

PGOC, NRSP-6, and Regional Plant Introduction Stations Update

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PGOC, NRSP-6, and Regional Plant Introduction Stations Update

Plant Germplasm Operations Committee

July 28-29, 2010, Geneva, NY

- **Germplasm issues update**
 - Two new Crop Germplasm Committees (42 total)
 - Specialty Nut Crops and Medicinal & Essential Oils
 - Over 529,000 samples in Ft. Collins base collection
- **GRIN-Global demonstration of early public version**
- **International cooperators**
 - Canada: 112,000 accessions; using SMTA for all crops; 80% of their distributions are within Canada
 - Korea: 272,000 accessions (plants, animals, silkworms); 4,400 accessions reintroduced from US, Japan, Russia, and Germany
 - Mexico: Building new center for genetic resources; 13,000 accessions obtained from US; will use GRIN-Global

Plant Germplasm Operations Committee July 28-29, 2010, Geneva, NY

Plant Germplasm Operations Committee

- **Subcommittee established on crop wild relatives**
 - Prioritize acquisition/conservation of US wild relatives
- **Georeferencing subcommittee**
 - IRRI project to provide lat/long data for accessions
 - 81,000 accessions received lat/long data
 - Curators need to review data prior to entry into GRIN
- **Subcommittee reports**
 - Acquisition and distribution, GRIN molecular markers, medicinal plants, in situ conservation, updating NPGS brochure

Plant Germplasm Operations Committee

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- **Phytosanitary certificates**
 - Cost going up from \$23 in 2008 to \$60 in 2011
 - Plant Exchange Office had been funding certificates for several locations, but no longer has the money to continue funding certificates for international distributions
 - Subcommittee developed and forwarded recommendation on having international users pay the cost
- **Non-research requests (home gardeners)**
 - Added more explanation about use of NPGS seed for research and education to ordering box within GRIN

Plant Germplasm Operations Committee

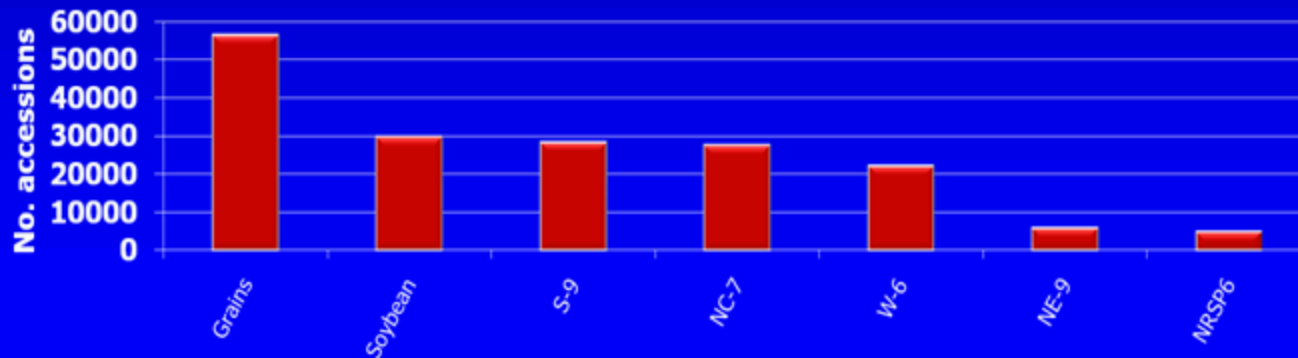
Plant Germplasm Operations Committee

- Genetically engineered organisms and plant patents were discussed
 - NPGS has no clear guidelines yet
- Miscanthus
 - Miscanthus collection will be located at Griffin with Melanie Harrison-Dunn curator. Accessions also at Miami, National Arboretum, and other locations.
- Future PGOC meetings
 - Beltsville, June 21-22, 2011
 - Pullman, June 7, 2012
 - (4th Curators workshop)

Plant Germplasm Operations Committee

Distributions

- Handout of 5 yr germplasm distributions for NPGS locations (regional sites in bold)
 - Over 1.03 million accessions (including genetic stocks) have been distributed in last 5 years
 - Most distributions by PI stations, Aberdeen (small grains), and Urbana (soybeans) in 2010



