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NATIONAL PEANUT BOARD/SOUTHEAST PEANUT  
RESEARCH INITIATIVE FINAL PROGRESS REPORT  
FOR WORK DONE UNDER RESEARCH AGREEMENT: #028554-01

DATE: June 30, 2005

INSTITUTION: University of Georgia, Tifton Campus

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PROJECT TITLE: **Development of New High-Yielding and Multiple Pest Resistant Peanut Cultivars and Genotypes for the Southeast with Advanced Breeding Materials Derived from Recently Collected South American Peanut Land-Races**

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RESEARCH AGREEMENT NO.: 25-21-RF330-349

PROJECT LEADER: Dr. James W. Todd

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EXPIRATION DATE: June 30, 2005

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NPB CONTACT: Chris Destino

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**FINAL REPORT OF PROGRESS:**

Two advanced breeding lines (F8), CRSP 08 and CRSP 14, generated from a cross between Florida MDR 98 and the Bolivian land race, Bayo Grande, are being evaluated for a third time in the Uniform Peanut Performance Tests in 2005. Results from 2003 have been compiled and published as UGA/CPES Research Progress Report #4-04, and from 2004 in UGA/CPES Research Progress Report #04-05. Results are incomplete for the 2005 tests, and results will be summarized as submitted by the various collaborators in the nine participating states. Mean yields for CRSP 14 averaged across the three southeastern locations, Headland, AL; Tifton, GA; and Marianna, FL; averaged 4243 lbs per acre which ranked seventh out of 14 entries tested. CRSP 14 was also the sixth highest yielding entry averaged across the four southwestern locations in Texas and Oklahoma and ranked 5<sup>th</sup> in the two tests in Virginia and North Carolina among the 14 candidate lines tested. CRSP 08 yielded 4077 lbs per acre and ranked 9<sup>th</sup> in the southeastern tests. Additionally, CRSP 08, at 4371 lbs per acre, ranked 9<sup>th</sup> averaged across the southwestern locations, and at 4332 lbs per acre ranked 8<sup>th</sup> in the Virginia/North Carolina tests. Both of these entries have demonstrated resistance to spotted wilt (TSWV) and early and late leafspot comparable or better than C99R and Georgia Green. Other advanced lines were selected from candidates evaluated in 7 tests in 2004 for further testing in 2005 as follows: (1) C99R X Bayo Grande, 61 lines out of 149 tested, (2) Andru93 X RP1997C/1F1 #3, 4 lines out of 6 tested, (3) Early Bunch X Bayo Grande, 2 lines out of three tested, (4) Georgia Green X Bayo Grande, 5 lines out

of 20 tested, (5) Georgia Green X (Bayo Grande X Florida MDR 98), 5 lines out of 27 tested, (6) Gregory X Bayo Grande, 1 line out of 4 tested, (7) ANorden HOL X Bayo Grande, 1 line out of two tested, (8) Tamrun 96 X RP 1997C/1F1, 3 lines out of 44 tested, (9) VA 98R X Bayo Grande, 35 lines out of 48 tested, (10) Various F8 selections from Florida MDR 98 X Bayo Grande, 50 lines out of 107 tested. All lines are being evaluated in sprayed and unsprayed tests at Tifton and Attapulgus GA and in one and/or two replication early generation yield tests at Tifton. Selected lines are also being evaluated in sprayed and unsprayed yield tests at Marianna, Florida. Overall, 167 lines (F5- F9) were selected on the basis of resistance to spotted wilt, leafspot, thrips feeding damage, and yield for further development in 2005. Grades and other post-harvest quality factors will be determined for selected highly promising candidate lines. CRSP 08 and CRSP 14 are being evaluated by J. Leek Associates for various qualitative measurements including taste parameters. Also, new candidates will be selected for the regional UPPT evaluation and for entry in University of Georgia Performance Tests, as well as in the Alabama and Florida Performance Tests at Headland and Marianna, respectively.