

2017 AFRP Research Project Objectives

Developing Regionally-Adapted, Resilient Alfalfa Germplasm Pools **University of California-Davis - Brummer**

Project Award: \$290,000

Objectives:

- This proposal represents an early stage of a long-term project to develop new breeding pools from germplasm accessions to enhance alfalfa improvement in the future. For purposes of this project, we are planning to develop two groups of germplasm pools, one suitable for the Northern US and Canada having a fall dormancy (FD) classification ≤ 5 and another developed for the Southern US (and potentially much of Mexico) having a FD ≥ 6 . While the long-term goal of this project is to develop new breeding pools from untapped genetic resources, this proposal is narrowly focused on specific stages in the development of these pools. Specifically, in this proposal, we propose to: Improve previously developed Northern germplasm pools, Develop Southern germplasm pools from NPGS accessions, and Assess the genetic diversity of new germplasm pools. We expect that multiple cycles of selection will be necessary for these pools to be both broadly adaptable to North American climates and useful in commercial breeding programs.