

2001 Bootheel Irrigation Survey
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Average irrigated acreage of those surveyed in 2001: 37 acres

Average acreage planned for irrigation in 2002: 932 acres

X 10.2% increase

- 57 % of new irrigated land will be fixed pivots
- 1 % of new irrigated land will be towable pivots
- 42 % of new irrigated land will be poly-pipe

I. Systems Used by Respondents

| | | | |
|-------------------------------|------|---------------------------|------|
| Furrow, rigid pipe | 11 % | Center pivot, fixed | 40 % |
| Furrow, poly-pipe | 35 % | Center pivot, towable | 7 % |
| Furrow, poly-pipe using surge | 4% | Furrow, rigid using surge | 3 % |

II. Irrigation Costs

1. Fuel

| Type | %Area Using | Cost | Sample Size |
|----------|-------------|--------------|-------------|
| LP Gas | 19 % | \$ 8.89/acre | 14 |
| Diesel | 47 % | \$11.49/acre | 31 |
| Electric | 34 % | \$ 9.39/acre | 21 |

2. Maintenance and Repairs

Table 1. Maintenance and Repair Cost, Bootheel of Missouri, 2001

| | Per Farmer | Per Well | Per Acre |
|---|------------|-----------|----------|
| Wells | \$1,140 | \$ 82.86 | \$ 1.06 |
| Pumps | \$1,509 | \$ 184.94 | \$ 2.51 |
| System (average all types) | \$2,779 | \$ 374.89 | \$ 4.59 |
| Total | \$5428 | \$646.09 | \$ 8.16 |
| <i>note: 79.4 acres/well site 10.8 wells per farmer</i> | | | |

III. Irrigation Scheduling

The percentage of corn, cotton, and soybean acreage using either **Arkansas Scheduler** computer program or Woodruff charts was 21%. Overall scheduling produced 16 bu/ac more corn, 121 lbs/ac more cotton, and 10 bu/ac more full season soybeans, but 3 bu/ac less double-crop soybeans than irrigators who did not use either method.. 32%, 17%, 16%, and 9% of corn, cotton, full-season soybean, and double-crop soybean producers, respectively, used scheduling. The number of years experience in irrigating did not appear to effect method used. Results can be seen in Table 2.

IV. Iron in Water

Respondents were asked to evaluate the irrigation water for each field as to its amount of iron by identifying it as "low", "medium", or "high". The amount to iron did not seem to effect yield very much; relative yields are seen in Table 3 (relative is the yield divided by the average sprinkler or average flood yield, as the case may be).

Table 2. Yields of crops based on irrigation scheduling method employed, Sample sizes and average years of irrigating experience

| Crop | No scheduling method | Scheduling Methodologies | | Difference between scheduling & not scheduling |
|----------------------------|--|--|---|--|
| | | Ark. Scheduler computer program | Woodruff irrigation charts | |
| Corn | 178.2 bu/ac 68% of users n=36 Yrs Irr = 23.3 | 188.5 bu/ac 19% of users n = 10 Yrs Irr = 20.0 | 203.1 bu/ac 13% of users n = 7 Yrs Irr = 21.9 | + 16.3 bu/ac 9 % increase |
| Cotton | 954.2 lbs/ac 83% of users n = 24 Yrs Irr = 20.4 | 1094.5 lbs/ac 14% of users n = 4 Yrs Irr = 12.8 | 996.0 lbs/ac 3% of users n = 1 Yrs Irr = 2.0 | + 120.6 lbs/ac 13 % increase |
| Soybean | 44.5 bu/ac 84% of users n = 36 Yrs Irr = 20.6 | 52.9 bu/ac 3 % of users n = 3 Yrs Irr = 22.0 | 56.0 bu/ac 9 % of users n = 4 Yrs Irr = 27.0 | + 10.2 bu/ac 23 % increase |
| Double Crop soybean | 35.8 bu/ac 91% of users n = 21 Yrs Irr = 16.8 | 32.3 bu/ac 4% of users n = 1 Yrs Irr = 21.0 | 34.0 bu/ac 4 % of a users n = 1 Yrs Irr = 30.0 | - 2.7 bu/ac 7 % decrease |

