

**Appendix table 1—Estimated t-statistics on characteristics of wheat farms among regions, 1994**

Item	Unit	North Central & Southeast	North Central & Northern Plains	North Central & Central and Southern Plains	North Central & Pacific	Southeast & Northern Plains
<b>Size:</b>						
Operated	<i>Acres</i>	0.76	1.93**	5.66***	3.00***	1.69*
Planted wheat	<i>Acres</i>	2.91***	3.60***	8.11***	3.95***	2.84***
Harvested wheat	<i>Acres</i>	2.73***	3.52***	7.52***	3.97***	2.81***
<b>Sales class:</b>						
\$49,999 or less	<i>Percent of farms</i>	3.63***	0.10	0.61	1.65	1.80*
\$50,000-\$99,999	<i>Percent of farms</i>	0.52	0.76	0.32	0.06	1.59
\$100,000-\$499,999	<i>Percent of farms</i>	1.34	0.18	0.37	0.19	1.64*
\$500,000 or more	<i>Percent of farms</i>	1.94*	1.24	0.95	2.15**	2.96***
<b>Value of production:</b>						
Wheat production value	<i>Dollars per farm</i>	2.23*	2.87**	5.37***	2.63***	1.85*
Farm production value	<i>Dollars per farm</i>	2.27*	1.94*	2.66***	0.77	3.29***
<b>Wheat tenure:</b>						
Owned	<i>Percent of acres</i>	1.97**	0.38	1.74*	1.65*	1.10
Cash-rented	<i>Percent of acres</i>	1.64*	1.04	0.91	1.53	0.74
Share-rented	<i>Percent of acres</i>	0.19	0.65	2.36**	2.66***	0.59
<b>Production practices:</b>						
Winter wheat	<i>Percent of farms</i>	0	11.86***	1.83*	5.54***	11.86***
Spring wheat	<i>Percent of farms</i>	0	0	0	0	0
Irrigated	<i>Percent of farms</i>	0.26	1.18	4.2***	2.58***	1.04
Double-cropped	<i>Percent of farms</i>	4.95***	0	2.68***	2.75***	0
Fallow	<i>Percent of farms</i>	0.47	4.28***	7.67***	6.29***	3.57***
Grazing	<i>Percent of farms</i>	0.02	0.26	8.73***	2.83***	0.40
<b>Previous crop:</b>						
Barley/oats	<i>Percent of farms</i>	0	0	0	0	0.81
Corn	<i>Percent of farms</i>	3.04***	0.03	3.41***	3.17***	1.28
Soybeans	<i>Percent of farms</i>	4.21***	7.46***	11.64***	0	1.29
Wheat	<i>Percent of farms</i>	0.49	1.56	11.15***	3.60***	1.51
Fallow	<i>Percent of farms</i>	0.85	4.81***	5.28***	4.29***	4.36***
<b>Crop rotation:</b>						
Continuous wheat	<i>Percent of farms</i>	0	0	0	0	0
Fallow-wheat	<i>Percent of farms</i>	0	0	0	0	0
Fallow-other	<i>Percent of farms</i>	0.85	2.15**	0.88	0.88	1.40
Corn-soybeans	<i>Percent of farms</i>	2.55**	1.23	3.47***	0	3.47***
Corn-other	<i>Percent of farms</i>	1.88*	0.26	2.01**	1.70*	0.39
Soybeans-soybeans	<i>Percent of farms</i>	0.16	4.54***	4.31***	0	1.95**
Soybeans-corn	<i>Percent of farms</i>	8.03	5.70***	8.88***	0	1.93**
<b>Production speciality:</b>						
Cash grains	<i>Percent of farms</i>	2.61***	0.78	0.05	2.40**	1.81*
Other crops	<i>Percent of farms</i>	0	0	0	0	8.44***
Livestock	<i>Percent of farms</i>	1.52	0.74	0.80	1.65*	2.71***
<b>Livestock:</b>						
Hogs	<i>Percent of farms</i>	1.07	1.70*	2.68***	2.92***	1.57
Beef cattle	<i>Percent of farms</i>	1.20	0.38	0.23	0.74	2.11**
Dairy cattle	<i>Percent of farms</i>	2.77***	1.70*	3.60***	3.14***	1.62
Wheat for farm use	<i>Percent</i>	2.01**	2.74***	2.05**	3.24***	0.14
Participation in wheat program	<i>Percent of farms</i>	0.96	1.66*	2.72***	1.14	2.74***
<b>Operator characteristics:</b>						
Individual farm organization	<i>Percent of farms</i>	0.05	0.21	1.10	0.96	0.30
Partnership	<i>Percent of farms</i>	0.32	0.09	0.78	0.84	0.15
Farming as major occupation	<i>Percent of farms</i>	0.24	1.90*	1.36	1.73	0.69
Under 50 years of age	<i>Percent of farms</i>	0.61	0.05	0.34	0.15	0.46
Completed college	<i>Percent of farms</i>	1.11	0.38	4.11***	4.16***	0.58

