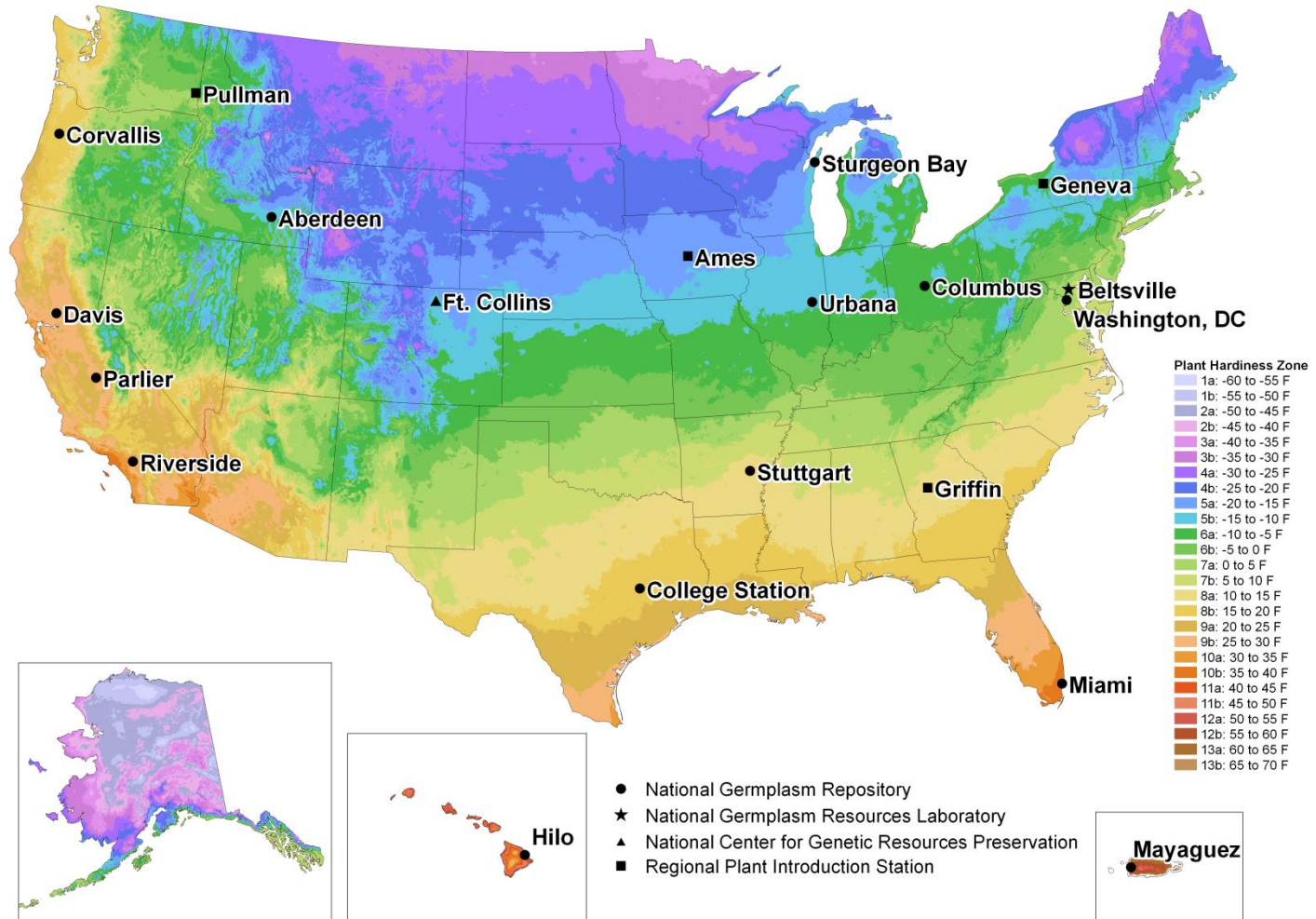


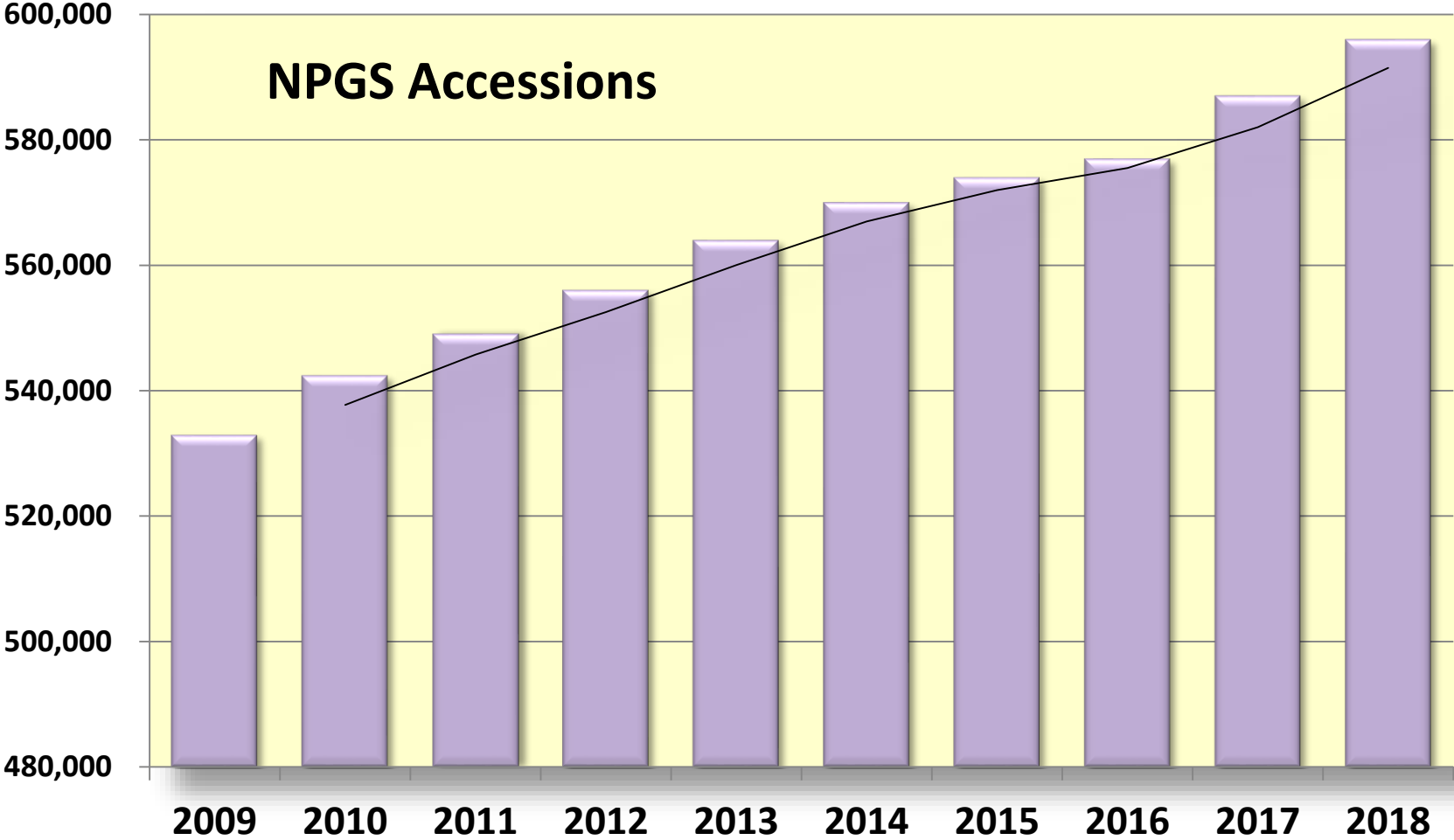
The National Plant Germplasm System: 2019 Status, Prospects, and Challenges