Table 3. Relative Yields of Corn, Cotton, & Soybeans Based on Sprinkled or Flood Irrigated and Iron Content of Water

| Iron Amount in Water | CORN | | | | COTTON | | | | SOYBEANS | | | |
|----------------------|----------|----|----------|----|----------|-----|----------|---|----------|----|----------|----|
| | Pivot | | Flood | | Pivot | | Flood | | Pivot | | Flood | |
| | RelYield | # | RelYield | # | RelYield | # | RelYield | # | RelYield | # | RelYield | # |
| Low | 1.01 | 7 | 0.83 | 1 | 0.92 | 3 | 1.01 | 1 | 1.18 | 3 | 0.82 | 3 |
| Medium | 0.98 | 18 | 1.01 | 16 | 1.03 | 9 | 0.99 | 8 | 0.98 | 21 | 1.02 | 23 |
| High | 1.05 | 5 | 1.01 | 4 | --- | --- | 1.03 | 3 | 0.90 | 2 | 1.01 | 9 |

V. Crop Cultural Practices

| | | |
|-----------------------|------|---|
| Deep-ripped: | 56 % | (74%, 56% & 13 % for sand, silt & clay, respectively) |
| Limed: | 69 % | (71%, 71% & 61% for sand, silt & clay, respectively) |
| Laser-leveled: | 36 % | (8%, 55% & 42% for sand, silt & clay, respectively) |
| Minimum till: | 61 % | (60%, 65% & 61% for sand, silt & clay, respectively) |
| Minimum till: | 61 % | (43%, 79%, 52% & 91% for corn, cotton, soybean and d.c. soybeans, respectively) |
| Use of drain furrows: | 58% | (47%, 67% & 48% for sand, silt & clay, respectively) |

VI. Land Value Increase when Irrigation is Present

Irrigators were asked if irrigation on farm land increased the value of land. Compared to raw farm land the presence of

irrigation increased land value by:

- with a center pivot: \$355/ac, (n=39)
- with it being laser leveled: \$394/ac, (n=44)

Table 4a. Corn yield in bushels per acre for various soil types as affected by minimum tilling, deep ripping, liming, lasering, and use of surface drains, Southeast Missouri, 2001.

| | Minimum Till | | Deep Ripped | | Limed | | Lasered | | Drain Furrow | |
|----------------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|----------------|-----------------|----------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| clay/gumbo | 183.6 n =5 | 172.0 n=3 | 145.0 n=1 | 184.1 n=7 | 170.8 n=4 | 187.8 n=4 | 146.0 n = 3 | 199.2 n = 5 | 161.3 n = 3 | 190.0 n = 5 |
| sand | 180.5 n =12 | 188.7 n=15 | 184.5 n =21 | 186.7 n = 6 | 185.7 n =23 | 181.3 n=4 | 185.0 n = 5 | 185.0 n =22 | 181.4 n =13 | 188.4 n =14 |
| silt | 175.8 n = 5 | 182.3 n=12 | 184.4 n=10 | 174.7 n=7 | 182.5 n=10 | 177.5 n=7 | 187.7 n = 6 | 176.5 n =11 | 181.2 n = 10 | 179.4 n = 7 |
| Other | --- | 225.0 n = 1 | --- | 225.0 n = 1 | 225.0 n = 1 | --- | --- | 225.0 n = 1 | 225.0 n = 1 | --- |
| AVERAGE | 180.1 n=22 | 185.8 n=31 | 183.2 n=32 | 183.7 n=21 | 184.3 n=38 | 181.3 n=15 | 177.8 n=14 | 185.4 n=39 | 180.7 n=27 | 186.3 n=26 |
| AVERAGE YIELD CHANGE | -5.7 | | -0.4 | | + 3.1 | | - 7.7 | | - 5.6 | |

Table 4b. Cotton yield in pounds of lint per acre for various soil types as affected by minimum tilling, deep ripping, liming, lasering, and use of surface drains, Southeast Missouri, 2001.

