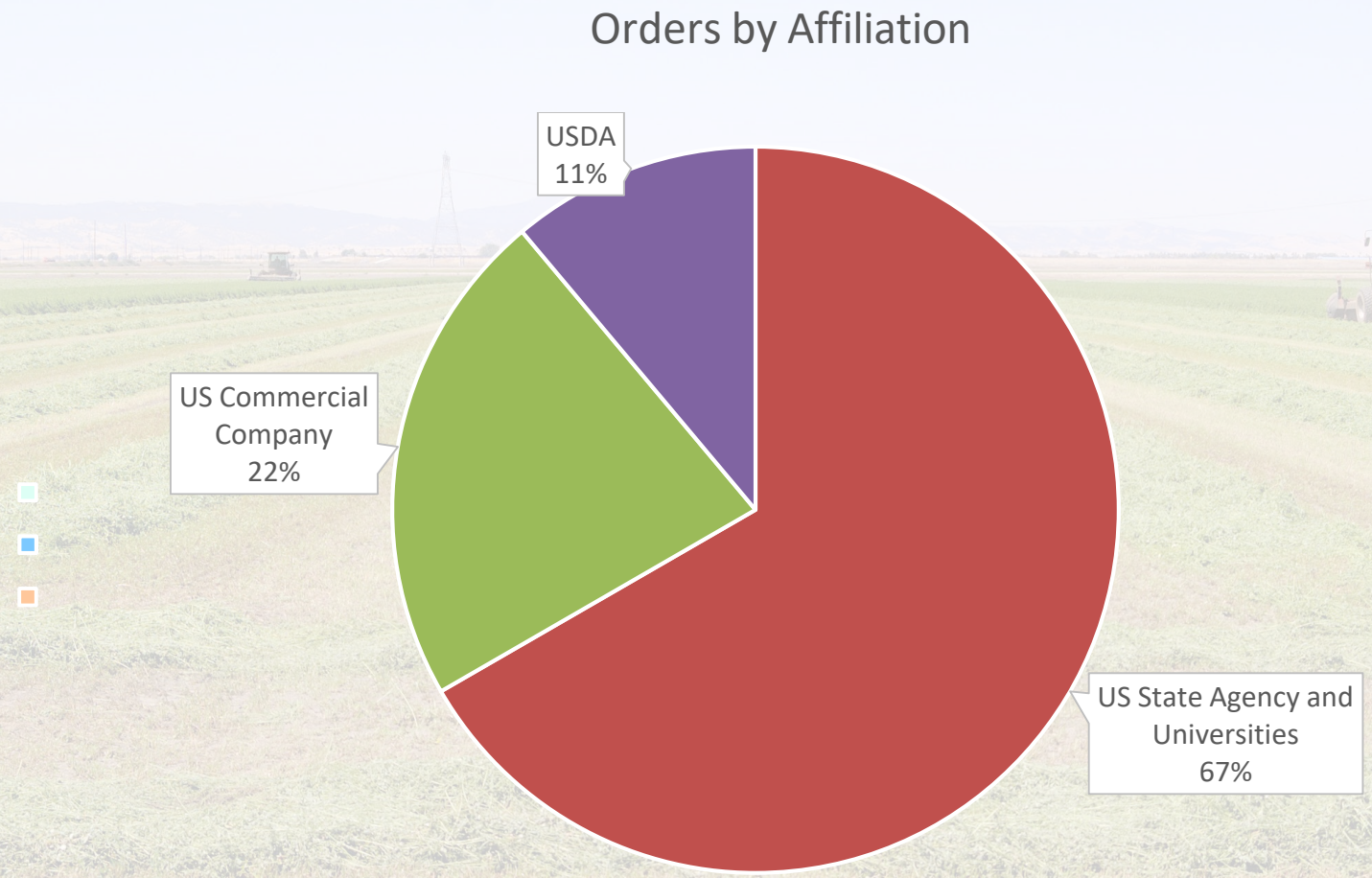
2024 W-6 RTAC Arizona State Report

Glenn C. Wright

