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and Holly M. Bigge<sup> $\mathcal{D}$ </sup>

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Department of Agricultural Economics Kansas State University

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## CUSTOM APPLICATION COST SURVEY IN KANSAS

## Sources of Custom Application Cost Survey

Kansas Agricultural Statistics (KAS) conducts one survey each year in conjunction with the Land Use Value Project in the Department of Agricultural Economics at Kansas State University (KSU). There are four surveys rotated by KAS in conjunction with KSU: irrigated leases, nonirrigated leases, pasture leases, and input costs. During 2001, an input cost survey, The Custom Application Cost Survey (CACS), was conducted to gather data on the 2000 crop year. KAS conducted the CACS using the KSU survey form (Appendix 1) and the KAS database to contact organizations that sold fertilizer, chemicals, or seed and/or performed custom application services during the 2000 crop year. KAS follows the same sampling procedure for all surveys conducted for KSU. They draw the sample from their database, ensuring that the sample size is large enough that a statistically significant number of responses are received from each crop-reporting district. The nine KAS crop reporting districts are: Northwest-10, West Central-20, Southwest-30, North Central-40, Central-50, South Central-60, Northeast-70, East Central-80, and Southeast-90 (Figure 1).

### **Regional Information**

The CACS was not as extensive as the KAS survey done to compile their Custom Rates publication, which can be found at www.nass.usda.gov/ks/rlsetoc.htm. In the CACS, respondents provided information on fertilizer, chemical, seed, and application costs for a typical operation in their trade area. Data on crops were collected separately for irrigated and nonirrigated land. Due to limited irrigated acreage and response in the eastern third of Kansas, data for irrigated crops are not discussed for those districts. In general, there was a low number of responses regarding seed application. This may have been due to a communication problem; respondents may not have known what costs to include for seed application. The survey was intended to collect planting costs for a typical operation in the company's trade area. Therefore, a particular planting method could not be specified. Data were collected in all districts for summer fallow herbicide costs, even though summer fallowing is not a typical practice in the eastern third of Kansas. Data were collected on seven crops: wheat, sorghum, soybean, corn, alfalfa, sunflower, and cotton. Survey results are summarized in this paper to increase the information available on application costs. The last survey of custom application costs, conducted in the same manner, was in 1997. Information was collected in 1997 on six of the seven 2001 survey crops; cotton was not included. Data are reported by crop reporting district, and comparisons of fertilizer, chemical, and seed costs are made between the 1997 and 2001 surveys. Additional information pertaining to the survey is available from the Kansas State University Department of Agricultural Economics. Email inquiries can be sent to Leah Tsoodle at ltsoodle@ksu.edu.

### Northwest Kansas-District 10 (NW-10): Table 1

Fertilizer costs for irrigated wheat, sorghum, soybean, and corn decreased in NW-10 from 1997 to 2001, but increased for alfalfa and sunflower. Fertilizer costs increased for all nonirrigated crops, except wheat and corn, from 1997 to 2001. Fertilizer application rates for irrigated crops ranged from \$3.62/acre for alfalfa to \$4.50/acre for sunflower. Rates for nonirrigated crops

ranged from \$3.67/acre for alfalfa to \$4.08/acre for wheat and tended to be lower than application costs for irrigated crops.

Herbicide costs for irrigated wheat, corn, alfalfa, and sunflower increased from 1997 to 2001, but decreased for irrigated sorghum and soybean. Herbicide costs for nonirrigated crops increased for all crops from 1997 to 2001. Herbicide application rates for irrigated crops ranged from \$3.65/acre for irrigated alfalfa to \$4.57/acre for sunflower. Herbicide application rates for nonirrigated crops were closely related to the rates for irrigated crops; the rates ranged from \$3.73/acre for alfalfa to \$4.54/acre for soybean.

Although there were very few observations in 2001, results showed that insecticide costs for all irrigated and nonirrigated crops increased from 1997 to 2001. For irrigated crops, insecticide application rates ranged from \$4.25/acre for soybean to \$8.50/acre for sorghum. For nonirrigated crops, insecticide application rates ranged from \$4.36/acre for alfalfa to \$8.50/acre for sorghum.

Seed costs for irrigated sorghum, soybean, corn, and alfalfa increased from 1997 to 2001. Seed costs for wheat and sunflower decreased during that period. Seed costs for nonirrigated crops showed the same price movements as the irrigated crops from 1997 to 2001. Seed application rates for irrigated crops ranged from \$5/acre for wheat and sunflower to \$7/acre for corn and sorghum. Seed application rates for nonirrigated crops ranged from \$5.50/acre for wheat to \$7.33/acre for sorghum and corn.

#### West Central Kansas-District 20 (WC-20): Table 2

Fertilizer costs for all irrigated crops, except wheat and sunflower, increased in WC-20 from 1997 to 2001. Fertilizer costs for nonirrigated crops increased for all crops from 1997 to 2001. Fertilizer application rates for irrigated crops ranged from \$3.25/acre for sunflower to \$4.18/acre for soybean. Fertilizer application rates for nonirrigated crops ranged from \$3.63/acre for wheat to \$3.98/acre for soybean.

Herbicide costs increased for irrigated wheat, sorghum, corn and sunflower, but decreased for irrigated soybean and alfalfa from 1997 to 2001. Herbicide costs for all nonirrigated crops increased from 1997 to 2001. Herbicide application rates for irrigated crops ranged from \$3.47/acre for alfalfa to \$5.35/acre for sunflower. Herbicide application rates for nonirrigated crops ranged from \$3.72/acre for wheat to \$4.29/acre for sunflower.

Insecticide costs for all irrigated and nonirrigated crops increased from 1997 to 2001. Insecticide application rates ranged from \$3.63/acre for irrigated wheat and sorghum to \$4.07/acre for irrigated alfalfa. Insecticide application rates ranged from \$3.63/acre for nonirrigated sorghum to \$3.75/acre for nonirrigated wheat.

Seed costs increased for irrigated sorghum, soybean, corn, and alfalfa, but decreased for wheat and sunflower from 1997 to 2001. Seed costs for nonirrigated crops showed the same price movements as the irrigated crops from 1997 to 2001. Seed application rate for irrigated sorghum and corn was \$8.25/acre. Seed application rates for nonirrigated crops ranged from \$5.75/acre

for wheat to \$9.00/acre for sunflower.

## Southwest Kansas-District 30 (SW-30): Table 3

Fertilizer costs for irrigated wheat, sorghum, corn, and sunflower decreased in SW-30 from 1997 to 2001. Fertilizer costs for irrigated soybean and alfalfa increased during that time period. Fertilizer costs increased for all nonirrigated crops, except wheat, from 1997 to 2001. Fertilizer application rates ranged from \$3.36/acre for irrigated soybean to \$4.09/acre for irrigated sunflower. Fertilizer application rates ranged from \$3.50/acre for nonirrigated cotton to \$3.77/acre for nonirrigated wheat.

Herbicide costs for irrigated wheat, corn, alfalfa, and sunflower increased from 1997 to 2001, but decreased for irrigated sorghum and soybean. Herbicide costs increased for all nonirrigated crops from 1997 to 2001. Herbicide application rates ranged from \$3.64/acre for irrigated sunflower to \$4.55/acre for soybean. Herbicide application rates ranged from \$3.64/acre for nonirrigated sunflower to \$4.10/acre for nonirrigated cotton.

Insecticide costs increased for all irrigated and nonirrigated crops, except irrigated sunflower, from 1997 to 2001. Insecticide application rates for irrigated crops ranged from \$3.50/acre for cotton to \$4.57/acre for alfalfa. Insecticide application rates for nonirrigated crops ranged from \$3.82/acre for wheat to \$4.19/acre for sunflower.