| | Minimum Till | | Deep Ripped | | Limed | | Lasered | | Drain Furrow | |
|----------------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| clay/gumbo | 967.0 n=1 | 985.5 n=2 | 981.5 n=2 | 975.0 n=1 | 981.5 n=2 | 975.0 n=1 | 985.5 n=2 | 967.0 n=1 | 967.0 n=1 | 985.5 n=2 |
| sand | 958.7 n=13 | 1200.0 n=2 | 997.6 n=9 | 937.0 n=6 | 965.5 n=12 | 1036.5 n=3 | 984.8 n=4 | 972.4 n=11 | 941.0 n=6 | 995.3 n=9 |
| silt | 947.0 n=5 | 700.0 n=1 | 907.0 n=5 | 900.0 n=1 | 927.5 n=4 | 862.5 n=2 | 905.8 n=6 | --- | 1025.0 n=2 | 846.3 n=4 |
| Other | 1000.0 n=2 | 1025.0 n=3 | 1012.5 n=4 | --- | 1012.5 n=4 | --- | 1000.0 n=2 | 1025.0 n=3 | 1050.0 n=2 | 1000.0 n=3 |
| AVERAGE | 960.2 n=21 | 1018.2 n=8 | 976.3 n=20 | 932.1 n=8 | 968.8 n=22 | 968.3 n=6 | 953.2 n=14 | 914.2 n=15 | 969.3 n=11 | 961.8 n=18 |
| AVERAGE YIELD CHANGE | - 58.0 | | + 39.2 | | +0.5 | | + 39.0 | | + 16.7 | |

TABLE 4C. SOYBEAN YIELD IN BUSHELS PER ACRE FOR VARIOUS SOIL TYPES AS AFFECTED BY MINIMUM TILLING, DEEP RIPPING, LIMING, LASERING, AND USE OF SURFACE DRAINS, SOUTHEAST MISSOURI, 2001.

| | Minimum Till | | Deep Ripped | | Limed | | Lasered | | Drain Furrow | |
|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| clay/gumbo | 47.6 n=9 | 49.7 n=4 | 55.5 n=1 | 47.6 n=12 | 49.8 n=7 | 46.5 n=6 | 49.8 n=8 | 47.3 n=5 | 48.1 n=7 | 48.5 n=6 |
| sand | 36.2 n=6 | 43.4 n=8 | 37.1 n=9 | 46.0 n=5 | 40.1 n=9 | 40.6 n=5 | 46.5 n=4 | 37.8 n=10 | 39.8 n=9 | 41.2 n=5 |
| silt | 48.2 n=6 | 50.9 n=9 | 47.2 n=5 | 51.1 n=10 | 51.8 n=8 | 47.6 n=7 | 54.8 n=10 | 39.8 n=5 | 48.8 n=9 | 51.3 n=6 |
| Other | --- | 45.0 n=1 | 45.0 n=1 | --- | 45.0 n=1 | --- | --- | 45.0 n=1 | 45.0 n=1 | --- |
| AVERAGE | 44.5 n=21 | 45.6 n=23 | 41.9 n=16 | 48.6 n=27 | 46.8 n=23 | 45.3 n=18 | 51.1 n=22 | 40.9 n=21 | 45.4 n=26 | 47.3 n=17 |

| | | | | | |
|----------------------|-------|-------|-------|--------|-------|
| AVERAGE YIELD CHANGE | - 1.1 | - 6.7 | + 1.5 | + 10.2 | - 2.0 |
|----------------------|-------|-------|-------|--------|-------|

TABLE 4D. DOUBLE-CROP SOYBEAN YIELD IN BUSHELS PER ACRE FOR VARIOUS SOIL TYPES AS AFFECTED BY MINIMUM TILLING, DEEP RIPPING, LIMING, LASERING, AND USE OF SURFACE DRAINS, SOUTHEAST MISSOURI, 2001.

