

KANSAS BOSTWICK IRRIGATION DISTRICT NO. 2
P.O. BOX 165
COURTLAND, KANSAS 66939-0165

BOARD OF DIRECTORS

LOUIS W. ALLEN ----- President
ELVIN C. HOBSON ----- Secretary
GARY L. HOUSHOLDER ----- Treasurer
DOUGLAS G. SIMMS ----- Attorney

2003 PERSONNEL

KENNETH NELSON ----- Superintendent
DONALD LIEB ----- Office Manager
RONALD ALLEN ----- Foreman
DAVID ALLEN----- Dam Tender
RONALD FREDRICKSON ----- Watermaster
MATTHEW EHLERS----- Ditchrider
PHILLIP ESSLINGER----- Ditchrider
RANDALL EVERT ----- Ditchrider
GREG HALL----- Ditchrider
WILLIAM MAHIN, JR. ----- Ditchrider
DANIEL REYNOLDS ----- Ditchrider
DANIEL SANDELL ----- Ditchrider
JACK SHUMARD----- Ditchrider
KEVIN SWANSON ----- Maintenance
DAVID WEIR ----- Ditchrider
FREDERICK HURLBUTT ----- Maintenance
STEPHEN RUSSELL ----- Part-time ditchrider
KERI BARBER----- Part-time office

2003 WEATHER CONDITIONS

MONTH	TEMP		PRECIP	AVE. PRECIP '60 to '00
	High	Low		
JAN	69	-7	0.29	0.53
FEB	63	-3	0.98	0.74
MAR	85	9	1.62	1.95
APR	87	24	2.57	2.44
MAY	92	42	4.12	4.98
JUN	95	50	9.01	4.17
JUL	106	58	.35	3.78
AUG	101	60	4.14	3.34
SEP	88	40	5.55	3.11
OCT	89	24	.87	1.91
NOV	71	9	1.55	1.35
DEC	63	6	<u>.61</u>	<u>0.84</u>
		Total	31.66	29.14

Moisture measured at Courtland amounted to a total of 31.66 inches, which is approximately 2.52 inches above the 40 year average.

Checking the daily record shows that the most moisture measured in a 24 hour period was 7.30 inches on June 23rd. Measurable precipitation was recorded at Courtland on 70 days during the year and 23 days recorded a trace.

The latest frost date last spring was April 10th when a low of 24 degrees was recorded. The temperature dropped to 24 degrees with the first fall frost on October 26nd.

RAINFALL DATA

YEAR	JAN-MAR	APR-JUNE	JULY-SEPT	OCT-DEC	TOTAL
59	N/A	12.82	4.83	N/A	N/A
60	N/A	11.05	8.40	2.46	N/A
61	4.09	15.17	19.59	3.94	42.79
62	2.84	10.24	11.62	3.29	27.99
63	2.28	7.81	6.86	1.73	18.68
64	1.62	8.60	9.84	1.21	21.27
65	5.10	12.50	10.40	1.12	29.12
66	1.89	6.98	11.88	2.33	23.08
67	.64	15.84	11.87	2.86	31.18
68	.58	11.19	19.39	6.18	37.34
69	3.92	9.84	13.15	4.36	31.28
70	1.27	15.79	9.01	3.79	29.86
71	4.30	10.00	7.47	7.04	28.81
72	1.00	13.38	11.23	6.53	32.14
73	7.13	8.35	18.72	9.46	43.66
74	.97	9.91	4.59	3.71	19.18
75	3.36	13.06	5.82	3.73	25.97
76	4.73	7.81	3.81	1.03	17.38
77	3.99	16.61	15.72	3.41	39.73
78	2.21	10.23	10.13	3.66	26.23
79	7.74	8.50	8.75	6.43	31.42
80	6.47	7.39	7.56	2.85	28.24
81	1.64	14.09	10.93	4.54	31.20
82	4.04	12.48	10.69	5.06	32.27
83	3.95	8.74	9.50	4.17	23.36
84	3.38	14.77	3.45	7.90	29.50
85	2.10	12.03	13.06	2.37	29.56
86	1.84	10.67	14.01	6.53	33.05
87	8.19	15.48	6.26	2.81	32.74
88	1.31	10.27	5.76	2.03	19.37
89	1.68	7.30	13.70	1.05	23.73
90	4.15	10.82	6.38	2.10	23.45
91	1.98	8.99	3.66	4.19	18.82
92	4.34	8.92	17.61	9.14	40.01
93	5.90	12.62	24.07	2.67	45.26
94	1.64	10.92	7.55	4.49	24.60
95	2.32	14.69	9.74	1.40	28.15