See footnotes at the end of this table.

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**Appendix table 1—Estimated t-statistics on characteristics of wheat farms among regions, 1994--Continued**

Item	Unit	Southeast & Central and Southern Plains	Southeast & Pacific	Northern Plains & Central and Southern Plains	Northern Plains & Pacific	Central and Southern Plains & Pacific
<b>Size:</b>						
Operated	<i>Acres</i>	3.47***	2.30**	0.62	0.54	0.09
Planted wheat	<i>Acres</i>	5.36***	2.84***	0.97	0.73	0.18
Harvested wheat	<i>Acres</i>	4.84***	2.93***	1.20	0.65	0.62
<b>Sales class:</b>						
\$49,999 or less	<i>Percent of farms</i>	5.13***	1.75*	0.44	0.86	2.50**
\$50,000-\$99,999	<i>Percent of farms</i>	1.12	0.68	0.87	1.58	0.84
\$100,000-\$499,999	<i>Percent of farms</i>	2.36**	1.58	0.15	0.44	0.90
\$500,000 or more	<i>Percent of farms</i>	2.91***	0.02	0.60	3.32***	3.38***
<b>Value of production:</b>						
Wheat production value	<i>Dollars per farm</i>	2.00**	2.17**	1.02	1.19	1.77*
Farm production value	<i>Dollars per farm</i>	3.59***	0.12	0.16	1.08	1.10
<b>Wheat tenure:</b>						
Owned	<i>Percent of acres</i>	0.67	0.31	0.85	0.89	0.22
Cash-rented	<i>Percent of acres</i>	3.35***	4.02***	2.73***	3.49***	1.76*
Share-rented	<i>Percent of acres</i>	3.61***	3.56***	5.43***	4.61***	1.01
<b>Production practices:</b>						
Winter wheat	<i>Percent of farms</i>	1.83*	5.54***	11.84***	9.37***	5.47***
Spring wheat	<i>Percent of farms</i>	0	0	13.47***	10.07***	5.47***
Irrigated	<i>Percent of farms</i>	4.18***	2.58***	3.87***	2.55**	2.06**
Double-cropped	<i>Percent of farms</i>	7.93***	7.91***	0	0	0.55
Fallow	<i>Percent of farms</i>	5.11***	5.53***	0.23	1.94*	2.55**
Straw	<i>Percent of farms</i>	4.48***	0.32	0.68	0.91	1.03
Grazing	<i>Percent of farms</i>	8.77***	2.88***	8.72***	2.80***	6.52***
<b>Previous crop:</b>						
Barley/oats	<i>Percent of farms</i>	0	2.21**	0	2.00**	0
Corn	<i>Percent of farms</i>	7.26***	6.68***	1.10	1.13	0.25
Soybeans	<i>Percent of farms</i>	2.92***	0	2.39**	0	0
Wheat	<i>Percent of farms</i>	10.99***	3.43***	3.80***	0.21	7.08***
Fallow	<i>Percent of farms</i>	4.80***	3.89***	0.26	0.10	0.35
<b>Crop rotation:</b>						
Continuous wheat	<i>Percent of farms</i>	0	0	3.44***	0.73	9.12***
Fallow-wheat	<i>Percent of farms</i>	0	0	0.61	0.43	0.14
Fallow-other	<i>Percent of farms</i>	0.02	0.11	1.39	1.23	0.09
Corn-soybeans	<i>Percent of farms</i>	5.19***	0	1.83*	0	0
Corn-other	<i>Percent of farms</i>	5.04***	4.16***	0.81	0.80	0.03
Soybeans-soybeans	<i>Percent of farms</i>	1.87*	0	0.47	0	0
Soybeans-corn	<i>Percent of farms</i>	3.52***	0	3.06***	0	0
<b>Production specialty:</b>						
Cash grains	<i>Percent of farms</i>	3.91***	0.23	0.97	1.60	3.53***
Other crops	<i>Percent of farms</i>	5.27***	1.41	1.89*	5.83***	3.48***
Livestock	<i>Percent of farms</i>	1.69*	0.43	1.88*	2.83***	1.90*
<b>Livestock:</b>						
Hogs	<i>Percent of farms</i>	4.83***	5.46***	3.19***	3.92***	1.43
Beef cattle	<i>Percent of farms</i>	2.45**	0.64	0.24	1.43	1.49
Dairy cattle	<i>Percent of farms</i>	2.93***	1.21	3.16***	2.29**	1.64
Wheat for farm use	<i>Percent</i>	0.13	0.85	0.01	1.43	1.07
Participated in wheat program	<i>Percent of farms</i>	4.97***	2.64***	0.29	0.94	2.38**
<b>Operator characteristics:</b>						
Individual farm organization	<i>Percent of farms</i>	2.52**	1.43	0.65	1.07	3.47***
Partnership	<i>Percent of farms</i>	2.95***	0.95	0.71	0.59	3.11***
Farming as major occupation	<i>Percent of farms</i>	0.90	0.73	2.84***	0.11	2.60***
Under 50 years of age	<i>Percent of farms</i>	0.34	0.43	0.22	0.08	0.15
Completed college	<i>Percent of farms</i>	2.61***	3.01***	2.93***	3.30***	1.02