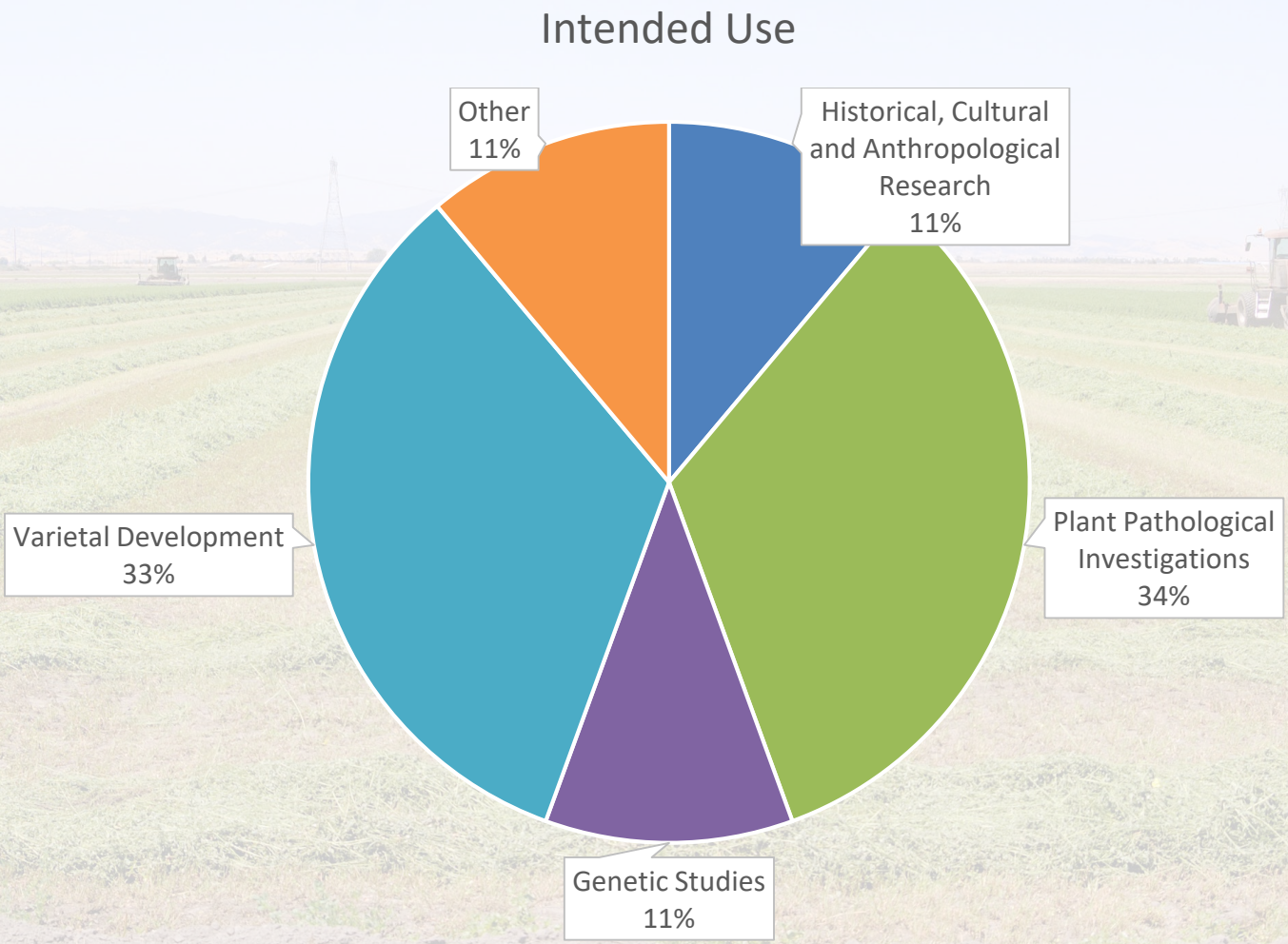
University of Arizona – Yuma Agriculture Center

