ECONOMIC VARIABLES OF CONVENTIONAL VS. IN ROW SUBSOIL AND DRILLED NO TILLAGE SOYBEANS IN GILCHRIST COUNTY

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Gilchrist County is located in North Florida and the soil type is a deep sand. Small grains, corn and soybeans are the chief crops grown. Wind erosion and lack of soil moisture at the critical times are our greatest production problems, along with weed control.

Rye and wheat are the main winter crops and they are followed by soybeans.

For the past three years Extension has demonstrated minimum tillage and farmers have adapted some of their fields to minimum tillage.

The no tillage system has allowed farmers to plant earlier and when there is moisture. Minimum tillage has also allowed double cropping and in some cases three crops per year on the same field. This requires proper management, but with minimum tillage it can be done.

Of great importance to our area also is the top soil that is saved with minimum tillage. The Soil Conservation Service estimated that 2 tons of soil per acre was saved in our demonstration fields.

The following is summary data collected from the fields and the following tables are cost of production for each practice.

Cultivar	Tillage yes	Tillage no	Yield bu/a	$ Returns Gross	- Variable Cost	- Total Cost
Bragston	x 1		46.8	245.70	136.51	$95.13
Bragston	x 1		34.0	178.50	69.31	27.93
Coker 337	x 2		20.3	106.58	- 8.61	- 49.99
Coker 237	x 2		16.0	84.00	- 25.19	- 66.57
Coker 237	x 2		14.3	75.08	- 34.11	- 75.49
Cobb		x 3	47.0	246.75	128.66	85.95
Coker 488		x 3	44.8	235.20	117.11	74.40
Bragg		x 3	37.0	194.25	76.16	33.45
Bragg Drill		x 4	30.5	160.13	89.89	54.35

1 Bragston soybeans planted June 7.
2 Coker 237 and 337 soybeans planted July 1.
2 Coker 337 cost $6.00 per bushel more than all other soybean seed.
3 Cobb, Coker 488, and Bragg in-row subsoil no-tillage soybeans planted June 9.
4 Bragg Drill soybeans planted June 6.

Table 1. Cost of production for conventional tillage soybeans in Gilchrist County, Florida, in 1982.

Variable	Unit	Cost/Acre
Moldboard	six 16-inch plow 120 hp tractor	$12.00
Fertilizer	250 lbs/acre 6-13-39	24.50
Disk	incorporate fertilizer, 10 ft. disk, 120 hp tractor	7.00
Plant	six row planter, 120 hp tractor	5.00
Soybean seed	one bu/acre	12.00
Sencor preemergence	0.38 lb. active ingredient per acre (50% wettable powder)	8.59
Ground spray	broadcast Sencor	3.00
Paraquat for harvest aid	0.25 lb. active ingredient per acre (one pint)	5.31
X77 Surfactant	Mix of one pint/100 gallons water with paraquat	0.14
Aerial spray	broadcast paraquat and X77	3.00
Toxaphene	two quarts/acre	4.45
Methyl parathion	one pint/acre mixed with toxaphene	2.70
Aerial spray	broadcast toxaphene and methyl parathion	3.00
Harvest soybeans	Combine with 12 foot head	18.00
Total variable cost		109.19
Interest	calculated at 15.00% interest	16.38
Land rent	estimated	15.00
Taxes	estimated	10.00
Total fixed cost		41.38
Total cost	variable plus fixed	150.57

Table 2. Cost of production for in-row subsoil no-tillage soybeans in Gilchrist County, Florida, in 1982.

Variable	Unit	Cost/Acre
Fertilizer	250 lbs./acre 6-13-39	$24.50
Roundup preemergence	one quart/acre	18.50
Ground spray	broadcast	3.00
Plant	two row planter, 70 hp tractor	8.00
Soybean seed	one bu./acre	12.50
Lexone preemergence	0.38 lb. active ingredient per acre (50% wettable powder)	8.59
Paraquat preemergence	0.25 lb. active ingredient per acre (one pint)	5.31
XJJ Surfactant preemergence	Mix of one pint/100 gallons water with paraquat & lexone	0.44
Ground spray	broadcast paraquat and XJJ and lexone	3.00
Paraquat postdirect	0.12 lb. active ingredient per acre (one-half pint)	2.66
XJJ Surfactant postdirect	Mix of one pint/100 gallons water with paraquat & lexone	0.44
Ground spray	post direct paraquat and XJJ	3.00
Toxaphene	two quarts/acre	4.45
Methyl parathion postemergence	one pint/acre mixed with toxaphene	2.70
Aerial spray	broadcast toxaphene and methyl parathion	3.00
Harvest soybeans	Combine with 12 foot head	18.00
Total variable cost		118.09
Interest	calculated at 15.00% interest	17.71
Land rent	estimated	15.00
Taxes	estimated	10.00
Total fixed cost		42.71
Total cost	variable plus fixed	160.80

Table 3. Cost of production for drilled no-tillage soybeans in Gilchrist County, Florida, in 1982.

Variable	Unit	Cost/Acre
Lexone preemergence	0.38 lb. active ingredient per acre (50% wettable powder)	*$8.59*
Paraquat preemergence	0.25 lb. active ingredient per acre (one pint)	*5.31*
X77 Surfactant pre-emergence	Mix of one pint/100 gallons water with paraquat & lexone	*0.44*
Ground spray	broadcast paraquat and X77 and lexone	*3.00*
Plant	Tye drill, 70 hp tractor	*6.00*
Soybean seed	one and one-half bu./acre	*18.75*
Toxaphene	two quarts/acre	*4.45*
Methyl parathion post emergence	one pint/acre mixed with toxaphene	*2.70*
Aerial spray	broadcast toxaphene and methyl parathion	*3.00*
Harvest soybeans	Combine with 12 foot head	*18.00*
Total variable cost		*70.24*
Interest	calculated at 15.00% interest	*10.54*
Land rent	estimated	*15.00*
Taxes	estimated	*10.00*
Total fixed cost		*35.54*
Total cost	variable plus fixed	*105.78*