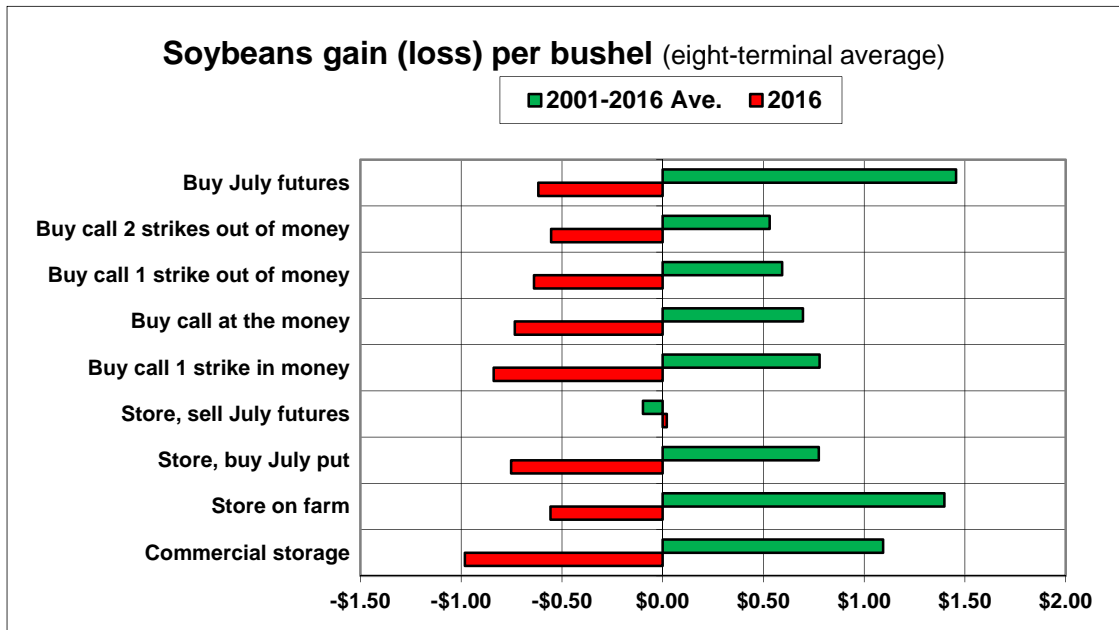
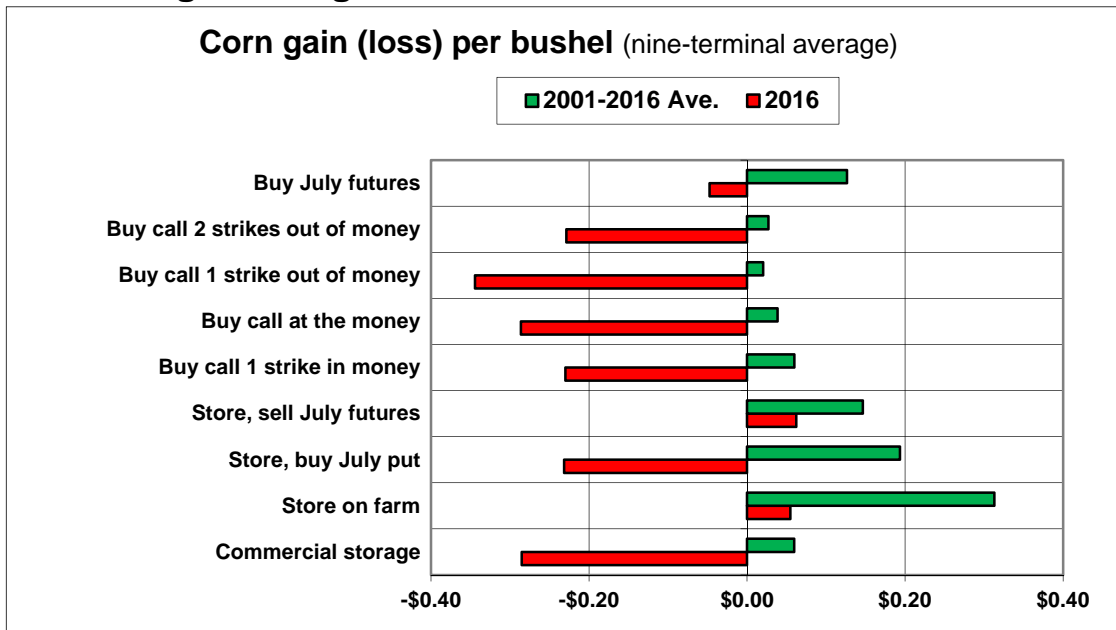
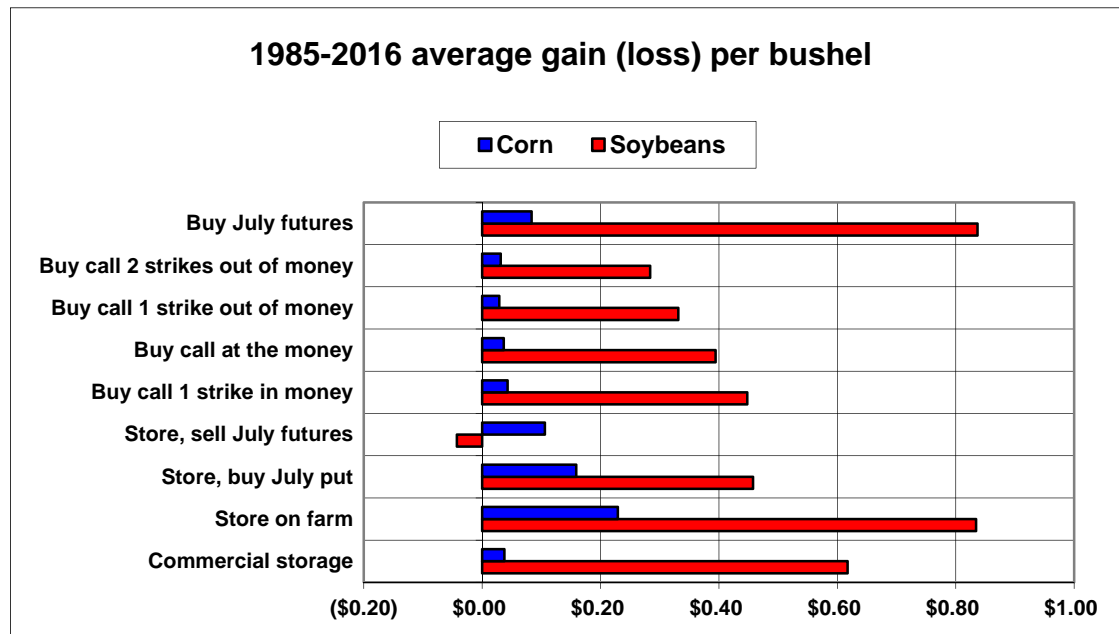
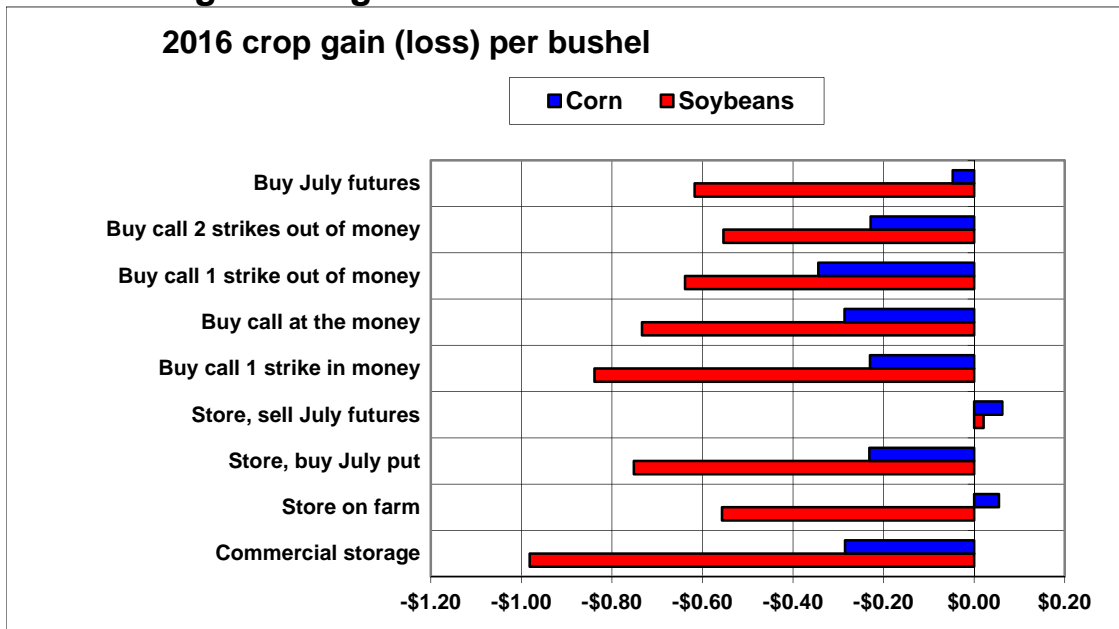