| | Minimum Till | | Deep Ripped | | Limed | | Lasered | | Drain Furrow | |
|----------------------|--------------|-------------|-------------|--------------|--------------|-------------|-------------|--------------|--------------|--------------|
| | Yes | No | Yes | No | Yes | No | Yes | No | Yes | No |
| clay/gumbo | 25.3 n=3 | 42.0 n=1 | --- | 29.5 n=4 | 26.0 n=2 | 33.0 n=2 | 31.5 n=2 | 27.5 n=2 | 27.5 n=2 | 31.5 n=2 |
| sand | 35.4 n=7 | 36.0 n=2 | 33.0 n=4 | 37.6 n=5 | 36.8 n=8 | 26.0 n=1 | 38.0 n=2 | 35.3 n=8 | 39.0 n=4 | 32.8 n=5 |
| silt | 40.7 n=7 | 32.3 n=1 | 37.3 n=3 | 41.0 n=5 | 46.7 n=3 | 35.4 n=5 | 41.0 n=2 | 29.2 n=6 | 39.8 n=2 | 39.6 n=6 |
| Other | --- | 32.1 n=1 | --- | 32.1 n=1 | 32.1 n=1 | --- | --- | 32.1 n=1 | --- | 32.1 n=1 |
| AVERAGE | 35.8 n=17 | 35.7 n=5 | 34.5 n=7 | 36.5 n=14 | 37.0 n=14 | 33.6 n=8 | 36.8 n=6 | 35.6 n=17 | 36.3 n=8 | 35.5 n=14 |
| AVERAGE YIELD CHANGE | + 0.1 | | - 1.4 | | + 3.4 | | + 1.3 | | + 0.6 | |

TABLE 5.-- 2001 BOOTHEEL IRRIGATION RESULTS

| | CORN | COTTON | FC SOY | DC SOY | MILO |
|--------------------------|---------|-----------|--------|---------|---------|
| Number Reported | 53 | 29 | 43 | 23 | 1 |
| Acres Reported | 6572 | 4416 | 4241 | 2402 | 95 |
| # of Irrigations, furrow | 5.2 | 3.6 | 3.9 | 3.6 | --- |
| # of Irrigation, pivot | 9.8 | 5.3 | 4.5 | 6.7 | 5.0 |
| Irrigated Yield | 183 bu | 966 lbs | 46 bu | 36 bu | 84 bu |
| Dryland Yield | 119 bu | 777 lbs | 31 bu | 21 bu | 50 bu |
| Increase over Dryland | 69.3 bu | 184.4 lbs | 5.2 bu | 16.5 bu | 34.0 bu |

**TABLE 6.--1987-2001 BOOTHEEL IRRIGATION SURVEY
Yields for Irrigated vs Dryland Crops and their Breakeven Costs**

| 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 | 103 | 41 | 28 | 42 | 31 | 865 | 723 | 110 | 70 |
| 1998 | 140 | 95 | 37 | 22 | 40 | 27 | 692 | 542 | 82 | --- |
| 1999 | 163 | 121 | 49 | 21 | 43 | 17 | 787 | 471 | --- | --- |
| 2000 | 171 | --- | 43 | --- | 39 | --- | 733 | --- | 140 | --- |

| | | | | | | | | | | |
|-------------|------------------|------------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|-----------------|-----------------|
| 2001 | 183 (\$2.17)* | 119 (\$2.52)* | 46 (\$5.92)* | 31 (\$6.86)* | 36 (\$7.57)* | 21 (\$10.16)* | 966 (\$0.50)* | 777 (\$0.53)* | 84 (\$3.20)* | 50 (\$4.24)* |
| Avg | 158 | 110 | 43 | 30 | 39 | 27 | 831 | 653 | 103 | 75 |

* Break-even price; after D. Reinbott. 2001. Crop Budgets: Southeast Missouri. Un-numbered report. University of Missouri Outreach & Extension Service. Scott County.