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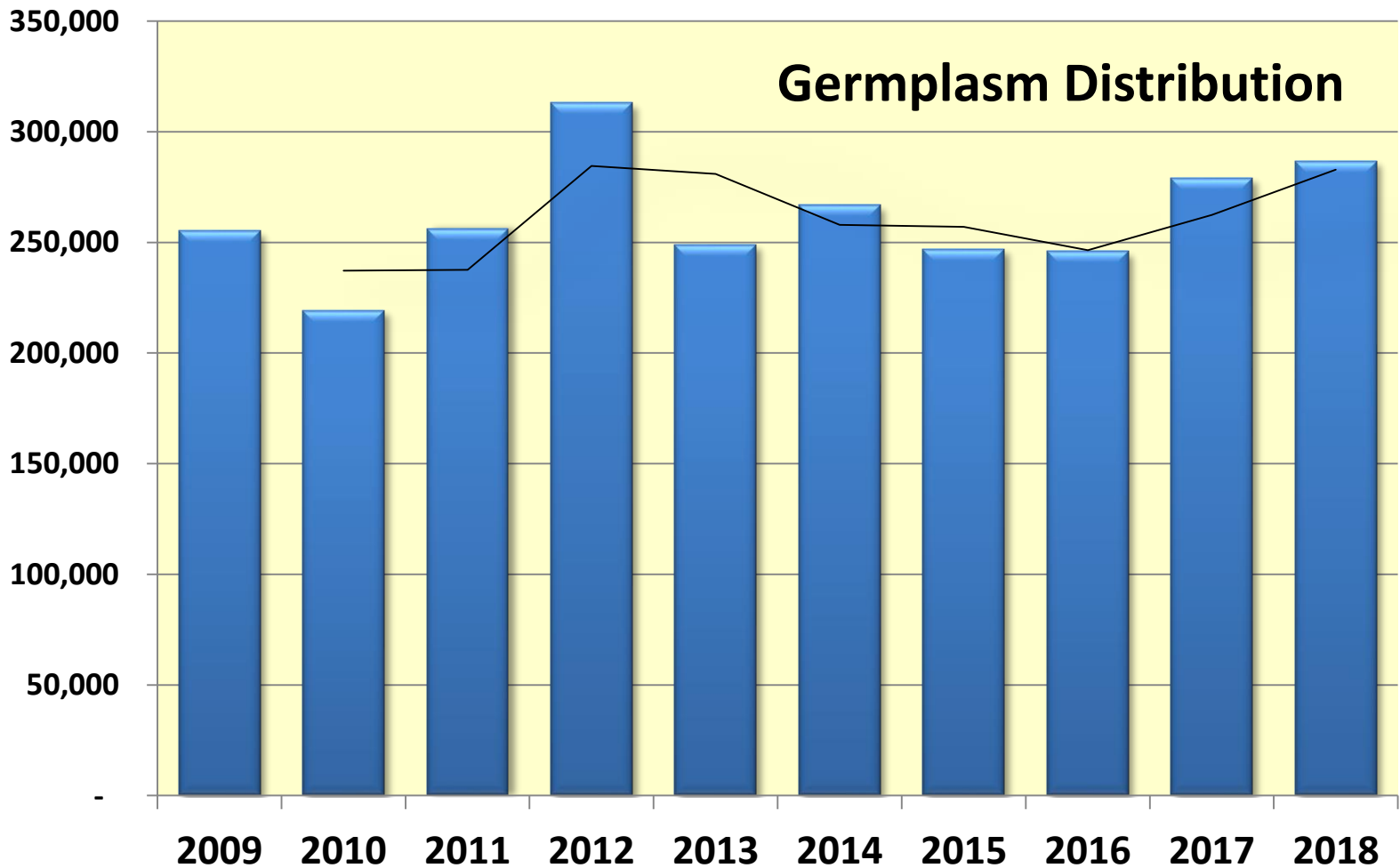
USDA National Plant Germplasm System (NPGS)