17 June 2025

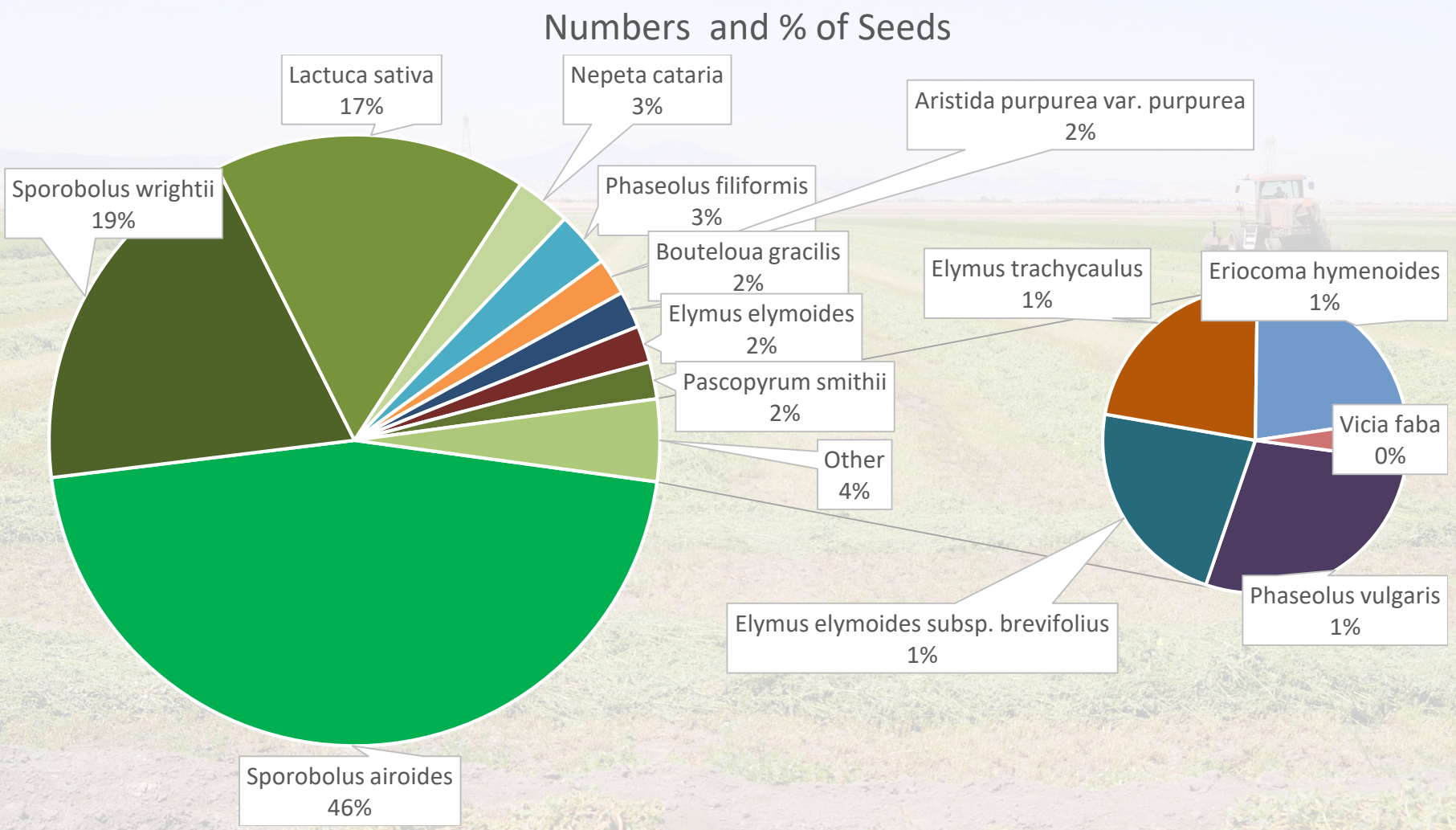
2021 Arizona Orders - 9



