

# REPORT TO THE SORGHUM and MILLET CROP GERMPLASM COMMITTEE

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## STATUS OF THE COLLECTION

There are 17 taxa included in the S9 millet collection with 2428 total accessions (Table 1). The sorghum collection continues to be the largest crop collection maintained at the Griffin, GA location with 48,511 accessions. Currently, 96% of the sorghum accessions and 94% of the S9 millet accessions are available for distribution. Ninety-three percent of the sorghum germplasm and 99.6% of the S9 millet germplasm is backed up at the National Laboratory for Genetic Resources Preservation (NLGRP) in Fort Collins, CO. Germplasm backed up at the Global Seed Vault in Svalbard, Norway includes 10,056 accessions of sorghum and 989 accessions of S9 millets.

**Table 1.** Status of the USDA Sorghum and S9 Millet Germplasm Collection as of March 17, 2023.

	<u>Sorghum</u>	<u>S9 Millets</u>
<b>Total Number of Taxa</b>	22	17
<b>Total Number of Accessions</b>	48511	2428
<b>Number of Available Accessions</b>	46635	2292
<b>Number of Unavailable Accessions</b>	1876	136
<b>Number of Accessions Backed Up</b>	45237	2419
<b>Svalbard Back Up</b>	10056	989
<b>Number of Accessions at -18C</b>	44485	2428
<b>Number of Viability Tests</b>	43382	2412

## DISTRIBUTIONS

For the 2022 calendar year, 9,439 accessions of sorghum germplasm, including genetic stocks, were distributed. A total of 1129 accessions of S9 millets were distributed (Table 2). The majority of accessions were domestic distributions with 90% for sorghum, 85% for S9 millets, and 80% for sorghum genetic stocks.

**Table 2.** Distributions of sorghum and S9 millet germplasm during the 2022 calendar year.

<b>Cooperator Affiliation</b>	<b>Number of Accessions Sorghum</b>	<b>Number of Accessions S9 Millets</b>	<b>Number of Accessions Sorghum Genetic Stocks</b>
Foreign commercial category	357	4	289
Foreign genebank	8	81	0
Foreign individual no affiliation	0	0	0
Foreign non-commercial organization	371	80	72
U.S. state agencies and all universities	2859	909	721
Agricultural Research Service	493	34	0
U.S. commercial company	1491	20	593
U.S. individual no affiliation	30	0	0
U.S. non-profit organizations	1981	1	174
U.S. federal agency (not AID or ARS)	0	0	0
<b>Total Distributions</b>	<b>7590</b>	<b>1129</b>	<b>1849</b>

## REGENERATION AND MAINTENANCE

Regenerations of sorghum and pearl millet continue to be performed in Puerto Rico in collaboration with the USDA, ARS, Tropical Agriculture Research Station. Regenerated seeds are sent back to Griffin, GA for processing into the collection. Each regeneration sample has a germination test prior to storage. All newly regenerated accessions are split into two inventories - a 500 seed sample for long term -18C storage and the remaining seed at 4C for distributions. If the current backup inventory at Fort Collins, CO has low germination or seed quantity, a new backup inventory is sent from the newly regenerated seed. A greenhouse regeneration for wild sorghum accessions is planned for this year in Griffin, GA. Goals of this regeneration are to increase seed supply, verify taxa, and collect and upload basic descriptor data and images on GRIN-Global.

## ACQUISITIONS

PGRCU seed storage personnel completed the processing of ~5,000 accessions of sorghum that had originally been preserved at Fort Collins, CO only without a distribution sample in the active collection in Griffin, GA. This material is now available for distribution. Dr. Zhanguo Xin, USDA-ARS Plant Stress & Germplasm Development Unit, Cropping Systems Research Laboratory in Lubbock, Texas donated 252 accessions of the ARS EMS population to the collection. The populations are defined by the descriptor “subset of a population” and can therefore be found using the descriptor search feature on GRIN-Global (<https://npgsweb.ars-grin.gov/gringlobal/descriptors>). Accessions of these populations are maintained at 4C only and do not have an additional sample at -18C. Seed will be distributed until the sample is exhausted and not regenerated.

## NEEDS

Accession level data is very valuable for the collection. Once a study is published, if the researcher could please share the accession level data with the NPGS, the data can be uploaded to GRIN-Global. Information on the study, including the manuscript citation, can be included in the narrative that is associated with the data on GRIN-Global. Thus, the citation be shared with a broader audience and increase the value of the manuscript as well as the data available on GRIN-Global.

We kindly request authors to include the USDA, ARS, NPGS in the acknowledgement section for all manuscripts where NPGS germplasm is used.

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