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The 2008 Farm Bill ACRE Program: Overview and Analysis for Indiana

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The Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) was debated and enacted into law during a period of record high prices for many crop commodities. With market forecasts for prices that were considerably higher than target prices, the U.S. Congress turned its attention to reorienting farm commodity policy to bolster the farm revenue safety net. This resulted in a new optional counter-cyclical revenue program named Average Crop Revenue Election (ACRE). Beginning with the 2009 crop year, farmers with program crop base acreage may choose to enroll any of their Farm Service Agency (FSA) farms in this program in return for foregoing counter-cyclical payments (CCP), 20% of their direct payments (DP), and 30% of the loan rates used to trigger loan deficiency payments (LDP) and marketing loan gains (MLG). Farmers who choose not to enroll in ACRE will remain eligible for counter-cyclical payments and will not be subject to the reductions in direct payments and loan rates—a continuation of the 2002 Farm Bill program.

ACRE Program Basics

The option to enroll in ACRE is available for each FSA farm. The signup period for ACRE for the 2009 crop year began in late April and must be completed by August 14, 2009. Farmers who decide not to enroll in ACRE in 2009 will again have the option to enroll in remaining years of the program's authorization (2010-2012). However, once a FSA farm is enrolled it must stay in the ACRE program through 2012 and all crops grown on a FSA farm are subject to the ACRE rules for payments. The irrevocable nature of ACRE means that all interested parties (including cash-rent landlords for the particular farm) must consent to the enrollment in ACRE.

ACRE works as a counter-cyclical revenue program that makes payments when per acre crop revenue falls short of benchmark levels. The size of the payment gets larger as the revenue shortfall becomes greater (up to a cap of 25% of the state benchmark revenue). Similar to farm payments with target prices, ACRE employs crop revenue benchmarks to determine when and at what level payments are made. Under ACRE, two benchmarks are used, one at the state level and one at the farm. The first benchmark requires that, on average, actual crop revenue falls short of 90% of the expected level for the state for a particular crop. If crop revenue exceeds this benchmark, no producer in the state is eligible for an ACRE payment for that crop. If the state's producers are eligible due to a state revenue shortfall, producers must also fail to meet the farm number specific benchmark revenue to qualify for an ACRE payment for that particular crop.

* *A special thanks is due the reviewers, Chris Hurt, Alan Miller and Craig Dobbins, for this article who made significant contributions.*

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Table 1. ACRE Example for Indiana Corn for 2009

	Item	State	Farm	Definition
1	ACRE Yield	156.0	179.5	
2	ACRE Price	$ 4.20	$ 4.20	
3	Adjustments			
4	Percent	90%	100%	
5	Insurance Premium	--	$ 15.00	
6	ACRE Revenue Benchmark	$ 589.68	$ 768.90	= 1 x 2 x 4 + 5
7				
8	Actual Yield	155	185	
9	Actual Price	$ 3.57	$ 3.57	
10	Actual Revenue	$ 553.35	$ 660.45	= 8 x 9
11	Trigger Met	YES	YES	= YES if 6 > 10
12				
13	ACRE Base Payment	$ 36.33		= 6 - 10
14	Farm Adjustment[1]		1.15	
15	Farm ACRE Payment		$ 34.82	= 0.833 x (13 x 14)

1 Calculated as Farm ACRE Yield divided by the State ACRE Yield

The fact that ACRE payments are triggered by revenue shortfalls means that the program works as a safety net against declining revenue due either to low prices or poor yields relative to historic averages. By design, the program is intended to smooth out year to year changes in revenue, allowing producers the opportunity to weather years when revenue is far short of expectations. Despite the appeal of this concept, the irrevocability of ACRE enrollment and the two trigger payment system complicates the decision to enroll in ACRE. The up-to four year (2009-2012) commitment to be in the program means that producers must form an estimate of the long-run benefit of the program in an era of uncertain output and input prices and convince partners and landlords that these benefits favor enrollment. As part of this, the producer must also form some expectation about how farm-level yields will evolve over the next four years relative to the state average. Under the dual-trigger system an individual farm can have a poor revenue year, yet be shut out of ACRE payments if the state, on average, meets crop revenue expectations. Thus, ACRE is not a direct substitute for crop insurance on individual farms.

Payment Triggers and Calculation for ACRE

Table 1 provides an example of calculating an ACRE payment. The first step is to evaluate whether any ACRE payments are made by checking actual state and farm per acre revenue against the program benchmarks. Line 6 of the table gives ACRE revenue benchmarks for the example calculated as the program yield multiplied by the price. The ACRE program yield (both state and farm) is calculated as an Olympic average (both high and low value dropped) of the most recent five years. The ACRE program price is calculated as the national average price for the crop over the two most recent marketing years. Thus, if we assume the example values in Table 1 to be appropriate for an acre of corn on an Indiana farm in 2009, line 1 would be the average yield from 2004-2008 (with the best and worst yield dropped from the calculation) for both the state and the farm. Line 2 shows us the national average price for the 2007 and 2008 crop marketing years.

