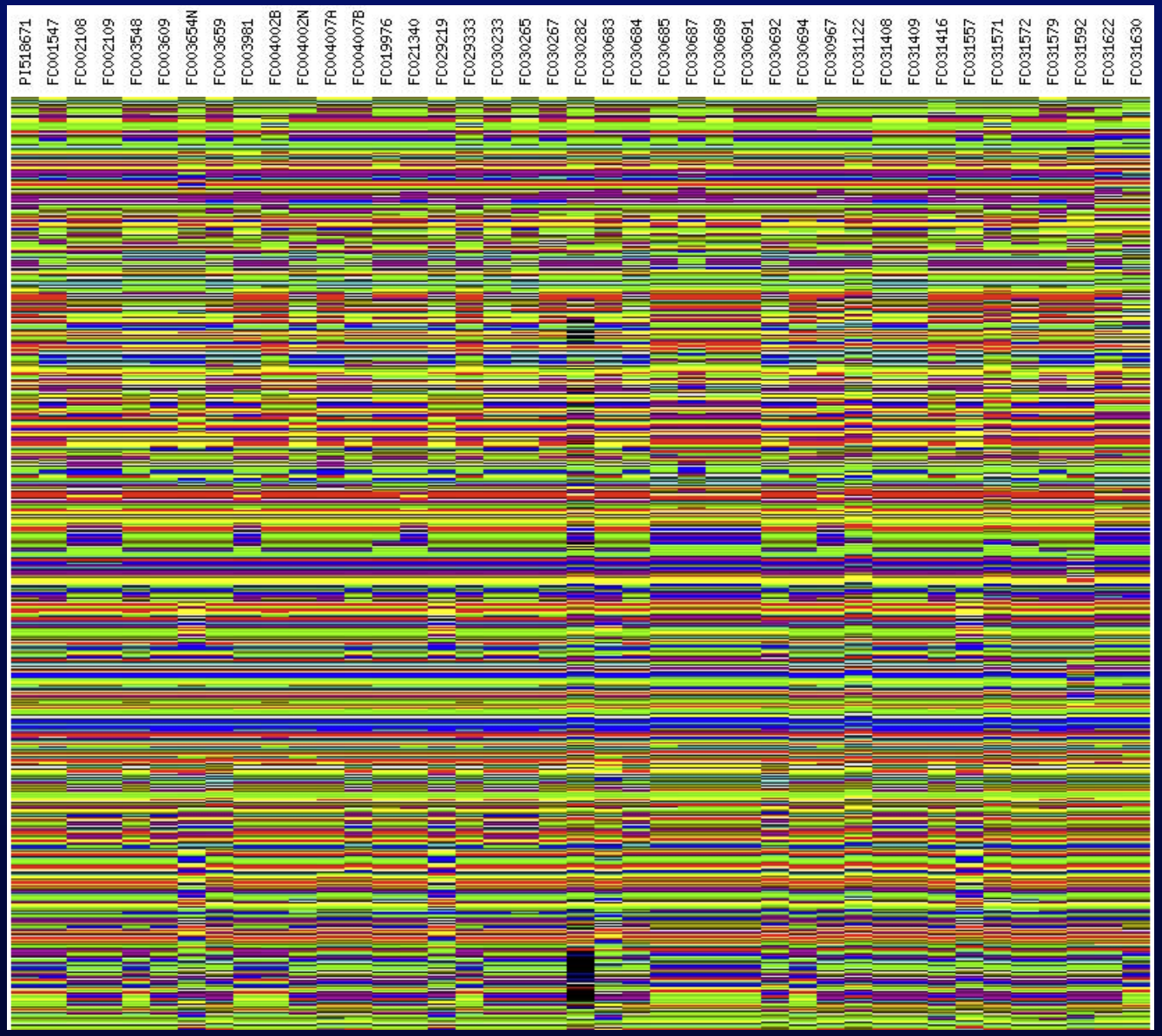
← Perform a new lookup.

Download result as CSV.