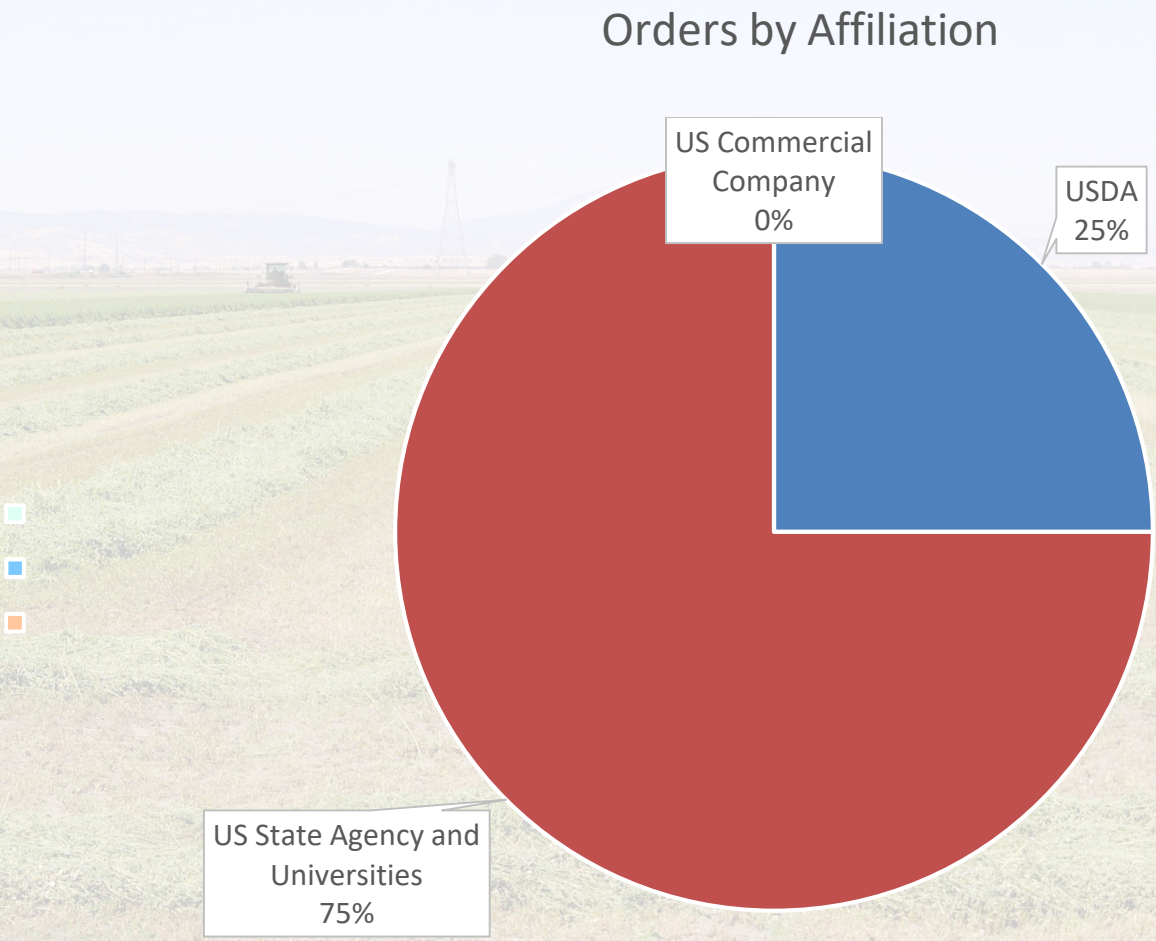
2021 Arizona Orders - 9



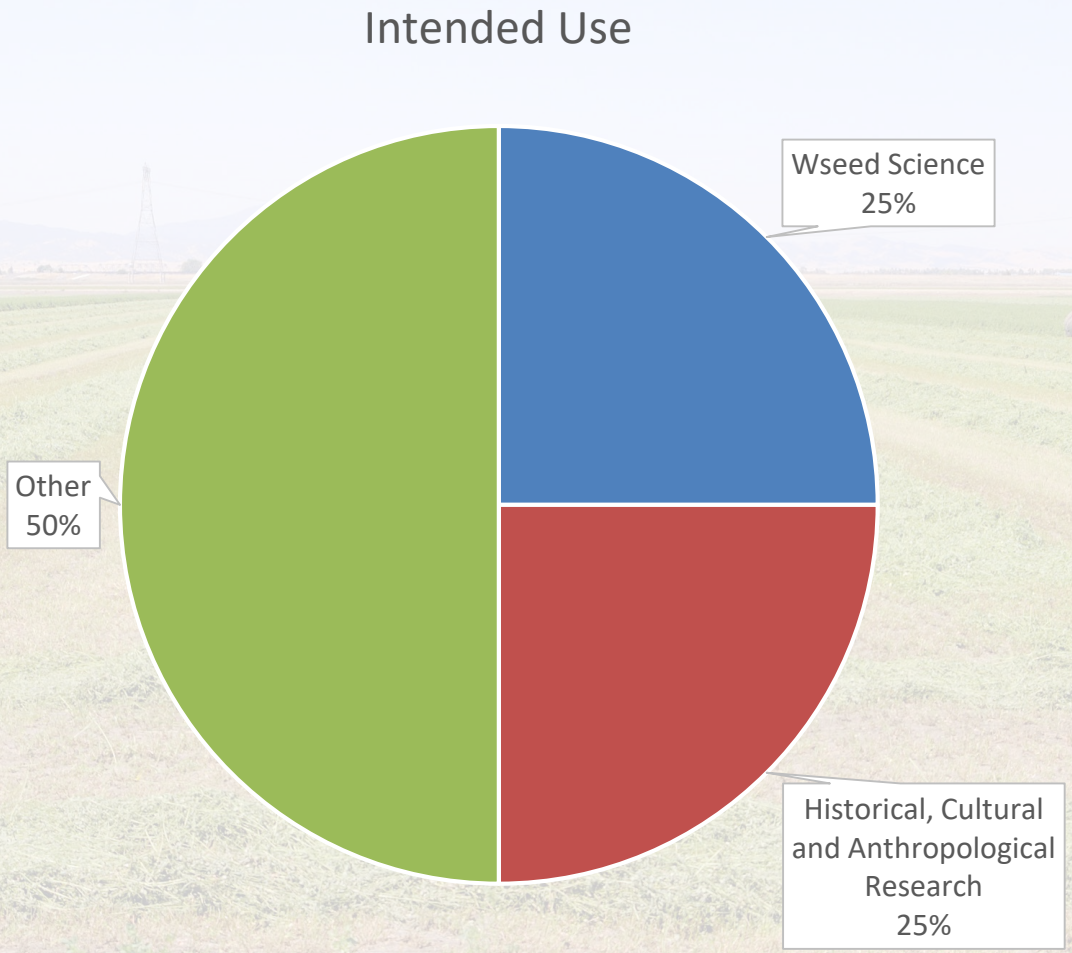
2021 Arizona Seed Distribution by Genus and Species (10,245 seeds)



