

ARIZONA GRAIN RESEARCH AND PROMOTION COUNCIL  
PROJECT PLAN/RESEARCH GRANT PROPOSAL

Project No.

Calendar Year: 2003                      Anticipated Duration: 11/03 to 11/04

This Project is: Ongoing

Project Leaders: Mike Ottman, Steve Husman, and Pat Clay

Location: Maricopa, Pinal, and Yuma Counties

Project Title: Use of tissue testing to prevent low grain protein content in durum

- I. Problem and its Significance: Low protein content in durum is caused primarily by nitrogen deficiency later in the season. We have conducted research on using various tissue tests at heading to predict the need for late season nitrogen application to increase grain protein. The most promising of these tests is the lower stem nitrate test. We are developing tentative guidelines for the use of this test, tested these guidelines on commercial farms in Pinal County in the 2002-2003 growing season, and propose to expand our testing in the 2003-2004 growing season to include Maricopa and Yuma Counties as well as Pinal County.
- II. Objectives: Evaluate the tentative guidelines for the use of the lower stem nitrate test at heading to prevent low grain protein content in durum.
- III. Project's Benefit to the Industry: Prevent dockage for low grain protein and enhance reputation of Desert Durum.
- IV. Plans and Procedures: Three commercial fields will be selected in Pinal, Maricopa, and Yuma Counties for evaluation of the use of the lower stem nitrate test at heading to prevent low grain protein content in durum. The lower portion of the stem will be sampled at heading and nitrate content determined. Nitrogen fertilizer will be applied between flowering and milk based on the guidelines developed from the lower stem nitrate test. Grain protein and HVAC will be determined as usual by the results supplied to the grower by the grain company. The target grain protein is 13% and the target HVAC is 90%.
- V. Technology and Information Transfer to Industry: Via lower stem tissue testing guidelines provided by University of Arizona.

VI. Budget: \$5000

Operations	\$4000
Travel	<u>1000</u>
Total	\$5000