RAINFALL DATA CONTINUED

96	0.85	9.45	12.49	6.04	28.83
97	1.27	6.54	6.64	6.40	20.85
98	4.81	7.99	7.26	6.82	26.88
99	2.18	13.49	5.65	1.46	22.78
00	4.60	5.18	3.20	4.40	17.38
01	4.96	15.12	11.99	2.41	34.48
02	2.18	8.05	4.61	5.02	19.86
03	2.89	15.70	10.04	3.03	31.66

WATER USE AND CROP YIELDS

The first deliveries of irrigation water to district farms were made on June 30th, and continued until August 19th. A comparison between 2001, 2002 and 2003 water use and crop yield data is shown in the following tabulations:

		2001	2002	2003
Acres feet of water delivered		39,234	43,576	29,108
Acres irrigated		39,186	39,442	36,460
Average inches per acre		12.0	13.2	9.58
Per acre yields	corn	155.00	162.00	161.00
	milo	92.8	102.00	129.20
	soybeans	47.7	47.00	49.90
	ensilage	18.0	9.00	6.00
	sunflowers	0	0	1943.5
	alfalfa	6.1	7.6	5.6

	<u>ABOVE LOVEWELL</u>	<u>BELOW LOVEWELL</u>
Ac. Irr.	13,433	23,027
Corn	5,799 @ 156.2	12,089 @ 163.0
Milo	2,701 @ 122.0	6,510 @ 125.0
Soybeans	3,452 @ 48.7	3,096 @ 51.3
Alfalfa Hay	1,481 @ 5.4	1,188 @ 5.8
Sunflowers	0	111 @ 1,943.5
Ensilage	0	33 @ 6.0

O&M ASSESSMENTS FOR 2003 - BLOCKS I, II, III, IV, & V

Class #1	24,966.7 acres @ \$22.00 = \$549,267.40
Class #2	9,378.1 acres @ 21.25 = 199,284.63
Class #3	5,893.7 acres @ 21.00 = 123,767.70
Class #4	<u>2,692.9 acres @ 20.75 = 55,960.67</u>
	42,841.9 \$928,280.40

REPAYMENT ASSESSMENTS FOR 2003

Assess.	10.89	8.62	5.27	3.35	
\$384,029.92					BLOCK I-IV
Acres	24,290.9	9251.4	5858.5	2650.8	
<hr/>					
Assess.	10.17	8.05	4.92	3.13	
\$8,197.77					BLOCK V
Acres	675.8	126.7	35.2	42.1	
<hr/>					
TOTAL	\$392,227.69	24,966.7	9378.1	5893.7	2692.9

NOTE: Prevented planted acres for 2003 crop census was 1639 acres.

CROP YIELDS

YEAR	CORN	MILO	BEANS	ALFALFA	SUNFLOWERS
1961	84.0	60.	24.0		0
1962	100.0	88.0	30.0		0
1963	85.0	73.0	34.0		0
1964	95.0	74.0	24.0		0
1965	115.0	97.0	24.0		0
1966	95.0	91.0	33.0		0
1967	120.0	87.0	32.0		0
1968	99.0	72.0	25.0		0
1969	107.0	84.0	42.0		0
1970	92.0	49.0	25.0		0
1971	114.0	90.0	10.0		0
1972	129.0	101.0	43.0		0
1973	103.0	101.0	28.0		0
1974	102.0	81.0	30.0		0
1975	107.0	78.0	33.0		0
1976	103.0	90.0	44.0		0
1977	103.0	107.0	43.0		0
1978	121.0	96.2	42.8		0
1979	123.1	103.6	45.8		0
1980	94.7	63.6	45.2		0
1981	134.6	68.9	46.2		0
1982	108.0	99.0	37.5		0
1983	106.2	78.0	43.6		0
1984	139.0	85.8	42.5		0
1985	140.5	101.1	44.9		0
1986	148.7	131.8	50.4		0
1987	137.3	103.7	47.4		0
1988	135.2	80.5	46.1		0
1989	158.8	85.5	49.0		0
1990	139.0	99.0	42.0	5.0	0
1991	110.6	154.0	39.3	4.0	0
1992	166.0	0	45.8	0	0
1993	92.0	0	36.2	0	0
1994	153.4	0	53.7	6.0	0
1995	135.8	72.8	48.1	4.5	2613.3
1996	163.9	138.6	54.2	4.7	0
1997	166.6	114.7	58.7	5.0	5
1998	157.6	101.3	54.8	5.3	5.3
1999	165.4	0	58.6	5.6	0
2000	143.4	0	47.6	2.0	0
2001	155.0	92.8	47.7	6.1	0
2002	162.0	102.0	47.0	7.6	0
2003	160.7	124.2	49.9	5.6	1943.5