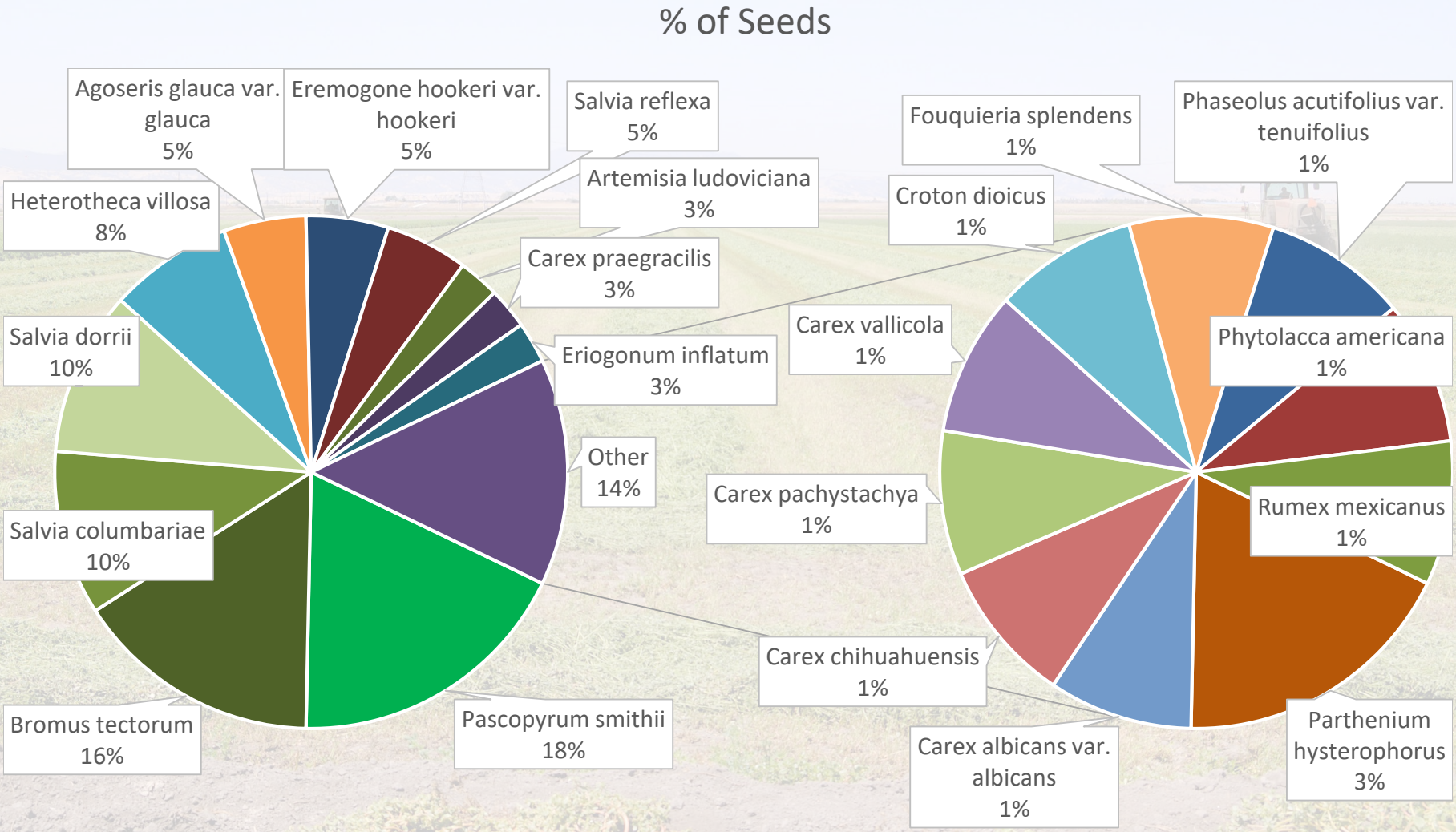
2024 Arizona Orders - 4



2024 Arizona Orders - 4



2024 Arizona Seed Distribution by Genus and Species (3850 seeds)



Survey Questions – 8 responses

Q1 - Did you receive your 2021 or 2024 order in a timely fashion?

Yes – 7,
No – 1,
Partially yes, partially no – 0
No answer – 0

Comments – Order was denied.

Survey Questions – 8 responses

Q2 - Were the seeds/propagules in good condition?
Yes – 7,
No – 1,
No answer – 0

Comments – Did not receive

Survey Questions – 8 responses

Q3 - Were you able to use the materials for the purpose you wanted?

Yes – 6,

No – 2,

No answer – 0

Comment – Did not receive

Survey Questions – 8 responses

Q4 - What was the general purpose for the materials you received?

Variety Development – 1
Research – 6
Other, please elaborate- 1 Comment – Did not receive
No answer – 0

Survey Questions – 8 responses

Q5 - What are the details of your project and how the products were used.

1. Competition and growth rate experiments between native species, cultivars and novel germplasm still being tested.
2. The intent was to test common vegetable plants grown regions where refugees in Arizona came from in the Middle East to see if they could be grown in Arizona and compare them to varieties already adapted to North America to provide lists of alternative plants to said refugee communities. However, because my research was deemed a personal use as it was not part of a university sponsored research project, my order was denied and nothing was sent.

   My lab at Arizona State University focuses mainly on the reconstruction of ancient environments and plant use, or ethnobotany. As such, we process and analyze a range of samples of organic materials (including microscopic) collected during the course of archaeological excavations. Most of the work we do is in Middle America, and we work mainly on projects in Belize, lowland and highland Mexico, and Guatemala, though also in the United States.

Survey Questions – 8 responses

2. (Continued) -Part of this work depends on having an adequate collection of reference materials to make identifications. With training in plant systematics, anatomy, and morphology, my students and I are able to make most identifications at least to genus (though sometimes to family). However, more specific levels of taxonomic resolution benefit and at times depend on a direct comparison with potential candidates.
   The seeds provided by USDA have been essential to our recent projects. In the time in which we have been able to augment our collections with USDA specimens, we have finished the analysis of plant remains from four archaeological projects (three from sites in Mexico and one from a site in Guatemala), three of which were supported by the National Science Foundation. We have just started a new project analyzing samples collected from NSF sponsored research carried out in the 1960s, allowing us to complete unfinished research proposed long ago by now-deceased PIs.

