

Towards a Soybean Genetic Stocks Repository



- Soybean genetics is experiencing a Golden Era
- Recent \$multi-million investments to develop genetic stocks



1785

The University of Georgia

Wayne Parrott

Institute for Plant Breeding, Genetics & Genomics

Maturity traits



Maturity traits



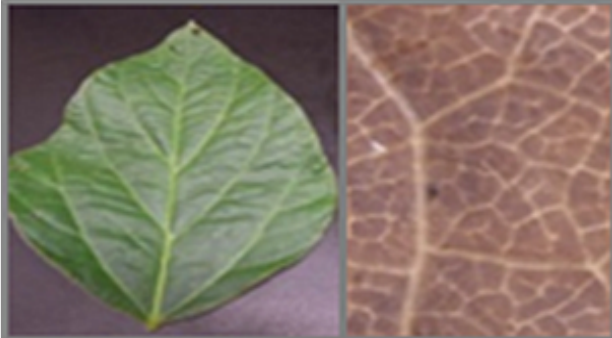
Morphological traits



Seed & Biochemical






Williams
82
(wild type)



FN30-133
(Excess
starch)



-  Oil
-  Protein
-  Etc



What to do with resources?



- USB-sponsored a meeting in GA in November
 - Clemente, Diers, Grant, Hudson, Meksem, Nelson, Parrott, Stacey, Stupar, Vance
- Tasked with preparing a white paper on Soybean Seed Storage and Distribution
 - “SoSSaD”
 - Our current state of affairs



Issues



Management

- Center staff (2-3 SYIs to start)
- SoyGEC in advisory capacity

Seed distribution

- Via SoyBase
 - Find trait, add to “cart”, wait for seed to be delivered

Where/how to store these for distribution?

- Current collection has 21,696 accessions
 - 6X more genetic stocks than PI's in collection

Inventory

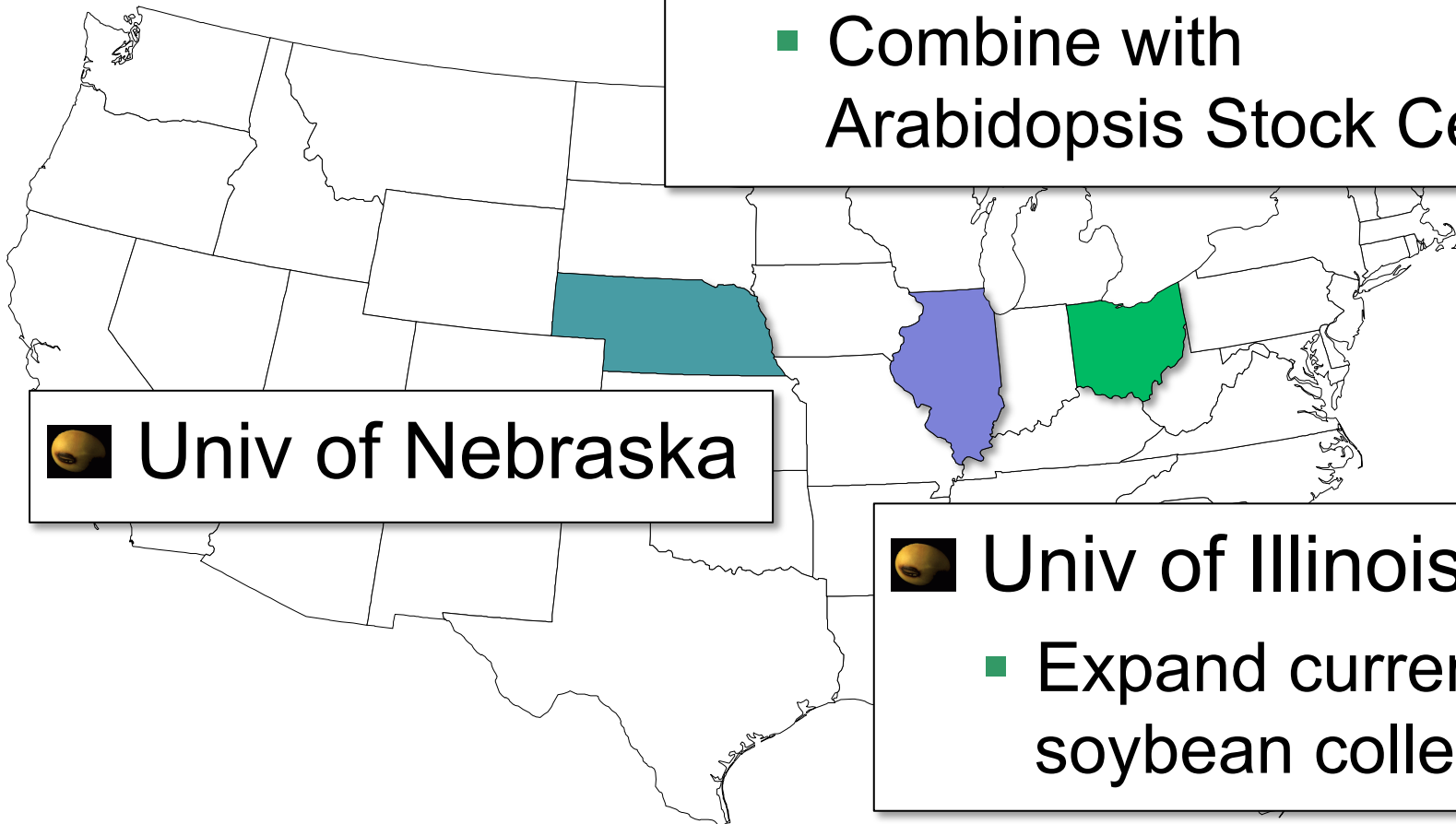
Major categories



- Mutagenized populations – 70K
 - EMS, Fast Neutron, others
- Transposons – 50K
 - Insertional mutants & activation tags
- Breeding populations – 10K
 - NAM
 - Near Isogenic Lines
 - RILs
- Re-sequenced genotypes – 1K
- Directed mutation lines – 100
 - Zinc fingers, Talens

**> 130,000
accessions**

Where?



Ohio State University

- Combine with Arabidopsis Stock Center



Univ of Nebraska



Univ of Illinois

- Expand current soybean collection

Facility requirements



- Seeds frozen for long-term storage
 - Not all stocks will be replenished
- Dedicated space for transgenics



Funding

Will need to be a public-private partnership



- Start-up costs
- Operations

- Potential sources
 - User fees
 - Moral & Financial Support
 - Check off boards
 - USDA-ARS
 - Corporate

Need better name than SoSSaD!



- Soybean Genetic Stock Repository
 - **Soy GeneStoRe**
- Others?

- Send *all* comments, ideas, and suggestions on ideas for a repository to
 - **wparrott@uga.edu**
 - Location, management, funding, etc.

Invitation: Mutant Finder Field Day



- University of Missouri
 - July 8-10