Seed costs increased for three irrigated crops (sorghum, corn, and alfalfa) and decreased for three irrigated crops (wheat, soybean, and sunflower) from 1997 to 2001. Seed costs for nonirrigated crops mimicked price movements of the irrigated crops from 1997 to 2001. Seed application rates for irrigated crops were reported as \$7.39/acre for irrigated sorghum to \$10.17/acre for irrigated alfalfa. Seed application rates for nonirrigated crops ranged from \$6.02/acre for nonirrigated wheat to \$8.25/acre for nonirrigated soybean.

## North Central Kansas-District 40 (NC-40): Table 4

Irrigated wheat, sorghum, corn, and sunflower showed decreased fertilizer costs in NC-40 from 1997 to 2001, but irrigated soybean and alfalfa fertilizer costs increased. Fertilizer costs for nonirrigated crops showed similar price movements as the irrigated crops from 1997 to 2001. Fertilizer application rates ranged from \$3.13/acre for irrigated alfalfa to \$3.47/acre for irrigated corn. Fertilizer application rates ranged from \$3.50/acre for nonirrigated cotton to \$3.85/acre for nonirrigated corn.

Herbicide costs increased for all irrigated and nonirrigated crops, except irrigated sorghum, from 1997 to 2001. Herbicide application rates for irrigated crops ranged from \$3.45/acre for wheat to \$5.08/acre for corn. Herbicide application rates for nonirrigated crops ranged from \$3.64/acre for wheat and alfalfa to \$4.92/acre for corn.

Insecticide costs increased for all irrigated and nonirrigated crops, except sunflower, from 1997 to 2001. Insecticide application rates for irrigated crops ranged from \$3.83/acre for alfalfa to

\$4.75/acre for sunflower and for nonirrigated crops, from \$3.42/acre for sorghum to \$4.00/acre for cotton.

Seed costs for irrigated sorghum, soybean, corn and sunflower increased from 1997 to 2001; seed costs for wheat and alfalfa decreased during the same time period. Seed costs for nonirrigated crops increased, except for nonirrigated wheat, from 1997 to 2001. Seed application rates for irrigated crops ranged from \$3.00/acre for alfalfa to \$10.00/acre for soybean. Seed application rates for nonirrigated crops ranged from \$5.50/acre for alfalfa to \$10.13/acre for soybean.

#### Central Kansas-District 50 (C-50): Table 5

Fertilizer costs decreased for all irrigated crops, except soybean and alfalfa, in C-50 from 1997 to 2001. Fertilizer costs increased for nonirrigated crops, except wheat and corn, from 1997 to 2001. Fertilizer application rates ranged from \$3.28/acre for irrigated alfalfa to \$4.06/acre for irrigated wheat. Fertilizer application rates for nonirrigated crops ranged from \$3.48/acre for alfalfa to \$4.03/acre for wheat.

Herbicide costs for all irrigated and nonirrigated crops increased, except for irrigated soybean, from 1997 to 2001. Herbicide application rates ranged from \$3.00/acre for irrigated cotton to \$4.07/acre for irrigated corn and from \$3.00/acre for nonirrigated cotton to \$4.04/acre for nonirrigated soybean and corn.

Insecticide costs increased for irrigated crops, except corn and sunflower, from 1997 to 2001. Insecticide costs for nonirrigated crops showed similar price movements as the irrigated crops from 1997 to 2001. Insecticide application rates ranged from \$3.00/acre for irrigated wheat to \$4.00/acre for irrigated soybean. Insecticide application rates ranged from \$3.46/acre for nonirrigated alfalfa to \$3.72/acre for nonirrigated corn.

Seed costs for irrigated crops fluctuated in C-50 from 1997 to 2001; costs increased for sorghum, soybean, and corn and decreased for irrigated wheat, alfalfa, and sunflower. Seed costs increased for nonirrigated crops, except wheat and sunflower, from 1997 to 2001. Seed application rates for irrigated crops were \$8.75/acre for wheat and \$12.50/acre for corn and alfalfa. Seed application rates for nonirrigated crops ranged from \$7.32/acre for alfalfa to \$10.25/acre for soybean.

### South Central Kansas-District 60 (SC-60): Table 6

Fertilizer costs for irrigated wheat, corn and sunflower decreased in SC-60 from 1997 to 2001. Except for wheat and corn, fertilizer costs for nonirrigated crops increased from 1997 to 2001. During that time, fertilizer costs for irrigated sorghum, soybean and alfalfa increased. Fertilizer application rates for irrigated crops ranged from \$3.58/acre for soybean to \$3.89/acre for wheat. Fertilizer application rates for nonirrigated crops ranged from \$3.15/acre for cotton to \$3.68/acre for sunflower. Herbicide costs for all irrigated and nonirrigated crops increased, except soybean, from 1997 to 2001. Herbicide application rates for irrigated crops ranged from \$3.40/acre for wheat to \$7.70/acre for cotton. For nonirrigated crops, herbicide application rates ranged from \$3.32/acre for wheat to \$4.87/acre for cotton.

Insecticide costs for all irrigated crops increased except sunflower from 1997 to 2001. Insecticide costs for nonirrigated crops showed price movements similar to the irrigated crops from 1997 to 2001. Insecticide application rates ranged from \$3.24/acre for irrigated wheat to \$8.25/acre for irrigated cotton. Insecticide application rates ranged from \$3.33/acre for nonirrigated sorghum to \$5.48/acre for nonirrigated cotton.

Seed costs increased for irrigated sorghum, soybean and corn from 1997 to 2001, but decreased for irrigated wheat, alfalfa and sunflower. Seed costs increased for all nonirrigated crops, except alfalfa, from 1997 to 2001. Seed application rates for irrigated crops ranged from \$4.00/acre for irrigated alfalfa to \$4.63/acre for irrigated wheat. Seed application rates for nonirrigated crops ranged from \$5.00/acre for nonirrigated alfalfa to \$11.00/acre for nonirrigated sunflower.

## Northeast Kansas-District 70 (NE-70): Table 7

Fertilizer costs increased for nonirrigated alfalfa and corn, but decreased for all other nonirrigated crops in NE-70 from 1997 to 2001. Fertilizer application rates for nonirrigated crops ranged from \$3.92/acre for sunflower to \$4.69/acre for corn.

Herbicide costs for nonirrigated wheat, sorghum, corn, alfalfa and sunflower increased in NE-70 from 1997 to 2001; herbicide costs for nonirrigated soybean decreased during the same time period. Herbicide application rates ranged from \$4.00/acre for nonirrigated sunflower to \$5.30/acre for nonirrigated corn.

Insecticide costs increased for all nonirrigated crops, except sorghum and sunflower, from 1997 to 2001. Insecticide application rates ranged from \$3.00/acre for nonirrigated wheat to \$4.68/acre for nonirrigated soybean.

Seed costs increased for nonirrigated crops, except wheat, from 1997 to 2001. Seed application rates for nonirrigated crops ranged from \$6.22/acre for alfalfa to \$7.59/acre for soybean.

## East Central Kansas-District 80 (EC-80): Table 8

From 1997 to 2001, fertilizer costs increased for all nonirrigated crops in EC-80. Fertilizer application rates ranged from \$3.91/acre for nonirrigated wheat to \$4.78/acre for nonirrigated sorghum.

Herbicide costs increased for all nonirrigated crops, except nonirrigated soybean, from 1997 to 2001. Herbicide application rates ranged from \$4.35/acre for nonirrigated alfalfa to \$4.99/acre for nonirrigated corn.

Insecticide cost increased for nonirrigated crops from 1997 to 2001. Insecticide application rates ranged from \$4.58/acre for nonirrigated corn to \$5.35/acre for nonirrigated alfalfa.

All nonirrigated crops, except wheat, experienced increased seed costs in EC-80 from 1997 to 2001. Seed application rates for nonirrigated crops ranged from \$5.40/acre for wheat to \$7.06/acre for corn.