\* = Significant at the 10-percent level.

\*\* = Significant at the 5-percent level

\*\*\* = Significant at the 1-percent level.

Source: U.S. Department of Agriculture's 1994 Farm Costs and Returns Survey.

**Appendix table 2—Estimated t-statistics on input use of wheat production operations among regions, 1994**

Item	Unit	North Central & Southeast	North Central & Northern Plains	North Central & Central and Southern Plains	North Central & Pacific	Southeast & Northern Plains
Wheat yield:						
Actual yield	<i>Bushels/acre</i>	1.81*	12.03***	11.28***	1.03	6.31***
Expected yield	<i>Bushels/acre</i>	4.02***	7.78***	11.41***	1.97**	5.05***
Seed:						
Seed rate-one time	<i>Bushels/acre</i>	0.40	3.58***	25.30***	5.93***	3.63***
Acres reseeded	<i>Percent of acres</i>	3.68***	1.72*	2.92***	1.60	2.21**
Home-grown seed	<i>Percent of seed</i>	1.35	2.60**	3.52***	0.69	3.53***
Fertilizer use:						
Any fertilizer	<i>Percent of farms</i>	0.81	3.97***	5.27***	1.16	3.72***
Nitrogen	<i>Percent of farms</i>	3.98***	3.99***	5.30***	1.45	0.93
Phosphorus	<i>Percent of farms</i>	5.00***	1.18	7.30***	6.23***	3.30***
Potassium	<i>Percent of farms</i>	3.02***	8.85***	19.79***	12.54***	3.50***
Manure	<i>Percent of farms</i>	3.67***	2.17**	2.80***	0.86	0.64
Fertilizer application rate:						
Nitrogen	<i>Pounds/acre</i>	1.52	4.55***	7.04***	1.44	2.67***
Phosphorus	<i>Pounds/acre</i>	4.82***	5.54***	9.52***	8.95***	0.66
Potassium	<i>Pounds/acre</i>	2.36**	10.89***	11.31***	11.15***	5.53***
Manure	<i>Tons/acre</i>	2.71***	1.83*	4.16***	0.32	4.02***
Chemical use:						
Any chemicals	<i>Percent of farms</i>	2.55**	4.70***	1.83*	8.21***	3.20***
Herbicides	<i>Percent of farms</i>	1.83*	4.71***	1.53	8.12***	3.65***
Insecticides/fungicides	<i>Percent of farms</i>	2.34**	2.04**	5.40***	4.46***	1.98**
Herbicides	<i>Acre treatments</i>	3.73***	10.36***	2.35**	9.23***	5.75***
Insecticides/fungicides	<i>Acre treatments</i>	0	0	0	0	1.99**
Tillage systems:						
Conventional with moldboard plow	<i>Percent of farms</i>	0.15	0.64	0.77	1.12	0.73
Conventional without moldboard plow	<i>Percent of farms</i>	0.89	0.22	2.53**	1.34	0.72
Mulch tillage	<i>Percent of farms</i>	1.45	2.00**	0.02	0.34	1.31
No-till	<i>Percent of farms</i>	1.31	2.03**	2.34**	2.40**	0.45
Custom operations:						
Any custom	<i>Percent of farms</i>	3.74***	0.72	3.18***	5.49***	1.72*
Land preparation/ cultivation	<i>Percent of farms</i>	1.96**	3.88***	4.29***	5.13***	2.95***
Planting	<i>Percent of farms</i>	0.62	0.15	1.97**	2.49**	0.54
Fertilizer/chemical application	<i>Percent of farms</i>	2.05**	0.02	0.58	2.29**	2.75***
Harvesting/hauling	<i>Percent of farms</i>	1.49	0.53	2.27***	1.97*	0.95
Fuel use:						
Diesel	<i>Gallons/acre</i>	2.62***	2.61***	7.32***	4.43***	0.09
Gasoline	<i>Gallons/acre</i>	0.79	0.67	0.41	0.17	0.01
LP gas	<i>Gallons/acre</i>	0	0	0	0	0.95
Natural gas	<i>1,000 cubic feet/acre</i>	0	0	0	0	0
Electricity	<i>Kilowatt hours/acre</i>	0	0	0	0	0.81
Labor use:						
Unpaid labor	<i>Hours/acre</i>	1.73*	2.38**	1.41	2.12**	0.81
Paid labor	<i>Hours/acre</i>	1.30	1.30	0.59	3.22***	3.42***

See footnotes at the end of this table.

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**Appendix table 2—Estimated t-statistics on input use of wheat production operations among regions, 1994--Continued**