TABLE 7A.--IRRIGATED FULL-SEASON SOYBEAN YIELD (BU/AC)
2001 Bootheel Irrigation Survey
Showing # of irrigations & Average Depth Applied

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----------------|
| Sand | 37.7 (4.7 @ 0.8") n = 7 | 24.0 (1.0 @ 1.0") n = 1 | --- | 46.0 (4.5 @ 2.3") n = 6 | 40.28 n = 14 |
| Silt | 48.3 (5.3 @ 1.1") n = 3 | 56.1 (6.0 @ 0.8") n = 1 | 52.0 (3.0 @ 2.4") n = 3 | 48.8 (3.4 @ 2.0") n = 8 | 49.83 n = 15 |
| Clay/Gumbo | 53.0 (5.0 @ 1.0") n = 1 | 45.0 (2.0 @ 0.8") n = 1 | 51.0 (2.5 @ 2.0") n = 2 | 47.5 (4.4 @ 2.6") n = 9 | 48.27 n = 13 |
| Other | --- | --- | --- | 45.0 (4.0 @ 2.0") n = 1 | 45.00 n = 1 |
| Average | 42.00 n = 11 | 41.70 n = 3 | 51.60 n = 5 | 47.45 n = 24 | 46.12 n = 43 |

furrow users with surge = 48.6 bu/ac (n=8)
furrow users without surge = 48.0 bu/ac (n=23)

TABLE 7B.-- YIELD INCREASE (BU/AC) DUE TO IRRIGATION FOR FULL-SEASON SOYBEAN
2001 Bootheel Irrigation Survey

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|----------------|----------------|----------------|-----------------|-----------------|
| Sand | 8.7 n = 7 | 2.0 n = 1 | --- | 14.2 n = 6 | 10.58 n = 14 |
| Silt | 10.7 n = 3 | 21.8 n = 1 | 13.3 n = 3 | 27.9 n = 8 | 21.13 n = 15 |
| Clay/Gumbo | 13.0 n = 1 | 5.0 n = 1 | 8.5 n = 2 | 20.4 n = 9 | 16.82 n = 13 |
| Other | --- | --- | --- | --- | --- |
| Average | 9.64 n = 11 | 9.60 n = 3 | 11.40 n = 5 | 21.39 n = 23 | 16.28 n = 42 |

TABLE 8A.--IRRIGATED DOUBLE-CROP SOYBEANS YIELD (BU/AC)
2001 Bootheel Irrigation Survey
Showing # of irrigations & Average Depth Applied

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------|
| Sand | 34.3 (10.3 @ 1.0") n = 6 | 38.0 (6.5 @ 1.0") n = 2 | --- | 38.0 (6.0 @ 2.0") n = 1 | 35.53 n = 9 |
| Silt | 39.0 (5.0 @ 2.4") n = 3 | 37.6 (5.0 @ 0.7") n = 1 | 48.0 (2.0 @ 3.0") n = 1 | 38.1 (3.0 @ 2.7") n = 3 | 39.61 n = 8 |
| Clay/Gumbo | 27.5 (4.0 @ 1.2) n = 2 | --- | --- | 31.5 (4.0 @ 2.5") n = 2 | 29.50 n = 4 |

| | | | | | |
|---------|------------------------------|----------------|----------------|----------------|-----------------|
| Other | 32.0 (--- @ ---) n = 1 | --- | --- | --- | 32.00 n = 1 |
| Average | 34.15 n = 12 | 37.87 n = 3 | 48.00 n = 1 | 35.88 n = 6 | 35.76 n = 22 |

furrow users *with* surge = 30.4 bu/ac (n=3)

furrow users *without* surge = 43.0 bu/ac (n=4)

**TABLE 8B.-- YIELD INCREASE (BU/AC) DUE TO IRRIGATION FOR DOUBLE-CROP SOYBEAN
2001 Bootheel Irrigation Survey TABLE**

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|-----------------|----------------|----------------|----------------|-----------------|
| Sand | 17.8 n = 6 | 15.0 n = 1 | --- | 18.0 n = 1 | 17.48 n = 8 |
| Silt | 12.3 n = 3 | 21.5 n = 1 | 23.0 n = 1 | 26.0 n = 2 | 19.06 n = 7 |
| Clay/Gumbo | 6.0 n = 2 | --- | --- | 12.0 n = 1 | 8.00 n = 3 |
| Other | --- | --- | --- | --- | --- |
| Average | 14.18 n = 11 | 18.25 n = 2 | 23.00 n = 1 | 20.50 n = 4 | 16.53 n = 18 |

**TABLE 9A.--IRRIGATED CORN YIELD (BU/AC)
2001 Bootheel Irrigation Survey
Showing # of irrigations & Average Depth Applied**