#### Southeast Kansas-District 90 (SE-90): Table 9

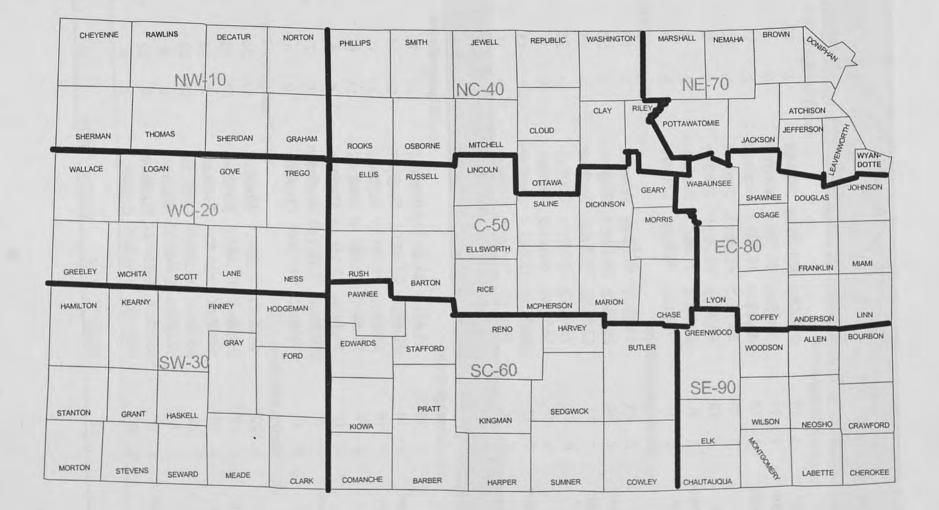
From 1997 to 2001, fertilizer costs decreased for nonirrigated wheat, sorghum, corn, and sunflower, but increased for nonirrigated soybean and alfalfa in SE-90. Fertilizer application rates ranged from \$3.00/acre for nonirrigated cotton to \$3.63/acre for nonirrigated corn.

Herbicide costs increased for all nonirrigated crops from 1997 to 2001. Herbicide application rates for nonirrigated crops ranged from \$3.60/acre for alfalfa to \$6.85/acre for cotton.

Insecticide costs increased for all nonirrigated crops from 1997 to 2001. Insecticide application rates ranged from \$3.50/acre for nonirrigated wheat to \$4.88/acre for nonirrigated cotton.

Seed costs in SE-90 increased from 1997 to 2001 for all nonirrigated crops, except wheat. Seed application rates for nonirrigated crops ranged from \$6.67/acre for alfalfa to \$9.00/acre for sorghum.

Figure 1. Kansas Agricultural Statistics Crop Reporting Districts



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	Т	able 1: No	orthwest	Kansas (NW-10)		
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irri	gated Crops	
Wheat	16	\$17.15	\$31.26	Wheat	10	\$4.32
Sorghum	18	30.76	35.73	Sorghum	9	4.14
Soybean	14	18.82	19.69	Soybean	11	3.86
Corn	19	39.19	41.24	Corn	13	4.15
Alfalfa	12	26.27	16.24	Alfalfa	9	3.62
Sunflower	6	23.73	21.86	Sunflower	5	4.50
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated (	Crops		Nonii	rrigated Crops	
Wheat	29	13.35	16.76	Wheat	25	4.08
Sorghum	24	26.98	24.77	Sorghum	20	3.85
Soybean	11	17.85	N/A	Soybean	11	3.91
Corn	27	28.02	29.09	Corn	25	3.78
Alfalfa	9	28.33	N/A	Alfalfa	9	3.67
Sunflower	13	20.55	16.40	Sunflower	13	3.87
Cotton	0	N/A	N/A	Cotton	0	N/A
	# of 2001	2001	1997	Herbicide	# of 2001	200
Herbicide	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ops		Irrig	gated Crops	
Wheat	14	\$6.41	\$4.02	Wheat	12	\$3.75
Sorghum	13	17.48	20.89	Sorghum	11	4.09
Soybean	16	17.11	18.72	Soybean	13	4.54
Corn	17	26.88	22.78	Corn	15	4.40
Alfalfa	10	14.93	12.14	Alfalfa	5	3.65
Sunflower	6	12.24	7.00	Sunflower	7	4.57
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated (	Crops		Noni	rrigated Crops	
Wheat	22	6.17	4.98	Wheat	24	3.75
Sorghum	22	22.55	18.34	Sorghum	23	4.10
Soybean	16	17.67	N/A	Soybean	16	4.54
Corn	23	26.86	20.98	Corn	24	4.08
Alfalfa	8	15.06	9.64	Alfalfa	8	3.73
Sunflower	11	15.73	9.63	Sunflower	12	4.27
Cotton	0	N/A	N/A	Cotton	0	N/A
Summer						
Fallow	12	14.83	7.25	Summer Fallow	13	4.06

- Sty - Chill - With	Tal	ole 1: No	rthwest K	ansas (NW-10)		
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		In	rigated Crops	
Wheat	6	\$8.18	\$2.05	Wheat	4	\$5.06
Sorghum	0	N/A	1.59	Sorghum	1	8.50
Soybean	2	12.98	1.13	Soybean	2	4.25
Corn	10	17.14	8.69	Corn	6	5.58
Alfalfa	7	14.21	2.81	Alfalfa	8	4.59
Sunflower	2	12.50	4.34	Sunflower	3	5.50
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated C	rops		Nor	irrigated Crops	
Wheat	7	7.91	N/A	Wheat	8	4.47
Sorghum	1	9.75	0.91	Sorghum	1	8.50
Soybean	1	8.95	N/A	Soybean	1	4.50
Corn	6	15.25	0.19	Corn	5	5.50
Alfalfa	7	14.11	8.43	Alfalfa	7	4.36
Sunflower	1	8.00	3.22	Sunflower	2	5.75
Cotton	0	N/A	N/A	Cotton	0	N/A
Seed	# of 2001	2001	1997	Seed	# of 2001	2001
(Martin Stati	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	os		Irr	rigated Crops	
Wheat	10	\$8.00	\$11.78	Wheat	1	\$5.00
Sorghum	10	10.55	7.72	Sorghum	2	7.00
Soybean	11	22.68	17.77	Soybean	1	6.00
Corn	17	38.35	34.82	Corn	2	7.00
Alfalfa	2	57.50	40.30	Alfalfa	0	N/A
Sunflower	7	16.45	18.20	Sunflower	1	5.00
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated Cr	ops		Non	irrigated Crops	
Wheat	17	6.53	7.94	Wheat	· 2	5.50
Sorghum	15	9.77	3.75	Sorghum	3	7.33
Soybean	8	21.63	N/A	Soybean	2	7.00
Corn	22	26.74	16.93	Corn	3	7.33
Alfalfa	2	35.00	22.99	Alfalfa	0	N/A
Sunflower	9	13.67	33.12	Sunflower	2	6.50
Cotton	0	N/A	N/A	Cotton	0	N/A