How storage strategies fared



How storage strategies fared



Corn

Nine-Terminal Average

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash corn on farm	Store cash at harvest and		Sell cash at harvest and Buy July call option ...				
			Buy July put	Sell July futures	1 strike in money	At the money	1 strike out of money	2 strikes out of money	Buy July futures
1985	-\$0.07	\$0.06	\$0.03	\$0.16	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.35	\$0.48	\$0.36	\$0.50	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.81	\$0.94	\$0.93	-\$0.03	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.64	-\$0.51	-\$0.38	-\$0.17	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.08	\$0.21	\$0.01	-\$0.08	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.18	-\$0.05	-\$0.13	\$0.03	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.76	-\$0.63	-\$0.63	-\$0.47	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.46	-\$0.33	-\$0.32	-\$0.17	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.87	\$1.00	\$0.82	\$0.73	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.42	\$0.55	\$0.39	\$0.11	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.56	\$1.69	\$1.47	\$0.11	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.69	-\$0.56	-\$0.34	-\$0.17	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.46	-\$0.33	-\$0.35	-\$0.06	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	-\$0.67	-\$0.54	-\$0.59	-\$0.45	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.16	-\$0.03	\$0.09	\$0.21	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	\$0.25	\$0.38	\$0.60	\$0.78	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.11	\$0.02	\$0.16	\$0.27	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.36	-\$0.23	-\$0.22	-\$0.03	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.34	\$0.47	\$0.26	\$0.08	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	\$0.00	\$0.13	-\$0.04	\$0.10	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	-\$0.59	-\$0.46	-\$0.62	-\$0.48	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$1.07	\$1.20	\$0.93	\$0.53	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.94	\$4.16	\$3.75	\$0.73	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$1.12	-\$0.78	-\$0.02	\$0.59	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.77	-\$0.43	-\$0.37	\$0.02	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.62	\$1.96	\$1.33	\$0.33	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.47	-\$0.13	-\$0.42	\$0.25	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$1.45	-\$1.11	-\$0.95	-\$0.29	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.50	-\$0.16	-\$0.39	-\$0.05	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.19	\$0.53	\$0.27	\$0.25	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.55	-\$0.21	-\$0.34	-\$0.02	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.29	\$0.05	-\$0.23	\$0.06	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-2016 Ave.	\$0.04	\$0.23	\$0.16	\$0.11	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Years Profitable	12	16	15	19	10	10	8	7	10
	38%	50%	47%	59%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.06	\$0.31	\$0.19	\$0.15	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Eight-Terminal Average

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash soybeans on farm	Store cash at harvest and ...		Sell cash at harvest and Buy July call option ...				
			Buy July put	Sell July futures	1 strike in money	At the money	1 strike out of money	2 strikes out of money	Buy July futures
1985	-\$0.14	-\$0.01	-\$0.09	\$0.14	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.47	\$0.60	\$0.33	\$0.01	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.39	\$3.52	\$3.26	-\$0.24	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.61	-\$1.48	-\$1.10	-\$0.54	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.17	-\$0.04	-\$0.35	\$0.00	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.88	-\$0.75	-\$0.26	\$0.12	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.11	\$0.02	-\$0.23	\$0.09	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.33	\$0.46	\$0.24	\$0.04	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.63	\$0.76	\$0.49	\$0.04	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.39	\$0.52	\$0.18	\$0.17	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.08	\$1.21	\$0.77	\$0.07	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.50	\$0.63	\$0.61	-\$0.19	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.36	-\$0.23	-\$0.25	-\$0.16	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.75	-\$0.62	-\$0.85	\$0.17	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	-\$0.05	\$0.08	-\$0.30	\$0.22	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.47	-\$0.34	-\$0.18	\$0.26	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.25	\$0.38	\$0.12	\$0.20	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.74	\$0.87	\$0.52	\$0.04	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.25	\$2.38	\$2.00	-\$0.35	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.82	\$1.95	\$1.44	\$0.20	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	-\$0.02	\$0.11	-\$0.26	\$0.16	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$1.97	\$2.10	\$1.79	-\$0.23	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.33	\$5.59	\$4.78	-\$0.05	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	\$0.04	\$0.46	-\$0.90	-\$0.36	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.21	\$0.21	-\$0.64	-\$0.20	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.34	\$2.77	\$1.81	\$0.57	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$2.16
2011	\$2.30	\$2.73	\$1.81	\$0.30	\$1.43	\$1.31	\$1.18	\$1.04	\$2.39
2012	-\$0.67	-\$0.25	-\$1.25	-\$0.77	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.72	\$1.15	\$0.45	-\$0.79	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.17	\$0.59	\$0.02	\$0.20	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.45	\$1.88	\$1.47	-\$0.53	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$0.98	-\$0.56	-\$0.75	\$0.02	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-2016 Ave.	\$0.62	\$0.83	\$0.46	(\$0.04)	\$0.45	\$0.39	\$0.33	\$0.28	\$0.84
Years Profitable	19	23	18	20	15	14	14	13	21
	59%	72%	56%	63%	47%	44%	44%	41%	66%
2001-2016 Ave.	\$1.09	\$1.40	\$0.77	-\$0.10	\$0.78	\$0.70	\$0.59	\$0.53	\$1.46

Corn

Basis Toledo

(net profit/loss per bushel compared to harvest)

	Basis Toledo		Store cash at harvest and		Sell cash at harvest and				
	Use commercial storage	Store cash corn on farm	Buy July put	Sell July futures	Buy July call option ...				Buy July futures
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.09	\$0.04	\$0.00	\$0.14	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.07	\$0.20	\$0.09	\$0.22	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.80	\$0.93	\$0.92	-\$0.04	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.57	-\$0.44	-\$0.31	-\$0.10	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.14	\$0.27	\$0.07	-\$0.02	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.23	-\$0.10	-\$0.18	-\$0.02	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.30	-\$0.17	-\$0.16	-\$0.01	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.33	-\$0.20	-\$0.19	-\$0.04	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.22	\$0.35	\$0.18	\$0.08	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.51	\$0.64	\$0.48	\$0.20	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.66	\$1.79	\$1.57	\$0.21	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.41	-\$0.28	-\$0.06	\$0.11	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.46	-\$0.33	-\$0.35	-\$0.06	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	\$0.01	\$0.14	\$0.09	\$0.23	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.19	-\$0.06	\$0.07	\$0.19	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.42	-\$0.29	-\$0.06	\$0.12	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.06	\$0.07	\$0.20	\$0.31	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.29	-\$0.16	-\$0.15	\$0.04	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.38	\$0.51	\$0.30	\$0.12	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	\$0.02	\$0.15	-\$0.02	\$0.12	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.33	\$0.46	\$0.29	\$0.43	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$0.99	\$1.12	\$0.85	\$0.45	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.22	\$3.44	\$3.03	\$0.01	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$0.98	-\$0.64	\$0.12	\$0.74	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.83	-\$0.49	-\$0.44	-\$0.04	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.91	\$2.25	\$1.62	\$0.62	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.63	-\$0.29	-\$0.59	\$0.08	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$1.20	-\$0.86	-\$0.69	-\$0.03	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.43	-\$0.09	-\$0.32	\$0.03	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.17	\$0.51	\$0.26	\$0.23	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.56	-\$0.22	-\$0.39	-\$0.03	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.18	\$0.16	-\$0.07	\$0.17	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.07	\$0.26	\$0.19	\$0.14	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	88%	87%	74%	20%	78%	68%	65%	62%	84%
Years profitable	44%	53%	53%	69%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.12	\$0.37	\$0.25	\$0.20	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis Toledo

