

National Laboratory for Genetic Resources Preservation



Agricultural Genetic Resources Preservation Research Unit (RL- Dr. Daren Harmel)

Plants (seed, clonal, microbe)

Dr. Christina Walters (Lead Scientist)

Dr. Gayle Volk

Dr. Chris Richards

Dr. Stephanie Greene

Dr. Maria Jenderek

National Animal Germplasm Program

Dr. Harvey Blackburn (Lead Scientist)

Dr. Phil Purdy

Seeds and Microbes

Cold Storage (-18°C)



Liquid nitrogen vapor (-185°C)

National Plant Germplasm System

Seed Collections

<u>Source</u>	<u>Accessions</u>	
NPGS Active site seed collections	532,389	
NPGS Seed collections at NLGRP	431,437	81% backed-up
NLGRP-only seed collection	10,359	
PVP Seed collections	11,054	
Black Box (other genebanks)	~500,000	



W6 Seed Collections

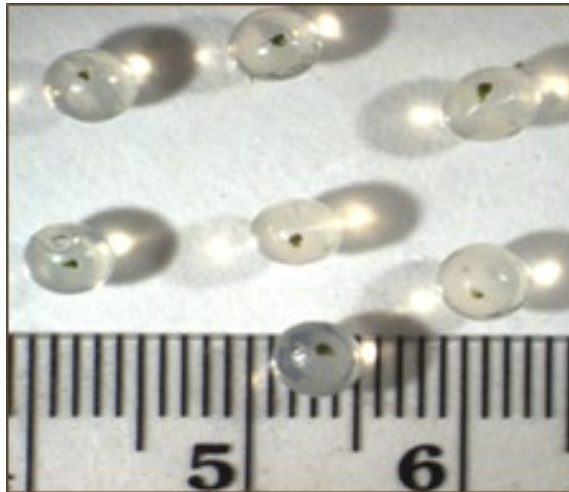
<u>Source</u>	<u>Accessions</u>	
Pullman (W6) Active seed collections	86,418	
Pullman (W6) at NLGRP	65,594	76% backed-up
Pullman (W6) at NLGRP in 2019	663	
SOS Active seed collection	18,144	
SOS at NLGRP	17,145	94% backed-up

NLGRP and W6 are cleaning up passport data for the Seeds of Success data in GRIN with the help of Dan Carver (W6), located in Fort Collins.

Clonally-propagated crops: in vitro or liquid nitrogen storage

Dormant buds

Shoot meristems



National Plant Germplasm System

Clonal Collections

<u>Source</u>	<u>Accessions</u>
NPGS Active site clonal collections	28,863
NLGRP In vitro collections	1750 6% backed-up
NLGRP clonal cryo collections	3751 13% backed-up
NLGRP pollen cryo collections	73 <1% backed-up
PVP Potato cryo collection	384