In calculating per acre revenue benchmarks, an adjustment is made to the (price x quantity) value for both the state and the farm. The state revenue benchmark is multiplied by 90%, meaning that state corn revenue has to fall by more than 10% on average for any acre of corn to be eligible for a payment. No percentage adjustment is made at the farm level. In fact, farmers are allowed to add the per acre crop insurance premium they pay for the crop year in question (see the assumed value of $15.00 in line 5), which increases the chances that actual farm-level revenue will fall short of the benchmark. Thus, there is an incentive to purchase crop insurance as a complement to ACRE, but there is no requirement to have

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crop insurance coverage to enroll in the ACRE program. With the benchmark values set, all that is needed is the crop year revenue to determine payment eligibility.

In the example, we assume the corn price for the 2009 market year falls 15% to $3.57, from the $4.20 average of the previous two years (note that this is simply an illustration and not a forecast of the 2009 marketing year price). This price drop is enough with yields near the average level to generate both a state and farm-level revenue shortfall, as indicated on line 11 of Table 1. If either benchmark had been exceeded by actual revenue, no ACRE payment would be made for corn on this farm. With revenues short of both benchmarks, we proceed to calculate the ACRE payment level as indicated in lines 13-15.

The first step is to calculate the state level ACRE base payment, found by subtracting state actual revenue from state benchmark revenue (line 13). Then on line 14 the state level base payment is adjusted based on the ratio of the individual farm level benchmark yield to that of the state. For the example farm in Table 1, the farm's corn yields are 15% higher than the state average and thus the acre base payment is multiplied by a factor of 1.15. Finally, the ACRE program just like counter-cyclical and direct payments pays out on only 83.3% of base acres (a value that rises to 85% in 2012) so that a final adjustment is made in line 15 to get the ACRE payment of $34.82 per acre of corn planted or considered planted.

From the example in Table 1, we see that the key element in the decision to enroll in ACRE is the producer's expected price for the coming year. In our example, if the corn price falls to only $3.80 instead of $3.57, the state benchmark is exceeded and no ACRE payments are made. If the price is below $3.80, ACRE payments are made, but may be too small to recover the direct payment amount foregone (20%). How much are those direct payments? If we assume this acre of corn annually receives $30.00 per acre in direct payments, the cost of enrolling in ACRE is $6.00. The national average market price must fall to $3.76 in order to trigger an ACRE payment of about $6.00 per acre in this example. But also keep in mind if prices, in this example, are above $3.76 one would be better to not be in ACRE for 2009. In May 2009, USDA was projecting 2009 corn prices to be in a range of $3.70 to $4.50 per bushel. However, this was very early in the growing season and more information will be available about the 2009 growing season before the final ACRE decision has to be made for 2009 by no later than August 14, 2009.

Factors Influencing ACRE Enrollment

The break-even analysis conducted for the example farm highlights the importance of anticipating price changes in determining the benefits of ACRE enrollment. However, Indiana FSA farms will differ widely in their preference for ACRE due to the crop mix they have on their farm, the direct payment (DP) and counter-cyclical payment (CCP) yields used as the basis for payments, and how closely related their yields are to the state average. Table 2 reports on these factors across the state for corn, soybeans and wheat, using the nine National Agricultural Statistics Service (NASS) Crop Reporting Districts (CRD).

We estimate the program yields reported in Table 2 at the CRD level by taking the average yield for 1985-1989 (DP), 1997-2001 (CCP) and 2004-2008 (ACRE; an Olympic average). CRD and state yield correlations in Table 2 are calculated for 1999-2008 to determine how closely crop yields track the state average for different regions. The shares in Table 2 represent the portion of harvested acreage from 2004-2008 in each CRD for each program crop. The shares in each region total to 1.00 or 100%. For example, corn accounted for 57% of the harvested acreage in the Northwest CRD (NW).

Table 2 shows that one benefit of enrolling in ACRE is the ability to update program yields to more recent crop years. For both corn and soybeans which take up the majority of acreage in Indiana, ACRE program yields in 2009 will be more than 30% higher than the yields used as the basis for direct payments and more than 10% higher than the yields used for CCP. This extension of coverage to relatively current yields carries forward as the ACRE program yield is updated annually to the most recent five-year Olympic average. The state to CRD yield correlations shows consistent and strong positive correlations between changes in the state average yield and regional average yields for most regions of Indiana. Higher correlations suggest that state and regional yields tend to move in the same direction. When the state has high yields, the CRD's tend to have high yields, and the same is true for low yields. The maximum correlation is 1.0 which means the yields in a CRD move in lock step with the state yields. Generally, an individual farm's yields will be less correlated with state yields than CRD yields are correlated with state yields.

Even with the advantage of updating program yield coverage, the most critical element likely to affect ACRE enrollment is the ability to obtain revenue coverage that is benchmarked to the strong market prices for 2007 and 2008. The 2007 and 2008 prices for corn, beans, and wheat that are built into the ACRE program's revenue guarantee will be nearly double the CCP target price for those crops. In our example in the previous section, a corn price that fell to just $3.80 per bushel was enough to trigger an ACRE payment. In the regular program, the corn price must fall to $2.35 per bushel to generate

Table 2. Crop and Program Information for Indiana Crop Reporting Districts[1]

