SoyBase, the USDA-ARS Soybean Genetics and Genomics Database

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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 Projects Tools Community Site Map

Sign Up Here To Receive SoyBase Update Emails

SoyBase Search HELP	Advanced Search→	Take our quick six question sur	vev today
Search		Take our quick six question sur	vey today.
Examples: BARC-013845-01256 Satt53	1		SoyBase News RSS
Oil Glyma.15g026400		Uniform Trial Data now available	December 17 2015
Click Here For The A Download SoyBean	dvanced Search Interface	An experimental database summarizing the results of t	the 2012 and 2013 Sovhean Uniform
Data		Tests: Northern Region is available at SoyBase. We an	
Sautheen Date Download Rese		community to solicit suggestions for improvements to t	
Soybean Data Download Page		database. These tables are the summary data taken fro a full report, including methodology and comments, see	
Quick Wm82 Genome BLAST HELP	Full BLAST-+	The database could be expanded to include earlier yea	
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NCBI BLAST report v blastn v		Read More	
Select a Database		Uniform Trial Entries Parentage Database	December 17 2015
Wm82.a2.v1 Coding Sequences		A soybean parentage database is available at SoyBase	e. It provides parentage information
Enter sequence below in FASTA format.		gleaned from the Soybean Uniform Tests for the North	
		published sources. The database lists the parentage of	
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SoyBean Breeder's Toolbox Quick Jum	The Full BLAST Interface	Read More	
Genetic Map Genome Sequen		SOY2016 Molecular and Cellular Biology of the S	oybean 16th Biennial Conference
Viewer -OR- Viewer		•Read More	Date: 8-7-2016 TO 8-10-2016
Linkage Group Chromosome		World Soybean Research Conference 10	Date: 9-10-2017 TO 9-16-2017
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SoyCyc Search HELP Ad	vanced Metabolism Search→	View Meeting Archive	
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Examples: inosine ethanol gibberellin			
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Site Map			
View SoyBase Site Map			
SoyBase Tutorials			
Browse SoyBase Tutorials			





### **SoyBase Site Map and Navigation**

SoyBase Site Map	1
Table of Contents	
SoyBase Home Page     Genetic and Physical Map Resources     Sequence Map Resources     Annykim Tools	
Sequence Map Resources	
SoySeq Expression Allas     Download SoyBean Data	
SoyBase Home Page	
Aukunst Black Fage Cash Black Fage Black Black Fage Black Black Fage Black Black Fage Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Black Bla	
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Quint BLART Quint Greetin Map Jump	
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Genetic and Physical Map Resources	
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#### 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 Download genome or predicted protein sequence for 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 Ouick BLAST Acainst Wm82 a2 Genome Sequence (in SouBase Toolbox)

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





- SoyNAM Project
- Variety Announcements
- Pedigrees for Selected Cultivars
- Uniform Test Data
- GRIN Descriptor Data
- SNP Haplotype Viewer
- Milestones Sequencing Project
- Expression and Methylation 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 available. 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 deta	ails about that Populatio	n.
High Yielding Lines	Lines With Diverse Ancestry	Pls With High Yields in Drought	Hub Parent
4J105-3-4 5M20-2-5-2	LG03-2979 LG03-3191	PI 398881 PI 427136	IA3023
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

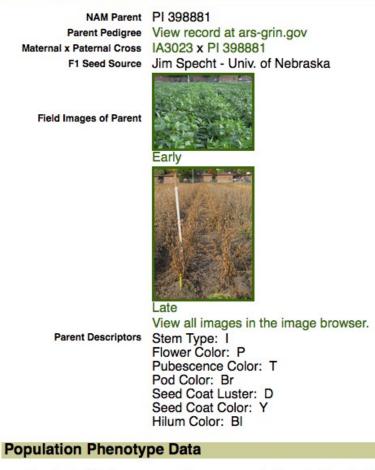
Click here to request Parent seed. Click here to request RIL seed.





### **SoyNAM Parent Report**

### SoyNAM Population NAM40



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.

