

FINAL

#135
2005
TX
(changed to 2004)

Peanut Breeding
2005 Project

Funding from January 1, 2005 to December 31, 2005

Title of Project:

**Peanut quality evaluations of Texas Peanut Breeding lines
(in developing new Varieties with Early Maturity and/or Resistance to
Root-knot Nematode, Sclerotinia blight, Southern blight, Leafspot, and
Tomato Spotted Wilt Virus and with High O/L.)**

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The objective of this project is to have quality analyses run on as many peanut breeding line samples as we can, and to obtain data that will help us to identify high quality lines for further development, but to also identify as early as possible lines that may have undesirable quality traits so the line can be discarded before a lot of time and effort is expended on the line.

The two major sets of samples we obtained data on in 2005 were the two lines we have proposed for release and the closely related (in some cases sister lines) to assist us in making the decision on which lines should be pushed forward toward release. This information proved to be of utmost benefit because in the case of the large seeded Spanish line proposed for release, we had five total lines, and after the production, yield, and grade data were analyzed, we had chosen two lines as probable candidates for seed increase, with both being about equal in virtually all respects. We (the breeding team, Dr. Mark Burow, leader, Mr. Michael Baring, Dr. Yolanda Lopez, and Dr. C.E. Simpson) met and decided the two lines were best, but we lacked one piece of data – blanching. Line A was tentatively selected, pending blanching reports. After the blanching we were informed that Line A would be a serious problem for the split-blanch manufacturers. Thus, the decision was easily made; we apply for release on Line B, Tx034342.

The decision was not so dramatic for the runner line proposed for release, but the quality data played a significant part in deciding which line to select.

Some of the data we obtained in 2005 were a little surprising in that the large seeded Spanish lines we were evaluating for possible release were higher in sugar content than we had anticipated. Although the percentage sugar was generally in the 4.6 to 4.7% range, some sites and lines had numbers up to 5.2%, alerting us that care must be exercised in selecting within segregating populations in West Texas.

The samples run from the Lubbock location were mostly of advanced breeding material to determine specific traits such as sugar content and/or O/L ratio as they related to maturity aspects of the individual and collective lines.