Survey Questions – 8 responses

2. (Continued) - Hence, USDA is not only supporting our work and educational goals but is also directly facilitating research funded by other federal agencies.
3. The germplasm we acquired, specifically bean varieties from the Western Regional Plant Introduction Station, is currently being used in both monoculture and polyculture field trials. These trials aim to evaluate the effects of drought on the development of the plant rhizosphere microbiome, as well as how plant-plant interactions influence the overall soil microbiome. Our current experiment features a polyculture of maize, beans, squash, and peppers. We are investigating two primary questions: whether genetic diversity within the polyculture affects the group's ability to tolerate drought, and whether these genetic combinations have microbial consequences that need to be considered. If the results are promising, there is potential to incorporate some of this germplasm into our existing agricultural practices.

Survey Questions – 8 responses

4. I was not able to use all the seeds because we change the species of the research.
5. Evaluation for drought and heat tolerance
6. We screened them for Fusarium resistance in several trials.
7. We are looking for new sources of resistance for Fusarium wilt of lettuce

Survey Questions – 8 responses

Q6 - Do you have any comments, questions or suggestions regarding the germplasm acquisition process?

1. It's a great process and I appreciate the effort and help of everyone involved. This is an incredibly valuable resource for the research community and I appreciate how quick, efficient, knowledgeable, and thoughtful all of the staff are.
2. Private parties do legitimate research that are not connected to universities, and Master Gardeners sometimes do their own research that isn't part of a university study. People should not be denied access just because it's not part of a university study, as long as it is genuinely for research purposes and just seed collectors.
3. Thank you.
4. The USDA National Plant Germplasm System is truly an invaluable resource for anyone interested in understanding the richness of plant species on this planet. I'm constantly impressed by the breadth and depth of the diversity within this collection, and I hope it is preserved for future generations and breeding programs. Thank you for all of your hard work and for making this resource available to everyone.
5. NA

Survey Questions – 8 responses

Q6 - Do you have any comments, questions or suggestions regarding the germplasm acquisition process?

6. The germplasm source is vital for my research
7. No.
8. This is an essential resource.

Q7 - Did you release any plant material(s) that were partially or fully derived from material received in 2021 or 2024 from the Western Regional Plant Introduction Station (WRPIS) in Pullman, Washington?

No – 7

Yes - 1

No answer – 0

Order #66456. Web request #: 356028.

Survey Questions – 8 responses

Q8 - Did any of your publications from 2021 through 2024 involve NPGS germplasm from the WRPIS? If so, please list below.

1. Publications are still in development.
2. Not applicable
3. Nothing yet in print.
4. Not yet, but the publications are on the way.
5. No

Survey Questions – 8 responses

Q9 - What, if any, was the impact of your use of the germplasm you received from the WRPIS in 2021 or 2024?

1. Valuable data, valuable species represented in the available germplasm resources, and a valuable process to search, acquire, and utilize the germplasm. Also, staff were helpful in answering questions about this history of these resources.
2. I was not able to complete my research.
3. See previous comment on research and projects.
4. The germplasm is having a huge impact on my research! So far, it appears that the landrace varieties I've been studying alter carbon cycling processes in the rhizosphere. While much of the work is still preliminary, it would not be possible without access to these seed resources.
5. It allow me to decide which species I was going to focus in my research.
6. They didn't perform to the level we require.

Survey Questions – 9 responses

Q10 - Do you have any comments, questions, or suggestions regarding the germplasm repository you worked with, about the germplasm system in general, or about the use of the germplasm you received that you would like to share with the committee?

1. Nothing further.
2. no
3. Working with the GRIN database is seamless and, overall, an enjoyable experience. It would be interesting to learn about potential methods for collaborating with WRPIS/NPGS, or to get more information about a mailing list, if one exists. I'm also not entirely sure how the collections differ from each other or what this particular collection focuses on. It seems to emphasize beans, but typically, I pull from multiple collections for my projects.
4. NA
5. I am very glad this repository exists, we need access to the germplasm to help find new sources of resistance to economically important diseases.

Thank you!

Glenn C Wright

University of Arizona – Yuma Agriculture Center