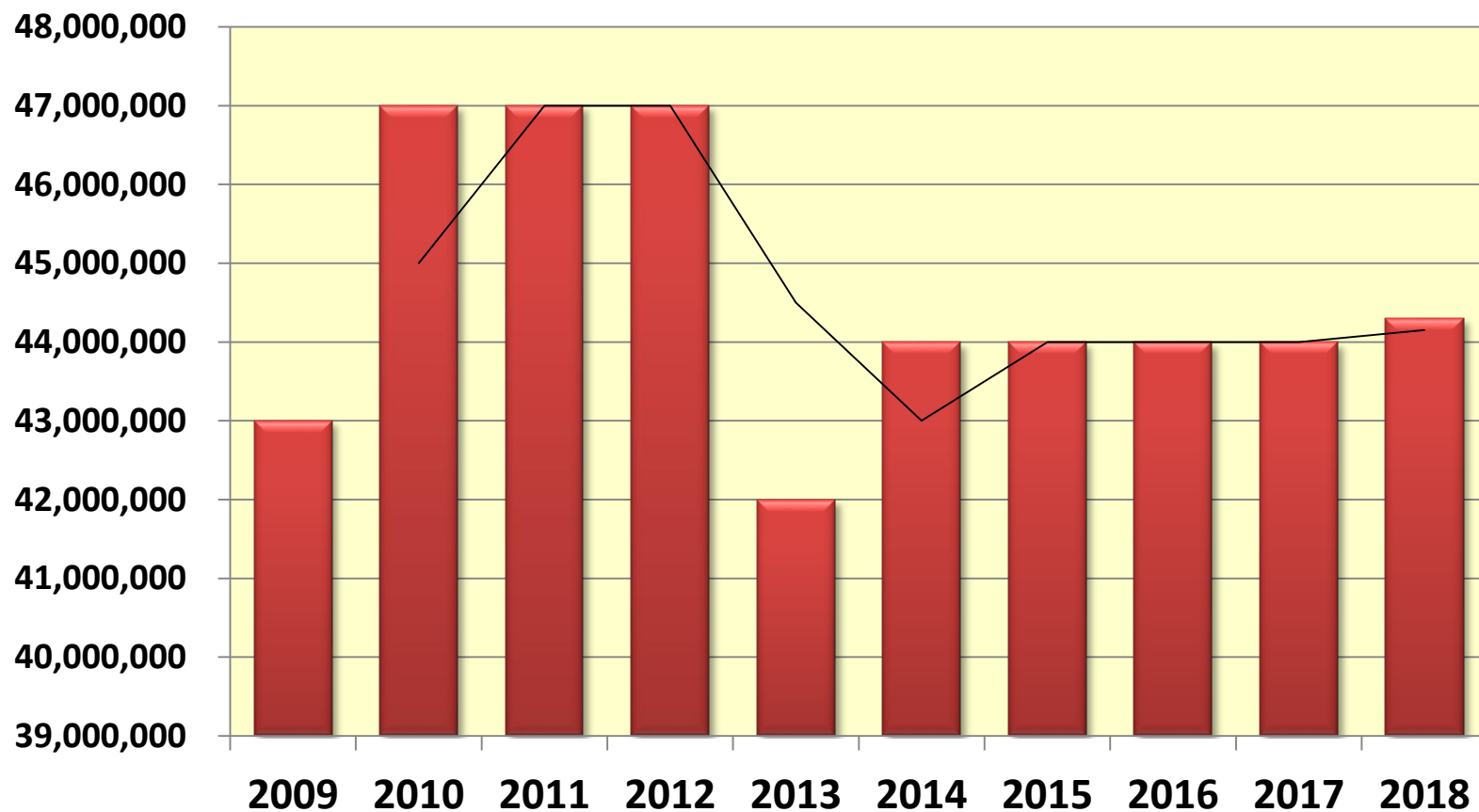
NUMBER OF NPGS ACCESSIONS 2009-2018



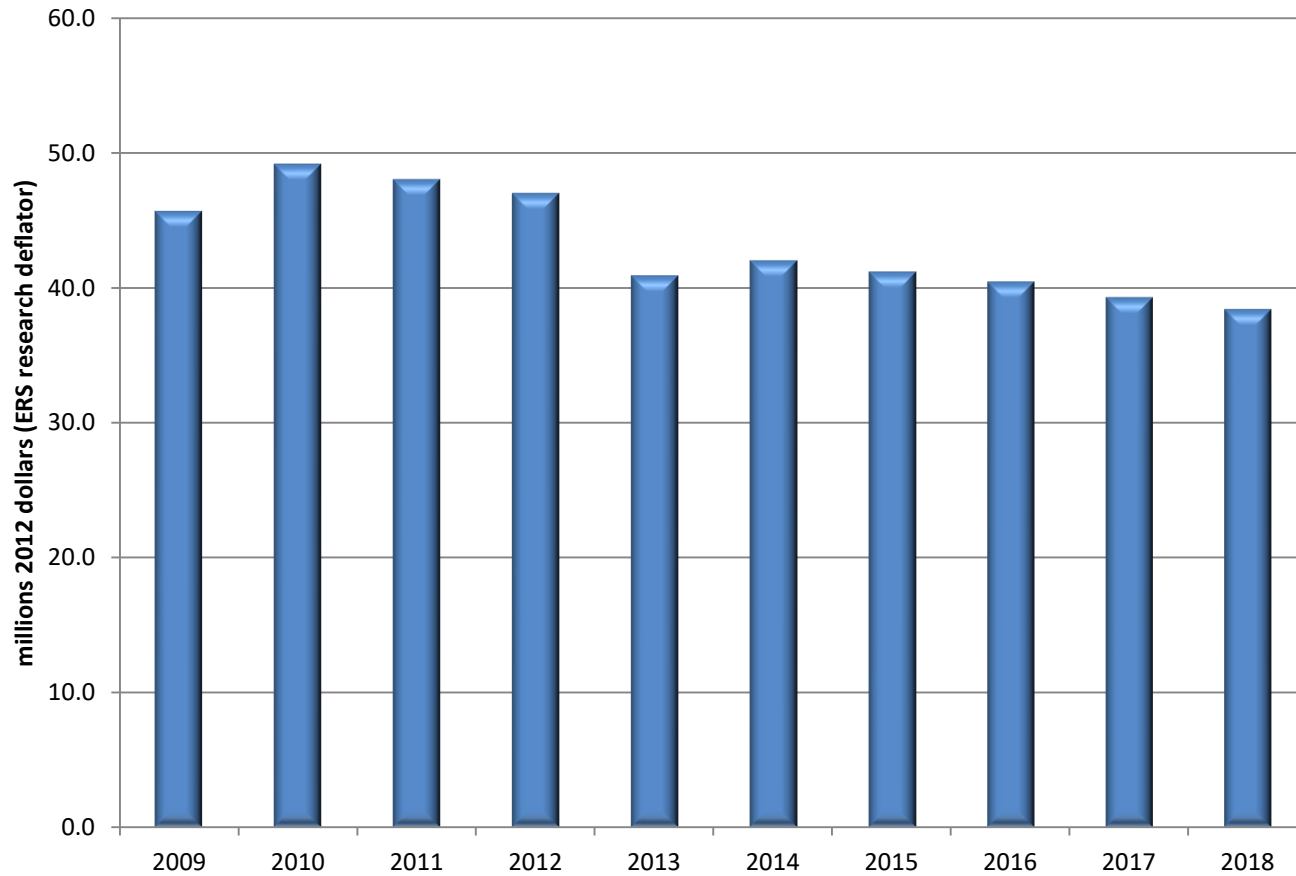
DEMAND FOR NPGS GERMPLASM 2009-2018



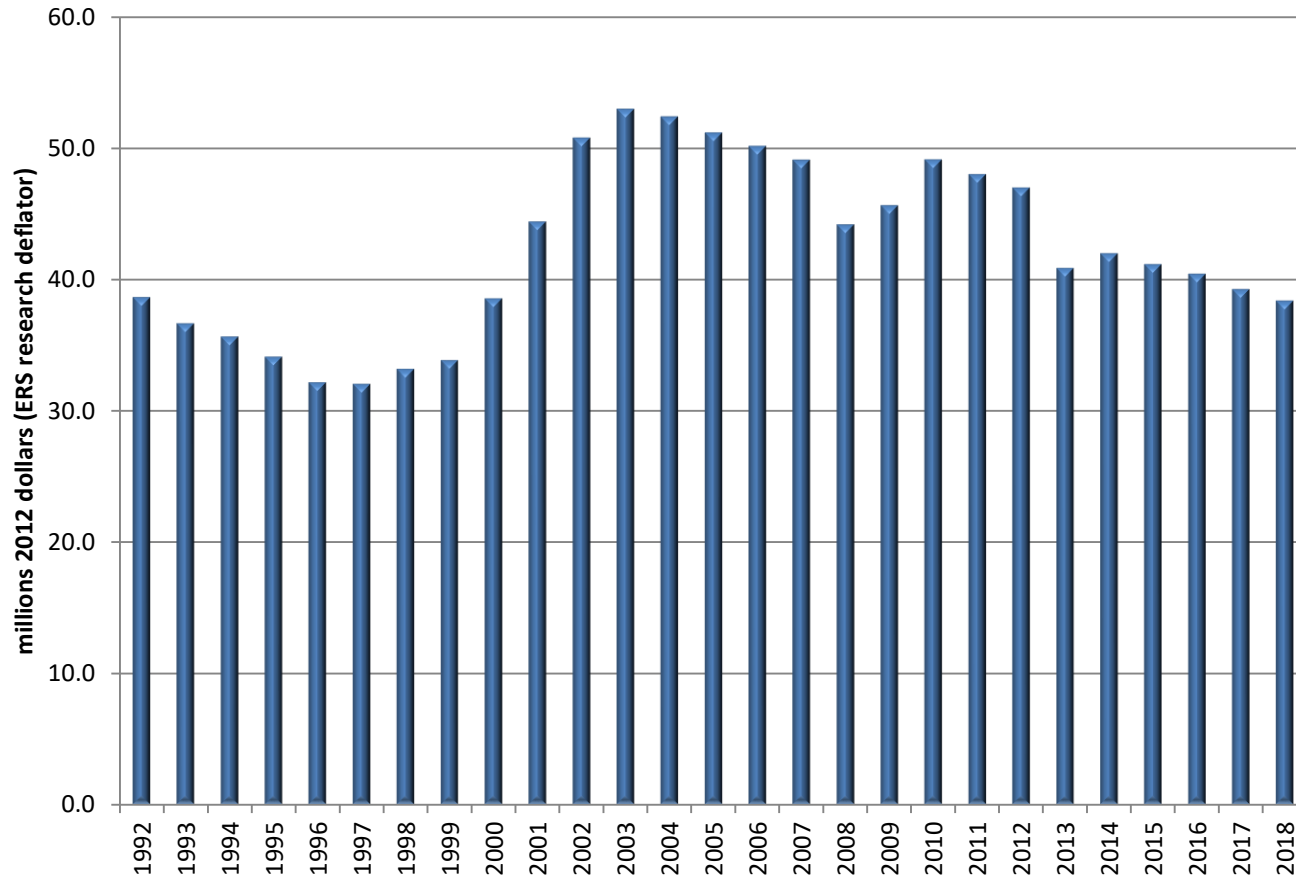
ARS NATIONAL PLANT GERMPLASM SYSTEM BUDGET 2009-2018



ARS NPGS real (deflated) budget, 2009-2018



ARS NPGS real (deflated) budget, 1992-2018



Some key challenges for the NPGS

- **Managing and expanding the NPGS operational capacity and infrastructure to meet the increased demand for germplasm and associated information.**
- **Recent and upcoming NPGS personnel retirements; hiring and training new staff.**