Item	Unit	Southeast & Central and Southern Plains	Southeast & Pacific	Northern Plains & Central and Southern Plains	Northern Plains & Pacific	Central and Southern Plains & Pacific
Wheat yield:						
Actual yield	<i>Bushels/acre</i>	5.99***	1.92*	0.47	5.27***	5.14***
Expected yield	<i>Bushels/acre</i>	7.55***	3.40***	0.83	5.42***	5.45***
Seed:						
Seed rate-one time	<i>Bushels/acre</i>	19.73***	5.88***	3.53***	1.16	2.39**
Acres reseeded	<i>Percent of acres</i>	4.97***	2.84***	4.01***	0.24	3.95***
Home-grown seed	<i>Percent of seed</i>	4.98***	0.54	0.45	2.98***	3.89***
Fertilizer use:						
Any fertilizer	<i>Percent of farms</i>	5.05***	1.03	1.56	1.26	2.45**
Nitrogen	<i>Percent of farms</i>	2.56**	0.42	1.57	1.02	2.24**
Phosphorus	<i>Percent of farms</i>	0.91	0.83	4.73***	4.26***	0.01
Potassium	<i>Percent of farms</i>	7.30***	5.59***	4.30***	2.42**	1.42
Manure	<i>Percent of farms</i>	5.84***	4.33***	3.59***	2.66***	1.78*
Fertilizer application rate:						
Nitrogen	<i>Pounds/acre</i>	3.34***	0.15	0.28	2.21**	2.52**
Phosphorus	<i>Pounds/acre</i>	2.30**	2.52**	1.41	1.71*	0.81
Potassium	<i>Pounds/acre</i>	5.81***	5.68***	1.76*	0.85	1.49
Manure	<i>Tons/acre</i>	5.43***	2.24**	2.28**	0.69	1.59
Chemical use:						
Any chemicals	<i>Percent of farms</i>	1.07	8.33	3.95***	0.84	10.71***
Herbicides	<i>Percent of farms</i>	0.54	8.15	4.23***	0.75	11.14***
Insecticides/fungicides	<i>Percent of farms</i>	0.57	0.31	3.91***	3.49***	0.46
Herbicides	<i>Acre treatments</i>	1.88*	5.42***	8.55***	0.30	7.68***
Insecticides/fungicides	<i>Acre treatments</i>	1.01	2.04**	3.03***	0.27	3.42***
Tillage systems:						
Conventional with moldboard plow	<i>Percent of farms</i>	1.05	1.83*	0.09	2.20**	2.69***
Conventional without moldboard plow	<i>Percent of farms</i>	2.04**	0.51	2.55**	1.21	1.67*
Mulch tillage	<i>Percent of farms</i>	1.38	0.72	1.99**	1.67*	0.34
No-till	<i>Percent of farms</i>	0.75	0.81	0.76	0.96	0.43
Custom operations:						
Any custom	<i>Percent of farms</i>	0.92	1.53	1.25	2.63***	2.79***
Land preparation/ cultivation	<i>Percent of farms</i>	2.54**	4.41***	1.33	1.76*	3.10***
Planting	<i>Percent of farms</i>	0.08	0.15	1.12	1.58	0.63
Fertilizer/chemical application	<i>Percent of farms</i>	2.53**	0.47	0.80	2.99***	2.80***