0 may indicate not enough acres reported.

INFORMATION FROM CROP CENSUS

YEAR	CLASSIFIED ACRES	IRRIGATED ACRES	AF DEL'D	IN/A
1958	10,043	N/A	4,383	N/A
1959	30,521	N/A	29,861	N/A
1960	31,979	20,455	27,041	15.8
1961	36,912	21,962	27,051	14.7
1962	36,934	22,395	23,326	12.4
1963	37,206	25,117	36,973	17.6
1964	37,286	22,892	41,948	21.9
1965	37,478	24,118	36,634	18.2
1966	38,386	24,063	38,195	19.0
1967	39,039	28,000	38,418	16.4
1968	40,325	28,000	32,566	13.9
1969	39,565	25,500	23,161	10.8
1970	39,828	27,736	52,959	22.9
1971	39,746	28,634	38,433	16.1
1972	40,120	26,515	26,168	11.8
1973	40,330	30,528	25,394	9.9
1974	40,631	29,907	51,507	20.7
1975	40,947	31,741	49,525	18.7
1976	41,118	30,789	# 69,206	27.0
1977*	41,118	32,248	30,934	11.5
1978*	41,118	31,909	34,335	12.9
1979*	41,468	33,529	29,015	10.4
1980	41,499	33,232	49,626	17.7
1981*	41,892	32,892	22,995	8.3
1982	41,862	33,980	30,963	10.9
1983	41,862	26,222	48,409	22.1
1984	41,883	30,048	48,121	19.2
1985	41,888	31,410	28,224	10.7
1986	41,910	32,085	34,082	12.7
1987	41,945	33,585	36,214	12.9
1988	41,960	29,862	51,016	20.5
1989*	41,987	35,696	39,335	13.2
1990*	41,988	36,667	43,874	14.3
1991*	42,488	30,881	32,621	12.7
1992*	42,458	23,589	4,116	2.1
1993*	42,537	33,858	# 3,326	1.2
1994	42,523	34,933	15,796	5.4
1995	42,523	38,485	42,828	13.4
1996	42,574	35,431	41,074	13.9
1997	42,574	38,985	40,196	12.4
1998	42,547	38,485	41,379	12.9
1999	42,650	38,788	44,734	13.8
2000	42,863	40,711	58,498	17.2
2001*	42,805	39,173	39,243	12.0
2002*	42,922	39,449	43,576	13.2
2003*	43,021	36,460	29,108	9.58