(net profit/loss per bushel compared to harvest)

	Basis Toledo		Store cash at harvest and		Sell cash at harvest and				
	Use commercial storage	cash soybeans on farm	Buy July put	Sell July futures	Buy July call option ...				Buy July futures
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.12	\$0.01	-\$0.10	\$0.16	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.23	\$0.36	\$0.09	-\$0.24	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.50	\$3.63	\$3.24	-\$0.13	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.57	-\$1.44	-\$1.06	-\$0.50	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.28	-\$0.15	-\$0.46	-\$0.10	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$1.00	-\$0.87	-\$0.38	\$0.01	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.13	\$0.00	-\$0.25	\$0.07	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.32	\$0.45	\$0.23	\$0.03	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.60	\$0.73	\$0.46	\$0.00	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.44	\$0.57	\$0.23	\$0.22	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.12	\$1.25	\$0.80	\$0.11	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.59	\$0.72	\$0.27	-\$0.10	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.38	-\$0.25	-\$0.59	-\$0.19	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.77	-\$0.64	-\$0.21	\$0.15	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	-\$0.21	-\$0.08	-\$0.32	\$0.07	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.48	-\$0.35	-\$0.09	\$0.26	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.22	\$0.35	-\$0.02	\$0.17	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.68	\$0.81	\$0.45	-\$0.02	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.20	\$2.33	\$1.94	-\$0.40	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.77	\$1.90	\$1.39	\$0.15	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	-\$0.17	-\$0.04	-\$0.41	\$0.01	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$1.79	\$1.92	\$1.62	-\$0.40	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.45	\$5.69	\$4.88	\$0.05	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	-\$0.15	\$0.31	-\$1.06	-\$0.51	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.45	\$0.00	-\$0.85	-\$0.41	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.44	\$2.89	\$1.93	\$0.69	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.17	\$2.63	\$1.71	\$0.20	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$1.00	-\$0.55	-\$1.55	-\$1.07	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$1.00	\$1.45	\$0.75	-\$0.49	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.04	\$0.49	-\$0.08	\$0.10	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.89	\$2.35	\$1.94	-\$0.06	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$1.05	-\$0.59	-\$0.79	-\$0.02	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.58	\$0.81	\$0.43	-\$0.07	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	147%	149%	134%	32%	132%	127%	121%	117%	146%
Years profitable	56%	66%	50%	53%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.05	\$1.37	\$0.74	-\$0.12	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

The tables show the results of different storage strategies during the 1985-2016 crop years. On-farm storage includes interest charge on stored grain using prevailing operating and CCC loan rates. Handling charges are 1 to 2 cents per month for on-farm storage, 2.5 to 5 cents per month for commercial storage. Figures do not include loan deficiency payments, if any, or depreciation on bins and equipment. Risk is the unpredictability of returns -- the higher the risk number, in general the greater both the gains and losses from a strategy may be. All positions are initiated in first week of October and liquidated upon expiration of July options for corn and soybeans. Brokerage commissions and slippage figured at \$100 per round trip, or two cents per bushel. Futures and options results are based on official Chicago Board of Trade settlement prices; results were estimated for a few dates when trades did not take place using a widely followed options model. However, all results are hypothetical, not the result of actual trades. Moreover, past performance of a strategy is no guarantee of future results.

Glossary:

- Call options convey the right, but not the obligation to purchase a futures contract, in exchange for a premium paid in advance.
- Put options convey the right, but not the obligation to sell a futures contract, in exchange for a premium paid in advance.

- At the money calls convey the right to buy futures for about the price they're trading.
- At the money puts convey the right to sell futures for about the price they're trading.

- In the money calls convey the right to buy futures for less than they're trading.
- Out of the money calls convey the right to buy futures for more than they're trading.

Corn

Basis Omaha

(net profit/loss per bushel compared to harvest)

	Basis Omaha		Store cash at harvest and		Sell cash at harvest and				
	Use commercial storage	Store cash corn on farm	Buy July put	Sell July futures	Buy July call option ...				Buy July futures
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.21	-\$0.08	-\$0.11	\$0.02	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.02	\$0.15	\$0.03	\$0.17	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.87	\$1.00	\$0.99	\$0.03	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.58	-\$0.45	-\$0.32	-\$0.11	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.05	\$0.18	-\$0.02	-\$0.11	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.14	-\$0.01	-\$0.09	\$0.08	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.19	-\$0.06	-\$0.06	\$0.10	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.31	-\$0.18	-\$0.16	-\$0.02	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.24	\$0.37	\$0.19	\$0.10	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.48	\$0.61	\$0.45	\$0.16	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.62	\$1.75	\$1.53	\$0.17	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.92	-\$0.79	-\$0.57	-\$0.41	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.38	-\$0.25	-\$0.27	\$0.02	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	\$0.06	\$0.19	\$0.14	\$0.29	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.10	\$0.03	\$0.15	\$0.28	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.34	-\$0.21	\$0.02	\$0.19	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.13	\$0.00	\$0.13	\$0.24	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.38	-\$0.25	-\$0.24	-\$0.05	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.34	\$0.47	\$0.27	\$0.09	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	-\$0.10	\$0.03	-\$0.15	-\$0.01	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.22	\$0.35	\$0.18	\$0.33	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$1.00	\$1.13	\$0.86	\$0.46	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.43	\$3.64	\$3.23	\$0.22	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$1.42	-\$1.08	-\$0.32	\$0.29	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.65	-\$0.31	-\$0.26	\$0.14	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.76	\$2.10	\$1.48	\$0.48	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.44	-\$0.10	-\$0.39	\$0.28	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$0.91	-\$0.57	-\$0.40	\$0.25	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.60	-\$0.26	-\$0.49	-\$0.14	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.43	\$0.77	\$0.51	\$0.49	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.60	-\$0.26	-\$0.43	-\$0.07	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.31	\$0.03	-\$0.20	\$0.03	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.06	\$0.25	\$0.18	\$0.12	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	91%	90%	76%	19%	78%	68%	65%	62%	84%
Years profitable	41%	53%	47%	75%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.10	\$0.36	\$0.24	\$0.19	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis Omaha

(net profit/loss per bushel compared to harvest)

	Use commercial storage	cash soybeans on farm	Store cash at harvest and		Sell cash at harvest and Buy July call option ...				
			Buy July put	Sell July futures	1 strike in money	At the money	1 strike out of money	2 strikes out of money	Buy July futures
1985	-\$0.04	\$0.09	-\$0.01	\$0.24	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.44	\$0.57	\$0.30	-\$0.02	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.29	\$3.42	\$3.03	-\$0.34	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.60	-\$1.47	-\$1.09	-\$0.53	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.12	\$0.01	-\$0.30	\$0.06	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.86	-\$0.73	-\$0.24	\$0.14	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.09	\$0.04	-\$0.21	\$0.11	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.33	\$0.46	\$0.24	\$0.04	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.68	\$0.81	\$0.54	\$0.09	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.28	\$0.41	\$0.07	\$0.06	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.08	\$1.21	\$0.76	\$0.06	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.51	\$0.64	\$0.19	-\$0.18	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.38	-\$0.25	-\$0.59	-\$0.19	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.69	-\$0.56	-\$0.13	\$0.23	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	-\$0.03	\$0.10	-\$0.14	\$0.25	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.57	-\$0.44	-\$0.19	\$0.16	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.17	\$0.30	-\$0.06	\$0.13	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.83	\$0.96	\$0.60	\$0.13	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.25	\$2.38	\$2.00	-\$0.35	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.92	\$2.05	\$1.54	\$0.30	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	\$0.15	\$0.28	-\$0.09	\$0.33	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$1.90	\$2.03	\$1.73	-\$0.29	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.01	\$5.26	\$4.45	-\$0.38	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	-\$0.20	\$0.26	-\$1.11	-\$0.56	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.08	\$0.38	-\$0.48	-\$0.04	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.59	\$3.05	\$2.09	\$0.85	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.37	\$2.82	\$1.90	\$0.39	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$0.40	\$0.06	-\$0.95	-\$0.47	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.62	\$1.07	\$0.37	-\$0.87	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.03	\$0.48	-\$0.10	\$0.09	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.87	\$2.32	\$1.91	-\$0.09	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$0.97	-\$0.52	-\$0.71	\$0.06	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.63	\$0.86	\$0.48	-\$0.02	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	139%	141%	126%	33%	132%	127%	121%	117%	146%
Years profitable	59%	81%	50%	59%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.13	\$1.45	\$0.82	-\$0.05	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

