Twenty-three recipients received a total of 2394 plant germplasm accessions in Montana during the last year. 1723 of the accessions went to one private breeder with the next biggest portion (369) going to Montana State pulse breeder Kevin McPhee. We also continue to have several individuals requesting accessions of various species including tree fruit and raspberries to screen for those that may tolerate MT winters.

<table>
<thead>
<tr>
<th>NPGS Site</th>
<th>Sent #</th>
<th>Species</th>
<th>Primary Purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAV</td>
<td>1</td>
<td>grapes</td>
<td>Breeding cold hardiness</td>
</tr>
<tr>
<td>NE9</td>
<td>1</td>
<td>Tomatoes</td>
<td>Educational</td>
</tr>
<tr>
<td>NSSL</td>
<td>1</td>
<td>cereals</td>
<td>Varietal development</td>
</tr>
<tr>
<td>SOY</td>
<td>2</td>
<td>soybean</td>
<td>Varietal development</td>
</tr>
<tr>
<td>NC7</td>
<td>29</td>
<td>Corn, camelina</td>
<td>Varietal development</td>
</tr>
<tr>
<td>COR</td>
<td>30</td>
<td>Raspberry, apples, pears</td>
<td>Breeding for short season fruit varieties</td>
</tr>
<tr>
<td>S9</td>
<td>71</td>
<td>Guar, cowpea</td>
<td>Guar breeding, cowpea for sawfly parasitoids</td>
</tr>
<tr>
<td>GEN</td>
<td>72</td>
<td>Grapes, raspberries, apples</td>
<td>Home orchard breeding and demonstrations</td>
</tr>
<tr>
<td>W6</td>
<td>416</td>
<td>Pulse crops</td>
<td>Pulse crop breeding, genetics studies, disease</td>
</tr>
<tr>
<td>NSGC</td>
<td>1772</td>
<td>Wheat and wheat relatives</td>
<td>Breeding and production of “ancient grains”</td>
</tr>
<tr>
<td>Total</td>
<td>2395</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Recipient**

COR – Douglas Forbes requested 9 accessions of raspberries and other fruits to look for cold-hardiness
COR – Will Genadek requested 6 raspberry accessions to due fruit quality trials
COR, GEN- James Sapp requested 9 apple and pear accessions to screen for their suitability in a MT orchard.
DAV, GEN - Carl Camper requested 2 grape accessions to find out if they were cold hardy in MT
GEN – Brent Sarchet (MSU) requested 56 apple accessions to test their suitability in MT and to find out what varieties make up MT apple heritage orchards.
GEN – Heather Hicks requested 6 apple accessions for her home orchard breeding program.
GEN- John Becker (wheat grower) requested 4 accessions of wheat to assess whether they were suitable for bread production
NC7 – Kevin King (MSU) requested 5 camelina accessions to see how different camelina species behave under field conditions.
NSGC – Andy Hogg (MSU) requested 1 wheat accession for a study involving wheat semi-dwarfing genes.
NSGC – Burcu Alptekin (MSU) requested 4 wheat accessions for screening for salt tolerance.
NSGC – Fernando Guillen-Portal (MSU) requested 2 oat accession to screen for drought and salt stress genes
NSGC – Jacob Cargill (Prairie Heritage Farm) requested 1723 accessions to screen for those most suited to the production of ancient grain bread. He plans to carry out an “evolutionary breeding” program. http://www.prairieheritagefarm.com/the-farm
NSGC – Nancy Blake (MSU) requested 2 accessions of wheat to screen for wheat stem sawfly resistance genetic markers
NSGC, NSSL – Pat Hensleigh (USDA-NRCS) received 41 wheat accessions to look for dryland agriculture adaptation.
S9 – David Weaver (MSU) requested 16 cowpea accessions to determine whether cowpea nectar would help support wheat stem sawfly parasitoids.
S9- Bob Quinn requested 46 guar accessions as part of his screening for those that would do well on his farm. http://bobquinnorganicfarmer.com/
S9, NE9 - Shane Siegle requested 10 vegetable accessions for public education demonstrations
SOY- Ze Tian Fang (MSU) received 2 soybean accessions to test whether they would perform well in NW MT.
W6 – John Gaskin (USDA-ARS) requested one brassica accession for a biological control study
W6 – Kelly Leflamme requested 3 weed species to examine what fungal communities are associated with them.
W6 – Kevin McPhee (MSU) requested 369 pulse crop accessions in support of his pea, lentil, and chickpea breeding programs.
W6, COR - Lash Smith requested 56 accessions of tomatoes, pea and other legumes, and apples for breeding and seed preservation.

Publications:

Godoy, J., Gizaw, S., Chao, S., Blake, N., Carter, A., Cuthbert, R., Dubcovsky, J., Huel, P., Kephart, K., ... Talbert, L. (2018) Genome-wide Association Study (GWAS) of Agronomic Traits in a


