

1997 Bootheel Irrigation Survey
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Average irrigated acreage of those surveyed in 1997: 753 acres

Average acreage planned for irrigation in 1998: 881 acres

- 17.1 % increase

I. Systems Used

(by # reported)		Power Source (by acreage used on)	
Furrow, rigid pipe	3% (down 81%)	LP Gas	27% (down 7%)
Furrow, poly-pipe	36% (up 9%)	Diesel	24% (up 24%)
Center pivot, fixed	41% (up 21%)	Electric	26% (up 189%)
Center pivot, towable	19% (up 19%)		

II. Costs

1) Fuel:

LP Gas	\$7.96/acre
Diesel	\$6.69/acre
Electric	\$8.75/acre

2) Maintenance and Repairs:

A) Wells	\$ 68.72/well	\$0.83/acre
B) Pumps	\$1.30/acre	
	note: 83.2 acres/well site	
C) System		
a	Fixed pivot	\$4.69/acre
b	towable pivot	\$1.14/acre
c	rigid pipe	\$0.00/acre
d	poly-pipe	\$1.14/acre
	Average all systems:	\$1.99/acre

3) Special study on land-leveling:

- A) Cost for precision-leveling, initial job: \$196/acre, \$21.56/ac/yr
- B) Cost for precision-leveling, touch up: \$ 75/acre, \$13.20/ac/yr
- C) Time interval between touch-ups: 8.3 years

III. Amount of Land-Forming Done by Irrigation Land Class

	Pivot Land	Flood-Irrigated Land	Dryland
Laser-leveled	23%	73%	5%
Land-planed	32%	20%	39%
No dirt Work	45%	8%	56%

--- Crowns that have been precision-graded: 64%

1997 Bootheel Irrigation Results

	CORN	COTTON	SC SOY	DC SOY	MILO
Number Reported	61	46	18	13	1
Acres Reported	6677	5540	1964	1355	114
# of Irrigations, furrow	7.2	2.8	2.5	---	---
# of Irrigation, pivot	6.6	4.6	2.8	4.8	6
Irrigated Yield	155 bu	865 lbs	41 bu	42 bu	110 bu
Dryland Yield 103 bu	723 lbs	28 bu	31 bu	70 bu	
Increase over Dryland	52 bu	142 lbs	13 bu	11 bu	40 bu

1987-1997 Bootheel Irrigation Survey

Year	Irrig. Corn (bu)	Non-Irrig. Corn (bu)	Irrig. Soybeans (bu)	Non-Irrig. Soybeans (bu)	Irrig. DC Soybeans (bu)	Non-Irrig. DC Soybeans (bu)	Irrig. Cotton (lbs)	Non-Irrig. Cotton (lbs)	Irrig. Milo (bu)	Non-Irrig. Milo (bu)
1987	149	121	44	32	33	19	---	---	110	101
1988	148	88	39	32	36	27	877	718	108	91
1989	152	117	37	27	29	23	807	605	92	77
1990	146	86	44	29	38	31	768	528	82	32
1991	143	84	42	29	43	30	917	678	105	69
1992	189	135	48	37	44	32	1029	990	121	108
1993	137	95	44	31	41	30	722	546	113	75
1994	162	123	47	38	43	37	933	779	101	93
1995	156	124	43	29	42	31	637	422	90	66
1996	170	124	43	32	42	25	905	719	98	63
1997	155 (\$2.57)*	103 (\$3.02)*	41 (\$6.75)*	28 (\$7.92)*	42 (---)*	31 (---)*	865 (\$0.58)*	723 (\$0.59)*	110 (\$3.08)*	70 (\$3.84)*
Avg	155	109	43	32	39	29	846	670	103	77

* Break-even price; after D. Reinbott. 1998. Crop Budgets: Southeast Missouri. Un-numbered report. University of Missouri Outreach & Extension Service. Scott County.