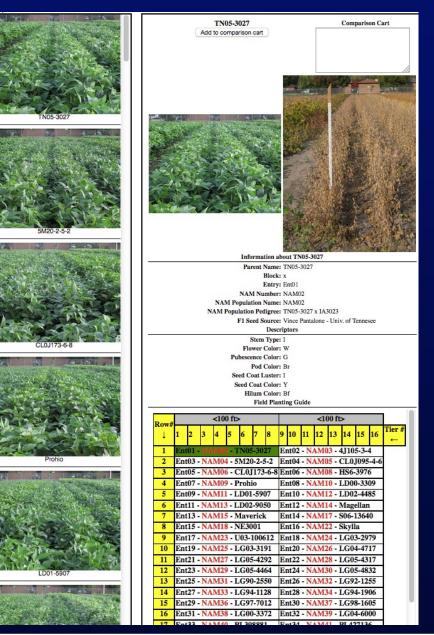
### **Request Seed**

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





### **SoyNAM Parent Image Browser**







# **Variety Release Announcements**

Variety Release Notices									
Variety Name	e 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 seei Fill out and retu	ing your variety release announcement here? rn this Excel spreadsheet.								
Questions or con	nments? Contact Us								





### **Variety Release Announcements**

$\diamond$	Α	В	С	D	E	F	G	H
1	Soybase Varie	ty Release	Worksheet V1.	1				
2								
3	Send this complete	d form along v	vith any additional f	iles by email to	the SoyBase C	urator (david.g	grant@ars.usda	.gov)
4	Note: Items in yell	ow are mandat	ory					
5								
	Variety Name:							
7								
8								
9 10	Full Description:							
11		(h) (h)		·				
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22								
23								
24	URL(s):	(URLs for released	ase notices or Journ	al articles)				
25	URL 1							
26								
27								
		(e.g. a PDF of	the announcement,	etc;)				
	Filename 1							
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## **Variety Release Announcements**

### Variety Release Notices

### Hack 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**

#### Uniform Soybean Tests Parentage Information

View Uniform Field Trial Data Here

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

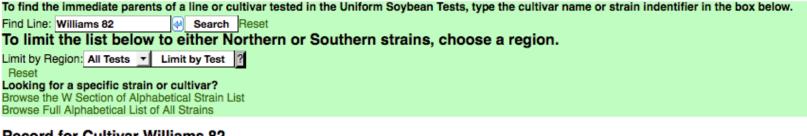
### Records

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**



### Record for Cultivar Williams 82

Cultivar		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 ) <b>X</b> ( PRX 54-59 x BSR 101 )	PVP 9100040, See PI 546487 for parentage explaination
Asarow A2224	A2234	(Calland x Ameou ) ¥ (Contury (2) 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.

					Tabl	e of Conten	ts				
Strains	Discos	Regional Summary					Seed Quality	Seed Size	Protein (% by wt, 13% moisture)	Oil (% by wt, 13% moisture)	Strain Descriptions
Filter Rep	orts By Mat	urity Grou	p, Yea	r and/o	or Strain						
Select Maturi	ty Group: 💿 0			)IV							
Select Year:	OALL 02013	3 2012									
Select Strain:	ALL	▼ Set	Maturity	Group, Y	ear, 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	Cavalior	Sargont V ND06-1006	Holme	E1					





# **Uniform Test Data**

Table of Contents											
Strains	Discose	Regional Summary	Yield (bu/a)	Yield Rank	Lodging (Score)	Plant Height (inches)	Seed Quality	Seed	Protein (% by wt, 13% moisture)	Oil (% by wt, 13% moisture)	Strain Descriptions
Filter Rep	orts By Matu	urity Grou	p, Yea	r and/o	or Strain						
Select Maturi	ty Group: 00	OI OI (	OIII O	IV							
Select Year: OALL 2013 2012											
Select Strain: ALL   Set Maturity Group, Year, Strain											

### Yield (bu/a)

2013

2012

0012

0

0

Click to Download Data from this Table J

MN1410 (I)

28.1

Surge (L)

Surgo (L)

	Uniform Test Maturity Group 0, All Years														
	Yield (bu/a)														
Year	Maturity Group	Strain	Bristol, SD	Casselton, ND		Grand Bend, ND		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				<u></u>	<u> </u>	<u>00 1</u>		Table of C				50.0

	L	Table of Contents									
-	Strains	Discos	Regional Summary			Lodging (Score)		Seed	Seed Size (g/100)	(% by wt, 13%	 Strain Descriptions
	Filter Rep	orts By Matu	urity Grou	p, Yea	r and/c	or Strain					
	Select Maturit	elect Maturity Group: 0 0 1 1 0 11 0 1V									
	Select Year:	elect Year: OALL 2013 2012									
	Select Strain:	ALL	▼ Set	Maturity	Group, Y	ear, Strain					