	Та	ble 2: We	est Centra	I Kansas (WC-20)		X.U.	
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001	
1	Responses	Survey	Survey	Application	Responses	Survey	
	Irrigated Cr	ops		Irrigated Crops			
Wheat	20	\$20.25	\$24.00	Wheat	15	\$3.68	
Sorghum	23	41.21	31.89	Sorghum	18	3.75	
Soybean	19	20.68	11.63	Soybean	14	4.18	
Corn	19	52.79	44.80	Corn	19	3.61	
Alfalfa	21	32.09	31.71	Alfalfa	16	3.69	
Sunflower	1	6.00	32.23	Sunflower	1	3.25	
Cotton	0	N/A	N/A	Cotton	0	N/A	
Nonirrigated Crops				Nonir	rigated Crops		
Wheat	30	18.08	14.53	Wheat	29	3.63	
Sorghum	28	30.31	17.24	Sorghum	28	3.67	
Soybean	13	20.42	N/A	Soybean	13	3.98	
Corn	21	40.63	16.05	Corn	26	3.69	
Alfalfa	6	51.15	N/A	Alfalfa	7	3.79	
Sunflower	17	20.59	11.83	Sunflower	17	3.69	
Cotton	0	N/A	N/A	Cotton	0	N/A	
Herbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001	
and the fi	Responses	Survey	Survey	Application	Responses	Survey	
	Irrigated Cr	ops		Irrigated Crops			
Wheat	22	\$5.36	\$2.21	Wheat	17	\$3.75	
Sorghum	23	20.34	12.62	Sorghum	18	3.88	
Soybean	20	17.86	24.35	Soybean	15	4.10	
Corn	24	29.28	14.60	Corn	19	3.71	
Alfalfa	20	12.60	13.31	Alfalfa	8	3.47	
Sunflower	5	18.20	14.81	Sunflower	5	5.35	
Cotton	0	N/A	N/A	Cotton	0	N/A	
	Nonirrigated (	Crops		Nonir	rigated Crops		
Wheat	29	5.00	2.29	Wheat	29	3.72	
Sorghum	28	18.37	7.45	Sorghum	28	3.85	
Soybean	24	18.93	N/A	Soybean	24	3.98	
Corn	28	23.28	15.36	Corn	28	3.73	
Alfalfa	9	16.80	9.64	Alfalfa	9	3.75	
Sunflower	18	18.44	8.91	Sunflower	18	4.29	
Cotton	0	N/A	N/A	Cotton	0	N/A	
Summer							
Fallow	25	14.83	3.58	Summer Fallow	25	3.78	

Par an and	Tabl	e 2: Wes	t Central	Kansas (WC-20	))	
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001
ALL STREET	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		In	rigated Crops	
Wheat	7	\$6.71	\$0.18	Wheat	2	\$3.63
Sorghum	2	8.00	0.84	Sorghum	2	3.63
Soybean	3	13.33	N/A	Soybean	1	4.00
Corn	21	18.62	22.58	Corn	13	3.98
Alfalfa	14	15.14	6.79	Alfalfa	14	4.07
Sunflower	4	15.00	5.79	Sunflower	2	3.75
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated C	rops		Nor	nirrigated Crops	
Wheat	11	7.91	N/A	Wheat	11	3.75
Sorghum	2	8.00	0.71	Sorghum	2	3.63
Soybean	0	N/A	N/A	Soybean	0	N/A
Corn	13	15.00	0.77	Corn	12	3.73
Alfalfa	10	16.70	8.43	Alfalfa	10	3.73
Sunflower	1	35.00	8.69	Sunflower	1	3.50
Cotton	0	N/A	N/A	Cotton	0	N/A
Seed	# of 2001	2001	1997	Seed	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Crop	os		Iri	rigated Crops	
Wheat	19	\$6.22	\$11.78	Wheat	0	\$N/A
Sorghum	19	12.43	7.72	Sorghum	1	8.25
Soybean	18	22.69	15.68	Soybean	0	N/A
Corn	22	35.61	34.82	Corn	1	8.25
Alfalfa	5	52.20	40.30	Alfalfa	0	N/A
Sunflower	5	11.40	16.55	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated Cr	ops		Nor	irrigated Crops	
Wheat	24	6.08	7.94	Wheat	• 2	5.75
Sorghum	27	11.90	3.75	Sorghum	2	7.13
Soybean	21	21.40	N/A	Soybean	0	N/A
Corn	26	32.08	16.93	Corn	1	8.25
Alfalfa	4	54.00	22.99	Alfalfa	0	N/A
Sunflower	3	16.33	33.12	Sunflower	1	9.00
Cotton	0	N/A	N/A	Cotton	0	N/A

-	the set in the set of the set of the set	STREET LINE CONTRACTOR	I BOARD STREET, STREET	Kansas (SW-30)	11 - 5 - 0004	0004
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001
A AFRICA AND	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irri	gated Crops	
Wheat	36	\$19.31	\$22.95	Wheat	32	\$3.69
Sorghum	30	26.25	26.89	Sorghum	23	3.70
Soybean	28	20.51	19.17	Soybean	23	3.36
Corn	31	47.75	47.81	Corn	32	3.77
Alfalfa	29	35.28	26.56	Alfalfa	23	3.48
Sunflower	8	18.74	28.54	Sunflower	8	4.09
Cotton	0	N/A	N/A	Cotton	1	3.50
	Nonirrigated (	Crops		Nonii	rigated Crops	
Wheat	52	10.81	13.70	Wheat	45	3.77
Sorghum	49	17.95	11.30	Sorghum	38	3.72
Soybean	22	19.05	N/A	Soybean	24	3.58
Corn	35	24.53	16.05	Corn	37	3.67
Alfalfa	27	28.19	N/A	Alfalfa	27	3.57
Sunflower	14	15.44	N/A	Sunflower	11	3.70
Cotton	0	N/A	N/A	Cotton	1	3.50
Herbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001
1.31	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ops		Irrig	gated Crops	
Wheat	30	\$4.90	\$2.73	Wheat	24	\$3.65
Sorghum	30	13.96	14.93	Sorghum	23	3.79
Soybean	32	16.67	18.25	Soybean	24	4.55
Corn	37	29.09	24.19	Corn	32	4.22
Alfalfa	31	14.55	13.04	Alfalfa	23	3.91
Sunflower	9	9.12	8.70	Sunflower	9	3.64
Cotton	1	10.00	N/A	Cotton	1	4.10
	Nonirrigated C	Crops		Nonir	rigated Crops	
Wheat	38	5.05	2.39	Wheat	40	3.65
Sorghum	49	13.14	9.07	Sorghum	48	3.78
Soybean	26	15.85	N/A	Soybean	27	3.94
Corn	42	21.31	15.36	Corn	42	3.95
Alfalfa	31	14.35	9.64	Alfalfa	30	3.66
Sunflower	14	9.18	8.70	Sunflower	15	3.64
Cotton	1	10.00	N/A	Cotton	1	4.10
Summer						
Fallow	31	12.36	7.90	Summer Fallow	32	3.93

	Tab	le 3: Sou	ithwest K	ansas (SW-30)	to an	1 march
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Crop	ps		In	rigated Crops	
Wheat	15	\$6.15	\$2.29	Wheat	10	\$3.69
Sorghum	12	6.45	3.74	Sorghum	10	3.86
Soybean	2	6.50	N/A	Soybean	2	3.80
Corn	28	22.07	15.70	Corn	17	4.18
Alfalfa	24	14.44	7.89	Alfalfa	21	4.57
Sunflower	11	11.25	17.37	Sunflower	9	4.26
Cotton	1	7.00	N/A	Cotton	1	3.50
	Nonirrigated Ci	rops		Nor	nirrigated Crops	
Wheat	15	5.92	0.29	Wheat	15	3.82
Sorghum	9	6.30	1.19	Sorghum	8	3.85
Soybean	0	N/A	N/A	Soybean	1	4.10
Corn	10	19.00	0.77	Corn	11	4.02
Alfalfa	11	16.27	8.43	Alfalfa	10	3.92
Sunflower	12	11.57	8.69	Sunflower	11	4.19
Cotton	0	N/A	N/A	Cotton	0	N/A
Seed	# of 2001	2001	1997	Seed	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		Iri	rigated Crops	
Wheat	25	\$7.34	\$11.78	Wheat	6	\$7.73
Sorghum	28	7.95	7.72	Sorghum	7	7.39
Soybean	28	21.31	21.61	Soybean	4	10.13
Corn	31	39.87	34.82	Corn	6	8.13
Alfalfa	18	49.66	40.30	Alfalfa	3	10.17
Sunflower	9	16.32	16.55	Sunflower	1	8.00
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated C	rops		Nor	nirrigated Crops	
Wheat	38	5.47	7.94	Wheat	. 9	6.02
Sorghum	43	6.18	3.75	Sorghum	9	7.92
Soybean	21	25.62	N/A	Soybean	2	8.25
Corn	37	32.78	16.93	Corn	4	7.31
Alfalfa	18	48.33	22.99	Alfalfa	0	N/A
Sunflower	10	14.41	33.12	Sunflower	1	8.00
Cotton	0	N/A	N/A	Cotton	0	N/A