- **Developing and applying cryopreservation and/or in vitro conservation methods for clonal germplasm.**
- **BMPs and procedures for managing accessions (and breeding stocks) with GE traits and the occurrence of adventitious presence (AP).**
- **Acquiring and conserving additional germplasm, especially of crop wild relatives.**

Genetic Resource Management Priorities: Foundations for Crop Innovation

- **Acquisition**
- **Maintenance**
- **Regeneration**
- **Documentation and Data Management**
- **Distribution**
- **Characterization**
- **Evaluation**
- **Enhancement**
- **Research in support of the preceding priorities**

Personnel Changes

- Farewell and best wishes to John Wiersema, (ARS-Beltsville); Dave Stout, Frank Dugan, and Vicki Bradley (ARS-Pullman); and Jack Peters, (ARS-Corvallis). We mourn the passing of Phil Stinard (ARS-Urbana).
- Welcome and best wishes to Ben Gutierrez, new cold-hardy grape curator at ARS-Geneva, Joanne Labate (now permanent) vegetable curator at ARS-Geneva, Trevis Huggins, new rice curator at Stuttgart, and Vivian Bernau, a second maize curator at ARS-Ames.
- With the hiring freeze partially lifted, we hope to hire additional staff in the near future, including curators at Hilo, HI; Pullman, WA; and Urbana, IL.