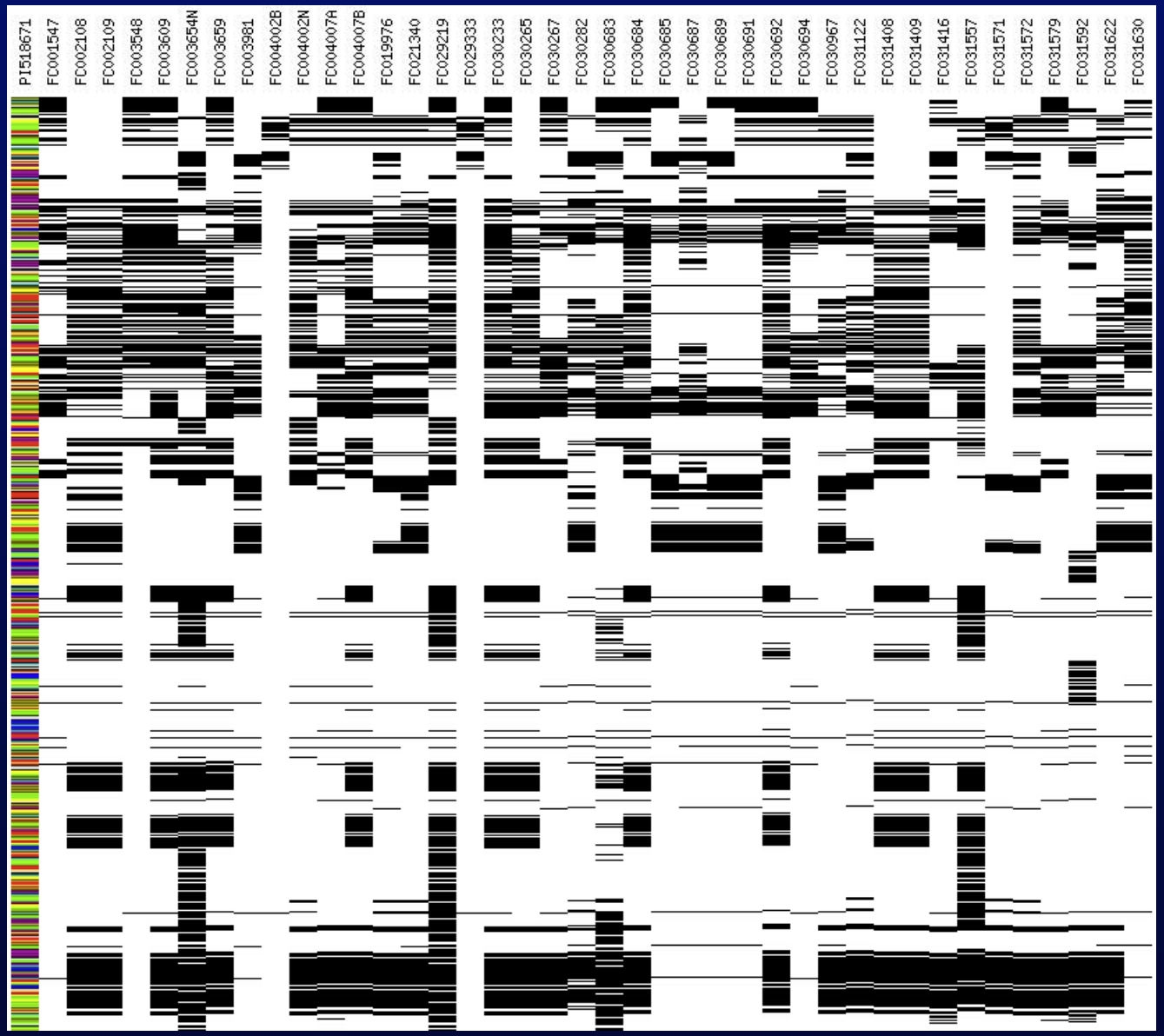
Cultivar Name	GRIN ACC ID	Linoleic	Linolenic	Oil	Oleic	Palmitic	Stearic	Cultivar Name
PI60296	1111783	50.9 52.0	5.9 7.8	18.6 20.3	25.4 28.1	11.3 13.3	3.4 4.2	PI60296
PI71463	1116195	54.9	9.3	18.4	20.3	11.8	3.6	PI71463
PI80837	1118475	51.9 52.6	10.0 9.6	18.2 19.0	20.6 25.5	10.7 12.6	4.0 4.3	PI80837
PI89012-1	1485933	49.4	9.6	20.2	23.4	13	4.7	PI89012-1
PI90576-1	1485954	52.1 52.5	8.4 8.7	20.6 21.8	21.1 25.2	11.6 13.8	3.8 4.5	PI90576-1
PI189940	1161957	42.1	8.1	19.5				PI189940
PI407946-2	1486472	56	8.7	17.1	19.6	12.2	3.5	PI407946-2
PI479714	1374650	50.6 51.7	5.4 6.0	20.1 20.7	26.6 27.7	11.7 8.7	3.6 4.3	PI479714
PI507259	1402195	58.9	8.3	12.4	17.5	12.2	3	PI507259
PI603421A	1595755	53	9.1	17.2	21.8	12.8	3.3	PI603421A