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Corn

Basis North Central Iowa

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash corn on farm	Store cash at harvest and		Sell cash at harvest and				
			Buy July put	Sell July futures	Buy July call option ...			Buy July futures	
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.22	-\$0.09	-\$0.12	\$0.01	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.04	\$0.17	\$0.05	\$0.19	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.84	\$0.97	\$0.96	\$0.00	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.67	-\$0.54	-\$0.40	-\$0.20	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.08	\$0.21	\$0.02	-\$0.08	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.16	-\$0.03	-\$0.11	\$0.06	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.24	-\$0.11	-\$0.11	\$0.05	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.28	-\$0.15	-\$0.13	\$0.01	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.20	\$0.33	\$0.16	\$0.06	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.38	\$0.51	\$0.35	\$0.07	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.55	\$1.68	\$1.46	\$0.10	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.82	-\$0.69	-\$0.47	-\$0.31	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.46	-\$0.33	-\$0.35	-\$0.06	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	-\$0.10	\$0.03	-\$0.02	\$0.13	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.12	\$0.01	\$0.14	\$0.26	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.38	-\$0.25	-\$0.02	\$0.15	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.13	\$0.00	\$0.13	\$0.24	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.28	-\$0.15	-\$0.14	\$0.05	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.37	\$0.50	\$0.30	\$0.12	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	-\$0.12	\$0.01	-\$0.16	-\$0.02	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.07	\$0.20	\$0.04	\$0.18	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$1.00	\$1.13	\$0.86	\$0.46	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.35	\$3.56	\$3.15	\$0.14	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$1.17	-\$0.83	-\$0.08	\$0.54	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.80	-\$0.46	-\$0.41	-\$0.01	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.65	\$1.99	\$1.37	\$0.36	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.27	\$0.07	-\$0.22	\$0.45	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$0.80	-\$0.46	-\$0.29	\$0.36	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.59	-\$0.25	-\$0.48	-\$0.13	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.24	\$0.58	\$0.32	\$0.30	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.72	-\$0.38	-\$0.55	-\$0.19	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.36	-\$0.02	-\$0.25	-\$0.01	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.03	\$0.23	\$0.16	\$0.10	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	88%	87%	73%	20%	78%	68%	65%	62%	84%
Years profitable	38%	50%	44%	69%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.09	\$0.34	\$0.22	\$0.18	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis North Central Iowa

(net profit/loss per bushel compared to harvest)

	Use commercial storage	cash soybeans on farm	Store cash at harvest and		Sell cash at harvest and				
			Buy July put	Sell July futures	Buy July call option ...			Buy July futures	
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.13	\$0.00	-\$0.10	\$0.15	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.47	\$0.60	\$0.33	\$0.00	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.31	\$3.44	\$3.05	-\$0.32	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.65	-\$1.52	-\$1.14	-\$0.58	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.16	-\$0.03	-\$0.34	\$0.02	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.84	-\$0.71	-\$0.22	\$0.17	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.14	-\$0.01	-\$0.26	\$0.06	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.35	\$0.48	\$0.26	\$0.06	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.49	\$0.62	\$0.35	-\$0.10	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.36	\$0.49	\$0.14	\$0.13	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.09	\$1.22	\$0.77	\$0.08	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.53	\$0.66	\$0.21	-\$0.16	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.32	-\$0.19	-\$0.53	-\$0.13	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.69	-\$0.56	-\$0.13	\$0.23	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	\$0.02	\$0.15	-\$0.10	\$0.29	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.51	-\$0.38	-\$0.13	\$0.22	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.23	\$0.36	-\$0.01	\$0.19	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.76	\$0.89	\$0.53	\$0.06	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.42	\$2.55	\$2.17	-\$0.17	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.70	\$1.83	\$1.32	\$0.07	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	-\$0.04	\$0.09	-\$0.27	\$0.15	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$1.90	\$2.03	\$1.73	-\$0.29	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.34	\$5.58	\$4.77	-\$0.06	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	-\$0.38	\$0.08	-\$1.29	-\$0.74	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.24	\$0.21	-\$0.64	-\$0.20	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.11	\$2.56	\$1.60	\$0.36	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.10	\$2.56	\$1.63	\$0.13	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$0.62	-\$0.17	-\$1.17	-\$0.69	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.54	\$1.00	\$0.29	-\$0.94	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.03	\$0.48	-\$0.09	\$0.09	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.47	\$1.93	\$1.52	-\$0.48	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$0.95	-\$0.50	-\$0.69	\$0.08	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.58	\$0.80	\$0.42	-\$0.07	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	140%	141%	128%	32%	132%	127%	121%	117%	146%
Years profitable	59%	72%	50%	59%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.02	\$1.34	\$0.71	-\$0.15	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

The tables show the results of different storage strategies during the 1985-2016 crop years. On-farm storage includes interest charge on stored grain using prevailing operating and CCC loan rates. Handling charges are 1 to 2 cents per month for on-farm storage, 2.5 to 5 cents per month for commercial storage. Figures do not include loan deficiency payments, if any, or depreciation on bins and equipment. Risk is the unpredictability of returns -- the higher the risk number, in general the greater both the gains and losses from a strategy may be. All positions are initiated in first week of October and liquidated upon expiration of July options for corn and soybeans. Brokerage commissions and slippage figured at \$100 per round trip, or two cents per bushel. Futures and options results are based on official Chicago Board of Trade settlement prices; results were estimated for a few dates when trades did not take place using a widely followed options model. However, all results are hypothetical, not the result of actual trades. Moreover, past performance of a strategy is no guarantee of future results.

Glossary:

- Call options convey the right, but not the obligation to purchase a futures contract, in exchange for a premium paid in advance.
- Put options convey the right, but not the obligation to sell a futures contract, in exchange for a premium paid in advance.

- At the money calls convey the right to buy futures for about the price they're trading.
- At the money puts convey the right to sell futures for about the price they're trading.

- In the money calls convey the right to buy futures for less than they're trading.
- Out of the money calls convey the right to buy futures for more than they're trading.

Corn

Basis Minneapolis

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash corn on farm	Store cash at harvest and		Sell cash at harvest and				
			Buy July put	Sell July futures	Buy July call option ...			Buy July futures	
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.14	-\$0.01	-\$0.05	\$0.09	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.02	\$0.15	\$0.04	\$0.17	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.81	\$0.94	\$0.93	-\$0.03	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.63	-\$0.50	-\$0.37	-\$0.16	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.06	\$0.19	-\$0.01	-\$0.10	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.16	-\$0.03	-\$0.10	\$0.06	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.16	-\$0.03	-\$0.03	\$0.13	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.24	-\$0.11	-\$0.09	\$0.05	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.20	\$0.33	\$0.16	\$0.06	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.38	\$0.51	\$0.35	\$0.07	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.61	\$1.74	\$1.52	\$0.16	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.66	-\$0.53	-\$0.31	-\$0.15	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.36	-\$0.23	-\$0.25	\$0.04	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	\$0.08	\$0.21	\$0.16	\$0.30	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.13	\$0.00	\$0.12	\$0.25	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.42	-\$0.29	-\$0.06	\$0.12	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.02	\$0.11	\$0.24	\$0.35	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.34	-\$0.21	-\$0.20	-\$0.01	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.38	\$0.51	\$0.31	\$0.13	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	\$0.07	\$0.20	\$0.03	\$0.17	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.09	\$0.22	\$0.06	\$0.20	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$1.00	\$1.13	\$0.86	\$0.46	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.08	\$3.29	\$2.88	-\$0.13	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$0.96	-\$0.62	\$0.13	\$0.75	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.71	-\$0.37	-\$0.31	\$0.08	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.53	\$1.87	\$1.25	\$0.24	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.42	-\$0.08	-\$0.37	\$0.30	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$0.62	-\$0.28	-\$0.11	\$0.54	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.74	-\$0.40	-\$0.63	-\$0.28	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	-\$0.05	\$0.29	\$0.04	\$0.01	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.36	-\$0.02	-\$0.19	\$0.17	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.23	\$0.11	-\$0.13	\$0.11	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.06	\$0.25	\$0.18	\$0.13	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	81%	80%	68%	21%	78%	68%	65%	62%	84%
Years profitable	41%	53%	50%	78%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.11	\$0.36	\$0.24	\$0.19	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis Minneapolis