### Protein (% by wt, 13% moisture)

Click to Download Data from this Table J

	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







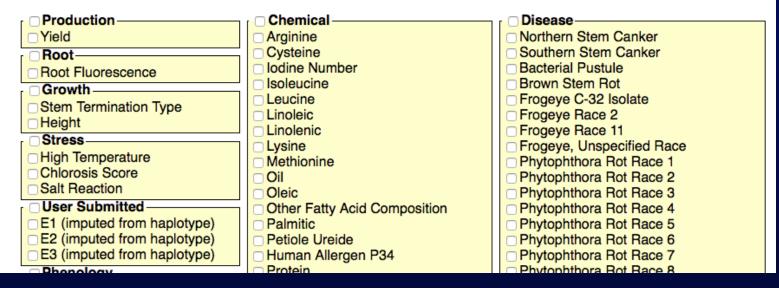
Integrating Genetics and Molecular Biology for Soybean Researchers

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

#### Data Explorer

In collaboration with the USDA Germplasm Resources Information Network (GRIN) we have developed a tool to facilitate searches of the GRIN Descriptor Data (data current as of 8/26/2015). Imputed alleles at the E1, E2 and E3 loci for the GRIN soybean germplasm collection were provided by Langewisch and Bilyeau.

To use the tool, use the checkboxes select the trait(s) of interest and then click on the green Next button. The trait(s) chosen will be used on the next page.







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





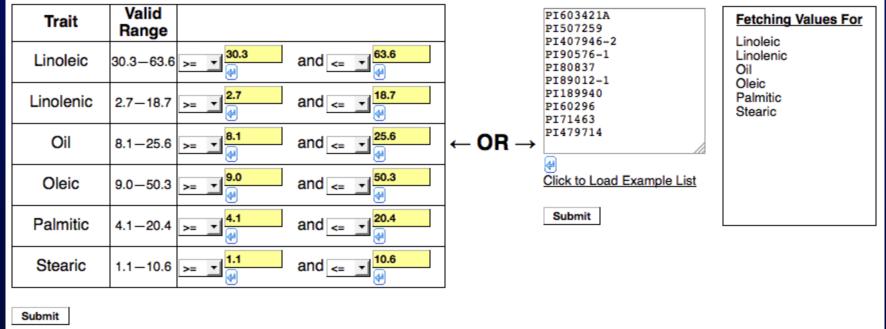
### Data Explorer

#### 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

### Retrieve Phenotype Data from a Germplasm List







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							
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FC19979-7							
FC19979-3							
FC19979-6							
EC10070 E							





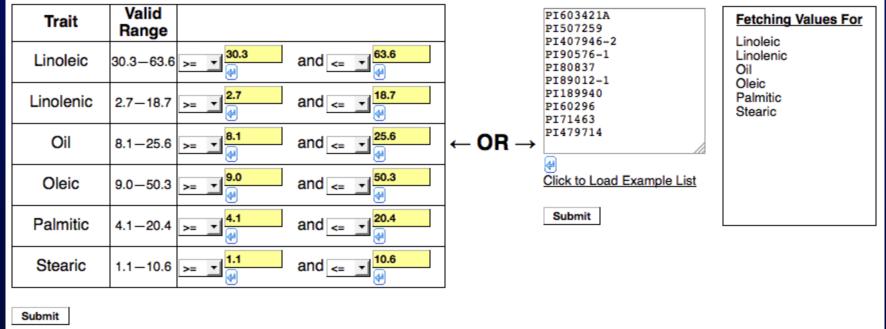
### Data Explorer

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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

### Retrieve Phenotype Data from a Germplasm List







### Data Explorer Report

← Perform a new lookup.