Crop	Item	NW	NC	NE	WC	C	EC	SW	SC	SE
Corn										
	DP Yield	115.08	117.48	112.48	124.74	127.16	114.76	120.24	106.02	114.98
	CCP Yield	141.14	139.18	133.08	137.12	144.48	141.28	136.44	120.64	125.22
	ACRE Yield	165.53	161.67	148.50	164.47	160.73	152.13	156.70	134.53	137.90
	Yield Correlation[2]	0.78	0.93	0.93	0.91	0.97	0.86	0.94	0.88	0.82
	Share[3]	0.57	0.53	0.43	0.51	0.49	0.45	0.49	0.47	0.43
Soybeans										
	DP Yield	36.72	37.16	34.96	36.90	39.04	34.86	34.58	32.36	35.04
	CCP Yield	44.26	45.80	42.26	44.32	46.92	44.06	39.88	39.10	39.96
	ACRE Yield	49.63	49.63	47.23	50.90	51.60	48.27	45.60	43.20	43.90
	Yield Correlation	0.83	0.94	0.84	0.92	.96	0.96	0.83	0.71	0.74
	Share	0.42	0.44	0.51	0.47	0.49	0.52	0.43	0.49	0.53
Wheat										
	DP Yield	51.90	50.40	52.24	54.24	57.82	54.00	51.76	44.82	47.46
	CCP Yield	64.06	64.94	65.68	62.88	70.10	69.08	57.84	54.32	56.22
	ACRE Yield	69.40	70.10	69.20	63.73	69.63	68.83	62.73	55.77	57.90
	Yield Correlation	0.77	0.90	0.89	0.88	0.90	0.92	0.96	0.90	0.86
	Share	0.01	0.03	0.06	0.02	0.02	0.03	0.08	0.04	0.04

1 CRD's are as follows geographically: NW = North West, NC = North Central, NE = North East, WC = West Central, C = Central, EC= East Central, SW = South West, SC = South Central, SE = South East.

2 Correlation coefficient for the correlation between regional yields for this crop and state yields for this crop. Higher coefficients are indicative of a greater correlation between state and region yield.

3 Corn's share of harvested corn, soybean and wheat acreage.

CCP payments. From this, we see that prices would have to drastically drop to begin generating CCP payments. While several forecasts have prices holding reasonably steady over the coming four years, in the event they do fall drastically, the ACRE program has a built in limit to how much program benefits could fall as the state benchmark revenue is limited to a 10% change from year to year.

Analysis of ACRE for Indiana Crop Regions

To get an idea of how program benefits might vary across Indiana we use the information in Table 2 as representative farms from each region in the state and consider how ACRE performs under two price scenarios: one where prices are relatively flat (following the FAPRI forecasts**) and one where prices decline over the next four years at a constant 15% rate. These two scenarios are depicted in Figures 1 and 2. Using these prices for comparison and the ACRE decision tool developed at Texas A&M's Agricultural and Food Policy Center (AFPC) we analyze the expected payments that ACRE would generate under each scenario.***

The ACRE decision tool at AFPC allows farmers to input their own information on crop yields, acreage rotation, etc. to analyze each FSA farm. This AFPC decision tool is particularly well-suited to this task because it considers uncertainty in future prices and yields in its calculation of the expected ACRE payments for a given farm. Given the differences across farms that will be important determinants of the benefits (and costs) of enrolling in ACRE, producers should conduct their own analysis. Our use of it here is just to provide an overview of the expected payments from ACRE relative to those from the regular Direct and Countercyclical Program (DCP) using historical data at the CRD level.

Table 3 reports the average difference per year in per acre government payment receipts (ACRE minus DCP) for each CRD in Indiana for the

*** The Food and Agricultural Policy Research Institute (FAPRI) is a unique, dual-university research program (established in 1984 by a grant from the U.S. Congress). With research centers at the Center for Agricultural and Rural Development (CARD) at Iowa State University and the Center for National Food and Agricultural Policy at the University of Missouri-Columbia, FAPRI uses comprehensive data and computer modeling to analyze the complex economic interrelationships of the food and agriculture industry. FAPRI projections provide a starting point for evaluating and comparing scenarios involving macroeconomic, policy, weather, and technology variables. These projections are intended for use by farmers, government agencies and officials, agribusinesses, and others for medium-range and long-term planning.*

*** The AFPC's ACRE decision tool can be accessed at http://www.afpc.tamu.edu/models/acre/index.php.*

2009-2012 period, as well as this difference for the first and last year of the program. If prices hold fairly flat over the life of the ACRE program consistent with FAPRI projections, then the ACRE program is expected to generate between $11.00 and $15.00 extra dollars per acre per year in government payments for Indiana CRDs. If prices fall sharply and consistently, the expected gain in payments from being in ACRE increase to between $31.00 and $43.00. In our analysis of flat and falling prices, there was no year for a CRD in which the ACRE payment total was below that of the DCP program. Looking at the expected payment differences in the first and final year under each scenario, we see that a good deal of the advantage of the ACRE program are the relatively high 2007 and 2008 prices that set the initial revenue benchmarks. As prices stabilize or fall, these benchmarks generate large per acre payments that erode over time as the benchmark adjusts each year to new lower prices. With a large portion of potential benefits of ACRE built into the 2009 benchmarks, the importance of coming to an informed conclusion regarding ACRE in 2009 becomes apparent in spite of the fact that the irrevocable enrollment in ACRE may be undertaken any time in the next four years.