(net profit/loss per bushel compared to harvest)

	Basis Minneapolis		(net profit/loss per bushel compared to harvest)						
	Use commercial storage	cash soybeans on farm	Store cash at harvest and		Sell cash at harvest and				Buy July futures
			Buy July put	Sell July futures	Buy July call option ...				
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.10	\$0.03	-\$0.07	\$0.18	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.39	\$0.52	\$0.25	-\$0.08	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.34	\$3.47	\$3.08	-\$0.29	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.55	-\$1.42	-\$1.04	-\$0.48	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.19	-\$0.06	-\$0.37	-\$0.01	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.80	-\$0.67	-\$0.18	\$0.20	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.03	\$0.10	-\$0.15	\$0.17	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.37	\$0.50	\$0.28	\$0.08	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.54	\$0.67	\$0.40	-\$0.06	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.27	\$0.40	\$0.06	\$0.05	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.16	\$1.29	\$0.84	\$0.15	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.51	\$0.64	\$0.19	-\$0.18	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.41	-\$0.28	-\$0.62	-\$0.22	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.72	-\$0.59	-\$0.16	\$0.20	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	\$0.13	\$0.26	\$0.01	\$0.40	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.56	-\$0.43	-\$0.18	\$0.17	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.18	\$0.31	-\$0.06	\$0.14	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.63	\$0.76	\$0.40	-\$0.07	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.22	\$2.35	\$1.96	-\$0.38	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.68	\$1.81	\$1.30	\$0.06	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	\$0.00	\$0.13	-\$0.24	\$0.18	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$1.95	\$2.08	\$1.78	-\$0.24	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.29	\$5.53	\$4.72	-\$0.11	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	-\$0.20	\$0.26	-\$1.11	-\$0.56	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.40	\$0.06	-\$0.80	-\$0.35	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.24	\$2.69	\$1.73	\$0.49	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.43	\$2.88	\$1.96	\$0.45	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$0.62	-\$0.16	-\$1.17	-\$0.69	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.38	\$0.84	\$0.13	-\$1.10	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.12	\$0.58	\$0.00	\$0.18	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.76	\$2.21	\$1.80	-\$0.20	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$1.09	-\$0.64	-\$0.83	-\$0.06	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.59	\$0.82	\$0.44	-\$0.06	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	142%	143%	129%	34%	132%	127%	121%	117%	146%
Years profitable	63%	75%	53%	47%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.04	\$1.36	\$0.72	-\$0.14	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

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Corn

Basis Kansas City

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash corn on farm	Store cash at harvest and		Sell cash at harvest and				
			Buy July put	Sell July futures	Buy July call option ...			Buy July futures	
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.13	\$0.00	-\$0.04	\$0.10	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.04	\$0.17	\$0.05	\$0.19	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.86	\$0.99	\$0.98	\$0.02	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.60	-\$0.47	-\$0.34	-\$0.13	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.05	\$0.18	-\$0.01	-\$0.11	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.09	\$0.04	-\$0.04	\$0.12	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.20	-\$0.07	-\$0.07	\$0.09	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.32	-\$0.19	-\$0.18	-\$0.03	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.16	\$0.29	\$0.12	\$0.02	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.44	\$0.57	\$0.41	\$0.13	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.57	\$1.70	\$1.48	\$0.12	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.64	-\$0.51	-\$0.29	-\$0.13	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.36	-\$0.23	-\$0.25	\$0.04	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	\$0.01	\$0.14	\$0.09	\$0.23	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.07	\$0.06	\$0.19	\$0.31	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.27	-\$0.14	\$0.08	\$0.26	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.11	\$0.02	\$0.15	\$0.26	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.36	-\$0.23	-\$0.22	-\$0.03	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.18	\$0.31	\$0.10	-\$0.08	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	\$0.06	\$0.19	\$0.02	\$0.16	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.13	\$0.26	\$0.10	\$0.24	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$0.93	\$1.06	\$0.78	\$0.39	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.68	\$3.89	\$3.48	\$0.47	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$1.22	-\$0.88	-\$0.12	\$0.50	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.62	-\$0.28	-\$0.23	\$0.17	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.76	\$2.10	\$1.48	\$0.47	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.01	\$0.33	\$0.04	\$0.71	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$0.94	-\$0.60	-\$0.43	\$0.22	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.43	-\$0.09	-\$0.32	\$0.03	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.63	\$0.97	\$0.71	\$0.69	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.47	-\$0.13	-\$0.30	\$0.06	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.13	\$0.21	-\$0.02	\$0.22	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.11	\$0.30	\$0.23	\$0.18	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	91%	90%	76%	22%	78%	68%	65%	62%	84%
Years profitable	44%	59%	53%	81%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.19	\$0.44	\$0.33	\$0.28	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis Kansas City

(net profit/loss per bushel compared to harvest)

	Basis Kansas City		Store cash at harvest and		Sell cash at harvest and				
	Use commercial storage	cash soybeans on farm	Buy July put	Sell July futures	Buy July call option ...				Buy July futures
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.20	-\$0.07	-\$0.17	\$0.08	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.43	\$0.56	\$0.29	-\$0.03	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.43	\$3.56	\$3.17	-\$0.20	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.68	-\$1.55	-\$1.18	-\$0.61	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.15	-\$0.02	-\$0.33	\$0.03	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.83	-\$0.70	-\$0.21	\$0.18	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.18	-\$0.05	-\$0.30	\$0.03	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.32	\$0.45	\$0.23	\$0.03	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.63	\$0.76	\$0.49	\$0.04	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.38	\$0.51	\$0.16	\$0.15	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$0.93	\$1.06	\$0.61	-\$0.08	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.57	\$0.70	\$0.25	-\$0.12	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.35	-\$0.22	-\$0.56	-\$0.16	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.78	-\$0.65	-\$0.22	\$0.14	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	\$0.08	\$0.21	-\$0.03	\$0.36	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.44	-\$0.31	-\$0.05	\$0.30	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.20	\$0.33	-\$0.03	\$0.16	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.87	\$1.00	\$0.65	\$0.18	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.08	\$2.21	\$1.82	-\$0.52	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.85	\$1.98	\$1.47	\$0.23	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	-\$0.07	\$0.06	-\$0.30	\$0.12	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$1.91	\$2.04	\$1.73	-\$0.29	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.36	\$5.60	\$4.79	-\$0.04	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	-\$0.92	-\$0.47	-\$1.83	-\$1.29	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.09	\$0.37	-\$0.49	-\$0.04	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.37	\$2.83	\$1.87	\$0.63	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.36	\$2.82	\$1.90	\$0.39	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$0.68	-\$0.23	-\$1.23	-\$0.75	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.93	\$1.38	\$0.68	-\$0.55	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.51	\$0.97	\$0.39	\$0.58	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.57	\$2.02	\$1.61	-\$0.39	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$1.00	-\$0.54	-\$0.74	\$0.03	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.61	\$0.83	\$0.45	-\$0.04	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	144%	146%	132%	39%	132%	127%	121%	117%	146%
Years profitable	59%	66%	53%	56%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.08	\$1.40	\$0.77	-\$0.10	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