← Perform a new lookup.

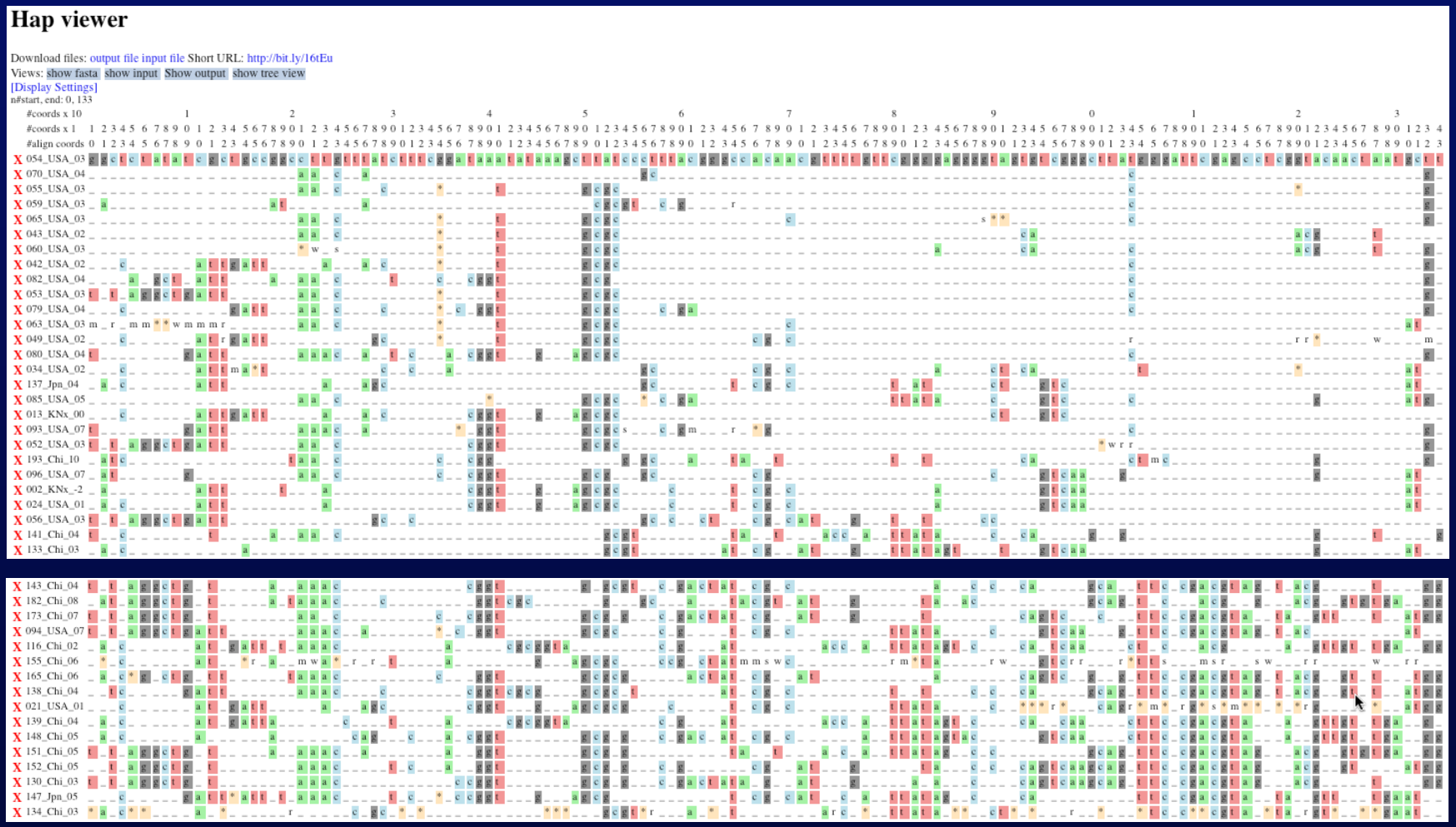
Prototype SoyBase SNP Haplotype Viewer



Prototype SoyBase SNP Haplotype Viewer

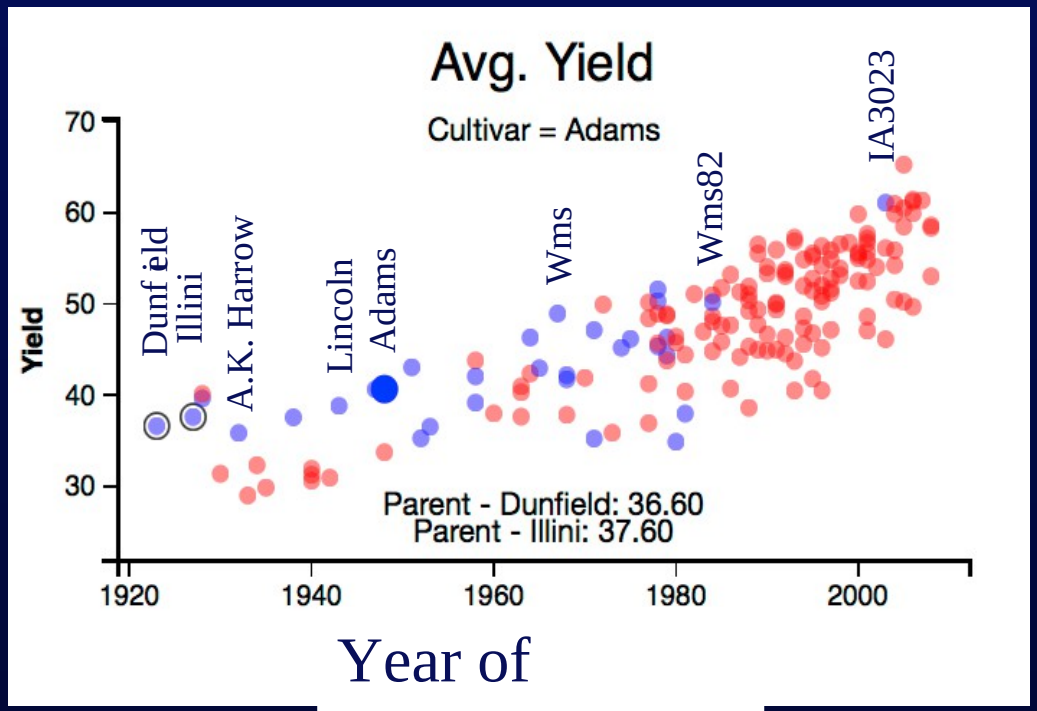


Prototype SoyBase SNP Haplotype Viewer



Soybean Milestones Sequencing Project

1. Increase soybean grower profits by improving the yield potential of soybean varieties.
2. Detect "breeder signatures" using DNA sequences of land races and varieties that represent "milestone" achievements in yield potential.
3. **Make the data publicly available for use by the soybean community**.



