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AJAE appendix: “The Profitability of Transitioning to Organic Grain Crops in Indiana”

Samuel F. Clark

August 8, 2009

“Note: The material contained herein is supplementary to the article named in the title and published in the American Journal of Agricultural Economics (*AJAE*).”

**Table 6. CPS Revenues, Costs, and Net Returns: Scenario A**

CPS C-B Rotation	2009	2010	2011	2012	2013	2014
	Corn	Soybean	Corn	Soybean	Corn	Soybean
Yield (bu./acre)	161.39	47.77	165.95	48.48	170.51	49.18
Price (\$/bu.)	\$ 3.98	\$ 9.24	\$ 4.25	\$ 9.43	\$ 4.45	\$ 9.63
Gross Revenue	\$ 642.32	\$ 441.43	\$ 705.28	\$ 457.16	\$ 758.76	\$ 473.64
Seed	\$ 89.00	\$ 54.16	\$ 96.54	\$ 58.75	\$ 104.72	\$ 63.72
Fertilizer	\$ 87.09	\$ 39.35	\$ 96.01	\$ 43.39	\$ 105.84	\$ 47.83
Pesticides	\$ 41.00	\$ 29.24	\$ 41.68	\$ 29.72	\$ 42.36	\$ 30.21
Fuel & Lubrication	\$ 18.00	\$ 8.51	\$ 20.36	\$ 9.62	\$ 23.02	\$ 10.88
Repairs	\$ 12.00	\$ 9.22	\$ 12.58	\$ 9.67	\$ 13.20	\$ 10.14
Drying	\$ 24.00		\$ 26.73		\$ 29.76	
Hauling	\$ 17.00	\$ 5.32	\$ 19.22	\$ 6.01	\$ 21.74	\$ 6.80
Operating Int.	\$ 17.00	\$ 9.16	\$ 17.62	\$ 9.49	\$ 18.26	\$ 9.84
Total Direct Costs (\$/acre)	\$ 305.09	\$ 154.95	\$ 330.74	\$ 166.65	\$ 358.90	\$ 179.42
Machinery Ownership	\$ 77.00	\$ 79.58	\$ 82.25	\$ 85.01	\$ 87.87	\$ 90.81
Total Costs (\$/acre)	\$ 382.09	\$ 234.54	\$ 412.99	\$ 251.66	\$ 446.77	\$ 270.23
Net Return (\$/acre)	\$ 260.23	\$ 206.89	\$ 292.29	\$ 205.50	\$ 312.00	\$ 203.41

**Table 7. CPS Revenues, Costs, and Net Returns: Scenario B**

CPS B-C Rotation	2009	2010	2011	2012	2013	2014
	Soybean	Corn	Soybean	Corn	Soybean	Corn
Yield (bu./acre)	47.42	163.67	48.13	168.23	48.83	172.79
Price (\$/bu.)	\$ 9.00	\$ 4.15	\$ 9.33	\$ 4.35	\$ 9.53	\$ 4.55
Gross Revenue	\$ 426.79	\$ 679.22	\$ 449.02	\$ 731.79	\$ 465.36	\$ 786.19
Seed	\$ 52.00	\$ 92.69	\$ 56.40	\$ 100.54	\$ 61.18	\$ 109.06
Fertilizer	\$ 37.48	\$ 91.44	\$ 41.32	\$ 100.81	\$ 45.55	\$ 111.13
Pesticides	\$ 29.00	\$ 41.34	\$ 29.48	\$ 42.02	\$ 29.96	\$ 42.71
Fuel & Lubrication	\$ 8.00	\$ 19.14	\$ 9.05	\$ 21.65	\$ 10.23	\$ 24.48
Repairs	\$ 9.00	\$ 12.29	\$ 9.44	\$ 12.89	\$ 9.90	\$ 13.52
Drying		\$ 25.33		\$ 28.20		\$ 31.41
Hauling	\$ 5.00	\$ 18.08	\$ 5.65	\$ 20.44	\$ 6.39	\$ 23.12
Operating Int.	\$ 9.00	\$ 17.31	\$ 9.33	\$ 17.93	\$ 9.67	\$ 18.59
Total Direct Costs (\$/acre)	\$ 149.48	\$ 317.61	\$ 160.67	\$ 344.49	\$ 172.89	\$ 374.01
Machinery Ownership	\$ 77.00	\$ 79.58	\$ 82.25	\$ 85.01	\$ 87.87	\$ 90.81
Total Costs (\$/acre)	\$ 226.48	\$ 397.20	\$ 242.92	\$ 429.50	\$ 260.76	\$ 464.83
Net Return (\$/acre)	\$ 200.31	\$ 282.02	\$ 206.09	\$ 302.29	\$ 204.61	\$ 321.36