Harvesting/hauling	<i>Percent of farms</i>	1.43	0.97	1.85*	1.52	0.28
Fuel use:						
Diesel	<i>Gallons/acre</i>	2.92***	3.25***	3.17***	3.31***	2.24**
Gasoline	<i>Gallons/acre</i>	0.72	1.12	0.48	0.90	0.71
LP gas	<i>Gallons/acre</i>	1.19	1.69*	0.63	0.24	0.55
Natural gas	<i>1,000 cubic feet/acre</i>	0	0	0	0	0
Electricity	<i>Kilowatt hours/acre</i>	2.41**	1.07	2.03***	1.07	1.06
Labor use:						
Unpaid labor	<i>Hours/acre</i>	2.69***	2.77***	3.18***	3.14***	1.62
Paid labor	<i>Hours/acre</i>	2.47**	2.48**	1.04	4.67***	4.10*

\* = Significant at the 10-percent level.

\*\* = Significant at the 5-percent level.

\*\*\* = Significant at the 1-percent level.

Source: U.S. Department of Agriculture's 1994 Farm Costs and Returns Survey.

**Appendix table 3—Coefficient of variation: Wheat production costs per planted acre, by region, 1994**

Item	North Central	Southeast	Central and Southern Plains			All FCRS farms
			Nothern Plains	Southern Plains	Pacific	
	<i>Percent</i>					
Cash expenses:						
Seed	7.68	3.18	8.43	2.78	6.06	3.55
Fertilizer	12.81	8.08	11.09	5.39	10.53	6.71
Chemicals	66.26	14.95	15.46	12.37	12.52	8.13
Custom operations	22.12	12.44	35.72	8.83	25.35	8.05
Fuel, lube, and electricity	9.62	4.91	9.78	8.98	45.87	13.52
Repairs	5.48	4.87	6.59	3.32	5.10	3.35
Hired labor	18.71	18.15	24.10	16.36	12.81	13.01
Purchased water and baling	16.87	11.71	24.27	25.75	26.96	19.67
Total, variable cash expenses	7.60	4.28	7.87	3.19	14.24	5.45
General farm overhead	14.63	10.14	15.27	7.39	13.83	7.13
Taxes and insurance	5.55	7.73	10.19	3.59	14.52	5.82
Interest	24.79	16.57	22.68	14.46	16.07	10.92
Total, fixed cash expenses	8.77	7.52	4.78	6.15	6.03	3.48
Total, cash expenses	4.69	3.50	5.41	2.78	10.89	4.25
Economic (full-ownership) costs:						
Variable cash expenses	7.60	4.28	7.87	3.19	14.24	5.45
General farm overhead	14.63	10.14	15.27	7.39	13.83	7.13
Taxes and insurance	5.55	7.73	10.19	3.59	14.52	5.82
Capital replacement	3.49	2.88	5.68	4.82	4.53	3.12
Operating capital	7.60	4.28	7.87	3.19	14.24	5.45
Other nonland capital	3.91	3.52	5.07	4.28	3.67	2.33
Land	8.01	16.21	6.42	6.30	5.28	4.11
Unpaid labor	5.22	11.05	16.49	5.39	15.19	6.64
Total, economic (full-ownership) costs	3.98	3.39	7.01	2.48	7.27	4.00
Yield	3.69	6.23	2.88	3.55	10.08	3.23