There is of course the possibility of rising prices in coming years. In this situation, the likelihood of receiving ACRE payments is small, and therefore staying out of ACRE could be the optimum decision because one would not incur the penalties of 20% lower direct payments and 30% reduction in loan levels.

Figure 1. FAPRI Price Scenario for 2008-2012

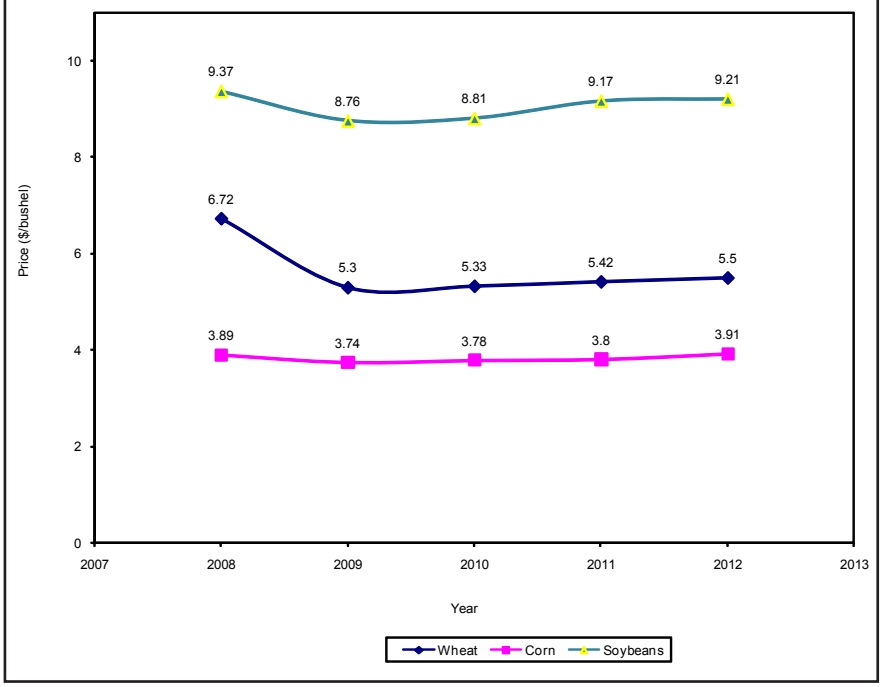
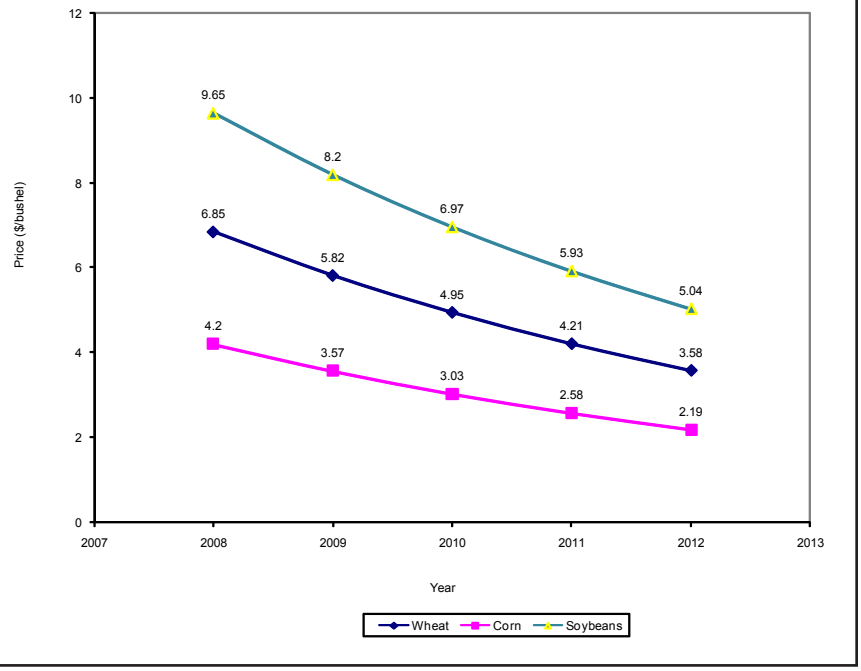


Figure 2. Declining Price Scenario for 2008-2012



Concluding Comments on ACRE

The fact that ACRE is offered as an optional enrollment program as opposed to a mandated change indicates that there is some uncertainty about the potential benefits across program crops. The analysis here shows that for the typical

program crops in Indiana the ACRE program has the potential to generate significantly higher program payments if prices fall only slightly or steeply decline. Of course if prices for corn and soybeans increase, the ACRE program revenue benchmarks will be exceeded at the state level and no payments will be made and enrollees will lose 20% of their direct payments and loan levels are reduced by 30%. For most farms, the decline in direct payments will be in the range of $5 to $7 per acre, which can be viewed as the cost of ACRE's revenue protection benefits. While these costs and benefits must be weighed by individual decision makers for each of their eligible farm numbers, the high current prices, ability to update yields, and the 10% limit on changes in benchmark revenue all represent structural incentives in the ACRE program that will encourage enrollment.