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Corn

Basis Evansville

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash corn on farm	Store cash at harvest and		Sell cash at harvest and				
			Buy July put	Sell July futures	Buy July call option ...			Buy July futures	
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.05	\$0.08	\$0.04	\$0.18	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.02	\$0.15	\$0.03	\$0.17	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.77	\$0.90	\$0.89	-\$0.07	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.57	-\$0.44	-\$0.31	-\$0.10	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.20	\$0.33	\$0.13	\$0.04	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.17	-\$0.04	-\$0.11	\$0.05	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.24	-\$0.11	-\$0.11	\$0.05	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.31	-\$0.18	-\$0.16	-\$0.02	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.16	\$0.29	\$0.11	\$0.02	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.45	\$0.58	\$0.42	\$0.14	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.58	\$1.71	\$1.49	\$0.13	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.65	-\$0.52	-\$0.30	-\$0.13	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.38	-\$0.25	-\$0.27	\$0.02	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	\$0.12	\$0.25	\$0.20	\$0.34	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.20	-\$0.07	\$0.06	\$0.18	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.31	-\$0.18	\$0.05	\$0.23	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.05	\$0.08	\$0.21	\$0.32	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.27	-\$0.14	-\$0.13	\$0.06	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.36	\$0.49	\$0.29	\$0.11	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	\$0.19	\$0.32	\$0.14	\$0.28	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.47	\$0.60	\$0.44	\$0.58	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$1.06	\$1.19	\$0.91	\$0.52	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.14	\$3.36	\$2.95	-\$0.07	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$0.80	-\$0.46	\$0.30	\$0.91	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.57	-\$0.23	-\$0.17	\$0.22	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.60	\$1.94	\$1.31	\$0.31	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.41	-\$0.07	-\$0.36	\$0.31	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$0.77	-\$0.43	-\$0.26	\$0.39	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.08	\$0.26	\$0.03	\$0.38	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.23	\$0.57	\$0.31	\$0.28	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.29	\$0.05	-\$0.12	\$0.24	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.25	\$0.09	-\$0.14	\$0.10	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.12	\$0.32	\$0.25	\$0.19	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	80%	80%	66%	22%	78%	68%	65%	62%	84%
Years profitable	44%	59%	63%	84%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.22	\$0.48	\$0.36	\$0.31	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis Louisville

(net profit/loss per bushel compared to harvest)

	Basis Louisville		Store cash at harvest and		Sell cash at harvest and				
	Use commercial storage	cash soybeans on farm	Buy July put	Sell July futures	Buy July call option ...				Buy July futures
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.26	-\$0.13	-\$0.23	\$0.02	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.43	\$0.56	\$0.29	-\$0.03	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.33	\$3.46	\$3.07	-\$0.30	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.64	-\$1.51	-\$1.14	-\$0.57	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.20	-\$0.07	-\$0.38	-\$0.02	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.90	-\$0.77	-\$0.28	\$0.10	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.14	-\$0.01	-\$0.26	\$0.07	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.29	\$0.42	\$0.20	\$0.00	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.69	\$0.82	\$0.55	\$0.10	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.50	\$0.63	\$0.29	\$0.28	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.10	\$1.23	\$0.78	\$0.08	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.40	\$0.53	\$0.08	-\$0.29	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.35	-\$0.22	-\$0.56	-\$0.16	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.71	-\$0.58	-\$0.14	\$0.21	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	\$0.06	\$0.19	-\$0.05	\$0.34	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.36	-\$0.23	\$0.03	\$0.38	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.39	\$0.52	\$0.15	\$0.34	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.61	\$0.74	\$0.39	-\$0.08	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.30	\$2.43	\$2.05	-\$0.29	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.83	\$1.96	\$1.45	\$0.21	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	\$0.15	\$0.28	-\$0.09	\$0.33	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$2.27	\$2.40	\$2.09	\$0.08	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.56	\$5.81	\$5.00	\$0.17	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	\$0.21	\$0.66	-\$0.70	-\$0.16	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.29	\$0.16	-\$0.69	-\$0.25	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.19	\$2.65	\$1.68	\$0.45	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.46	\$2.92	\$1.99	\$0.49	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$0.51	-\$0.06	-\$1.06	-\$0.58	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.65	\$1.10	\$0.40	-\$0.83	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.44	\$0.89	\$0.32	\$0.50	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.61	\$2.06	\$1.65	-\$0.35	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$1.09	-\$0.63	-\$0.83	-\$0.05	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.66	\$0.88	\$0.50	\$0.00	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	145%	147%	131%	32%	132%	127%	121%	117%	146%
Years profitable	66%	69%	59%	53%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.17	\$1.49	\$0.86	\$0.00	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

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Corn

Basis Denver

(net profit/loss per bushel compared to harvest)

	Basis Denver		Store cash at harvest and		Sell cash at harvest and				
	Use commercial storage	Store cash corn on farm	Buy July put	Sell July futures	Buy July call option ...				Buy July futures
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	\$0.01	\$0.14	\$0.10	\$0.24	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	-\$0.07	\$0.06	-\$0.05	\$0.08	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.72	\$0.85	\$0.84	-\$0.12	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.67	-\$0.54	-\$0.41	-\$0.20	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.00	\$0.13	-\$0.07	-\$0.16	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.15	-\$0.02	-\$0.10	\$0.06	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.27	-\$0.14	-\$0.14	\$0.02	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.23	-\$0.10	-\$0.09	\$0.06	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.19	\$0.32	\$0.14	\$0.05	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.33	\$0.46	\$0.30	\$0.02	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.47	\$1.60	\$1.38	\$0.02	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.78	-\$0.65	-\$0.43	-\$0.27	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.40	-\$0.27	-\$0.29	\$0.00	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	-\$0.27	-\$0.14	-\$0.19	-\$0.05	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.37	-\$0.24	-\$0.11	\$0.01	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.21	-\$0.08	\$0.14	\$0.32	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.11	\$0.02	\$0.16	\$0.27	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.72	-\$0.59	-\$0.58	-\$0.40	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.32	\$0.45	\$0.24	\$0.06	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	-\$0.22	-\$0.09	-\$0.26	-\$0.12	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	-\$0.09	\$0.04	-\$0.12	\$0.02	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$1.06	\$1.19	\$0.92	\$0.52	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.24	\$3.45	\$3.04	\$0.03	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$1.43	-\$1.09	-\$0.33	\$0.29	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.90	-\$0.56	-\$0.50	-\$0.11	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.66	\$2.00	\$1.38	\$0.37	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.70	-\$0.36	-\$0.66	\$0.01	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$0.73	-\$0.39	-\$0.22	\$0.43	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.57	-\$0.23	-\$0.45	-\$0.11	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.49	\$0.83	\$0.58	\$0.55	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.62	-\$0.28	-\$0.45	-\$0.09	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.28	\$0.06	-\$0.17	\$0.07	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	(\$0.01)	\$0.18	\$0.11	\$0.06	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	89%	88%	74%	22%	78%	68%	65%	62%	84%
Years profitable	31%	47%	38%	66%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.02	\$0.28	\$0.16	\$0.11	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

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Corn

Basis Central Indiana

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash corn on farm	Store cash at harvest and		Sell cash at harvest and				
			Buy July put	Sell July futures	Buy July call option ...			Buy July futures	
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.04	\$0.09	\$0.05	\$0.19	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.00	\$0.13	\$0.01	\$0.15	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.94	\$1.07	\$1.06	\$0.10	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.68	-\$0.55	-\$0.42	-\$0.21	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.10	\$0.23	\$0.04	-\$0.06	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.24	-\$0.11	-\$0.19	-\$0.03	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.25	-\$0.12	-\$0.12	\$0.04	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.19	-\$0.06	-\$0.05	\$0.10	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.27	\$0.40	\$0.23	\$0.13	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.44	\$0.57	\$0.41	\$0.13	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.70	\$1.83	\$1.61	\$0.25	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.46	-\$0.33	-\$0.11	\$0.05	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.60	-\$0.47	-\$0.49	-\$0.20	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	-\$0.06	\$0.07	\$0.02	\$0.16	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.25	-\$0.12	\$0.00	\$0.12	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.32	-\$0.19	\$0.03	\$0.21	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.08	\$0.05	\$0.18	\$0.29	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.25	-\$0.12	-\$0.11	\$0.08	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.44	\$0.57	\$0.37	\$0.19	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	\$0.13	\$0.26	\$0.08	\$0.22	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.13	\$0.26	\$0.09	\$0.23	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$1.14	\$1.27	\$1.00	\$0.60	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.39	\$3.60	\$3.19	\$0.18	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$0.95	-\$0.61	\$0.14	\$0.76	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.71	-\$0.37	-\$0.31	\$0.09	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.65	\$1.99	\$1.37	\$0.36	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.41	-\$0.07	-\$0.37	\$0.30	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$1.30	-\$0.96	-\$0.80	-\$0.14	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.51	-\$0.17	-\$0.39	-\$0.05	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.15	\$0.49	\$0.24	\$0.21	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.72	-\$0.38	-\$0.55	-\$0.19	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.18	\$0.16	-\$0.07	\$0.17	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.07	\$0.26	\$0.19	\$0.14	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	90%	89%	76%	20%	78%	68%	65%	62%	84%
Years profitable	38%	53%	56%	78%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.12	\$0.37	\$0.25	\$0.21	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis Central Indiana

