

**From: Lanier Jordan  
Baker County Extension**

**To: Georgia Ag. Commodity Commission for Peanuts**

**Purpose: Evaluation of the 500 Dollar grant  
Approved for Baker County for on farm research**

**Date: February 5, 2008**

**Georgia Ag. Peanut Commodity Commission**

**Thank you for giving Baker County 500 Dollars to do on farm research in Peanut Variety testing in 2007. This concluded a four year test evaluating U.G.A. recommended peanut varieties planted in on farm replicated field test and evaluated by U.G.A. extension personal. The grant money was used to buy the peanut seed. The results of the four year test are included in the research report attached to this letter. This report will be written up as an abstract and submitted to APPRES and hopefully be presented in July 2008.**

**Thanks:**

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**Four Year Baker, County Peanut Variety Test Comparing Peanut Profitability & Disease Resistance**

Presented by E. Lanier Jordan 1, Dr. Tim Brenneman 2, Dr. Bob Kemerait 2, Dr. John Beasley 3, Dr John Baldwin 3, Vann Irvin 4, and James Williams 4.

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**Baker County  
 Peanut Variety Test  
 2007  
Evaluated**

**%White Mold, %CBR, Leaf Spot, %TSWV, Grade, Yield, Dollars/Ton, Dollars/Acre**

Cultivar	% White Mold	% C.B.R.	Leaf Spot	% TSWV	Grade	Yield/Acre	\$/Ton	\$/Acre
AP3	21.5	0	4.75	23.1	76	3066	356.72	546.85
Ga - 02C	19	0	3.9	13.5	77	2997	358.12	536.64
AT 3085R	43	0	4.66	26.8	72	2837	353.29	501.14
Georgia								
Green	65	0	4	54	76	2769	354.35	490.6
AT 3081R	33	0	5.08	24	72	2557	351.29	449.12

**Baker County  
 Peanut Variety Test  
 2006  
Evaluated**

**%CBR, Leaf Spot, %TSWV, Grade, Yield, Dollars/Ton, Dollars/Acre**

**Cultivar---(%CBR)---L.S.---%TSWV---Grade---Yield/Acre---\$/Ton---\$/Acre**

Carver	5.8	4.0	9.8	71	3838	\$349.0	\$670.0
Georgia Green	10.3	5.5	21.3	74	3735	\$362.0	\$676.0
AT 3081R	10.5	4.1	8.8	72	3445	\$351.0	\$605.0
C-99R	9.3	3.0	11.8	69	3223	\$340.0	\$548.0
GA-O3L	5.0	4.0	9.0	72	3098	\$354.0	\$548.0
GA-02C	3.0	2.8	13.3	70	2995	\$343.0	\$514.0

**Baker County  
Peanut Variety Test  
2004  
Evaluated**

**%CBR, Leaf Spot, %TSWV, Grade, Yield, Dollars/Ton, & \$/Acre**

<u>Cultivar</u>	<u>(%CBR)</u>	<u>L.S.</u>	<u>%TSWV</u>	<u>Grade</u>	<u>Yield/Acre</u>	<u>\$/Ton</u>	<u>\$/Acre</u>
GA-01R	8.0	2	9.9	74	5872	\$367.0	\$1077.0
Georgia Green	19.3	2.5	5.5	75	5663	\$370.0	\$1047.0
GA-02C	5.0	3.18	3.8	75	5612	\$370.0	\$1038.0
Carver	11.5	3.3	5.1	75	5460	\$370.0	\$1010.0
DP-1	17.0	2.3	12.25	73	5264	\$365.0	\$960.0
C-99R	21.0	2.25	10.75	73	4747	\$365.0	\$866.0
AP-3	26.5	2.18	3.4	75	4745	\$370.0	\$877.0

**Baker County  
Peanut Variety Test  
2003  
Evaluated**

**%CBR, Leaf Spot, %TSWV, Grade, Dollars/Ton, & Dollars/Acre**

<u>Cultivar</u>	<u>(%CBR)</u>	<u>L.S.</u>	<u>%TSWV</u>	<u>Grade</u>	<u>Yield/Acre</u>	<u>\$/Ton</u>	<u>\$/Acre</u>
Georgia Green	7.3	7.0	2.8	71	5040.0	\$338.0	\$851.0
DP-1	11.8	4.1	4.8	70	4976.0	\$357.0	\$888.0
GA-01R	13.0	4.4	4.6	72	4813.0	\$356.0	\$856.0
Hull	25.0	5.0	2.5	71	4789.0	\$354.0	\$847.0
ANorden	11.5	6.4	3.7	66	4401.0	\$351.0	\$772.0
Carver	19.3	7.4	8.3	70	4334.0	\$349.0	\$756.0
C-99R	22.8	5.6	4.3	74	4312.0	\$367.0	\$791.0
Andrew II	18.0	7.8	8.2	67	3590.0	\$334.0	\$600.0

### Abstract

Severity of *Cylindrocladium* Black Rot (CBR), Early Leaf spot (*Cercospora* *Arachidicola*) & Late Leaf Spot (*Cercosporidium* *Personatum*), and Tomato Spotted Wilt Virus (TSWV) was estimated for the peanut varieties recommended by the University of Georgia, for each year from 2003 to 2007, (additionally, % White Mold in 2007) and how these diseases affected yield, grade, and dollar value per acre for each variety. It should be noted that this four year peanut variety trial was planted into fields that had a history of very high CBR disease incidence and this level of CBR would affect how some of the peanut varieties would yield compared to a more normal level of disease pressure. There are peanut varieties (GA-O1R and GA-O2C) that did have a reduced incidence of CBR. The varieties C99-R and AP-3 had the highest percent of CBR and this incidence of CBR appeared to reduce the yield. The variety Georgia Green continues to yield well, even though it had high % Disease infection.

