Alaska Report
W6: Western Regional Plant Introduction Station (WRPIS)
August 25, 2023
Prepared by: Jakir Hasan, University of Alaska Fairbanks, W6 Alaska Representative

Alaska 2019 germplasm requests

In 2019, the Western Regional Plant Introduction Station (WRPIS) received three germplasm requests from three different Alaskan residents. These requests were given the ID numbers 310564, 313318, and 315475. All three individuals had a keen interest in using the germplasm for plant breeding purposes. To fulfill the requests, the WRPIS distributed a total of 12 accessions of rhubarb (*Rheum rhabarbarum* L.), three accessions of *Lactuca sativa*, and one accession of *Sporobolus compositus*.

As part of the yearly reporting procedure, an email was sent to all three recipients of the germplasm with three questions.

- Did you receive the seeds in good condition?
- How did you utilize the seeds in your work or program?
- Do you have any suggestions on how Genebank can improve its services?

Responses from the recipients are below;

Requestor: Dr. Danny Barney, a retired USDA/ARS Scientist
Geography: Wasilla, Alaska, USA, 99654
Affiliation: Private plant breeder. US Commercial Company
e-mail: dbarney53@outlook.com, phone: 515-520-9474
Order request ID: 310564; Web Order ID: 31520
Intended use note: Variety development, research use only.
Status on e-mail request for information: Dr. Barney's response is below;

Between 2017 and 2020, Dr. Barney made seven requests for germplasm from Pullman and Corvallis. The requests were for rhubarb (*Rheum* ×*rhabarbarum* L.) and black and red currants (*Ribes spicatum*, *Ribes aureum* Pursh, *Ribes nigrum* L., *Ribes petraeum* Wulfen, and *Ribes rubrum* L.). Dr. Barney also requested a total of 79 items from NCGR, and 70 of them were shipped. Thirty-five of the items were *Ribes* hardwood cuttings from Corvallis, and 44 of the items were *rheum* cuttings from Pullman.

There was some duplication with the orders due to the failure of some clonal accessions to establish. For the W6 rhubarb collection, 21 accessions were shipped, 19 were established in his breeding plot, and 2 accessions failed to establish. In one case, the NCGR accession failed repeatedly to establish, and Dr. Barney obtained what he believed was the same clone from the original donor. The first *Rheum* shipment from W6 was caught in a mixup with the US Postal Service, and the cuttings were left in a hot mailbox for several days, causing extensive soft rot. A second shipment was more successful, and Dr. Barney established a breeding plot using the cuttings.

The rhubarb cuttings are very susceptible to soft rot, and successful distribution requires close coordination with and excellent communication between the curator and requestor during

the shipping. Whether the U.S. Postal Service or a private carrier is employed, the requestor requires the ability to track shipments. In all cases, The W6 curator and technical staff were very helpful and did all that could be reasonably expected of them. Having curated the *Rheum* collection myself, I know the challenges involved in propagation and distribution.

Ribes hardwood cuttings received from Corvallis failed to root. However, Dr. Barney was able to access the NCGR plants from the Arctic and Subarctic Plant Gene Bank, which he had donated to Dr. Pat Holloway, then professor of Horticulture at UAF. Dr. Holloway maintained the *Ribes* in plots at the Georgeson Botanical Garden in Fairbanks. The softwood cuttings which Dr. Barney obtained established very well and provided 9 black currant and 6 red currant cultivars. Dr. Holloway subsequently provided Dr. Barney with three additional *Ribes* clones, and he was able to purchase 10 additional cultivars from commercial nurseries.

Dr. Barney is attempting to breed highly uniform and vigorous Rhubarb cultivars adapted to Southcentral and Interior Alaska for either or both juicing and/or baking. With *Ribes*, Dr. Barney is attempting to breed black currant cultivars with improved culinary and horticultural traits and adapted to Southcentral and Interior Alaska. Dr. Barney has elected not to pursue red currant breeding.

Dr. Barney's breeding plots now consist of the following clones/cultivars. Accessions marked with an asterisk (*) are from or derived from NCGR collections.

