

NATIONAL PEANUT BOARD/SOUTHEAST PEANUT
RESEARCH INITIATIVE
QUARTERLY PROGRESS REPORT FOR WORK
DONE UNDER RESEARCH AGREEMENT

Quarter and Year Ending

December 31, 2007

197
FL-39
469
2007

INSTITUTION: University of Florida

PROJECT TITLE: Tropical Spiderwort Biology and Management

RES. AGR. NO.: PROJECT LEADER: Dr. Barry J. Brecke

GACCP Control NO.:

EXPIRATION DATE: December 31, 2007 NPB CONTACT: Marie Fenn or D Houston
NPB Control NO.:

REPORT OF PROGRESS and FINAL REPORT:

Peanuts were planted in early to mid-May at all locations for the spiderwort studies.

Gainesville Location:

We planted peanuts on May 22 at 6 seeds per row foot in conventional and strip-tilled areas. The peanut variety was C99R. However, we received a bad seed lot in 2007 and germination was poor in all experiments (See photos below). Our common emergence rate was approximately 1 or 2 seed per foot of row in conventional tillage, and 1 seed per 3 feet of row in strip-tillage. Additionally, some of the peanuts that did emerge became infected with crown rot and died after emergence. We essentially had failures on all the peanuts trials that were planted in 2007. Experiments that were essential to graduate student projects were replanted with the same seed lot at 12 seeds per foot of row and this essentially consumed all extra seed that was available and resulted in a final stand density of approximately 4 seeds per foot. By this late date we were unable to find extra seed of this variety. With all the seed consumed and none available for purchase, the project was terminated on June 12.

Jay Location:

We had no problem with peanut emergence at the Jay site. However, due to the dry weather there was little tropical spiderwort emergence until the end of June when more normal rainfall conditions prevailed.

Peanuts were both strip-till planted and planted with conventional tillage in an area infested with Tropical Spiderwort. Preemergence and postemergence herbicide treatments were applied in various programs. These programs included combinations of herbicides that have demonstrated some effectiveness in controlling Tropical Spiderwort. Tropical Spiderwort control was visually evaluated throughout the growing season. Peanuts were harvested using conventional peanut harvesting equipments and peanut yields determined. Data was subjected to appropriate statistical analysis and was then be used to determine whether the herbicide treatments were effective for control of dayflower.

Visual ratings indicated that, as in previous years, tropical spiderwort was more difficult to control in strip-tillage than in conventional tillage. Tropical spiderwort density in strip-till was twice that observed in the conventional tillage plots.

Soil samples were collected from various depths in the field to determine the distribution of the spiderwort seed within the soil profile. Significantly more spiderwort seedlings emerged from soil collected from 0 to 4 inches in the strip-till plots compared with the conventional tillage plots.

Over all herbicide treatments, tillage had a significant impact on the level of tropical spiderwort control. Averaged over all herbicide treatments, conventional tillage resulted in 82% control and strip-tillage resulted in 68% tropical spiderwort control. A much higher level of herbicide input was required in strip-tillage to achieve acceptable tropical spiderwort control than in conventional tillage. Dual was a key herbicide for early-season control of tropical spiderwort. Herbicide programs with Dual provided 90% or greater spiderwort control. Strongarm provided good early-season control of spiderwort but Valor provided less than 60% control.

Peanut yields reflected the level of spiderwort control and were often higher in conventional tillage where better spiderwort control was observed.

Georgia Location:

Two studies evaluated from what soil depths tropical spiderwort seeds were capable of germinating, emerging, and establishing. The first study was a field survey. We sampled 100 seedlings (cotyledon to 1-leaf) twice in 2007 (4 June and 17 July) in order to evaluate the emergence depth of seedlings under field conditions. Sites were located in Grady County, GA, near Cairo. Soil cores were excavated with post-hole diggers and placed in pots for transport back to Tifton. Soil was rinsed from around the roots of the seedlings. The distance between the soil level and the seed coat (at the junction between root and stem differentiation) was measured for each seedling.