	and the second for an and the second second	and the second se	and the set of the set	al Kansas (NC-40	the second s	0004	
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001	
the stand in	Responses	Survey	Survey	Application	Responses	Survey	
	Irrigated Cr	ops		Irrigated Crops			
Wheat	6	\$18.08	\$24.12	Wheat	5	\$3.35	
Sorghum	7	29.44	32.05	Sorghum	6	3.25	
Soybean	9	18.03	11.00	Soybean	4	3.19	
Corn	12	38.24	42.44	Corn	8	3.47	
Alfalfa	6	31.17	24.82	Alfalfa	4	3.12	
Sunflower	1	17.92	28.54	Sunflower	0	N/A	
Cotton	0	N/A	N/A	Cotton	0	N/A	
Nonirrigated Crops				Noni	rrigated Crops		
Wheat	41	17.89	23.47	Wheat	37	3.82	
Sorghum	41	23.69	24.28	Sorghum	37	3.83	
Soybean	31	12.77	12.15	Soybean	28	3.74	
Corn	36	29.01	44.81	Corn	31	3.85	
Alfalfa	29	19.23	14.73	Alfalfa	27	3.75	
Sunflower	24	19.85	23.16	Sunflower	22	3.73	
Cotton	1	25.00	N/A	Cotton	1	3.50	
Herbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001	
- 	Responses	Survey	Survey	Application	Responses	Survey	
	Irrigated Cro	ops		Irrigated Crops			
Wheat	8	\$5.36	\$1.58	Wheat	5	\$3.45	
Sorghum	6	17.17	18.74	Sorghum	3	3.58	
Soybean	9	19.72	18.71	Soybean	7	4.39	
Corn	10	31.62	18.82	Corn	6	5.08	
Alfalfa	4	14.50	9.16	Alfalfa	1	3.50	
Sunflower	0	N/A	8.70	Sunflower	0	N/A	
Cotton	0	N/A	N/A	Cotton	0	N/A	
	Nonirrigated C	Crops		Nonii	rigated Crops		
Wheat	38	6.38	4.23	Wheat	37	3.64	
Sorghum	42	24.66	15.21	Sorghum	41	4.65	
Soybean	37	18.11	13.72	Soybean	37	4.26	
Corn	37	28.86	24.75	Corn	36	4.92	
Alfalfa	22	21.26	12.92	Alfalfa	21	3.64	
Sunflower	24	14.50	8.70	Sunflower	23	4.16	
Cotton	0	N/A	N/A	Cotton	0	N/A	
Summer							
allow	21	15.28	5.40	Summer Fallow	19	4.01	

第185-PESTER-12	Table	e 4: North	n Central	Kansas (NC-40		1
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001
通信 建立 建制	Responses	Survey	Survey	Application	Responses	Survey
And	Irrigated Crop	os		Irr	rigated Crops	
Wheat	3	\$7.50	\$N/A	Wheat	0	\$N/A
Sorghum	2	4.40	3.46	Sorghum	2	4.25
Soybean	0	N/A	N/A	Soybean	0	N/A
Corn	10	13.68	9.60	Corn	4	4.00
Alfalfa	6	15.83	7.62	Alfalfa	6	3.83
Sunflower	2	10.25	17.37	Sunflower	2	4.75
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated Cr	rops		Nor	irrigated Crops	
Wheat	12	7.79	N/A	Wheat	8	3.59
Sorghum	2	10.00	4.41	Sorghum	3	3.42
Soybean	0	N/A	N/A	Soybean	0	N/A
Corn	10	13.90	7.66	Corn	8	3.75
Alfalfa	25	12.41	8.01	Alfalfa	24	3.71
Sunflower	13	13.44	17.37	Sunflower	14	3.98
Cotton	0	N/A	N/A	Cotton	1	4.00
Seed	# of 2001	2001	1997	Seed	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		lr	rigated Crops	
Wheat	7	\$7.57	\$13.49	Wheat	2	\$7.50
Sorghum	8	8.60	7.63	Sorghum	2	5.00
Soybean	12	22.78	20.11	Soybean	2	10.00
Corn	11	34.64	31.78	Corn	1	5.00
Alfalfa	4	31.50	38.53	Alfalfa	1	3.00
Sunflower	2	17.50	16.55	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated C	rops		Nor	nirrigated Crops	
Wheat	40	6.30	10.45	Wheat	. 6	7.29
Sorghum	44	7.67	4.11	Sorghum	6	8.42
Soybean	41	23.18	16.59	Soybean	4	10.12
Corn	41	28.16	25.85	Corn	5	9.20
Alfalfa	22	31.66	29.45	Alfalfa	3	5.50
Sunflower	30	17.23	13.45	Sunflower	2	7.50
Cotton	0	N/A	N/A	Cotton	0	N/A

11-1-1-1-	and the second second	Table 5:	Central H	Kansas (C-50)	The Course of	Stranger Bar
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irrig	gated Crops	
Wheat	16	\$17.62	\$20.50	Wheat	12	\$4.06
Sorghum	29	31.39	32.84	Sorghum	18	3.87
Soybean	29	18.12	13.20	Soybean	17	3.80
Corn	23	37.80	38.16	Corn	18	3.49
Alfalfa	20	29.37	13.62	Alfalfa	9	3.28
Sunflower	13	15.55	28.54	Sunflower	9	3.31
Cotton	5	10.20	N/A	Cotton	0	. N/A
	Nonirrigated (	Crops		Nonir	rigated Crops	
Wheat	59	18.58	20.93	Wheat	52	4.03
Sorghum	56	28.07	20.02	Sorghum	50	3.57
Soybean	51	14.83	5.69	Soybean	45	3.54
Corn	43	31.96	39.36	Corn	45	3.69
Alfalfa	35	21.84	16.56	Alfalfa	31	3.48
Sunflower	35	21.88	N/A	Sunflower	30	3.53
Cotton	5	9.74	N/A	Cotton	0	N/A
lerbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001
mer I Paul	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irrig	gated Crops	
Wheat	18	\$4.85	\$1.79	Wheat	12	\$3.12
Sorghum	24	19.81	12.43	Sorghum	18	3.52
Soybean	29	16.03	16.06	Soybean	22	3.78
Corn	30	31.22	13.39	Corn	23	4.07
Alfalfa	25	14.48	9.65	Alfalfa	18	3.27
Sunflower	17	18.12	8.70	Sunflower	17	3.28
Cotton	5	14.60	N/A	Cotton	5	3.00
	Nonirrigated (	Crops		Nonir	rigated Crops	
Wheat	55	5.69	3.39	Wheat	57	3.39
Sorghum	54	19.52	12.53	Sorghum	55	3.71
Soybean	52	15.85	15.75	Soybean	53	4.04
Corn	50	24.32	17.80	Corn	50	4.04
Alfalfa	35	14.77	7.15	Alfalfa	35	3.43
Sunflower	36	15.56	8.70	Sunflower	36	3.44
Cotton	5	14.60	N/A	Cotton	5	3.00
Summer						
Fallow	42	12.93	2.47	Summer Fallow	42	3.47

