

USDA SOYBEAN GERMPLASM COLLECTION REPORT -- 1997

February 1998

In 1997, a total of 8,522 seed lots were distributed from the USDA Soybean Germplasm Collection in response to 335 requests from 181 individuals. Of these, 281 orders with a total 7,936 seed packets representing 5,828 accessions, were sent to 138 researchers from 31 states. There were 102 seed packets representing 100 different accessions in 13 orders sent to 6 breeders in Ontario, Canada. Seed of 394 accessions (484 packets in 45 orders) were also sent to 36 researchers in 19 other foreign countries. We also sent seed of 586 accessions or sublimes to the National Seed Storage Lab for backup purposes (5 shipments).

Data from the last year's Sclerotinia white mold, aerial web blight, Phytophthora rot, Rhizoctinia rot, and other disease resistance screening projects is being solicited from the researchers involved and will be available on the GRIN web page as soon as it has been published by the authors.

Plots planted for seed replacement of *G. max* accessions in 1997 consisted of 1432 four-row plots planted at three locations: 1218 at Urbana, 175 at Stoneville, and 39 plots in Puerto Rico. Seed replacement plots for *G. soja* accessions were planted in both Stoneville (42) and Urbana (10).

In calendar year 1997, we received 91 new foreign accessions, all but two were *Glycine max*. Of this number, 76 were from China and 15 from South Korea. All but 6 of these were planted in 1997, mostly in Urbana but there were 10 *G. max* and 2 *G. soja* sent to Stoneville. We also received seed of 10 domestic cultivars, 15 germplasm releases, and 1 genetic type. Out total plantings for new foreign accessions received in late 1996 and early 1997 took 519 plots: 369 in Puerto Rico, 139 in Stoneville, and 10 in Urbana. Of these, 439 plots were new foreign accessions.

Primarily due to the introductions that came in 1996 from the third set in the Chinese germplasm exchange program, last year was a big one for purelining new accessions. There were 3380 pureline plots planted with less than 20% being for re-purelining older accessions or other purposes. Most were planted at Stoneville (2733) with 550 at Urbana, and 56 in Puerto Rico. Eighteen *G. soja* accessions were repurelined in Urbana.

The second year of the general field evaluation of accessions in maturity groups IV (late) through IX (except V) was planted at Stoneville. That planting consisted of 1235 lines, an increase of 190 over the 1996 planting. In addition, there were 184 recent southern named varieties planted with the pureline plots just to check pubescence characters. The 1992-93 MG VI evaluation will be accessible on GRIN within a month with printed publication in the months following. By the end of the summer, the results from the three 1994-95 evaluations (MG 000 - I, Rosemount, MN; MG II - IV, Urbana, IL; MG VII - VIII, Stoneville, MS) will also be accessible on GRIN.

Improvements in collection operation this year include the acquisition of a new network server with a more

advanced operating system and one new high-speed workstation. Programs to permit rapid entry of fieldbook data into the database were also written.

As of December 31, 1997, the Collection database contained data for the following entries:

Subcollection	Entries
Introduced <i>G. max</i>	14,457
<i>G. soja</i>	1,103
Germplasm releases	139
Modern cultivars	408
Old cultivars	208
Private cultivars	31
All Isolines	579
Williams	(100)
Clark	(295)
Harosoy	(136)
Other	(48)
Genetic types	<u>150</u>
Total	17,075

The changes reflect the addition of 7 new foreign and 33 domestic accessions. The rest of changes are due to addition of lines or sublines following the purelining process, or to discarding of accessions or sublines as a result of comparison plantings or irregularities.

The following information was taken from Dr. Ted Hymowitz' annual report for the specific cooperative agreement "Management of the USDA Perennial *Glycine* Germplasm Collection". The current inventory of the perennial *Glycine* consists of 1032 (+64) accessions of 16 species. Of these, 851 (+34) accessions in 13 species are available for distribution and 774 (+55) accessions in 12 species are stored at the National Seed Storage Laboratory in Ft. Collins. During the 1997 report year (ended on 9/30/97), 521 seed packets were sent in response to 23 requests from 5 states and 1 foreign country.

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