Rhuem

1. Cawood*
2. Chipman*
3. Crimson Cherry RB5*
4. Crimson Cherry RB39*
5. Penn State #3*
6. Crimson Wine*
7. German Wine morphotype 1*
8. Goliath*
9. Johnson's St. Martin*
10. Kerwin*
11. MacDonald
12. McDonald*
13. North Pole*
14. OR23*
15. Victoria
16. Ruby*
17. Sunrise*
18. Sutton*
19. Sutton Seedless*
20. The Sutton*

Ribes nigrum

1. Ben Alder*
2. Ben Hope
3. Ben Nevis*
4. Ben Sarek
5. Blackdown
6. Black Reward*
7. Boskoop Giant
8. Coronet*
9. Crusader*
10. Daniel's Black September*
11. Goliath*
12. Melelahti
13. Minaj Smyrev
14. Nikkala XI
15. Strata*
16. Swedish Black*
17. Titania

Requestor: Brett Merrow
Geography: Nikiski, Alaska, USA, 99635
Affiliation: US Individual, no affiliation
e-mail: brett.merrow@gmail.com, phone: 907-513-2633
Intended use note: Variety development, research use only
Order request ID: 313318; Web Order ID: 33156

Status on e-mail request for information: No response

Requestor: Mr. Aaron Brothers
Geography: Anchorage, Alaska, USA, 99503
Affiliation: US Individual, no affiliation
e-mail: capttripppp@gmail.com, phone: 907-251-6408
Intended use note: Variety development, research use only
Order request ID: 315475; Web Order ID: 34510

Status on e-mail request for information: No response

Alaska 2022 germplasm requests

In 2022, the Western Regional Plant Introduction Station (WRPIS) received two germplasm requests from two Alaskan residents, identified as 341268 and 345080. Both showed an interest in utilizing the germplasm for plant breeding. To fulfill the requests, the WRPIS distributed five accessions, including one for each of *Oxytropis arctica* var. *koyukukensis*, *Angelica lucida*, and *Trisetum spicatum*, and five accessions for rhubarb (*Rheum rhabarbarum* L.).

As part of the yearly reporting procedure, an email was sent to all three recipients of the germplasm with three questions.

- Did you receive the seeds in good condition?
- How did you utilize the seeds in your work or program?
- Do you have any suggestions on how Genebank can improve its services?

Requestor: Erika Wolter
Geography: Chugiak, Alaska, USA, 995567-2614
Affiliation: US Individual, no affiliation
e-mail: twoalaskanrivers@gmail.com, phone: 907-390-7139
Intended use note: Variety development, research use only
Order request ID: 341268; Web Order ID: 54175

Status on e-mail request for information:

Ms. Wolter received all seeds in great shape. Ms. Wolter is working with a researcher at the Experiment Farm on a project looking at rhubarb genetics. They are trying to find unique varieties that can then be sent into the national collection for preservation and further research. The rhubarb crown sections are part of that effort. Ms. Wolter is comparing their performance with 25 or so additional varieties she collected (and are currently being genotyped). The plants Ms. Wolter received are doing wonderfully despite the crazy weather

Ms. Wolter is also heavily involved in the Alaska Native Plant Society - specifically when it comes to seeds and germination of native plants. She was hoping the seeds she received would germinate this Spring so that she could share with others (to expand knowledge and the number of folks growing native plants) sooner. Unfortunately, nothing as of early August 2023. However, she thinks this is not uncommon with native varieties. She may request a second set to try a different growing medium. Ms. Wolter also observed seeds planted in pots 3 years ago germinate but only in one specific medium.

Ms. Wolter is interested in having the option to pay for shipping, as this would allow funds to be allocated towards the important work being done by USDA-GRIN.

Requestor: Jakir Hasan
Geography: Fairbanks, Alaska, USA, 99775
Affiliation: University of Alaska Fairbanks
e-mail: mjhasan@alaska.edu, phone: 907-474-4618
Intended use note: Research use only
Order request ID: 345080; Web Order ID: 58230
Status: A single accession of *Trisetum spicatum was* received from WRPIS. This accession is currently being phenotyped in the greenhouse.