Specific facts and circumstances on a particular farm may overwhelm the ACRE incentives however. An obvious situation would be where a farm's yields poorly track those of the state average. In this situation, one could imagine a farm in a drought-stricken area that could incur significant revenue losses relative to its benchmark but receive no ACRE payments due to the state trigger not being met. This points out why ACRE is not a direct substitute for crop insurance.

Another situation likely to arise is a farm that has availed itself of the planting flexibility afforded by the direct payment program, moving to a rotation with a non-program crop such as hay. Since ACRE requires all crops on an FSA farm to be enrolled, a significant amount of non-program crops (relative to the program base acreage) means that ACRE benefits have to be even larger per acre for ACRE covered crops to overcome the cost of enrolling.

Since the signup deadline to enroll in ACRE for 2009 is not until August 14, 2009, this will provide added time to evaluate 2009 crop yield and price prospects. If yields and prices at that time appear high enough to not trigger ACRE payments, this will be a greater encouragement to not elect ACRE for 2009. The potential reason to stay out of ACRE in 2009 under this circumstance is the loss of 20% of 2009 direct payments and a 30% reduction in the loan rate. There will also be additional information on August 12 when USDA provides estimates of state and national yields. In addition, they will provide an update of their estimate of the national average prices received for the 2009/10 marketing year upon which the calculations for ACRE will be made. Producers who do not elect ACRE in 2009 can then re-evaluate in 2010 whether to elect ACRE.

Of course the information available in early August 2009 could also more strongly encourage one to sign up for ACRE in 2009. This might be a situation where state yields and individual farm yields are expected to be low due to adverse weather in the summer of 2009, or, price prospects for the 2009 crop could be depressed. Either of these would increase the odds of triggering ACRE payments and encourage election of ACRE in 2009.

Most producers will want to continue to become familiar with the potential benefits of ACRE and also consider the costs of electing ACRE. It would also be valuable to use an ACRE Evaluation Tool such as was referenced in this article to examine each individual farm. Those who have not yet made a decision on ACRE for 2009 probably want to re-evaluate their situation in early August when much more will be known about the 2009 crop yield and price prospects.

The USDA Farm Service Agency administers the program, so be sure to check with the local office on specific details regarding ACRE and with your individual questions.

Table 3. Difference in ACRE and DCP Payments under Flat and Declining Prices

	NW	NC	NE	WC	C	EC	SW	SC	SE
Flat Price Scenario									
Average Per Year	$ 14.49	$ 14.79	$ 13.68	$ 14.63	$ 14.32	$ 13.61	$ 14.29	$ 11.72	$ 11.50
First Year	$ 26.61	$ 26.14	$ 24.87	$ 26.21	$ 26.19	$ 24.71	$ 25.27	$ 22.02	$ 22.13
Last Year	$ 8.22	$ 7.71	$ 6.58	$ 7.61	$ 6.90	$ 6.52	$ 7.15	$ 5.23	$ 4.72
Declining Price Scenario									
Average Per Year	$ 42.64	$ 41.23	$ 36.90	$ 41.87	$ 40.41	$ 37.22	$ 38.15	$ 31.71	$ 31.87
First Year	$ 43.93	$ 42.97	$ 39.67	$ 43.45	$ 43.22	$ 40.88	$ 40.05	$ 36.01	$ 36.48
Last Year	$ 24.56	$ 22.19	$ 18.53	$ 22.87	$ 20.49	$ 17.38	$ 20.71	$ 12.82	$ 12.58

Notes: All values are calculated as the total program payments under ACRE minus the total payments under DCP.

Indiana in the 21st Century:
Urban Growth and Rural Depopulation

Brigitte Waldorf, Professor and Tani Lee, Graduate Student

Since the turn of the century, Indiana's population has grown nearly 5%, adding about 300,000 new residents. According to new estimates released by the US Census Bureau, Indiana's growth rate is less than the growth rate for the nation as a whole (8%) and is trivial compared to those of some western states, such as Nevada (30%) and Arizona (26%).

However, Indiana holds up favorably compared to its neighbors (Table 1). Only Minnesota has a slightly higher growth rate and Indiana ranks second with Wisconsin. On the other end of the scale are Ohio and Michigan, which have barely grown since 2000. Michigan has even experienced negative growth since 2005 and depopulation for three consecutive years (see Figure 1).

Although Indiana's population change is modest compared to the rapidly growing western states of the U.S., Indiana can expect drastic shifts in its population distribution. Recent data reveal that the population growth has been largely concentrated in urban areas. In fact, as shown in Table 2, the collar counties of Indianapolis (Hamilton, Hendricks, Hancock, Johnson and Boone) are the fastest growing counties in Indiana, with growth rates as high as in the western United States. Similarly, the growth rates of some suburban counties of the Chicago Metropolitan Area in the north and of the Cincinnati, Evansville, and Louisville metropolitan areas along the Ohio River are above the national average. Two additional counties belong in this group of fast growing counties:

Table 1. Population Change in Selected Midwestern States, 2000 to 2008

State	Population 1-April 2000	Population 1-July 2008	Absolute Change	% Change
Minnesota	4,919,492	5,220,393	300,901	6.1%
Indiana	**6,080,522**	**6,376,792**	**296,270**	**4.9%**
Wisconsin	5,363,708	5,627,967	264,259	4.9%
Illinois	12,419,660	12,901,563	481,903	3.9%
Iowa	2,926,381	3,002,555	76,174	2.6%
Ohio	11,353,160	11,485,910	132,750	1.2%
Michigan	9,938,492	10,003,422	64,930	0.7%

Data Source: US Census http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=PEP

Tippecanoe County, home of Purdue University, and Elkhart County along the I-80 east-west corridor.