The drought may have altered the depth of emergence from the shallower depth to deeper in the profile where moisture may have been higher. Average emergence depth was 2.69 cm, with a range of 0.5 to 9.0 cm. Only 4% of the emergence occurred at the 0.5 cm depth, with the majority of it occurring at 2 cm. The second excavation date in 2007 failed to provide any usable information, as the seedlings that we sampled were too old and the outer shell of the seed was no longer attached to the seedling, therefore depth of emergence could not be determined.

Department Ledgers Actuals Detail by Project and Date 1/1/2007 to 12/31/2007

Date	Ref	Line Desc	Journal ID	Line #	Account	Account Description	DeptID	Fund Code	Project	Amount
7/23/2007		RETRO-NO-DESCR	HRP0717234	5	659100	OTHER OPS EARNINGS	60820000	209	00067028	278.86
7/26/2007		OTHER OPS EARNINGS	HRP0720406	178	659100	OTHER OPS EARNINGS	60820000	209	00067028	640.00
8/9/2007		60820000-209-2200-00067028	HRP0726120	293	659100	OTHER OPS EARNINGS	60820000	209	00067028	228.57
8/9/2007		60820000-209-2200-00067028	HRP0726120	295	659100	OTHER OPS EARNINGS	60820000	209	00067028	347.43
8/23/2007		60820000-209-2200-00067028	HRP0732224	146	659100	OTHER OPS EARNINGS	60820000	209	00067028	448.00
9/3/2007		RETRO-NO-DESCR	HRP0735016	2	659100	OTHER OPS EARNINGS	60820000	209	00067028	(344.96)
12/24/2007		RETRO-NO-DESCR	HRP0783528	6	659100	OTHER OPS EARNINGS	60820000	209	00067028	373.76
				659100	Total					1,971.66
7/23/2007		RETRO-NO-DESCR	HRP0717234	6	659200	OTHER OPS BENEFITS & TAXES	60820000	209	00067028	4.04
7/26/2007		OTHER OPS BENEFITS & TAXES	HRP0720406	179	659200	OTHER OPS BENEFITS & TAXES	60820000	209	00067028	9.28
8/9/2007		60820000-209-2200-00067028	HRP0726120	294	659200	OTHER OPS BENEFITS & TAXES	60820000	209	00067028	3.31
8/9/2007		60820000-209-2200-00067028	HRP0726120	296	659200	OTHER OPS BENEFITS & TAXES	60820000	209	00067028	5.04
8/23/2007		60820000-209-2200-00067028	HRP0732224	147	659200	OTHER OPS BENEFITS & TAXES	60820000	209	00067028	6.49
9/3/2007		RETRO-NO-DESCR	HRP0735016	3	659200	OTHER OPS BENEFITS & TAXES	60820000	209	00067028	(5.00)
12/24/2007		RETRO-NO-DESCR	HRP0783528	7	659200	OTHER OPS BENEFITS & TAXES	60820000	209	00067028	5.42
				659200	Total					28.58
7/17/2007		AP ACCRUAL	APACC15495	1207	731100	LAB SUPPLIES	60820000	209	00067028	378.52
7/19/2007		AP ACCRUAL	APACC16216	941	731100	LAB SUPPLIES	60820000	209	00067028	1,065.63
				731100	Total					1,444.15
7/17/2007		AP ACCRUAL	APACC15495	1332	732100	OFFICE SUPPLIES - GENERAL	60820000	209	00067028	96.96
				732100	Total					96.96
6/13/2007		AP ACCRUAL	APACC02068	242	736000	MOTOR FUELS AND LUBRICANTS	60820000	209	00067028	708.00
6/13/2007		AP ACCRUAL	APACC99420	1596	736000	MOTOR FUELS AND LUBRICANTS	60820000	209	00067028	55.48
6/14/2007		AP ACCRUAL	APACC99731	2340	736000	MOTOR FUELS AND LUBRICANTS	60820000	209	00067028	87.75
7/17/2007		AP ACCRUAL	APACC15495	1492	736000	MOTOR FUELS AND LUBRICANTS	60820000	209	00067028	285.22
12/18/2007		AP ACCRUAL	APACC80600	2554	736000	MOTOR FUELS AND LUBRICANTS	60820000	209	00067028	78.05
				736000	Total					1,214.50
5/21/2007		AP ACCRUAL	APACC92045	1465	742300	REPAIRS & MAINT - VEHICLES	60820000	209	00067028	93.87
7/17/2007		AP ACCRUAL	APACC15495	1598	742300	REPAIRS & MAINT - VEHICLES	60820000	209	00067028	91.16
				742300	Total					185.03
7/19/2007		AP ACCRUAL	APACC16216	1346	792200	RENTALS - EQUIPMENT	60820000	209	00067028	6.83
				792200	Total					6.83
8/1/2007			WKCOMP0006	6075	815000	WORKERS COMP C&G ASSESSMENT	60820000	209	00067028	9.00
9/1/2007			WKCOMP0008	6882	815000	WORKERS COMP C&G ASSESSMENT	60820000	209	00067028	10.04
10/1/2007			WKCOMP0010	6475	815000	WORKERS COMP C&G ASSESSMENT	60820000	209	00067028	(3.38)
				815000	Total					15.66
8/1/2007			UNCOMP0007	5272	816000	UNEMPLOYMENT COMP C&G ASSESSMT	60820000	209	00067028	1.10
9/1/2007			UNCOMP0009	5851	816000	UNEMPLOYMENT COMP C&G ASSESSMT	60820000	209	00067028	1.23
10/1/2007			UNCOMP0011	5145	816000	UNEMPLOYMENT COMP C&G ASSESSMT	60820000	209	00067028	(0.41)
				816000	Total					1.92
					Grand Total					4,965.29