### Download result as CSV.

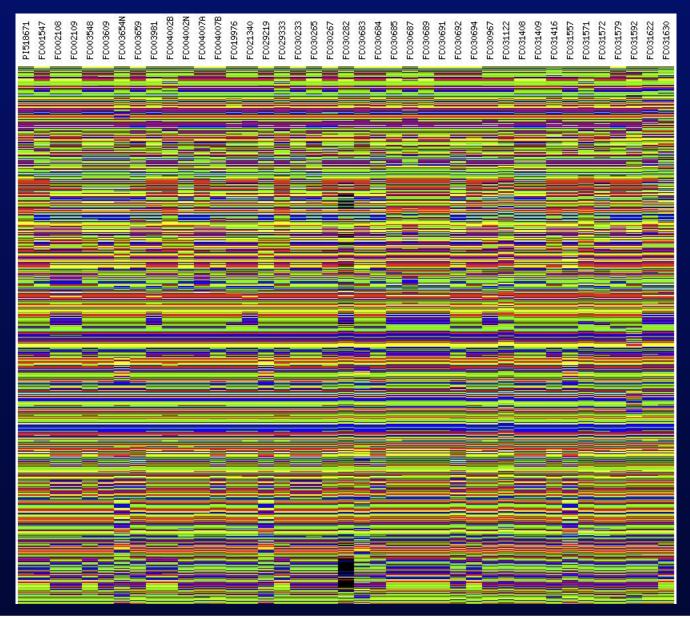
Cultivar Name	GRIN ACC ID	Linoleic	Linolenic	Oil	Oleic	Palmitic	Stearic	Cultivar Name
PI60296	1111783	50.9	5.9	18.6	25.4	11.3	3.4	PI60296
F100230		52.0	7.8	20.3	28.1	13.3	4.2	F100230
PI71463	1116195	54.9	9.3	18.4	20.3	11.8	3.6	PI71463
PI80837	1118475	51.9	10.0	18.2	20.6	10.7	4.0	PI80837
F100037	1110475	52.6	9.6	19.0	25.5	12.6	4.3	F100037
PI89012-1	1485933	49.4	9.6	20.2	23.4	13	4.7	PI89012-1
PI90576-1	1485954	52.1	8.4	20.6	21.1	11.6	3.8	PI90576-1
F130370-1	1403334	52.5	8.7	21.8	25.2	13.8	4.5	F130370-1
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	5.4	20.1	26.6	11.7	3.6	PI479714
14/3/14	10/4030	51.7	6.0	20.7	27.7	8.7	4.3	14/5/14
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.





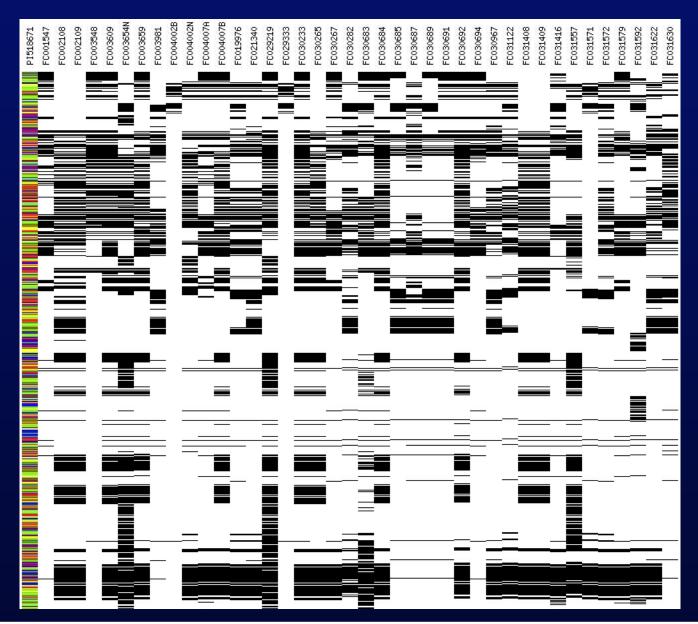
# **Prototype SoyBase SNP Haplotype Viewer**







# **Prototype SoyBase SNP Haplotype Viewer**







# **Prototype SoyBase SNP Haplotype Viewer**

### Hap viewer

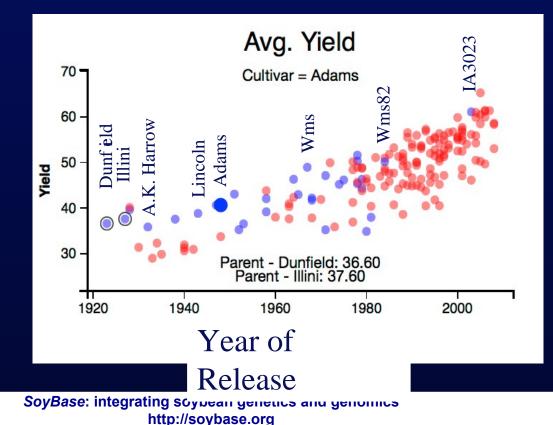
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#coords x 1 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3	45678901234567890123456789	0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8	89012345678901234567890	0123456789012345678	90123456789012345678901234
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# **Soybean Milestones Sequencing Project**