### Observations:

- 1. GA-O2C and AP-3 were recommended to be planted as mid-maturing 130 day varieties, but they matured at 150 days with the late maturing varieties.
- 2. DP-1 was reported to have weak pod stem strength, but show excellent pod stems strength in our trials in 2003 & 2004.
- 3. AP-3 was dropped from our test in 2006 because of high incidence of CBR, but was added back to our test in 2007 because farmers continued to plant AP-3, Andrew II was dropped because of high incidence of Leaf Spot, and GA-01R and DP-1 were dropped because of poor seed germination.
- 4. CBR did not show up at all in any varieties in 2007. This was attributed to 105° F. temperatures during July and August. These extreme high temperatures did cause the worst White Mold infestation I Have seem in years and the 2007 test became an excellent White Mold variety test.

### Introduction

The change in the Peanut Program from a quota based program, where peanut acreage was limited by a quota and peanuts sold for over 600 dollars per ton, to a program where peanut acreage was not limited by a quota and sold for 355 dollars per ton has put more pressure on farmers to grow peanut varieties that are cheaper to grow and still maintain a high yield potential. The need arose to establish a peanut variety test to estimate the disease levels and dollar returns per acre for the peanut varieties recommended by UGA. The peanut team at the Coastal Plains Experiment Station in Tifton, Georgia identified CBR, Leaf Spot, and TSWV as the major diseases to be evaluated in the peanut variety trials. The peanut grades and dollar values were taken from the USDA grades given to each variety at the peanut buying point.

The incidence of *Cylindrocladium* Black Rot (CBR) in peanuts has increased dramatically from the 1980's to present. The CBR disease can be spread by seed

and equipment. In the early 1980's, Baker County planted a lot of Virginia type peanuts and the seed came from fields in North Carolina, known to be infected with CBR. At the time, CBR was believed not to be transmitted from seed. Since then we have learned that CBR is seed transmitted. CBR is often misdiagnosed; it takes a lab analysis to distinguish some infections of CBR from Tomato Spotted Wilt Virus (TSWV).

The incidence of TSWV has increased dramatically in the past five years, and has caused the peanut acreage in Georgia to be planted in three to four weeks, May 5<sup>th</sup> to June 1st, to reduce the incidence of TSWV. This has created the need for peanut varieties with TSWV resistance and with different maturity dates to extend the peanut harvest season.

#### Cultural Practices

- All Varieties were planted in 36 inch center Twin rows 7 inches apart.
- Rotation: Cotton – Cotton – Peanuts.
- Land Turned & Harrowed level in 2003 & 2004.  
Strip till planted in 2006 & 2007.
- Telone applied two weeks before planting in 2006 & 2007.
- Herbicides: Sonalan and Strongarm pre-plant incorporated in 2006 & 2007.  
Prowl and Strongarm pre-plant applied in 2006 & 2007.
- Cadre applied 45 Days after planting.
- Temik and Lorsban applied 40 Days after Planting.
- UGA approved Fungicide program was applied.
- Each Peanut Variety was harvested according to their Maturity date determined by the hull scrape method.

### Conclusions

- **This Baker County Peanut Variety test was conducted in an area that had a history of high C.B.R. incidence that is much greater than the average peanut farm. This level of CBR would affect how some of the peanut varieties would yield compared to a more normal level of disease pressure.**
- **Peanut Variety Georgia Green continues to yield well and occupy a majority of the peanut acreage in Georgia even though it does have higher disease levels.**
- **With lower peanut prices, a peanut variety trial to evaluate disease incidence in each variety is important to possibly lower the use of peanut fungicide and increase profitability.**
- **Some peanut varieties perform differently in whole field demonstration than they do on small experiment station plots as demonstrated by some varieties having different maturity and disease resistance than is reported by experiment stations to farmers. GA-O2C and AP-3 were recommended to be planted as mid-maturing 130 day varieties, but they matured at 150 days with the late maturing varieties. DP-1 was reported to have weak pod stem strength, but showed excellent pod stems strength in our trials.**
- **TSWV, CBR, and White Mold continue to be the major yield limiting diseases in Baker County Peanut Variety Trials.**
- **C99-R variety occupies a large part of the Peanut acreage in Georgia. C99-R has a proven history of being a high yielding peanut with excellent disease resistance for most farms in Georgia. C99-R is known to be susceptible to CBR did not yield well in our three year test because this test was planted in an area that had a history of high CBR incidence. C99-R Peanut variety should not be planted in fields known to have high levels of CBR.**
- **AP-3 and GA-02C appear to have higher levels of resistance to White Mold.**