

Preservation of Genetic Resources in the National Plant Germplasm Clonal Collections*

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I. INTRODUCTION

The availability of novel plant germplasm for breeding programs has been critical to the success of American agriculture. Breeding programs have used germplasm that is publicly available to develop high-yielding cultivars of rice, wheat, barley, sorghum, cotton, soybean, bean, pea, peanut, sugarbeet, and sunflower that exhibit remarkable levels of resistance to pests and disease (Shands and Weisner 1991, 1992; Sharma et al. 1999; Holbrook et al. 2000). Most geneticists keep plant materials on site for breeding purposes; however, their lifelong collections are often unappreciated and discarded at the time of retirement. The U.S. government developed a plant germplasm repository system in 1946 to protect and distribute genetic resources valuable to American agriculture. Germplasm accessions are acquired through donations (plant exchange) and trips (plant exploration) to find new materials from both national and international sources. The USDA-Agricultural Research Service-National Plant Germplasm System (USDA-ARS-NPGS) maintains approximately 450,000 accessions of economically important plant genera at about 25