a shall a	A second second	Table 5: 0	Central K	ansas (C-50)		1.1		
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001		
-200 -	Responses	Survey	Survey	Application	Responses	Survey		
	Irrigated Cro	ps		Irrigated Crops				
Wheat	7	\$7.50	\$N/A	Wheat	1	\$3.00		
Sorghum	2	8.50	3.22	Sorghum	2	3.62		
Soybean	1	7.00	N/A	Soybean	1	4.00		
Corn	17	11.59	11.92	Corn	10	3.80		
Alfalfa	18	14.48	9.52	Alfalfa	17	3.45		
Sunflower	6	7.58	17.37	Sunflower	6	3.83		
Cotton	0	N/A	N/A	Cotton	0	N/A		
	Nonirrigated C	rops		Non	irrigated Crops			
Wheat	15	8.38	N/A	Wheat	15	3.63		
Sorghum	7	13.14	3.39	Sorghum	6	3.50		
Soybean	4	13.00	N/A	Soybean	4	3.62		
Corn	30	13.33	13.41	Corn	31	3.72		
Alfalfa	38	11.72	6.13	Alfalfa	36	3.46		
Sunflower	21	16.98	17.37	Sunflower	21	3.68		
Cotton	0	N/A	N/A	Cotton	0	N/A		
Seed	# of 2001	2001	1997	Seed	# of 2001	2001		
	Responses	Survey	Survey	Application	Responses	Survey		
	Irrigated Cro	ps		Irr	igated Crops			
Wheat	19	\$6.96	\$13.49	Wheat	3	\$8.75		
Sorghum	20	8.01	7.63	Sorghum	4	9.25		
Soybean	27	26.19	20.11	Soybean	3	11.33		
Corn	20	42.28	31.78	Corn	2	12.50		
Alfalfa	14	28.89	38.53	Alfalfa	2	12.50		
Sunflower	6	16.54	16.55	Sunflower	1	10.00		
Cotton	0	N/A	N/A	Cotton	0	N/A		
	Nonirrigated Ci	rops		Non	irrigated Crops			
Wheat	53	6.38	10.45	Wheat	11	8.36		
Sorghum	47	7.11	4.11	Sorghum	. 7	9.46		
Soybean	55	21.03	16.59	Soybean	8	9.38		
Corn	45	30.32	21.44	Corn	5	10.25		
Alfalfa	32	29.94	29.45	Alfalfa	7	7.32		
Sunflower	26	13.09	13.45	Sunflower	3	10.08		
Cotton	0	N/A	N/A	Cotton	0	N/A		

1 all	Та	ble 6: So	uth Centra	al Kansas (SC-60		State of	
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001	
	Responses	Survey	Survey	Application	Responses	Survey	
	Irrigated Cr	ops		Irrigated Crops			
Wheat	26	\$21.80	\$24.62	Wheat	23	\$3.89	
Sorghum	30	32.31	29.93	Sorghum	26	3.59	
Soybean	36	18.09	14.53	Soybean	32	3.58	
Corn	35	48.75	60.50	Corn	33	3.75	
Alfalfa	28	34.33	26.99	Alfalfa	23	3.59	
Sunflower	10	26.91	28.54	Sunflower	10	3.68	
Cotton	4	27.75	N/A	Cotton	4	3.88	
	Nonirrigated	Crops		Nonir	rigated Crops		
Wheat	59	19.60	20.13	Wheat	67	3.59	
Sorghum	64	25.89	19.69	Sorghum	63	3.40	
Soybean	52	14.33	5.86	Soybean	53	3.45	
Corn	38	35.64	39.36	Corn	52	3.55	
Alfalfa	45	22.71	17.95	Alfalfa	46	3.38	
Sunflower	25	19.67	N/A	Sunflower	24	3.68	
Cotton	17	21.41	N/A	Cotton	17	3.15	
Herbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001	
	Responses	Survey	Survey	Application	Responses	Survey	
	Irrigated Cr	ops		Irrig	gated Crops		
Wheat	25	\$6.16	\$2.69	Wheat	23	\$3.40	
Sorghum	30	18.26	14.08	Sorghum	23	3.99	
Soybean	37	18.23	22.15	Soybean	28	4.27	
Corn ·	40	25.30	21.68	Corn	36	4.20	
Alfalfa	30	15.23	14.01	Alfalfa	25	3.71	
Sunflower	16	20.06	8.70	Sunflower	16	4.53	
Cotton	10	28.55	N/A	Cotton	5	7.70	
	Nonirrigated (	Crops		Nonir	rigated Crops		
Wheat	57	4.85	3.01	Wheat	58	3.32	
Sorghum	60	17.38	9.04	Sorghum	55	3.76	
Soybean	50	17.83	18.96	Soybean	48	3.81	
Corn	45	22.53	17.80	Corn	53	3.88	
Alfalfa	35	15.39	5.00	Alfalfa	36	3.71	
Sunflower	26	15.62	8.70	Sunflower	25	4.04	
Cotton	18	30.69	N/A	Cotton	13	4.87	
Summer							
Fallow	29	11.45	3.15	Summer Fallow	30	3.87	

and the second s				Kansas (SC-60	))	
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001
(	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		In	rigated Crops	
Wheat	8	\$7.94	\$0.75	Wheat	11	\$3.24
Sorghum	7	9.71	0.58	Sorghum	6	4.35
Soybean	2	10.00	0.05	Soybean	5	3.70
Corn	13	13.92	11.87	Corn	8	4.12
Alfalfa	24	13.71	8.34	Alfalfa	19	3.80
Sunflower	8	14.44	17.37	Sunflower	8	4.64
Cotton	2	10.00	N/A	Cotton	2	8.25
	Nonirrigated C	rops		Non	irrigated Crops	
Wheat	18	7.81	N/A	Wheat	21	3.45
Sorghum	15	11.80	0.38	Sorghum	16	3.33
Soybean	6	13.33	N/A	Soybean	8	3.50
Corn	15	18.47	13.41	Corn	16	3.94
Alfalfa	37	12.73	9.04	Alfalfa	33	3.46
Sunflower	17	14.21	17.37	Sunflower	17	3.93
Cotton	11	30.73	N/A	Cotton	11	5.48
Geed	# of 2001	2001	1997	Seed	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	os		Irr	rigated Crops	
Wheat	28	\$8.98	\$13.49	Wheat	3	\$4.63
Sorghum	21	8.10	7.63	Sorghum	0	N/A
Soybean	27	24.46	20.11	Soybean	0	N/A
Corn	21	39.17	31.78	Corn	0	N/A
Alfalfa	20	36.50	38.53	Alfalfa	1	4.00
Sunflower	10	15.74	16.55	Sunflower	0	N/A
Cotton	3	15.00	N/A	Cotton	0	N/A
	Nonirrigated Cr				irrigated Crops	
Wheat	51	7.10	10.45	Wheat	11	5.54
Sorghum	45	6.50	4.11	Sorghum	.3	9.00
Soybean	37	20.08	16.59	Soybean	2	6.00
Corn	28	30.50	21.44	Corn	1	6.00
Alfalfa	33	26.87	29.45	Alfalfa	6	5.00
Sunflower	14	18.10	13.45	Sunflower	1	11.00
Cotton	7	13.86	N/A	Cotton	0	N/A