Distributions

Distributions

Germplasm Distributions, All NPGS, 2006-2010

Site - Non-Genetic Stocks Collections	2006	2007	2008	2009	2010	5 Yr Total
Brownwood, TX					58	58
Conwall, OR	3536	2462	2476	4632	5724	18830
Cotton - College Station, TX	4160	1687	2053	2849	2360	13139
Davis, CA	4080	4798	4282	5318	4298	22776
Palmer, AK - Arctic Germplasm				137	893	1030
Nat. Germplasm Rep. Geneva, NY	9616	10823	8324	4702	5446	38911
Hilo, HI	307	324	224	107	113	1075
Mayaguez, PR	571	477	435	373	318	2174
Miami, FL	458	396	606	668	460	2588
National Arboretum, Clendale, MD		8	64	131	252	455
NC-7 (Ames, IA)	26509	22416	25045	28302	27480	129752
NE-9 (Geneva, NY)	7449	3482	3453	3756	5898	24038
NRSP (Sturgeon Bay, WI)	3617	4055	4429	4575	4919	21595
Natl. Small Grains, Aberdeen, ID	24825	44314	39411	40366	56340	205256
NCGRP, Ft. Collins, CO	754	143	116	329	319	1661
OPGC, Columbus, OH	708	406	473	833	426	2846
Parlier, CA	523	159	624	401	721	2428
Riverside, CA	1243	889	563	1057	712	4444
S-9 (Griffin, GA)	18890	27503	30883	40456	28308	145980
Soybean, Urbana, IL	19347	21699	26412	58157	29717	157332
Tobacco, Raleigh, NC	886	521				1407
W-6 (Pullman, WA)	22009	21447	27555	36560	22155	129730
Sub-Total	149428	167989	179458	239709	196921	927505
Site - Genetic Stocks Collections						
GSHO (Barley Gen Stocks), Aberdeen, ID	343	846	334	209	177	1909
GSO R (Rice Gen Stocks)		729	2631	2755	6940	13095
GSP1 (Pea Gen Stocks), Pullman, WA	31	61	91	170	53	406
GSTR (Wheat Gen Stocks), Aberdeen, IA	322	206	364	867	1013	2772
GSZE (Maize Gen Stocks), Urbana, IL	3865	3600	32112	13185	8801	61763
Tomato Gen Stocks, Davis, CA	4629	4640	5142	4713	4847	26441
Sub-Total Genetic Stocks	9189	10282	40674	21899	21831	106349
Total - All Types	158617	178271	220132	255608	218752	1033854

Distributions

Preservation of Plant Breeder Germplasm Collections

- One historical and two recent examples
- ARS Sugar Crops Station, Meridian, MS
 - Closed in 1983 and over 1,200 sweet sorghum samples moved to Griffin in glass jars in 1983
 - In 2004, the seed was repackaged and entered into GRIN
 - Orders increased from 32 (228 accessions) in 2005 to 108 (4,097 accessions) in 2009.
 - Other bioenergy crops show similar distribution increases (switchgrass, etc.)



Preservation of Plant Breeder Germplasm Collections

Plant Breeder Germplasm Collections

- Norm Taylor, Univ. Kentucky, Clover breeder
 - Retired in 2001 but kept actively working.
 - Trifolium germplasm collection (1953-present)
 - 1,839 inventories of 1,179 accessions representing 201 different Trifolium species
 - Donated to USDA by University of Kentucky in 2011
 - Designated as a Special Collection in NPGS
 - Poster presentation at 2011 Crop Science Society meeting
 - Contains several new Trifolium species, previously unavailable PIs, and new accessions not in NPGS

Plant Breeder Germplasm Collections

Plant Breeder Germplasm Collections

- **Al Kreschmer tropical legume collection**
 - Aeschynomene, Centrosema, Desmanthus, Desmodium, Leucaena, Macroptilium, Stylosanthes, Trifolium, Vigna
- **University of Florida, Ft. Pierce, FL**
 - Retired in ~1998
 - Over 4,700 accessions in collection
 - Only 725 accessions in GRIN
 - Collection presently at Ona, FL
 - Some of collection may have been lost due to freezer failure
 - Working with Ken Quesenberry, UF, to move the collection to Griffin for possible entry into NPGS

Plant Breeder Germplasm Collections

Plant Breeder – NPGS cooperation

- **Preserve important plant genetic resources**
 - Plant breeders' collected and developed germplasm is preserved for future research and educational use.
 - NPGS curators need to be aware of retiring plant breeders or programs closing and tactfully work with Universities and others to preserve important germplasm.

Plant Breeder – NPGS cooperation