**Table 8. OPS Costs: Scenario C**

OPS	2009	2010	2011	2012	2013	2014
C-B-W/A-A Rotation	Corn	Soybean	Wheat/Alfalfa	Alfalfa	Corn	Soybean
Alfalfa Seed			\$57.69			
Crop Seed	\$108.32	\$48.81	\$21.18		\$127.44	\$57.43
Fertilizer	\$69.49	\$62.54	\$172.61		\$84.45	\$76.01
Machinery Costs	\$40.63	\$24.36	\$62.35	\$43.77	\$48.58	\$29.13
Drying	\$33.24				\$41.22	
Hauling	\$4.79	\$1.22	\$16.56	\$7.16	\$6.12	\$1.56
Cover Crop	\$26.04	\$27.12			\$30.64	\$31.91
Miscellaneous	\$7.18	\$7.36	\$7.74	\$7.74	\$7.94	\$8.14
Operating Int.	\$8.69	\$6.11	\$2.67	\$0.30	\$9.34	\$6.57
Total Direct Costs (\$/acre)	\$298.36	\$177.53	\$340.81	\$58.97	\$355.72	\$210.74
Machinery Ownership	\$56.64	\$41.21	\$80.79	\$50.67	\$64.63	\$47.03
Total Costs (\$/acre)	\$355.00	\$218.74	\$421.60	\$109.63	\$420.35	\$257.77

**Table 9. OPS Costs: Scenario D**

OPS	2009	2010	2011	2012	2013	2014
B-W/A-A-C Rotation	Soybean	Wheat/Alfalfa	Alfalfa	Corn	Soybean	Wheat/Alfalfa
Alfalfa Seed		\$57.26				\$59.00
Crop Seed	\$46.87	\$20.33		\$122.37	\$55.14	\$23.93
Fertilizer	\$59.56	\$164.40		\$80.43	\$72.39	\$199.80
Machinery Costs	\$23.30	\$59.62	\$41.85	\$46.46	\$27.86	\$71.30
Drying				\$39.06		
Hauling	\$1.15	\$15.57	\$6.73	\$5.75	\$1.47	\$19.92
Cover Crop	\$26.04			\$29.41	\$30.64	
Miscellaneous	\$7.18	\$7.55	\$7.55	\$7.74	\$7.94	\$8.34
Operating Int.	\$6.01	\$2.63	\$0.30	\$9.17	\$6.45	\$2.82
Total Direct Costs (\$/acre)	\$170.10	\$327.37	\$56.43	\$340.40	\$201.88	\$385.10
Machinery Ownership	\$39.87	\$78.17	\$49.02	\$62.53	\$45.50	\$89.20
Total Costs (\$/acre)	\$209.97	\$405.54	\$105.45	\$402.93	\$247.38	\$474.30

**Table 10. OPS Costs: Scenario E**

OPS	2009	2010	2011	2012	2013	2014
W/A-A-C-B Rotation	Wheat/Alfalfa	Alfalfa	Corn	Soybean	Wheat/Alfalfa	Alfalfa
Alfalfa Seed	\$56.84				\$58.56	
Crop Seed	\$19.52		\$117.49	\$52.95	\$22.97	
Fertilizer	\$156.58		\$76.60	\$68.94	\$190.29	
Machinery Costs	\$57.02	\$40.02	\$44.43	\$26.64	\$68.18	\$47.86
Drying			\$37.02			
Hauling	\$14.64	\$6.33	\$5.41	\$1.38	\$18.73	\$8.10
Cover Crop			\$28.24	\$29.41		
Miscellaneous	\$7.36	\$7.36	\$7.55	\$7.74	\$8.14	\$8.14
Operating Int.	\$2.58	\$0.29	\$9.01	\$6.34	\$2.77	\$0.31
Total Direct Costs (\$/acre)	\$314.54	\$54.01	\$325.75	\$193.40	\$369.64	\$64.41
Machinery Ownership	\$75.63	\$47.43	\$60.50	\$44.02	\$86.30	\$54.12
Total Costs (\$/acre)	\$390.17	\$101.44	\$386.25	\$237.43	\$455.94	\$118.53