The second group of counties shown in Table 2 includes 45 counties with slight population gains from 2000 to 2008 and a below average growth rate. This group is very diverse and includes:

- Marion County, home of Indiana's capital, the city of Indianapolis;
- counties with major universities: Monroe County (Indiana University); St. Joseph County (Notre Dame University); Vigo County (Indiana State University);

Figure 1. Annual Population Change in Selected Midwestern States since 2000

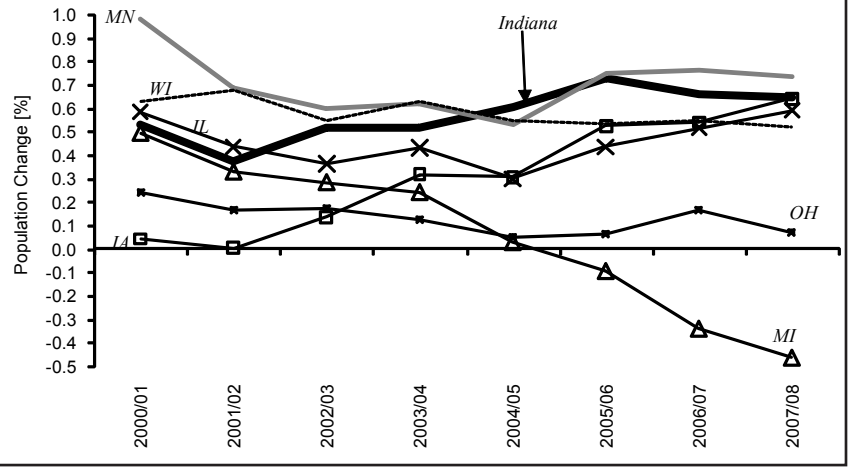


Table 2. Indiana Counties by Population Growth Rate, 2000 to 2008

Rank	County	Population 4-1-2000	Population 7-1-2000	Absolute Change	% Change
Group 1: Fast Growth (growth rates exceed national average)					
1	Hamilton	182,740	269,785	87,045	*47.63*
2	Hendricks	104,093	137,240	33,147	*31.84*
3	Hancock	55,395	67,282	11,887	*21.46*
4	Johnson	115,206	139,158	23,952	*20.79*
5	Boone	46,107	55,027	8,920	*19.35*
6	Clark	96,466	106,673	10,207	*10.58*
7	Porter	146,798	162,181	15,383	*10.48*
8	Tippecanoe	148,955	164,237	15,282	*10.26*
9	Warrick	52,384	57,656	5,272	*10.06*
10	Elkhart	182,791	199,137	16,346	*8.94*
11	Dearborn	46,130	49,985	3,855	*8.36*
12	Jasper	30,043	32,544	2,501	*8.32*
Group 2: Slow Growth (% change positive but below average)					
13	Harrison	34,325	37,067	2,742	*7.99*
14	Monroe	120,564	128,992	8,428	*6.99*
15	Switzerland	9,065	9,696	631	*6.96*
16	LaGrange	34,909	37,172	2,263	*6.48*
17	Whitley	30,707	32,667	1,960	*6.38*
18	Morgan	66,689	70,668	3,979	*5.97*
19	Allen	331,849	350,523	18,674	*5.63*
20	Bartholomew	71,435	75,360	3,925	*5.49*
21	Franklin	22,151	23,343	1,192	*5.38*
22	Dubois	39,674	41,449	1,775	*4.47*
23	Floyd	70,825	73,780	2,955	*4.17*
24	DeKalb	40,285	41,884	1,599	*3.97*
25	Jefferson	31,705	32,820	1,115	*3.52*
26	Marshall	45,128	46,709	1,581	*3.50*
27	Ripley	26,523	27,400	877	*3.31*
28	Putnam	36,019	37,183	1,164	*3.23*
29	Kosciusko	74,057	76,275	2,218	*2.99*
30	Scott	22,966	23,627	661	*2.88*
31	Noble	46,275	47,601	1,326	*2.87*
32	Owen	21,786	22,375	589	*2.70*
33	Ohio	5,623	5,773	150	*2.67*
34	Washington	27,223	27,949	726	*2.67*
35	Marion	860,457	880,380	19,923	*2.32*
36	Jackson	41,335	42,193	858	*2.08*
37	Lake	484,561	493,800	9,239	*1.91*
38	Decatur	24,555	24,998	443	*1.80*
39	Jennings	27,558	28,040	482	*1.75*
40	Shelby	43,441	44,186	745	*1.71*
41	Vanderburgh	171,926	174,729	2,803	*1.63*
42	Warren	8,419	8,547	128	*1.52*
43	Orange	19,306	19,571	265	*1.37*
44	Wells	27,600	27,964	364	*1.32*
45	Daviess	29,820	30,147	327	*1.10*
46	Adams	33,625	33,985	360	*1.07*
Group 2: continued					
47	LaPorte	110,106	110,888	782	*0.71*
48	Clinton	33,866	34,069	203	*0.60*
49	Clay	26,567	26,703	136	*0.51*
50	Gibson	32,500	32,666	166	*0.51*
51	Montgomery	37,629	37,805	176	*0.47*
52	Steuben	33,214	33,368	154	*0.46*
53	Starke	23,556	23,658	102	*0.43*
54	St. Joseph	265,559	266,680	1,121	*0.42*
55	Miami	36,082	36,219	137	*0.38*
56	Perry	18,899	18,929	30	*0.16*
57	Vigo	105,848	105,968	120	*0.11*
Group 3: Population Loss (growth rates below zero)					
58	Lawrence	45,920	45,913	-7	*-0.02*
59	Pulaski	13,755	13,712	-43	*-0.31*
60	Parke	17,240	17,152	-88	*-0.51*
61	Fulton	20,511	20,319	-192	*-0.94*
62	Crawford	10,743	10,624	-119	*-1.11*
63	Huntington	38,075	37,570	-505	*-1.33*
64	Spencer	20,391	20,111	-280	*-1.37*
65	Madison	133,358	131,501	-1,857	*-1.39*
66	Carroll	20,165	19,864	-301	*-1.49*
67	Greene	33,157	32,577	-580	*-1.75*
68	Jay	21,806	21,412	-394	*-1.81*
69	Howard	84,964	83,381	-1,583	*-1.86*
70	Sullivan	21,751	21,328	-423	*-1.94*
71	Pike	12,836	12,569	-267	*-2.08*
72	Union	7,349	7,157	-192	*-2.61*
73	Brown	14,956	14,550	-406	*-2.71*
74	Henry	48,508	47,162	-1,346	*-2.77*
75	Knox	39,256	38,057	-1,199	*-3.05*
76	Vermillion	16,788	16,234	-554	*-3.30*
77	Delaware	118,769	114,685	-4,084	*-3.44*
78	Posey	27,061	26,079	-982	*-3.63*
79	Martin	10,369	9,969	-400	*-3.86*
80	Tipton	16,577	15,923	-654	*-3.95*
81	Newton	14,566	13,933	-633	*-4.35*
82	Cass	40,930	39,123	-1,807	*-4.41*
83	Wayne	71,097	67,795	-3,302	*-4.64*
84	Fountain	17,955	17,041	-914	*-5.09*
85	Fayette	25,588	24,265	-1,323	*-5.17*
86	Rush	18,261	17,297	-964	*-5.28*
87	White	25,267	23,800	-1467	*-5.81*
88	Randolph	27,401	25,801	-1600	*-5.84*
89	Wabash	34,960	32,706	-2,254	*-6.45*
90	Grant	73,403	68,609	-4,794	*-6.53*
91	Blackford	14,048	13,093	-955	*-6.80*
92	Benton	9,421	8,769	-652	*-6.92*