- 1. Increase soybean grower prof is 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	
CEXpression data from Expression data of Experimental Treatments Transcriptional resp plants [GEO:GSE3542] The effects of bud Root Descriptive Experiments	removal on soybean leaf gene expression [GEO:GSE23129] pollen and two biological replicates for sporophytic tissues were used.
RNA-Seq Atlas of C Experimental Treatments	Glycine max: A guide to the soybean transcriptome
Soybean transcr 416937) [GEO:GSE]	Gene Expression Projects
© Expression data	Fitle: Expression data from soybean seed compartments with embryos at the globular stage
Poot Anical Maristom	GEO Dataset Accession: GSE6414
· · · · · · · · · · · · · · · · · · ·	Veb site: http://seedgenenetwork.net Publication: SoyBase20151003b
G	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.
s	Samples:
	<ul> <li>Embryo Proper</li> <li>Suspensor</li> <li>Seed Endosperm</li> <li>Seed Endothelium</li> <li>Seed Epidermis</li> <li>Seed Hilum</li> <li>Seed Inner Integument</li> <li>Seed Outer Integument Leaflet</li> <li>Whole Seed</li> </ul>
	See Selected Samples in Genome Browser Save Selected Samples To Shopping Cart
	Download Raw Data for Selected Samples





# **Expression Data at SoyBase**

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# **Methylation Data at SoyBase**

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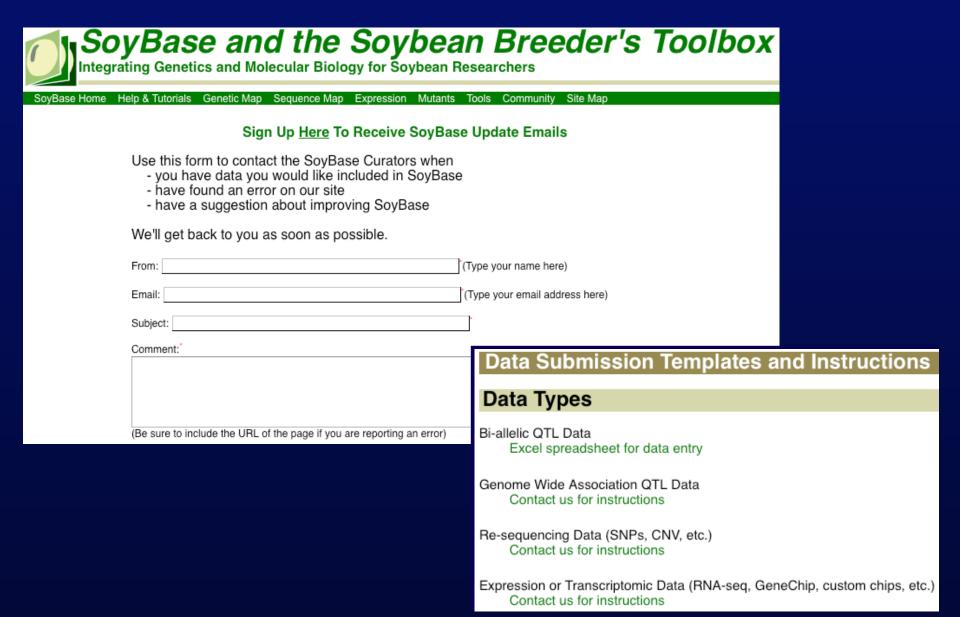
# **Combined Expression and Methylation Data**







# **Submit Your Data to SoyBase**







# **Questions?**

# We value your opinion!!

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

Twitter @SoyBaseDatabase











• SoyNAM Project





• Variety Announcements





• Pedigrees for Selected Cultivars





• Uniform Test Data





• GRIN Descriptor Data





• Haplotype Viewer





• Milestones Project Data





• Submitting Data to SoyBase





• Expression and Methylation Data