**Table 12. OPS Yields, Prices, Premiums, Gross Revenue, & Net Returns: Scenario C**

OPS			2009	2010	2011	2012	2013	2014
C-B-W/A-A Rotation			Corn	Soybean	Wheat/ Alfalfa	Alfalfa	Corn	Soybean
Yields	Crop (bu./acre)		137.80	40.65	59.07		145.59	41.85
	Alfalfa (ton/acre)				0.82	3.30		
	Straw (bales)				25.00			
Prices & Prem.	Crop Prem.	High					\$13.35	\$22.15
		(\$/bu.)					\$10.77	\$19.93
		Low					\$8.01	\$15.89
		None	\$3.98	\$9.24	\$5.90		\$4.45	\$9.63
	Alfalfa Prem.	High				\$151.79		
		(\$/ton)				\$139.14		
		Low			\$124.51	\$126.49		
	Straw Price (\$/bale)				\$3.50			
	Premium:	High				\$501.24	\$1,943.57	\$926.97
		(\$/acre)				\$459.47	\$1,567.81	\$834.28
Gross Rev.		Low				\$417.70	\$1,166.14	\$665.00
		None	\$548.43	\$375.62	\$538.76	\$417.70	\$647.86	\$403.03
Net Return	Premium:	High				\$391.60	\$1,523.22	\$669.20
		Avg.				\$349.83	\$1,147.46	\$576.50
		Low				\$308.06	\$745.79	\$407.23
		None	\$193.43	\$156.88	\$117.16	\$308.06	\$227.50	\$145.26



**Table 12. OPS Yields, Prices, Premiums, Gross Revenue, & Net Returns: Scenario D**

OPS			2009	2010	2011	2012	2013	2014
B-W/A-A-C Rotation			Soybean	Wheat/ Alfalfa	Alfalfa	Corn	Soybean	Wheat/ Alfalfa
Yields	Crop (bu./acre)		40.35	58.16		143.64	41.55	61.83
	Alfalfa (ton/acre)			0.82	3.30			0.83
	Straw (bales)			25.00				25.00
Prices & Prem.	Crop Prem.	High				\$13.05	\$21.92	\$11.05
	(\$/bu.)	Avg.				\$10.53	\$19.73	\$9.56
		Low				\$7.83	\$15.72	\$7.48
		None	\$9.00	\$5.69		\$4.35	\$9.53	\$6.50
	Alfalfa Prem.	High						\$156.53
	(\$/ton)	Avg.						\$143.49
		Low		\$122.54	\$124.51			\$130.44
	Straw Price (\$/bale)			\$3.50				\$3.50
	Premium:	High				\$1,874.48	\$910.77	\$900.11
	(\$/acre)	Avg.				\$1,512.08	\$819.69	\$796.89
Gross Rev.		Low				\$1,124.69	\$653.38	\$657.51
		None	\$363.16	\$519.43	\$410.88	\$624.83	\$395.99	\$597.22
Net Return	Premium:	High				\$1,471.55	\$663.39	\$425.82
		Avg.				\$1,109.15	\$572.31	\$322.60
		Low				\$721.76	\$405.99	\$183.21
		None	\$153.19	\$113.89	\$305.43	\$221.90	\$148.60	\$122.93

**Table 13. OPS Yields, Prices, Premiums, Gross Revenue, & Net Returns: Scenario E**

OPS			2009	2010	2011	2012	2013	2014
W/A-A-C-B Rotation			Wheat/ Alfalfa	Alfalfa	Corn	Soybean	Wheat/ Alfalfa	Alfalfa
Yields	Crop (bu./acre)		57.24		141.69	41.25	60.91	
	Alfalfa (ton/acre)		0.82	3.30			0.83	3.31
	Straw (bales)		25.00				25.00	
Prices & Prem.	Crop Prem.	High				\$21.69	\$10.71	
		Avg.				\$19.52	\$9.26	
		Low				\$15.56	\$7.25	
		None	\$5.09		\$4.25	\$9.43	\$6.30	
	Alfalfa Prem.	High					\$154.16	\$156.53
		Avg.					\$141.31	\$143.49
		Low	\$120.56	\$122.54			\$128.47	\$130.44
	Straw Price (\$/bale)		\$3.50				\$3.50	
	Premium:	High				\$894.70	\$867.21	\$517.62
	Gross	(\$/acre)	Avg.				\$805.23	\$768.34
Rev.		Low				\$641.85	\$634.93	\$431.35
		None	\$478.16	\$404.08	\$602.19	\$389.00	\$577.37	\$431.35
	Premium:	High				\$657.28	\$411.27	\$399.09
	Net	Avg.				\$567.81	\$312.39	\$355.96
	Return	Low				\$404.42	\$178.99	\$312.82
		None	\$87.99	\$302.64	\$215.94	\$151.57	\$121.43	\$312.82