$b_{1} = 1b_{1} = \frac{b_{1}}{b_{1}}b_{1}$	The Contraction of the	Table 7: N	lortheast	Kansas (NE-70)	m and the second second	L'El Barriel
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irri	gated Crops	
Wheat	3	\$16.67	\$N/A	Wheat	3	\$4.58
Sorghum	2	21.00	N/A	Sorghum	1	3.00
Soybean	1 ·	17.00	N/A	Soybean	1	4.00
Corn	2	46.30	N/A	Corn	2	7.50
Alfalfa	1	15.00	N/A	Alfalfa	1	3.00
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated	Crops		Nonir	rigated Crops	
Wheat	39	22.55	28.87	Wheat	35	4.31
Sorghum	41	27.53	32.43	Sorghum	35	4.31
Soybean	32	10.58	12.50	Soybean	31	4.18
Corn	50	34.84	40.45	Corn	43	4.69
Alfalfa	33	18.48	18.32	Alfalfa	33	4.03
Sunflower	3	19.63	14.65	Sunflower	3	3.92
Cotton	0	N/A	N/A	Cotton	0	N/A
Herbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001
(1997) (1997) 第二	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irrig	gated Crops	
Wheat	1	\$3.50	\$N/A	Wheat	1	\$3.50
Sorghum	2	20.00	N/A	Sorghum	1 .	3.00
Soybean	3	24.00	N/A	Soybean	2	6.12
Corn	3	29.00	N/A	Corn	2	5.62
Alfalfa	1	8.00	N/A	Alfalfa	1	3.00
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated (	Crops		Nonir	rigated Crops	
Wheat	29	4.34	3.67	Wheat	24	4.05
Sorghum	39	22.31	15.78	Sorghum	32	4.70
Soybean	46	18.31	21.51	Soybean	38	4.84
Corn	47	26.44	20.03	Corn	38	5.30
Alfalfa	25	12.60	6.10	Alfalfa	24	4.21
Sunflower	2	17.50	7.12	Sunflower	1	4.00
Cotton	0	N/A	N/A	Cotton	0	N/A
Summer						
Fallow	9	12.50	N/A	Summer Fallow	7	4.14

			A CONTRACT OF A CONTRACT OF	ansas (NE-70)	- Harris II - Madatating	11-4- 12- 12- 12- 12- 12- 12- 12- 12- 12- 12
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		Irr	rigated Crops	
Wheat	0	\$N/A	\$N/A	Wheat	0	\$N/A
Sorghum	0	N/A	N/A	Sorghum	0	N/A
Soybean	0	N/A	N/A	Soybean	0	N/A
Corn	3	9.33	N/A	Corn	0	N/A
Alfalfa	1	10.00	N/A	Alfalfa	1	4.00
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated C	rops		Non	irrigated Crops	
Wheat	1	8.00	N/A	Wheat	1	3.00
Sorghum	14	9.49	10.04	Sorghum	11	4.52
Soybean	11	8.64	N/A	Soybean	10	4.68
Corn	27	11.77	3.86	Corn	18	4.40
Alfalfa	24	9.71	6.05	Alfalfa	22	4.41
Sunflower	0	N/A	8.68	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
Seed	# of 2001	2001	1997	Seed	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		Irr	igated Crops	
Wheat	1	\$12.00	\$N/A	Wheat	0	\$N/A
Sorghum	2	10.75	N/A	Sorghum	0	N/A
Soybean	5	25.80	N/A	Soybean	1	10.00
Corn	5	32.05	N/A	Corn	2	10.00
Alfalfa	1	55.00	N/A	Alfalfa	0	N/A
Sunflower	1	14.00	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated Cr	rops		Non	irrigated Crops	
Wheat	35	9.57	12.48	Wheat	11	6.25
Sorghum	32	9.67	5.90	Sorghum	.8	6.38
Soybean	46	22.83	16.90	Soybean	16	7.59
Corn	40	26.88	16.32	Corn	11	7.32
Alfalfa	26	32.44	27.28	Alfalfa	9	6.22
Sunflower	0	N/A	13.45	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A

in the second	Ta	able 8: Ea	st Centra	I Kansas (EC-80)	Carl to State of	
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001
mill March all	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irrig	gated Crops	
Wheat	2	\$19.50	\$N/A	Wheat	1	\$4.75
Sorghum	2	31.50	N/A	Sorghum	0	N/A
Soybean	0	N/A	N/A	Soybean	1	4.72
Corn	3	37.39	N/A	Corn	2	4.11
Alfalfa	0	N/A	N/A	Alfalfa	1	4.72
Sunflower	. 0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated	Crops		Nonir	rigated Crops	
Wheat	35	25.22	24.93	Wheat	28	3.91
Sorghum	35	35.57	26.44	Sorghum	29	4.78
Soybean	11	14.48	14.47	Soybean	11	4.24
Corn	37	42.65	34.37	Corn	30	4.74
Alfalfa	23	20.09	19.22	Alfalfa	21	3.98
Sunflower	0	N/A	14.65	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
Herbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001
William To H	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irrig	ated Crops	
Wheat	2	\$5.25	\$N/A	Wheat	1	\$4.72
Sorghum	2	12.64	N/A	Sorghum	1	4.72
Soybean	4	15.58	N/A	Soybean	3	4.25
Corn	3	20.93	N/A	Corn	3	4.07
Alfalfa	1	8.00	N/A	Alfalfa	1	4.72
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated (	Crops		Nonir	rigated Crops	
Wheat	27	4.85	0.86	Wheat	24	4.42
Sorghum	35	20.75	13.04	Sorghum	29	4.90
Soybean	35	17.26	17.96	Soybean	33	4.80
Corn	36	24.91	15.77	Corn	30	4.99
Alfalfa	17	11.84	4.07	Alfalfa	15	4.35
Sunflower	0	N/A	7.12	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
Summer						
Fallow	1	12.50	3.14	Summer Fallow	2	4.36

Insecticide	# of 2001	2001	1997	Kansas (EC-80)	the second se	2004
msecticide				Insecticide	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
14/1	Irrigated Crop		<b>AN</b> 1/A		igated Crops	
Wheat	0	\$N/A	\$N/A	Wheat	1	\$4.72
Sorghum	0	N/A	N/A	Sorghum	1	4.72
Soybean	0	N/A	N/A	Soybean	1	4.72
Corn	2	3.28	N/A	Corn	2	4.11
Alfalfa	1	12.00	N/A	Alfalfa	0	N/A
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated Cr	ops		Non	irrigated Crops	
Wheat	1	2.50	N/A	Wheat	7	5.02
Sorghum	11	6.65	4.36	Sorghum	11	5.00
Soybean	6	7.12	N/A	Soybean	7	5.28
Corn	19	6.78	3.04	Corn	15	4.58
Alfalfa	16	9.59	5.82	Alfalfa	11	5.35
Sunflower	0	N/A	8.68	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
Seed	# of 2001	2001	1997	Seed	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Crop	os		Irr	igated Crops	
Wheat	1	\$5.00	\$N/A	Wheat	0	\$N/A
Sorghum	1	6.00	N/A	Sorghum	0	N/A
Soybean	3	23.54	N/A	Soybean	1	20.00
Corn	4	30.38	N/A	Corn	1	26.10
Alfalfa	1	20.00	N/A	Alfalfa	0	N/A
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated Cr				irrigated Crops	
Wheat	32	8.96	12.48	Wheat	13	5.40
Sorghum	22	9.16	5.90	Sorghum	11	5.43
Soybean	35	21.76	16.90	Soybean	14	6.73
Corn	31	25.99	16.32	Corn	14	7.06
Alfalfa	14	37.19	27.28	Alfalfa	5	6.85
Sunflower	0	N/A	13.45	Sunflower	0	N/A
Garmower	0	14/14	10.10	Curinonon	-	N/A

and the first	1	able 9: S	outheast	Kansas (SE-90)		A- ALLANCE
Fertilizer	# of 2001	2001	1997	Fertilizer	# of 2001	2001
a put	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cr	ops		Irri	gated Crops	
Wheat	2	\$26.50	\$N/A	Wheat	1	\$2.75
Sorghum	1	29.50	N/A	Sorghum	1	2.75
Soybean	3	14.00	N/A	Soybean	3	2.92
Corn	3	37.83	N/A	Corn	3	3.25
Alfalfa	0	N/A	N/A	Alfalfa	0	N/A
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated (	Crops		Nonii	rigated Crops	
Wheat	36	24.03	26.61	Wheat	35	3.62
Sorghum	39	29.26	30.11	Sorghum	35	3.57
Soybean	20	13.88	13.87	Soybean	22	3.17
Corn	35	38.10	38.61	Corn	34	3.63
Alfalfa	24	18.75	17.94	Alfalfa	23	3.16
Sunflower	7	13.86	14.65	Sunflower	8	3.34
Cotton	7	13.36	N/A	Cotton	5	3.00
Herbicide	# of 2001	2001	1997	Herbicide	# of 2001	2001
The last of the	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ops		Irrig	gated Crops	
Wheat	0	\$N/A	\$N/A	Wheat	1	\$3.73
Sorghum	2	16.00	N/A	Sorghum	3	3.92
Soybean	2	12.00	N/A	Soybean	3	3.92
Corn	2	22.00	N/A	Corn	4	3.69
Alfalfa	0	N/A	N/A	Alfalfa	0	N/A
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated C	Crops		Nonir	rigated Crops	
Wheat	28	6.59	1.10	Wheat	28	3.68
Sorghum	36	18.48	10.07	Sorghum	33	3.74
Soybean	36	16.79	13.64	Soybean	32	3.83
Corn	35	20.87	10.99	Corn	32	3.81
Alfalfa	13	14.35	3.40	Alfalfa	16	3.60
Sunflower	6	8.58	7.12	Sunflower	7	3.68
Cotton	5	19.80	N/A	Cotton	5	6.85
Summer Fallow	7	11.57	N/A	Summer Fallow	7	3.64