Data Source: US Census http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=PEP

- small counties that are comprised of an entirely rural population (as defined by the US Census Bureau*) such as Owen and Warren counties.

Only 22 of the 45 counties included in this second group are located in metropolitan areas whereas all of the counties in the first group of fast growing counties are classified as metropolitan.

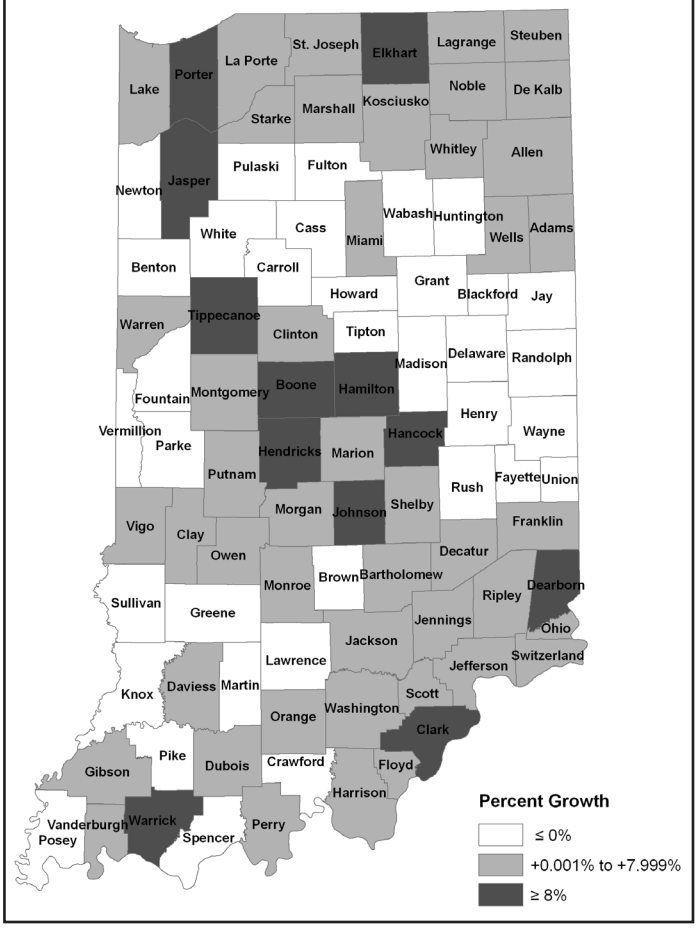
The third group shown in Table 2 includes 35 counties that have lost population since the beginning of the new millennium. The vast majority of these counties are small, predominantly rural counties. Madison and Delaware counties are the exceptions, both house over 100,000 residents and more than three quarters of the population are classified as urban. Interestingly, almost all of the 35 counties have been on a persistent path of depopulation since 2000. Except in a few counties such as Brown the decline started in 2002, and Crawford, the decline started in 2003.

