

MISSOURI 1990 IRRIGATION SURVEY
(excluding Bootheel)
 Presented at the Irrigation Conference
 Columbia, Mo. -- January 30, 1991
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Types of Systems	Percent
Center pivot	90.8
Traveling gun	5.8
Other	3.3

Types of Water Supplies	
Reservoir	51.2
Well	35.7
Stream	3.3
Combination, reservoir/well	9.8

Types of Pumping Power	
Diesel	50.9
Electricity	37.7
Propane	7.5
Natural gas	3.8

Water Supply Adequate? 100% yes

Reservoir Full in June? 100% yes

Applied: Fertilizer through 7 systems (down from 20 in 1989)

No insecticides through system

No herbicides through system

1990 IRRIGATION SURVEY RESULTS

	Corn	Single-crop Soybeans	Dbl-crop Soybeans	Wheat	Milo	Popcorn
Number reporting	37	44	21	1	4	4
Acres irrigated	122	104	67	76	115	92.5
Inches/application	1.0	0.9	1.0	0.6	1.4	1.0
Times irrigated	<u>3.5</u>	<u>2.8</u>	<u>2.9</u>	<u>2.0</u>	<u>2.3</u>	<u>2.8</u>
Total inches applied	3.6	3.0	2.8	1.1	3.3	2.8
Irrigated yield/ac. (bu.)	141.9	42.6	31.2	45	115.5	3951#
Dryland yield/ac.	<u>117.3</u>	<u>36.4</u>	<u>24.6</u>	<u>45</u>	<u>82.6</u>	<u>3847#</u>
Increase (bu./ac.)	24.6	6.2	6.6	0	32.9	104#

13-year Survey CORN Yields, average:

Irrigated	138.3
Dryland	92.7
Difference	45.6

13-year Survey SOYBEAN Yields, average:

Irrigated	43.7
Dryland	31.9
Difference	11.8

1990 Average Corn Planting Rate (stalks per acre):

Irrigated	24,569
Dryland	20,039

1990 Average Fuel Cost Per Acre/Inch:

Diesel	\$3.05
Propane	\$3.03
Electricity	\$3.26
Natural gas	\$1.99
Average (53 farms)	\$3.09

1990 Average Repair Costs:

Average per farm (49 systems)	\$484.44
Average per acre	\$2.75

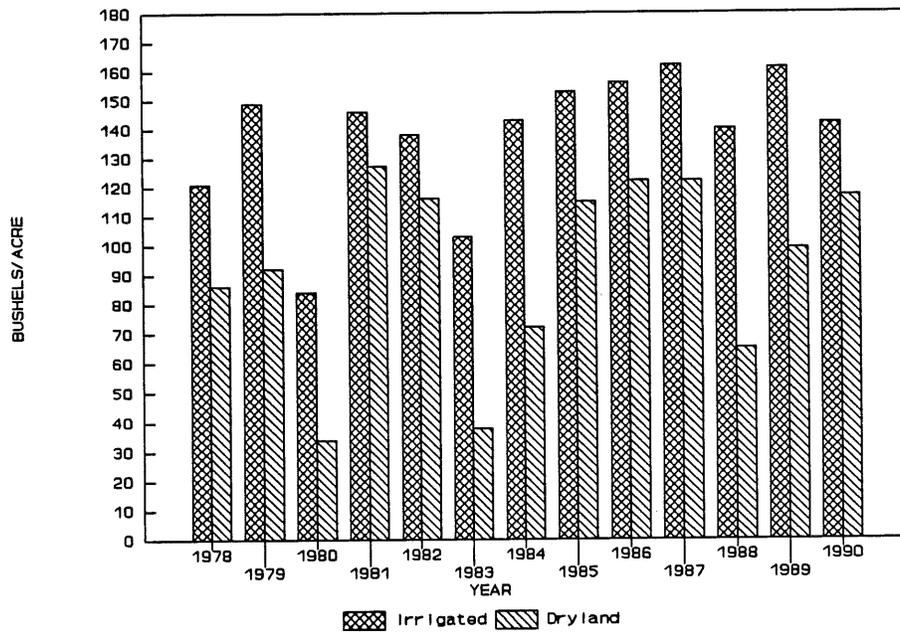
1990 IRRIGATED CROP BUDGETS (per acre)