Source: U.S. Department of Agriculture's 1994 Farm Costs and Returns Survey.

**Appendix table 4—Coefficient of variation: Wheat production costs per planted acre, by variable cost group, 1994**

Item	Low-cost producers	Mid-cost producers	High-cost producers	All FCRS farms
	<i>Percent</i>			
Cash expenses:				
Seed	7.07	3.42	4.25	3.55
Fertilizer	14.21	6.26	9.87	6.71
Chemicals	11.11	7.76	13.98	8.13
Custom operations	43.15	10.72	15.24	8.05
Fuel, lube, and electricity	14.71	9.72	30.39	13.52
Repairs	6.65	3.06	5.60	3.35
Hired labor	33.92	15.57	16.82	13.01
Purchased water and baling	34.23	27.18	38.94	19.67
Total, variable cash expenses	6.79	2.53	11.20	5.45
General farm overhead	23.08	5.37	13.45	7.13
Taxes and insurance	13.89	3.43	13.84	5.82
Interest	22.69	11.05	13.38	10.92
Total, fixed cash expenses	6.48	4.72	8.04	3.48
Total, cash expenses	6.16	2.20	9.98	4.25
Economic (full-ownership) costs:				
Variable cash expenses	6.79	2.53	11.20	5.45
General farm overhead	23.08	5.37	13.45	7.13
Taxes and insurance	13.89	3.43	13.84	5.82
Capital replacement	5.84	3.61	6.40	3.12
Operating capital	6.79	2.53	11.20	5.45
Other nonland capital	4.41	3.36	4.98	2.33
Land	13.21	3.51	11.30	4.11
Unpaid labor	21.33	5.52	8.39	6.64
Total, economic costs	9.99	2.03	8.55	4.00
Yield	8.33	2.17	17.09	2.23

Source: U.S. Department of Agriculture's 1994 Farm Costs and Returns Survey.

**Appendix table 5—Coefficient of variation: Wheat production costs per planted acre, by enterprise size, 1994**

Item	Wheat acres planted				All FCRS farms
	Fewer than 50 acres	50-199 acres	200-399 acres	400 or more acres	
	<i>Percent</i>				
Cash expenses:					
Seed	6.94	6.30	5.41	4.57	3.55
Fertilizer	7.48	13.01	8.13	8.71	6.71
Chemicals	18.61	15.28	12.48	10.41	8.13
Custom operations	20.16	16.43	14.78	10.18	8.05
Fuel, lube, and electricity	8.67	6.16	16.73	19.78	13.52
Repairs	6.01	4.04	4.02	4.79	3.35
Hired labor	30.38	15.72	21.92	17.75	13.01
Purchased water and baling	28.06	15.82	56.60	47.66	19.67
Total, variable cash expenses	5.02	6.05	5.83	7.88	5.45
General farm overhead	26.73	10.99	9.82	9.09	7.13
Taxes and insurance	11.72	6.86	6.97	8.26	5.82
Interest	20.74	21.66	17.57	13.85	10.92
Total, fixed cash expenses	10.15	9.10	8.35	4.38	3.48
Total, cash expenses	5.21	4.77	5.43	6.08	4.25
Economic (full-ownership) costs:					
Variable cash expenses	5.02	6.05	5.83	7.88	5.45
General farm overhead	26.73	10.99	9.82	9.09	7.13
Taxes and insurance	11.72	6.86	6.97	8.26	5.82
Capital replacement	3.61	3.46	4.07	4.42	3.12
Operating capital	5.02	6.05	5.83	7.88	5.45
Other nonland capital	5.10	3.90	3.97	3.19	2.33
Land	7.34	7.29	5.25	5.60	4.11
Unpaid labor	16.41	8.89	7.07	8.69	6.64
Total, economic (full-ownership) costs	3.79	3.71	3.84	5.66	4.00
Yield	6.93	6.28	5.50	4.60	3.23