Plant Genetic Resource (PGR) Management Training Initiative

- **At least 1/3 of NPGS PGR managers could (likely will) retire within 5 years.**
- **Currently, no formal, comprehensive program exists for training new PGR managers.**
- **G. Volk (ARS-Ft. Collins) and P. Byrne (CSU-Ft. C.) secured a USDA/NIFA grant for a workshop at Ft. C. 24-26 April 2018 that discussed designing & developing a training program for PGR management to be delivered primarily through distance-learning.**
- **The workshop generated numerous insights; workshop participants are developing prototype educational materials, and have submitted a NIFA Higher Education Challenge grant proposal.**

FY 19 ARS NPGS Budgetary Increases

- **Coffee genetic resources (\$1.9 million): Hilo, HI; Mayagüez, PR; Ft. Collins, CO; Beltsville, MD.**
- **Citrus genetic resources (\$1 million): Riverside, CA; Ft. Collins, CO.**
- **Industrial hemp genetic resources (\$500,000): TBD.**

NPGS Plan Directed by 2018 Farm Bill

- **SEC. 7205. NATIONAL STRATEGIC GERMPLASM AND CULTIVAR COLLECTION ASSESSMENT AND UTILIZATION PLAN.**
- (a) **IN GENERAL.**—Section 1632(d) of the Food, Agriculture, Conservation, and Trade Act of 1990 (7 U.S.C. 6 5841(d)) is amended—
 - (1) in paragraph (5), by striking “and” at the end;
 - (2) by redesignating paragraph (6) as paragraph (7); and
 - (3) by inserting after paragraph (5) the following:
 - **“(6) develop and implement a national strategic germplasm and cultivar collection assessment and utilization plan that takes into consideration the resources and research necessary to address the significant backlog of characterization and maintenance of existing accessions considered to be critical to preserve the viability of, and public access to, germplasm and cultivars; and”.**
- (b) **PLAN PUBLICATION.**—Section 1633 of the Food, Agriculture, Conservation, and Trade Act of 1990 (723 U.S.C. 5842) is amended by adding at the end the following:
 - **“(f) PLAN PUBLICATION.—On completion of the development of the plan described in section 1632(d)(6), the Secretary shall make the plan available to the public.”.**

NPGS Plan Directed by 2018 Farm Bill

- **“Develop and implement a National Strategic Germplasm and Cultivar Collection Assessment and Utilization Plan”**
 - **“Assessment [Plan]”**—assess the NPGS’s current status, strengths, weaknesses.
 - **“Utilization [Plan]”**--identify current priorities and demands for plant genetic resources and associated information; forecast future (+5 and +10 years) priorities and demands; develop and implement a plan with priorities and actions to attain goals.

NPGS Plan Directed by 2018 Farm Bill

- **“takes into consideration the resources and research necessary to address the significant backlog of characterization and maintenance of existing accessions considered to be critical to preserve the viability of, and public access to, germplasm and cultivars;”**
 - Summarize current status of NPGS’s operations, and the resources and capacities currently available to support those operations; “backlogs” for characterization, maintenance and other genetic resource management efforts; actions/priorities to attain implementation goals.
 - Characterization and maintenance will be emphasized; acquisition, regeneration, documentation, distribution, evaluation and enhancement must also be covered.

NPGS Plan Directed by 2018 Farm Bill

- **Outline for Plan**
 - **Introduction and Scope**
 - **Assessment and Utilization**
 - **Data and information for 75+ measures of genebank operations and status: currently, and forecasts and/or goals for 5+ and 10+ years**
 - **Narrative explanatory text**
 - **Implementation Plan**
 - **Goals**
 - **Priorities, actions, and sequences for attaining goals**
 - **Resources required for implementation plan**
 - **Summary and Conclusions**