Department Ledgers Actuals Detail by Project and Date 1/1/2007 to 12/30/2007

Date	Ref	Line Desc	Journal ID	Line #	Account	Account Description	DeptID	Fund Code	Project	Amount
7/12/2007		60080000-209-2200-00067470	HRP0714103	331	659100	OTHER OPS EARNINGS	60080000	209	00067470	512.29
7/26/2007		60080000-209-2200-00067470	HRP0720324	308	659100	OTHER OPS EARNINGS	60080000	209	00067470	652.00
8/9/2007		60080000-209-2200-00067470	HRP0726040	620	659100	OTHER OPS EARNINGS	60080000	209	00067470	232.86
8/9/2007		60080000-209-2200-00067470	HRP0726040	622	659100	OTHER OPS EARNINGS	60080000	209	00067470	419.14
					659100 Total					1,816.29
7/12/2007		60080000-209-2200-00067470	HRP0714103	332	659200	OTHER OPS BENEFITS & TAXES	60080000	209	00067470	7.43
7/26/2007		60080000-209-2200-00067470	HRP0720324	309	659200	OTHER OPS BENEFITS & TAXES	60080000	209	00067470	9.45
8/9/2007		60080000-209-2200-00067470	HRP0726040	621	659200	OTHER OPS BENEFITS & TAXES	60080000	209	00067470	3.38
8/9/2007		60080000-209-2200-00067470	HRP0726040	623	659200	OTHER OPS BENEFITS & TAXES	60080000	209	00067470	6.08
					659200 Total					26.34
8/1/2007			WKCOMP0006	6111	815000	WORKERS COMP C&G ASSESSMENT	60080000	209	00067470	11.41
9/1/2007			WKCOMP0008	6933	815000	WORKERS COMP C&G ASSESSMENT	60080000	209	00067470	6.39
					816000 Total					17.80
8/1/2007			UNCOMP0007	5300	816000	UNEMPLOYMENT COMP C&G ASSESSMT	60080000	209	00067470	1.40
9/1/2007			UNCOMP0009	5893	816000	UNEMPLOYMENT COMP C&G ASSESSMT	60080000	209	00067470	0.78
					816000 Total					2.18
					Grand Total					1,862.61