(net profit/loss per bushel compared to harvest)

	Use commercial storage	cash soybeans on farm	Store cash at harvest and		Sell cash at harvest and Buy July call option ...				
			Buy July put	Sell July futures	1 strike in money	At the money	1 strike out of money	2 strikes out of money	Buy July futures
1985	-\$0.19	-\$0.06	-\$0.16	\$0.09	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.71	\$0.84	\$0.57	\$0.25	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.53	\$3.66	\$3.27	-\$0.10	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.64	-\$1.51	-\$1.13	-\$0.57	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.16	-\$0.03	-\$0.34	\$0.01	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.98	-\$0.85	-\$0.36	\$0.02	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.08	\$0.05	-\$0.20	\$0.12	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.31	\$0.44	\$0.22	\$0.02	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.78	\$0.91	\$0.64	\$0.19	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.47	\$0.60	\$0.25	\$0.24	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.16	\$1.29	\$0.85	\$0.15	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.32	\$0.45	\$0.00	-\$0.37	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.31	-\$0.18	-\$0.52	-\$0.12	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.80	-\$0.67	-\$0.24	\$0.12	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	-\$0.26	-\$0.13	-\$0.37	\$0.01	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.39	-\$0.26	-\$0.01	\$0.34	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.33	\$0.46	\$0.09	\$0.28	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.78	\$0.91	\$0.56	\$0.08	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.32	\$2.45	\$2.06	-\$0.28	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.96	\$2.09	\$1.58	\$0.34	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	-\$0.09	\$0.04	-\$0.33	\$0.09	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$2.03	\$2.16	\$1.86	-\$0.16	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.52	\$5.76	\$4.95	\$0.12	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	-\$0.01	\$0.44	-\$0.92	-\$0.38	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.11	\$0.35	-\$0.50	-\$0.06	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.43	\$2.88	\$1.92	\$0.68	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.21	\$2.66	\$1.74	\$0.23	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$1.06	-\$0.61	-\$1.61	-\$1.13	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.90	\$1.36	\$0.65	-\$0.58	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.39	\$0.84	\$0.27	\$0.45	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.64	\$2.10	\$1.68	-\$0.31	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$1.03	-\$0.57	-\$0.77	\$0.00	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.65	\$0.87	\$0.49	-\$0.01	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	148%	149%	135%	35%	132%	127%	121%	117%	146%
Years profitable	56%	69%	56%	66%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.14	\$1.46	\$0.83	-\$0.04	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

The tables show the results of different storage strategies during the 1985-2016 crop years. On-farm storage includes interest charge on stored grain using prevailing operating and CCC loan rates. Handling charges are 1 to 2 cents per month for on-farm storage, 2.5 to 5 cents per month for commercial storage. Figures do not include loan deficiency payments, if any, or depreciation on bins and equipment. Risk is the unpredictability of returns -- the higher the risk number, in general the greater both the gains and losses from a strategy may be. All positions are initiated in first week of October and liquidated upon expiration of July options for corn and soybeans. Brokerage commissions and slippage figured at \$100 per round trip, or two cents per bushel. Futures and options results are based on official Chicago Board of Trade settlement prices; results were estimated for a few dates when trades did not take place using a widely followed options model. However, all results are hypothetical, not the result of actual trades. Moreover, past performance of a strategy is no guarantee of future results.

Glossary:

- Call options convey the right, but not the obligation to purchase a futures contract, in exchange for a premium paid in advance.
- Put options convey the right, but not the obligation to sell a futures contract, in exchange for a premium paid in advance.

- At the money calls convey the right to buy futures for about the price they're trading.
- At the money puts convey the right to sell futures for about the price they're trading.

- In the money calls convey the right to buy futures for less than they're trading.
- Out of the money calls convey the right to buy futures for more than they're trading.

Corn

Basis Central Illinois

(net profit/loss per bushel compared to harvest)

	Use commercial storage	Store cash corn on farm	Store cash at harvest and		Sell cash at harvest and				
			Buy July put	Sell July futures	Buy July call option ...			Buy July futures	
					1 strike in money	At the money	1 strike out of money	2 strikes out of money	
1985	-\$0.07	\$0.06	\$0.03	\$0.16	-\$0.20	-\$0.16	-\$0.12	-\$0.09	-\$0.14
1986	\$0.04	\$0.17	\$0.06	\$0.19	-\$0.14	-\$0.16	-\$0.12	-\$0.09	-\$0.06
1987	\$0.79	\$0.92	\$0.91	-\$0.05	\$0.83	\$0.78	\$0.71	\$0.64	\$0.93
1988	-\$0.63	-\$0.50	-\$0.37	-\$0.16	-\$0.28	-\$0.22	-\$0.19	-\$0.15	-\$0.38
1989	\$0.13	\$0.26	\$0.06	-\$0.03	\$0.12	\$0.06	-\$0.01	-\$0.07	\$0.25
1990	-\$0.18	-\$0.05	-\$0.13	\$0.04	-\$0.22	-\$0.18	-\$0.15	-\$0.12	-\$0.13
1991	-\$0.24	-\$0.11	-\$0.11	\$0.05	-\$0.23	-\$0.19	-\$0.15	-\$0.12	-\$0.20
1992	-\$0.31	-\$0.18	-\$0.16	-\$0.02	-\$0.22	-\$0.16	-\$0.12	-\$0.09	-\$0.20
1993	\$0.25	\$0.38	\$0.20	\$0.11	\$0.13	\$0.07	\$0.01	-\$0.06	\$0.23
1994	\$0.49	\$0.62	\$0.46	\$0.18	\$0.31	\$0.25	\$0.19	\$0.11	\$0.40
1995	\$1.52	\$1.65	\$1.43	\$0.07	\$1.40	\$1.35	\$1.28	\$1.20	\$1.54
1996	-\$0.69	-\$0.56	-\$0.34	-\$0.17	-\$0.23	-\$0.19	-\$0.16	-\$0.13	-\$0.43
1997	-\$0.50	-\$0.37	-\$0.39	-\$0.10	-\$0.23	-\$0.19	-\$0.16	-\$0.14	-\$0.31
1998	-\$0.06	\$0.07	\$0.02	\$0.16	-\$0.20	-\$0.16	-\$0.13	-\$0.11	-\$0.14
1999	-\$0.24	-\$0.11	\$0.02	\$0.14	-\$0.19	-\$0.15	-\$0.11	-\$0.09	-\$0.29
2000	-\$0.31	-\$0.18	\$0.04	\$0.22	-\$0.24	-\$0.20	-\$0.16	-\$0.13	-\$0.44
2001	-\$0.11	\$0.02	\$0.16	\$0.27	-\$0.20	-\$0.16	-\$0.12	-\$0.10	-\$0.28
2002	-\$0.27	-\$0.14	-\$0.13	\$0.06	-\$0.25	-\$0.21	-\$0.17	-\$0.14	-\$0.24
2003	\$0.38	\$0.51	\$0.30	\$0.12	\$0.21	\$0.16	\$0.09	\$0.02	\$0.34
2004	\$0.06	\$0.19	\$0.02	\$0.16	-\$0.11	-\$0.16	-\$0.15	-\$0.12	-\$0.01
2005	\$0.19	\$0.32	\$0.15	\$0.30	-\$0.11	-\$0.16	-\$0.15	-\$0.13	-\$0.02
2006	\$0.92	\$1.05	\$0.78	\$0.38	\$0.44	\$0.38	\$0.32	\$0.25	\$0.63
2007	\$3.26	\$3.47	\$3.06	\$0.05	\$3.49	\$2.93	\$2.87	\$2.80	\$3.39
2008	-\$0.96	-\$0.62	\$0.14	\$0.75	-\$0.68	-\$0.38	-\$0.60	-\$0.56	-\$1.41
2009	-\$0.77	-\$0.43	-\$0.38	\$0.02	-\$0.46	-\$0.42	-\$0.38	-\$0.35	-\$0.49
2010	\$1.49	\$1.83	\$1.21	\$0.21	\$1.04	\$0.98	\$0.92	\$0.86	\$1.59
2011	-\$0.51	-\$0.17	-\$0.46	\$0.21	-\$0.74	-\$0.69	-\$0.65	-\$0.61	-\$0.42
2012	-\$1.11	-\$0.77	-\$0.61	\$0.05	-\$0.72	-\$0.68	-\$0.64	-\$0.60	-\$0.86
2013	-\$0.55	-\$0.21	-\$0.44	-\$0.10	-\$0.41	-\$0.37	-\$0.32	-\$0.29	-\$0.16
2014	\$0.15	\$0.49	\$0.23	\$0.21	\$0.06	\$0.01	-\$0.05	-\$0.12	\$0.24
2015	-\$0.67	-\$0.33	-\$0.50	-\$0.14	-\$0.38	-\$0.34	-\$0.30	-\$0.26	-\$0.23
2016	-\$0.39	-\$0.05	-\$0.28	-\$0.04	-\$0.23	-\$0.29	-\$0.34	-\$0.23	-\$0.05
1985-16 Ave.	\$0.03	\$0.23	\$0.16	\$0.10	\$0.04	\$0.04	\$0.03	\$0.03	\$0.08
Risk	85%	84%	71%	18%	78%	68%	65%	62%	84%
Years profitable	41%	50%	59%	72%	31%	31%	25%	22%	31%
2001-2016 Ave.	\$0.07	\$0.32	\$0.20	\$0.16	\$0.06	\$0.04	\$0.02	\$0.03	\$0.13