Soybean Milestones Sequencing Project

Tools have been integrated with SoyBase and will be formally announced next week.

Bulk data downloads will be made available in the coming weeks.

Data is being released pre-publication to the community.

Tools can be leveraged to handle other data types.

Expression Data at SoyBase

Gene Expression Projects

Leaflet
- Descriptive Experiments
  - RNA-Seq Atlas of Glycine max: A guide to the soybean transcriptome
  - Expression data from soybean seed compartments with embryos at the globular stage [GEO:GSE6414]
  - Expression data of Soybean root apical meristem and leaf [GEO:GSE27894]
- Experimental Treatments
  - Transcriptional response to soybean aphid infestation in susceptible and resistant soybean plants [GEO:GSE35427]
  - The effects of bud removal on soybean leaf gene expression [GEO:GSE23129]

We used the GeneChip Soybean Genome Array (Affymetrix, Inc.) to study pollen and sporophytic tissue expression. Three biological replicates for pollen and two biological replicates for sporophytic tissues were used.

Root
- Descriptive Experiments
  - RNA-Seq Atlas of Glycine max: A guide to the soybean transcriptome
- Experimental Treatments
  - Soybean transcr
  416937) [GEO:GSE
  - Expression data

Root Apical Meristem
- Descriptive Experiments
  - Expression data

Gene Expression Projects

Title: Expression data from soybean seed compartments with embryos at the globular stage

GEO Dataset Accession: GSE6414

Web site: http://seedgenenetwork.net
Publication: SoyBase20151003b

Description:
Globular-stage seed compartments were isolated using the Leica AS LMD system. Total RNA was amplified and hybridized with Affymetrix Soybean Genome Arrays. Laser capture micro-dissection was used to isolate tissues at the globular embryo stage of seed development. Tissues were sampled using biological replication.

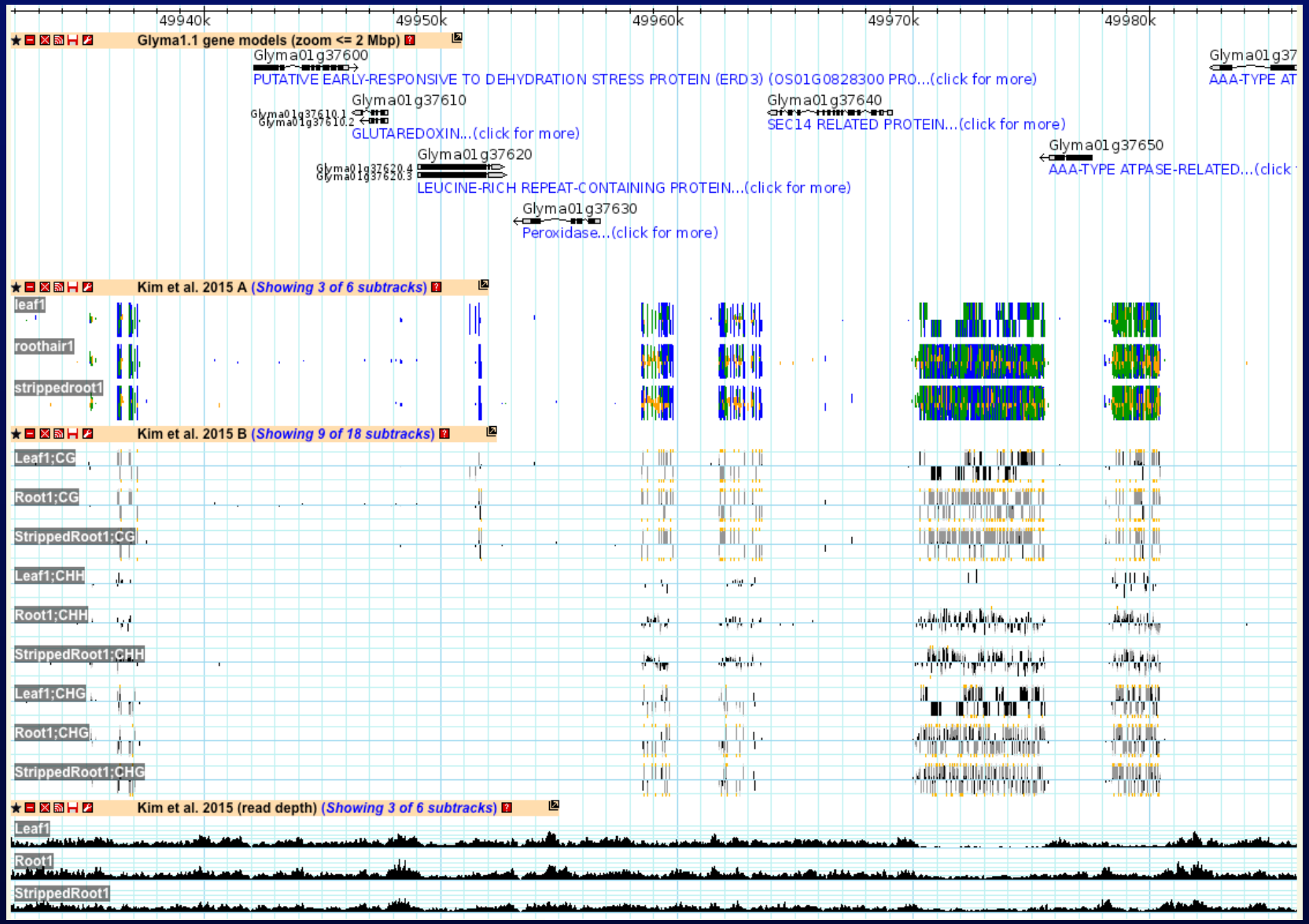
Samples:

- [ ] Embryo Proper
- [ ] Suspensor
- [ ] Seed Endosperm
- [ ] Seed Endothelium
- [ ] Seed Epidermis
- [ ] Seed Hilum
- [x] Seed Inner Integument
- [x] Seed Outer Integument Leaflet
- [ ] Whole Seed

See Selected Samples in Genome Browser | Save Selected Samples To Shopping Cart | Download Raw Data for Selected Samples

Expression Data at SoyBase

Methylation Data at SoyBase



Combined Expression and Methylation Data

Submit Your Data to SoyBase

SoyBase and the Soybean Breeder's Toolbox

Integrating Genetics and Molecular Biology for Soybean Researchers

SoyBase Home | Help & Tutorials | Genetic Map | Sequence Map | Expression | Mutants | Tools | Community | Site Map

Sign Up Here To Receive SoyBase Update Emails

Use this form to contact the SoyBase Curators when
- you have data you would like included in SoyBase
- have found an error on our site
- have a suggestion about improving SoyBase

We'll get back to you as soon as possible.

From: * (Type your name here)

Email: * (Type your email address here)

Subject: *

Comment: *

(Be sure to include the URL of the page if you are reporting an error)

Data Submission Templates and Instructions

Data Types

Bi-allelic QTL Data
Excel spreadsheet for data entry

Genome Wide Association QTL Data
Contact us for instructions

Re-sequencing Data (SNPs, CNV, etc.)
Contact us for instructions

Expression or Transcriptomic Data (RNA-seq, GeneChip, custom chips, etc.)
Contact us for instructions

Questions?

We value your opinion!!

Please take our quick six question survey using the link on the SoyBase home page

Twitter @SoyBaseDatabase

Selected Examples of Data Sets and Tools

- **SoyNAM Project**

Selected Examples of Data Sets and Tools

- **Variety Announcements**

Selected Examples of Data Sets and Tools

- **Pedigrees for Selected Cultivars**

Selected Examples of Data Sets and Tools

- **Uniform Test Data**

Selected Examples of Data Sets and Tools

- **GRIN Descriptor Data**

Selected Examples of Data Sets and Tools

- **Haplotype Viewer**

Selected Examples of Data Sets and Tools

- **Milestones Project Data**

Selected Examples of Data Sets and Tools

- **Submitting Data to SoyBase**

Selected Examples of Data Sets and Tools

- **Expression andMethylation Data**