Difference of Irrigated over Non-Irrigated:

Corn, 46 bu

Soybeans, 11 bu

Double-crop Soybeans, 10 bu

Cotton, 176 lbs

Milo, 25 bu

Yield Increase of All Soybeans to Irrigation 1997 Bootheel Irrigation Survey

Soil Type	Fixed Pivot	Tow-able Pivot	Furrow Irrigation (Poly-pipe)	Average
Sand	13.75 n = 4	17.50 n = 2	---	15.00 n = 6
Silt	10.50 n = 5	12.00 n = 3	14.25 n = 4	12.13 n = 12
Clay/Gumbo	6.50 n = 2	3.00 n = 1	11.00 n = 3	8.17 n = 6

Average	10.96 n = 11	12.33 n = 6	12.87 n = 7	11.86 n = 24
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**Irrigated Soybean Yield
1997 Bootheel Irrigation Survey**

Soil Type	Fixed Pivot	Tow-able Pivot	Furrow Irrigation (Poly-pipe)	Average
Sand	41.8 n = 5	42.5 n = 2	---	42.00 n = 7
Silt	41.8 n = 5	46.0 n = 3	43.8 n = 4	43.52 n = 12
Clay/Gumbo	35.5 n = 2	38.0 n = 1	41.8 n = 5	39.75 n = 8
Average	40.75 n = 12	43.50 n = 6	42.69 n = 9	42.01 z n = 25

**Yield Increase of Corn Due to Irrigation
1997 Bootheel Irrigation Survey**

Soil Type	Fixed Pivot	Tow-able Pivot	Rigid Pipe	Poly-pipe	Average
Sand	72.1 n = 18	35.0 n = 2	65.0 n = 2	60.0 n = 5	66.59 n = 27
Silt	52.5 n = 8	29.0 n = 1	20.0 n = 1	62.0 n = 4	51.21 n = 14
Clay/Gumbo	---	---	---	60.0 n = 1	60.00 n = 1
Average	66.07 n = 26	33.00 n = 3	50.00 n = 3	60.80 n = 10	61.31 n = 42

**Irrigated Corn Yield
1997 Bootheel Irrigation Survey**

Soil Type	Fixed Pivot	Tow-able Pivot	Rigid Pipe	Poly-pipe	Average
Sand	154.4 n = 2	140.0 n = 18	166.8 n = 4	157.5 n = 6	155.71 n = 20
Silt	166.1 n = 9	149.0 n = 1	120.0 n = 1	159.2 n = 11	159.78 n = 22
Clay/Gumbo	---	---	130.0 n = 1	143.3 n = 3	139.98 n = 4
Average	158.30 n = 27	143.00 n = 3	152.87 n = 6	156.31 n = 20	165.29 n = 46

**Yield Increase of Cotton Due to Irrigation
1997 Bootheel Irrigation Survey**

Soil Type	Fixed Pivot	Tow-able Pivot	Rigid Pipe	Poly-pipe	Average
Sand	165.0 n = 3	250.0 n = 7	---	124.9 n = 11	172.33 n = 21
Silt	170.3 n = 4	250.0 n = 1	---	-75.0 n = 2	111.60 n = 7
Clay/Gumbo	0.0 n = 1	---	---	0.0 n = 1	0.00 n = 2
	147.03	250.00		87.40	146.67

Average	n = 8	n = 8	---	n = 14	n = 30
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**Irrigated Cotton Yield
1997 Bootheel Irrigation Survey**

Soil Type	Fixed Pivot	Tow-able Pivot	Rigid Pipe	Poly-pipe	Average
Sand	857.9 n = 8	886.4 n = 7	819.5 n = 2	871.9 n = 14	869.20 n = 30
Silt	857.3 n = 4	900.0 n = 1	---	903.5 n = 4	882.58 n = 9
Clay/Gumbo	980.0 n = 1	---	900.0 n = 1	1000.0 n = 1	960.00 n = 3
Average	867.11 n = 13	888.34 n = 8	846.33 n = 3	885.30 n = 19	877.66 n = 43