Some NLGRP Clonal Collaborations in the Western Region

Riverside: Citrus shoot tips and date palm pollen

Davis: Prunus pollen, grape and mulberry shoot tips

Corvallis: Mint and strawberry shoot tips

Hilo: starting breadfruit and coffee cryo research



Citrus shoot tip cryo

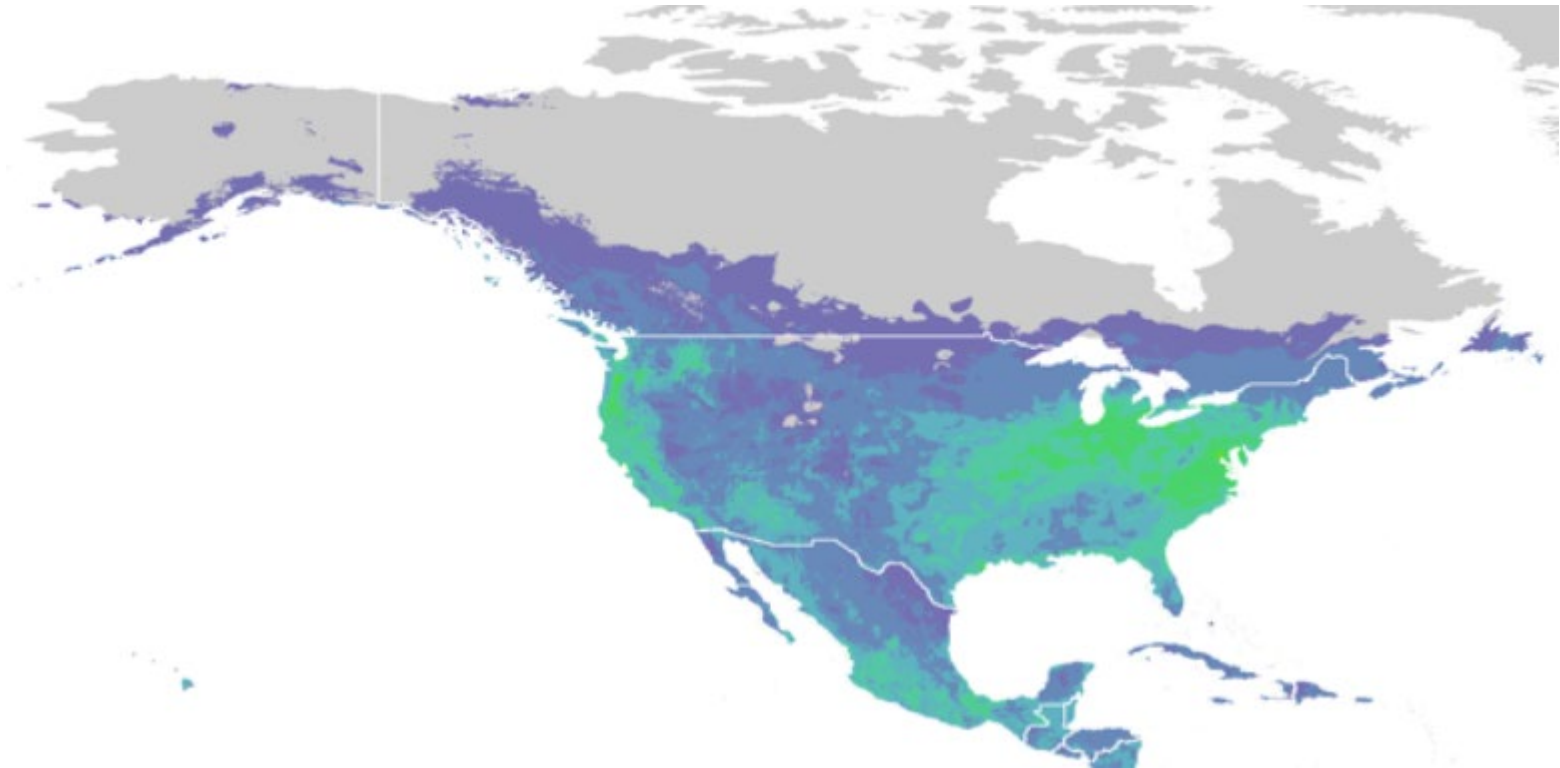


Grape shoot tip cryo

U.S. Crop Wild Relatives

Stephanie Greene and Colin Khoury's U.S. CWR gap analysis will be published in PNAS.

Next: Develop a CWR conservation plan to conserve these species.



Training Program

Plant Genetic Resources Management and Use

- ~30% of NPGS staff will retire during the next few years
- Training in “Plant Genetic Resources Management and Use” available to students and NPGS staff/scientists
- NIFA Higher Education Challenge Program Grant: CSU, USDA, ISU
- Training materials will be freely available through new site associated with GRIN-Global: Ebooks, videos, images, virtual tours, PDFs
- Online course and possible extension courses offered through CSU



For more information contact:

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Plant Genebank Training Program Public Ebooks

Crop Wild Relatives and their Use in Plant Breeding

Gayle Volk and Patrick Byrne



8 chapters released
10 in development

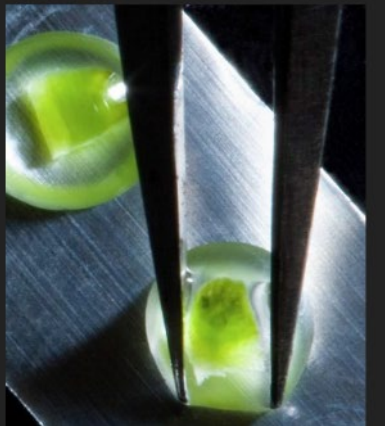
<https://colostate.pressbooks.pub/cropwildrelatives/>

Training in Plant Genetic Resources: Cryopreservation of Clonal Propagules

Gayle Volk



READ BOOK



4 chapters released
2 in development

<https://colostate.pressbooks.pub/clonalcryopreservation/>

Davis Repository Field Collections: 11 chapters in development