

## **Abstract for annual meeting of the Crop Science Society of America meeting, November, 2020**

**Title:** Expanding Learning Resources for Plant Genetic Resource Conservation And Use

**Authors:** P.F. Byrne, G.M. Volk, P.K. Bretting

Future progress in plant breeding depends on the availability of diverse genetic resources and associated information. Genebanks around the world serve essential functions by acquiring, maintaining, distributing, characterizing, and documenting a broad array of genetic resources. Among the challenges faced by genebanks in carrying out these functions is adequate training in the multiple skills required by curators and users of the genetic resources. Building on a 2018 workshop for identifying genebank training needs, a team of university and USDA-ARS scientists has begun to develop learning resources (including videos, ebook chapters, and online courses) to support training in conservation and use of plant genetic resources. The envisioned topics for training are grouped into three broad themes: Plant Genetic Diversity and Crop Domestication; Genebank Management Operations; and Utilization of Plant Genetic Resources for Gene Discovery and Crop Improvement. Recent achievements of this collaboration include completing an online survey to assess training needs and producing ebooks about crop wild relatives (<https://colostate.pressbooks.pub/cropwildrelatives/>), plant cryopreservation (<https://colostate.pressbooks.pub/clonalcryopreservation/>), and a field tour of the National Plant Germplasm Clonal Repository in Davis, CA (<https://colostate.pressbooks.pub/davisrepositoryfieldtour/>). A recently awarded USDA-NIFA Higher Education Challenge Grant will enable additional learning resources to be developed, evaluated for their effectiveness, and broadly disseminated to a global audience. The educational resources developed could be widely used in university courses and informal educational settings, thereby enhancing the understanding of crop genetic diversity's importance in global food security.