

**STATE OF HAWAII**  
Annual Report for Calendar Year 2024  
To the W6 Technical Committee  
Compiled by Dr. Amjad Ahmad

**W6 GENE-BANKS:**

**2021 report:**

An individual order from the University of Hawaii was placed for 8 *Phaseolus vulgaris* accessions from the W6 gene-banks in 2021.

Notes:

- Seeds were delivered in very good conditions.
- Germination was 100%.
- The seeds used for evaluation and seeds increase in 2024
- The best popping ones were used during the variety showcase on Kona in May 2025.

Publications/seeds release:

- Zienkiewicz, Marc. 2025. Is Our Modern Food System Forgetting the Meaning of a Meal?<https://www.seedworld.com/canada/2025/05/22/is-our-modern-food-system-forgetting-the-meaning-of-a-meal/>.

**2024 report:**

Two individuals from the University of Hawaii placed 1 order each for a total of 3 accessions (clover and lettuce).

- The lettuce order was used for heat tolerance trial.
- The clover (Red and White) accessions are used by a graduate student (PhD) studying the effect of magnetic duration exposure on various genotypes seeds germination and growth habit.

Notes:

- Seeds were delivered in good conditions.
- Germination varied between 80-100%.

**ALL NPGS ORDERS:**

**2021 report:**

Total of 224 accessions were ordered from the entire NPGS in 2021. 57% for academic purposes, 40% for private, and the remaining (3%) for USDA/Ag-research organizations.

Name	County	Ordered by	Species/No.	Intended use
Amjad Ahmad	Oahu	Academic	Phaseolus vulgaris/8	Research for suitability and yield.
Frederika Bain	Oahu	Sweet basil farm/Private	Ocimum basilicum/5	Variety evaluation on the farm for diseases resistance and quality.

Jay Boast	Oahu	GoFarm training program/ORG	Capsicum annuum/2 Zea mays/2 Glycine max/1	Pepper, corn, and soybean for suitability to Hawaii
Ken Love	Captain Cook	HTFG	Canarium pimela/1	Variety evaluation
Paul Defilippi	Lanai/Maui	Sensei Ag/Private	Carica papaya/8	Papaya for variety evaluation
Philip Kali	Kauai	Hartung Brothers Co.	Zea mays/12	Field evaluation for feed/seed production
Michael Kantar	Oahu	Academic	Oryza sativa/1	Rice variety for genetic study
James Keach	Kauai	Academic	Cucumis melo/29 Cucurbita pepo/9 Capsicum spp/30 Physalis peruviana/20 Solanum spp/20	Melon, Pumpkin, peppers, tomatillo, tomato, for evaluation and breeding.
Brysen Kumabe	Oahu	Mari's Garden/Private	Zea mays/5	Corn for evaluation
Diane Li	Oahu	Hawaii Island Seed Share/Private	Zea mays/33	Seed distribution
Josiah Marquez	Oahu	Hawaii Dept. of Agric.	Nicotiana tabacum/1	Plant disease detection
Michael Muszynski	Oahu	Academic	Zea mays/10	Breeding/genetic studies
Jason Okamoto	Big Island/Hilo	USDA ARS	Theobroma cacao/1	
Bobby Skelton		Red Beard's Pepper Sauce/Private	Solanum lycopersicum/8	For evaluation-Value-added production suitability
Ronaled Thomas	Big Island/Captain Cook	Kona Chocolate Farms/Private	Vitis hybr/11 Ficus carica/6	Suitability/Value-added production

#### Notes:

- Seeds were delivered in very good conditions.
- Germination varied between 75-100%.
- Corn genotype: CML341 had 0% germination and was dropped it from the evaluation.
- The seeds used during the variety showcase on Kona in May 2025.

#### Publications/seed release:

- Lettuce seeds (a parent of Manoa lettuce variety) was released through Hawaii Seed Growers Networks ([Hawaii Seed Growers Network: Growing locally-adapted seed for Hawaii](#)).
- Multiple publications in process. Expected in 2026.

**2024 report:**

A total of 227 accessions from the entire NPGS in 2024. 45% from the University of Hawaii, 48% from Private Ag-related Organizations, and the remaining accessions were ordered by the USDA/Hawaii Dept. of Ag.

Name	County	Ordered by	Species/No.	Intended use
Ryan Domingo	Hilo	USDA ARS	Carica papaya/4	
Nathan Fumia	Oahu	HARC	Ananas comosus/45 Camelina sativa/45	
Isaac Kamoku	Hilo	Azienda Riccia LLC	Solanum lycopersicum/2	
Michael kantar	Oahu	Academic	Litchi chinensis/7 Cannabis sativa/25 Psidium guajava/3	Variety evaluation for Hawaii's condition
Noa Lincoln	Hilo	Academic	Artocarpus altilis/3	
Michael Muszynski	Oahu	Academic	Zea mays/23	
Tracie Matsumoto	Hilo	PBARC	Carica papaya/4	
Glenn Teves	Maui	Academic	Brassica spp./30 Capsicum annuum/4	Variety evaluation
Ming-Li Wang	Oahu	HARC	Ananas comosus/15	
Qingyi Yu	Hilo	USDA	Zea mays/2 Oryza sativa/2 Solanum lycopersicum/1 Sorghum bicolor/1	
Yiyuan Zhang	Oahu	Academic	Trifolium spp./2 Apium graveolens/1 Solanum lycopersicum/3 Cucumis sativus/1	PhD research.

**Notes:**

- Overall response from individual was about 55%.
- The lettuce/brassica orders were used for heat tolerance trial.
- The clover (Red and White) accessions were/are used by a graduate student (PhD) studying the effect of magnetic exposure of seeds on various genotypes germination and growth habit.
- The Ananas spp order is used to sequence a pangenome in pineapple. tissue sampled and sequenced 39 of the 45 individuals thus far. Publications are expected late 2026 and breeding will commence in the Fall 2025.