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|-------------------------------|-------------------------------|------------------------------|---------------------------------|----------------|
| Sand | 184.3 (11.5@0.8") n=15 | 194.1 (10.7 @ 0.9") n=3 | --- | 183.3 (6.0@2.2") n=9 | 185.03 n=27 |
| Silt | 187.9 (7.3@1.6") n=6 | --- | 188.0 (3.0@3.0") n = 1 | 175.2 (4.4 @ 2.4") n = 10 | 180.44 n=17 |
| Clay/Gumbo | 204.0 (7.5@1.1") n=4 | 180.0 (4.0@0.8") n=1 | 175.0 (3.0@2.0") n=1 | 131.5 (7.5@2.5") n=2 | 179.25 n=8 |
| Other | 225.0 (12.0 @ 1.5") n=1 | --- | --- | --- | 225.0 n=1 |
| Average | 189.66 n=26 | 190.60 n=4 | 181.5 n=2 | 174.51 n=21 | 183.42 n=53 |

furrow users *with* surge =178.3 bu/ac(n=3)

furrow users *without* surge =174.7 bu/ac(n=20)

**TABLE 9B.-- YIELD INCREASE (BU/AC) DUE TO IRRIGATION FOR CORN
2001 Bootheel Irrigation Survey**

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|--------------|----------------|-------------|--------------|---------------|
| Sand | 85.8 n=15 | 100.7 n=3 | --- | 78.14 n=9 | 84.90 n=27 |
| Silt | 50.9 n=6 | --- | 53.0 n=1 | 59.2 n=10 | 55.91 n=17 |
| Clay/Gumbo | 45.5 n=4 | 15.0 n=1 | 10.0 n=1 | 55.0 n=2 | 39.63 n=8 |
| Other | 100.0 n=1 | --- | --- | --- | --- |

| | | | | | |
|---------|---------------|--------------|--------------|---------------|---------------|
| Average | 70.30 n=26 | 79.25 n=4 | 31.50 n=2 | 66.92 n=21 | 68.46 n=52 |
|---------|---------------|--------------|--------------|---------------|---------------|

**TABLE 10A.--IRRIGATED COTTON YIELD (LB/AC)
2001 Bootheel Irrigation Survey
Showing # of irrigations & Average Depth Applied**

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|-------------------------------|----------------|------------|------------------------------|----------------|
| Sand | 972.4 (4.0 @ 6.0") n=11 | --- | --- | 984.8 (6.0@2.0") n=4 | 975.71 n=15 |
| Silt | --- | --- | --- | 905.8 (4.0@6.0") n=6 | 905.80 n=6 |
| Clay/Gumbo | 967.0 (4.0 @ 6.0") n=1 | --- | --- | 985.5 (4.0 @ 6.0") n=2 | 979.33 n=3 |
| Other | 1000.0 (4.0 @ 6.0") n=2 | --- | --- | 1016.7 (4.0@6.0") n=3 | 1010.02 n=5 |
| Average | 974.25 n=14 | --- | --- | 959.67 n=15 | 967.53 n=29 |

furrow users with surge = 1000.0 bu/ac(n = 4)
furrow users without surge = 945.0 bu/ac(n = 11)

**TABLE 10B.-- YIELD INCREASE (LB/AC) DUE TO IRRIGATION FOR CORN
2001 Bootheel Irrigation Survey**

| Soil Type | Fixed Pivot | Tow-able Pivot | Rigid Pipe | Poly-pipe | Average |
|------------|-----------------|----------------|------------|------------------|------------------|
| Sand | 194.1 n = 11 | --- | --- | 122.3 n = 4 | 174.96 n = 15 |
| Silt | --- | --- | --- | 195.8 n = 8 | 195.80 n = 6 |
| Clay/Gumbo | 334.0 n = 1 | --- | --- | 210.5 n = 2 | 251.67 n = 3 |
| Other | 125.0 n = 2 | --- | --- | 125.0 n = 2 | 125.0 n = 4 |
| Average | 200 n = 14 | --- | --- | 166.78 n = 16 | 184.40 n = 30 |