Source: U.S. Department of Agriculture's 1994 Farm Costs and Returns Survey.

**Appendix table 6—Input use of wheat production operations, by enterprise size, 1994**

Item	Unit	Wheat acres planted			
		Fewer than 50 wheat acres	50-199 wheat acres	200-399 wheat acres	400 or more wheat acres
Wheat yield:					
Actual yield	<i>Bushels/acre</i>	46.63	37.03	35.54	31.17
Expected yield	<i>Bushels/acre</i>	49.33	43.30	40.61	37.87
Seed:					
Rate-one time	<i>Bushels/acre</i>	1.83	1.60	1.44	1.34
Acres reseeded	<i>Percent of acres</i>	0.96	1.06	1.04	3.10
Home-grown seed	<i>Percent of seed</i>	17	33	50	51
Fertilizer use:					
Any fertilizer	<i>Percent of farms</i>	93	88	92	95
Nitrogen	<i>Percent of farms</i>	92	88	92	95
Phosphorus	<i>Percent of farms</i>	71	62	63	67
Potassium	<i>Percent of farms</i>	57	38	25	13
Manure	<i>Percent of farms</i>	7	*	*	*
Fertilizer application rates:					
Nitrogen	<i>Pounds/acre</i>	66.57	56.47	62.86	54.63
Phosphorus	<i>Pounds/acre</i>	40.12	26.25	25.19	18.69
Potassium	<i>Pounds/acre</i>	35.87	20.68	12.17	2.95
Manure	<i>Tons/acre</i>	0.39	0.10	0.01	0.02
Chemical use:					
Any chemicals	<i>Percent of farms</i>	31	47	64	74
Herbicides	<i>Percent of farms</i>	30	45	58	73
Insecticides/fungicides	<i>Percent of farms</i>	*	*	10	10
Herbicides	<i>Acre treatments</i>	0.34	0.46	0.65	0.90
Insecticides/fungicides	<i>Acre treatments</i>	0	0.02	0.08	0.05
Tillage system:					
Conventional with moldboard plow	<i>Percent of farms</i>	13	6	5	5
Conventional without moldboard plow	<i>Percent of farms</i>	66	54	73	74
Mulch tillage	<i>Percent of farms</i>	12	25	14	20
No-till	<i>Percent of farms</i>	9	15	9	*
Custom operations:					
Any custom operations	<i>Percent of farms</i>	58	59	59	75
Land preparation/ cultivation	<i>Percent of farms</i>	6	8	13	36
Planting	<i>Percent of farms</i>	2	6	*	7
Fertilizer/chemical application	<i>Percent of farms</i>	47	46	46	59
Harvesting/hauling	<i>Percent of farms</i>	20	26	18	30
Fuel use:					
Diesel	<i>Gallons/acre</i>	4.57	4.04	5.20	5.02
Gasoline	<i>Gallons/acre</i>	3.43	2.77	3.73	2.20
LP gas	<i>Gallons/acre</i>	0.04	0.28	0	0.14
Natural gas	<i>1,000 cubic feet/acre</i>	0.04	0.11	0.13	0.30
Electricity	<i>Kilowatt hours/acre</i>	0.08	0.05	0.31	0.14
Labor use:					
Unpaid labor	<i>Hours/acre</i>	2.28	1.72	1.45	1.12
Paid labor	<i>Hours/acre</i>	0.57	0.32	0.26	0.41

\* = 0.1 to less than 5 percent. Totals may not add to 100 percent due to omission of a category or rounding error.

Source: U.S. Department of Agriculture's 1994 Farm Costs and Returns Survey.