	<u>Corn</u>	<u>Single-crop soybeans</u>	<u>Double-crop soybeans</u>
Yield/acre (bu.)	141.9	42.6	31.2
Price/bushel	\$2.35	\$5.80	\$5.80
Gross income/acre	\$333.47	\$247.08	\$180.96
Operating Costs:			
Seed	\$21.00	\$13.00	\$11.00
Fertilizer and lime	60.00	14.00	12.00
Chemicals	22.00	20.00	15.00
Machinery fuel, etc.	35.00	28.00	25.00
Drying @ 10¢	14.19		
Irrig. fuel (\$3.09/ac.-in.)	11.12	9.27	8.65
Irrigation repairs	2.75	2.75	2.75
Interest (12% x 1/2 op. costs)	<u>9.96</u>	<u>5.22</u>	<u>4.46</u>
Total operating costs/acre	\$176.02	\$92.24	\$78.86
Ownership Costs:			
Machinery	\$26.00	\$21.00	\$19.00
Irrig. equip. (\$400 @ 15%)	60.00	60.00	60.00
Labor	<u>21.50</u>	<u>18.00</u>	<u>15.00</u>
Total ownership costs/acre	\$107.50	\$99.00	\$94.00
TOTAL NON-LAND COSTS/ACRE	\$283.52	\$191.24	\$172.86
RETURN TO LAND AND MANAGEMENT/ACRE	\$49.95	\$55.84	\$8.10

1990 INCOME CHANGE DUE TO IRRIGATION (per acre)

	<u>Corn</u>	<u>Single-crop soybeans</u>	<u>Double-crop soybeans</u>
Yield/acre (bu.)	24.6	6.2	6.6
Price/bushel	\$2.35	\$5.80	\$5.80
Gross income/acre	\$57.81	\$35.96	\$38.28
Added Operating Costs:			
Seed	\$ 4.00		
Fertilizer and lime	12.00	\$3.00	\$2.50
Chemicals			
Machinery fuel, etc.			
Drying @ 10¢	2.46		
Irrig. fuel (\$3.09/ac.-in.)	11.12	9.27	8.65
Irrigation repairs	2.75	2.75	2.75
Interest (12% x 1/2 op. costs)	<u>1.94</u>	<u>.90</u>	<u>.83</u>
Added operating costs/acre	\$34.27	\$15.92	\$14.73
Added Ownership Costs:			
Machinery			
Irrig. equip. (\$400 @ 15%)	60.00	60.00	60.00
Labor	<u>5.00</u>	<u>5.00</u>	<u>5.00</u>
Added ownership costs/acre	\$65.00	\$65.00	\$65.00
TOTAL ADDED NON-LAND COSTS/ACRE	\$99.27	\$80.92	\$79.73
ADDED RETURN TO LAND AND MANAGEMENT/ACRE	(\$41.46)	(\$44.96)	(\$41.45)

13-YEAR SURVEY CORN YIELDS

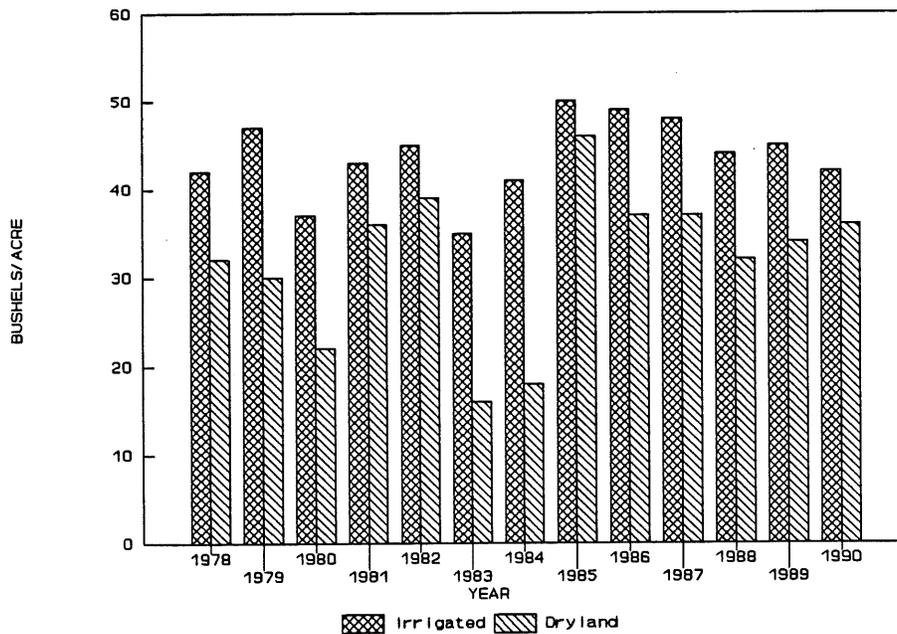


CORN

Irrigated
Dryland
Increase

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Irrigated	121	149	84	146	138	103	143	153	156	162	140	161	142
Dryland	86	92	34	127	116	38	72	115	122	122	65	99	117
Increase	35	57	50	19	22	65	71	38	34	40	75	62	25

13-YEAR SURVEY SOYBEAN YIELDS



SOYBEANS

Irrigated
Dryland
Increase

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Irrigated	42	47	37	43	45	35	41	50	49	48	44	45	42
Dryland	32	30	22	36	39	16	18	46	37	37	32	34	36
Increase	10	17	15	7	6	19	23	4	12	11	12	11	6