Soybeans

Basis Central Illinois

(net profit/loss per bushel compared to harvest)

	Use commercial storage	cash soybeans on farm	Store cash at harvest and		Sell cash at harvest and Buy July call option ...				
			Buy July put	Sell July futures	1 strike in money	At the money	1 strike out of money	2 strikes out of money	Buy July futures
1985	-\$0.07	\$0.06	-\$0.05	\$0.21	-\$0.35	-\$0.29	-\$0.19	-\$0.13	-\$0.19
1986	\$0.65	\$0.78	\$0.51	\$0.19	\$0.46	\$0.35	\$0.22	\$0.03	\$0.55
1987	\$3.38	\$3.51	\$3.12	-\$0.25	\$3.45	\$3.30	\$3.14	\$2.96	\$3.72
1988	-\$1.55	-\$1.42	-\$1.05	-\$0.48	-\$0.72	-\$0.62	-\$0.52	-\$0.45	-\$0.98
1989	-\$0.13	\$0.00	-\$0.31	\$0.05	-\$0.32	-\$0.42	-\$0.37	-\$0.30	-\$0.09
1990	-\$0.88	-\$0.75	-\$0.26	\$0.12	-\$0.56	-\$0.42	-\$0.34	-\$0.27	-\$0.91
1991	-\$0.10	\$0.03	-\$0.22	\$0.10	-\$0.44	-\$0.39	-\$0.33	-\$0.27	-\$0.12
1992	\$0.36	\$0.49	\$0.27	\$0.07	\$0.29	\$0.17	\$0.01	-\$0.15	\$0.38
1993	\$0.66	\$0.79	\$0.52	\$0.07	\$0.55	\$0.41	\$0.26	\$0.06	\$0.68
1994	\$0.43	\$0.56	\$0.21	\$0.20	\$0.13	-\$0.01	-\$0.14	-\$0.15	\$0.32
1995	\$1.03	\$1.16	\$0.71	\$0.02	\$0.82	\$0.67	\$0.49	\$0.30	\$1.10
1996	\$0.59	\$0.72	\$0.27	-\$0.10	\$0.51	\$0.38	\$0.22	\$0.03	\$0.78
1997	-\$0.35	-\$0.22	-\$0.56	-\$0.16	-\$0.41	-\$0.48	-\$0.40	-\$0.33	-\$0.11
1998	-\$0.82	-\$0.69	-\$0.26	\$0.10	-\$0.53	-\$0.38	-\$0.28	-\$0.22	-\$0.83
1999	-\$0.20	-\$0.07	-\$0.31	\$0.08	-\$0.52	-\$0.40	-\$0.32	-\$0.25	-\$0.18
2000	-\$0.47	-\$0.34	-\$0.08	\$0.27	-\$0.49	-\$0.40	-\$0.34	-\$0.28	-\$0.65
2001	\$0.25	\$0.38	\$0.01	\$0.20	-\$0.09	-\$0.21	-\$0.22	-\$0.18	\$0.13
2002	\$0.76	\$0.89	\$0.54	\$0.06	\$0.60	\$0.49	\$0.36	\$0.22	\$0.79
2003	\$2.23	\$2.36	\$1.97	-\$0.37	\$2.32	\$2.23	\$2.12	\$1.99	\$2.69
2004	\$1.86	\$1.99	\$1.48	\$0.24	\$1.31	\$1.21	\$1.08	\$0.95	\$1.71
2005	-\$0.09	\$0.04	-\$0.32	\$0.10	-\$0.48	-\$0.44	-\$0.37	-\$0.31	-\$0.09
2006	\$1.96	\$2.09	\$1.79	-\$0.23	\$2.01	\$1.91	\$1.48	\$1.67	\$2.28
2007	\$5.25	\$5.49	\$4.68	-\$0.15	\$4.85	\$4.74	\$4.62	\$4.50	\$5.60
2008	\$1.69	\$2.15	\$0.78	\$1.33	-\$0.52	-\$0.64	-\$0.75	-\$0.87	\$0.78
2009	-\$0.27	\$0.19	-\$0.67	-\$0.23	-\$0.41	-\$0.52	-\$0.63	-\$0.70	\$0.37
2010	\$2.16	\$2.61	\$1.65	\$0.41	\$1.43	\$1.31	\$1.18	\$1.04	\$2.16
2011	\$2.09	\$2.55	\$1.62	\$0.12	\$1.55	\$1.45	\$1.34	\$1.22	\$2.39
2012	-\$0.70	-\$0.24	-\$1.25	-\$0.77	-\$0.43	-\$0.55	-\$0.67	-\$0.79	\$0.48
2013	\$0.54	\$0.99	\$0.29	-\$0.95	\$1.26	\$1.17	\$1.06	\$0.97	\$1.90
2014	\$0.37	\$0.82	\$0.25	\$0.43	-\$0.15	-\$0.25	-\$0.35	-\$0.47	\$0.35
2015	\$1.67	\$2.12	\$1.71	-\$0.29	\$2.02	\$1.94	\$1.84	\$1.74	\$2.37
2016	-\$1.25	-\$0.80	-\$0.99	-\$0.22	-\$0.84	-\$0.73	-\$0.64	-\$0.55	-\$0.62
1985-16 Ave.	\$0.66	\$0.88	\$0.50	\$0.01	\$0.51	\$0.46	\$0.39	\$0.34	\$0.84
Risk	142%	144%	125%	39%	132%	127%	121%	117%	146%
Years profitable	59%	75%	59%	63%	50%	47%	47%	44%	66%
2001-2016 Ave.	\$1.16	\$1.48	\$0.85	-\$0.02	\$0.90	\$0.82	\$0.72	\$0.65	\$1.46

The tables show the results of different storage strategies during the 1985-2016 crop years. On-farm storage includes interest charge on stored grain using prevailing operating and CCC loan rates. Handling charges are 1 to 2 cents per month for on-farm storage, 2.5 to 5 cents per month for commercial storage. Figures do not include loan deficiency payments, if any, or depreciation on bins and equipment. Risk is the unpredictability of returns -- the higher the risk number, in general the greater both the gains and losses from a strategy may be. All positions are initiated in first week of October and liquidated upon expiration of July options for corn and soybeans. Brokerage commissions and slippage figured at \$100 per round trip, or two cents per bushel. Futures and options results are based on official Chicago Board of Trade settlement prices; results were estimated for a few dates when trades did not take place using a widely followed options model. However, all results are hypothetical, not the result of actual trades. Moreover, past performance of a strategy is no guarantee of future results.

Glossary:

- Call options convey the right, but not the obligation to purchase a futures contract, in exchange for a premium paid in advance.
- Put options convey the right, but not the obligation to sell a futures contract, in exchange for a premium paid in advance.

- At the money calls convey the right to buy futures for about the price they're trading.
- At the money puts convey the right to sell futures for about the price they're trading.

- In the money calls convey the right to buy futures for less than they're trading.
- Out of the money calls convey the right to buy futures for more than they're trading.