TON	la	ble 9: So	utheast k	(ansas (SE-90)		-
Insecticide	# of 2001	2001	1997	Insecticide	# of 2001	2001
A HARVEY !!	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		In	rigated Crops	
Wheat	0	\$N/A	\$N/A	Wheat	0	\$N/A
Sorghum	0	N/A	N/A	Sorghum	0	N/A
Soybean	0	N/A	N/A	Soybean	0	N/A
Corn	0	N/A	N/A	Corn	0	N/A
Alfalfa	0	N/A	N/A	Alfalfa	0	N/A
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated C	rops		Nor	irrigated Crops	
Wheat	3	9.60	N/A	Wheat	5	3.50
Sorghum	12	9.42	0.90	Sorghum	11	4.11
Soybean	4	12.00	N/A	Soybean	6	3.75
Corn	11	11.80	3.79	Corn	11	4.23
Alfalfa	20	8.53	8.48	Alfalfa	21	3.87
Sunflower	2	12.00	8.68	Sunflower	3	4.00
Cotton	2	10.88	N/A	Cotton	2	4.88
Seed	# of 2001	2001	1997	Seed	# of 2001	2001
	Responses	Survey	Survey	Application	Responses	Survey
	Irrigated Cro	ps		In	rigated Crops	
Wheat	1	\$5.50	\$N/A	Wheat	0	\$N/A
Sorghum	2	6.00	N/A	Sorghum	0	N/A
Soybean	3	22.67	N/A	Soybean	0	N/A
Corn	3	24.67	N/A	Corn	1	10.00
Alfalfa	0	N/A	N/A	Alfalfa	0	N/A
Sunflower	0	N/A	N/A	Sunflower	0	N/A
Cotton	0	N/A	N/A	Cotton	0	N/A
	Nonirrigated Ci	rops		Non	irrigated Crops	
Wheat	36	8.22	12.48	Wheat	4	6.75
Sorghum	32	6.80	5.90	Sorghum	2	9.00
Soybean	35	20.13	16.90	Soybean	3	8.67
Corn	27	24.61	16.32	Corn	1	8.00
Alfalfa	20	32.26	27.28	Alfalfa	3	6.67
Sunflower	4	14.25	13.45	Sunflower	0	N/A
Cotton	2	18.50	N/A	Cotton	0	N/A

# Appendix 1. KANSAS STATE UNIVERSITY PRODUCTION COST SURVE

Kansas Department of Agriculture Statistics Division PO Box 3534 Topeka, KS 66601-3534 785-233-2230



K-State Research and Extension 344 Waters Hall Manhattan, KS 66506-3401

Dear Reporter:

By completing this questionnaire, you will assist Kansas State University in its program of research in support of Kansas Agriculture.

Response to this survey is voluntary and not required by law. However, your cooperation in answering this questionnaire is very important. Your report will be kept confidential. Thank you for your cooperation.

Eldon J. Thiessen State Statistician

1. Did your organization sell fertilizer, chemicals, or seed and/or perform custom application service for the 2000 crop year? (Please check yes or no)

eturn questionnaire in the enclosed envelope.
re

Please provide your estimate of fertilizer, chemical, and seed costs and application cost data for the crops and practices included on this form. Include 2000 crop year **total costs per acre** for a typical or average operation. There are tables for fertilizer, herbicides, insecticides, and seed which follow. Some crops or operations may not be applicable to your area or business. Only answer those for which you have knowledge or provide service.

CONTINUE TO NEXT PAGE

## **FERTILIZER** Data for a Typical Operation in Your Area

Crop	Total Average Co	ost per Acre, 2000 Crop Year
Crop	Fertilizer	Application
Wheat	the state of the state of the state of the	Male Market Market and States
Irrigated	201 \$	202 \$
Non-Irrigated	211 .	212
Corn		and the second sec
Irrigated	301	302
Non-Irrigated	311	312 .
Soybeans		and the factor of the second sec
Irrigated	401	402
Non-Irrigated	411	412 .
Sorghum	Har and the second second second	NID THE REAL PROPERTY OF
Irrigated	501	502
Non-Irrigated	511	512
Alfalfa		
Irrigated	601	602
Non-Irrigated	611	612
Sunflower		2.500 ···································
Irrigated	701	702
Non-Irrigated	711	712
Cotton	the state of the state of the state	
Irrigated	801	802
Non-Irrigated	811 .	812 .

# HERBICIDE

Data for a Typical Operation in Your Area

0	Total Average Co	ost per Acre, 2000 Crop Year
Crop	Herbicide	Application
Wheat	221 \$ .	222 \$ .
Irrigated		
Non-Irrigated	231	232
Corn Irrigated	321 .	322 .
Non-Irrigated	331	332
Soybeans		の時期に見ためない。自己の意味がなっていた。
Irrigated	421	422
Non-Irrigated	431	432
Sorghum	521 .	522 .
Trrigated Non-Irrigated	531 .	532
Alfalfa		
Irrigated	621	622
Non-Irrigated	631	632
Sunflower	701	722 .
Irrigated	721	732
Non-Irrigated	731	
Cotton Irrigated	821	822 .
Non-Irrigated	831	832
Fallow Acres	834 .	835 .

## INSECTICIDE Data for a Typical Operation in Your Area

	Total Average Co	ost per Acre, 2000 Crop Year
Crop	Insecticide	Application
Wheat		
Irrigated	241 \$	242 \$
Non-Irrigated	251	252
Corn		
Irrigated	341	342
Non-Irrigated	351	352
Soybeans	111	442 .
Irrigated	441	
Non-Irrigated	451	452
Sorghum		
Irrigated	541	542
Non-Irrigated	551	552
Alfalfa		
Irrigated	641	642
Non-Irrigated	651	652
Sunflower		· 中国地区的大学生的一个中国大学学校的学生
Irrigated	741	742
Non-Irrigated	751	752
Cotton		となるので、「「「「「「「」」」」を見ている。 「「」」「「」」」の「」」」
Irrigated	841	842
Non-Irrigated	851 .	852 .

# SEED

Data for a Typical Operation in Your Area

0	Total Average C	Cost per Acre, 2000 Crop Year
Crop	Seed	Application
Wheat Irrigated	261 \$	262 \$
Non-Irrigated	271	272
Corn Irrigated	361	362
Non-Irrigated	371	372
Soybeans Irrigated	461	462
Non-Irrigated	471.	472
Sorghum Irrigated	561	562
Non-Irrigated	571	572 .
Alfalfa Irrigated	661	662
Non-Irrigated	671	672
Sunflower Irrigated	761	762
Non-Irrigated	771	772
Cotton Irrigated	861	862
Non-Irrigated	871 .	872

CONCLUSION-
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rson Responding			Date
ase return this form	in the enclosed po	stage paid envelope.	