* YEARS OF SHORT SUPPLY, START SEASON WITH RESTRICTIONS

HIGHEST - LOWEST USE

42 YEAR AVERAGE = 14.65

VALUE OF ACTUAL IRRIGATED CROPS

FROM

CROP CENSUS

YEAR	\$ GROSS	\$ PER/ACRE	ACRES
1970	3,882,835.00	140.00	27,736
1971	3,611,674.76	126.15	28,634
1972	5,114,061.00	192.87	26,515
1973	7,006,234.00	229.50	30,528
1974	9,278,426.00	310.24	29,907
1975	8,273,460.00	260.66	31,741
1976	6,846,199.25	222.29	30,798
1977	5,915,316.01	183.43	32,248
1978	7,618,348.80	238.75	31,909
1979	9,690,680.00	289.02	33,529
1980	9,597,194.54	288.79	33,232
1981	9,799,445.00	297.93	32,892
1982	8,313,569.92	244.66	33,980
1983	8,293,717.20	316.29	26,222
1984	9,922,025.00	330.21	30,048
1985	9,081,424.00	289.13	31,410
1986	7,015,931.65	218.67	32,085
1987	7,039,321.40	209.60	33,585
1988	9,938,060.00	332.80	29,862
1989	11,439,457.00	320.46	35,696
1990	10,407,855.94	283.84	36,667
1991	7,712,559.42	249.75	30,881
1992	7,620,389.10	323.05	23,589
1993	7,493,859.30	221.33	33,858
1994	10,636,665.00	304.49	34,933
1995	13,899,728.33	361.17	38,485
1996	13,463,982.00	380.00	35,431
1997	15,349,478.00	393.73	38,985
1998	11,410,761.21	296.49	38,486
1999	11,856,609.01	305.68	38,788
2000	10,666,977.55	262.02	40,711
2001	10,725,896.65	273.81	39,234
2002	14,809,851.00	375.42	39,449
2003	12,308,765.65	337.60	36,460

This survey was first run in 1990. Pivot acres were counted as pipe and the results were 54% pipe, and 46% open ditch.

1994 PIPE-DITCH-PIVOT SURVEY

RIDE	PIPE	DITCH	PIVOT	ACRES
1	906.4 -71%	361.7 -29%	0	1268.1
2	2083.3 -53%	1378.4 -36%	445.2 -11%	3906.9
3	1466.2 -30%	3365.0 -69%	64.1 -1%	4895.3
4	2026.3 -49%	1970.5 -48%	126.4 -3%	4123.2
5	610.7 -70%	256.8 -30%	0	867.5
6	2864.5 -61%	1731.1 -37%	85.0 -2%	4680.6
7	3402.3 -70%	1477.9 -30%	0	4880.2
8	2599.4 -56%	1782.9 -38%	264.2 -6%	4646.5
9	3036.5 -66%	974.9 -21%	586.2 -13%	4597.6
10	3000.5 -61%	1681.6 -34%	268.3 -5%	4950.4
11	2516.8 -68%	1198.6 -32%	0	3715.4
<hr/>				
	24512.9 -58%	16179.4 -38%	1839.4 -4%	42531.7

1998 PIPE-DITCH-PIVOT SURVEY

RIDE	PIPE	DITCH	PIVOT	ACRES
1	977.7 -77%	290.4 -23%	0	1268.1
2	1910.6 -52%	995.6 -27%	740.7 -21%	3646.9
3	1798.1 -36%	2719.0 -56%	422.2 -8%	4939.3
4	1943.5 -46%	1665.2 -42%	480.7 -12%	4089.4
5	867.5 -100%	0	0	867.5
6	3021.2 -64%	1276.1 -27%	418.2 -9%	4715.5
7	3177.2 -64%	1381.9 -28%	385.8 -8%	4944.9
8	2684.3 -57%	1381.1 -29%	667.9 -14%	4733.3
9	2771.4 -61%	544.8 -12%	1225.4 -27%	4541.6
10	3090.4 -62%	915.6 -19%	953.2 -19%	4959.2
11	2616.1 -70%	1099.3 -30%	0	3715.4
<hr/>				
	24858.0 -59%	12269.0 -29%	5294.1 -12%	42421.1

2002 PIPE-DITCH-PIVOT SURVEY

RIDE	PIPE	DITCH	PIVOT	ACRES
1	1037.8 -80%	132.6 -10%	126.8 -10%	1297.2
2	2036.2 -60%	685.1 -20%	691.8 -20%	3413.1
3	2053.9 -40%	1840.1 -37%	1052.1 -21%	4946.1
4	2059.9 -50%	915.0 -22%	1127.6 -28%	4102.5
5	757.7 -74%	0	261.6 -26%	1019.3
6	3258.9 -69%	768.7 -16%	712.3 -15%	4739.9
7	2881.3 -57%	763.7 -16%	1354.9 -27%	5025.5
8	2747.6 -57%	785.2 -16%	1293.6 -27%	4826.4
9	1943.7 -42%	110.9 -02%	2606.3 -56%	4660.9
10	2722.8 -53%	570.4 -11%	1821.9 -36%	5115.1
11	2426.3 -64%	696.0 -18%	653.5 -17%	3775.8
<hr/>				
	23926.1 -56%	7267.7 -17%	11702.4 -27%	42921.8