

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 for this project is to conduct quality analyses on early generation materials in the Texas peanut breeding program. We proposed to get analyses done on oil content, sugar content, and protein percent, free fatty acid composition, peroxide values, flavor, and/or blanchability. By conducting these analyses at early generations we become more efficient in our selection program because we are able to eliminate lines that have undesirable quality traits before we have expended significant resources and time evaluating these lines for disease resistance and/or agronomic characteristics. Before NPB funding, we would get these quality analyses on a few materials that were essentially ready for release and in some cases near or past approval for release. With the NPB funding we are able to concentrate our efforts on lines that are high in quality traits.

During the 2008 funding period (extended) we were able to get the more complete type analyses run on approximately 80 lines from the Lubbock peanut breeding project, 26 samples from the College Station project and 20 samples from the Stephenville project

This information will be used to make selections for further line testing in 2009, and we will complete the evaluations when the remaining data are available to make selections for further yield and other agronomic testing as well as for further crossing and backcrossing.

Acknowledgments

We express sincere appreciation to the National Peanut Board, through and with the Texas Peanut Producers Board, for support of this research. These funds help us to make our breeding and selection work more efficient.

Respectfully submitted,
Charles Simpson, Co-PI, representing the team: Burow, Baring, Simpson

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Table 1. Means for peanut quality data of 3, 4, or 5 replications from selected locations – 2008 samples from the College Station Project.

Line ID	Fat %	Sugar %	Moisture %	Roasted Peanut Flavor
Tx055307	46.5	6.35	3.3	6.05
Tx055308	46.5	7.15	3.6	6.05
Flv.Ru. 458	47.2	6.13	3.2	6.07
TR OL07	46.9	6.40	3.6	5.92

These samples were all in the acceptable range and compare favorably to Flavorranner 458 and other established, widely grown peanut varieties. Other attributes tested in these analyses that were all in the acceptable ranges were: tastes of cardboard, earthy, musty, painty, plastic, metallic, sweet, salty, beany, coffee dark, woody

We were also able to obtain limited shelling data on breeding lines in the disease screening nursery at the Stephenville location. The data we targeted included:

Shelling %	Splits %
Jumbo %	Oil stock %
Medium %	
US # 1 %	

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