Figure 2 shows the population growth rates across Indiana counties. The primary area of population loss is sandwiched between the Indianapolis Metropolitan Area and the northern urbanized corridor along I-80. In addition, many rural counties adjacent to the Illinois and Ohio borders are losing population.

Conclusion

If these population growth trends continue, the result may be an even deeper divide of the Indiana landscape between the fast growing urban places and the depopulating rural areas. Rapidly growing urban counties provide economic opportunities, but they also develop challenges such as increasing demand for services and traffic congestion. On the other hand, the depopulation of rural counties creates a number of problems including declining school enrollment and diminishing provision of services, in particular if the majority of those leaving rural areas tend to be young in their prime productive years. Once the U.S. Census Bureau releases information on the changing population composition we will be able to assess whether, for example, the depopulation of rural counties occurs alongside the aging of the population.

Figure 2. Population growth rate of Indiana counties, 2000 to 2008



** The US Census Bureau defines the rural population as "not being urban" and the urban population as people living in urban areas. An urban area is defined as a contiguous area of census blocks that has a population density of 1,000+ persons per square mile and a total population of 2,500 or more residents (a detailed definition can be found at http://www.census.gov/geo/www/ua/uafedreg031502.pdf; also see Waldorf (2007): "What is Rural and What is Urban in Indiana?" at http://www.purdue.edu/dp/pcrd/pdf/PCRD-R-4.pdf)*

Today's Demographics and Farm Characteristics of Large Producers

Maud Roucan-Kane, Research Associate and
Michael Boehlje, Distinguished Professor

The results of the 2007 Census of Agriculture show the new trends in agriculture (more farms, more smaller farms, more Internet use, more women operators, …). The 2008 survey of commercial producers by Purdue University's Center for Food and Agricultural Business complements the US census. It provides information on current demographics and farm characteristics, looks at general attitudes of producers and their use of communications media, and focuses on large farms.

The Survey

The 2008 Commercial Producer Project was undertaken with the goal of providing insight into this rapidly evolving group of commercial producers - a group that accounts for the majority of agricultural inputs purchased. The Purdue University Center for Food and Agricultural Business (CAB) surveyed 2,574 producers in the following enterprises: corn/soybean, wheat/barley/canola, cotton, swine, dairy, beef, in early 2008. This survey is a follow-up to similar studies completed in 1993, 1998, and 2003.

The producers-respondents were located across the U.S., with the sample selected from those key states accounting for 75% of total U.S. production for each of the seven enterprises represented. The focus of this study is the "commercial" farmer (see Table 1).

For the purpose of this summary, producer's size is defined based on 2007 planted acres or 2007 head marketed (see Table 1). After the responses were received and tabulated, the commercial producer category was divided further to determine if there were differences in the attitudes and opinions of the very large producers. The largest 15% of the commercial operations (termed "large") have been grouped together and compared with the remaining commercial producers (85%). A total of 252 producers were categorized "large", 1,185 were considered "commercial" with another 910 considered "mid-size".

Table 1. Physical Units (Number of Acres or Heads) Defining Mid-Size, Commercial, and Large Enterprises

		Commercial Producer Category	
Farm Type	**Mid-Size**	**Other 85%**	**Largest 15%**
Corn/soybeans (acres)	300-1,499	1,500-4,999	5,000+
Wheat/barley/canola (acres)	700-3,499	3,500-6,999	7,000+
Cotton (acres)	200-1,099	1,100-2,999	3,000+
Dairy (cows milked/day)	40-199	200-1,099	1,100+
Finishing Hogs (head marketed/year)	800-3,999	4,000-27,999	28,000+
Feeder Pigs (head marketed/year)	3,300-16,499	16,500-41,999	42,000+
Finished Cattle (head marketed/year)	150-799	800-6,999	7,000+
Feeder/Stocker Cattle (head marketed/year)	250-1,249	1,250-6,999	7,000+

Demographics

More than 86% of the respondents were the primary farm decision maker. Primary farm decision makers were less likely to be the respondent in the corn/soybean segment and in the under 35 age group. Compared to previous survey years, fewer respondents held the role of primary farm decision maker.

Nearly 89% of the respondents were male. The female respondents were more numerous in the corn/soybean, in livestock, and in mid-size farms. Compared to previous surveys, female respondents were more numerous and more likely to be the spouse of the primary farm decision maker suggesting that spouses of the farm decision maker may have taken over the responsibility of responding to surveys.

The corn/soybean and hog enterprises were managed by younger farmers (53 years old on average) while the wheat/barley enterprises were operated by older farmers (57 year old on average). Larger farmers tended to be younger than the mid-size farmers.

The majority of the respondents had graduated from high school, a two-year college, or a technical/trade program. Cotton producers tended to be the most educated and dairy

producers the least. As size increased, respondents were more likely to have received a higher level of education.

Farm Characteristics

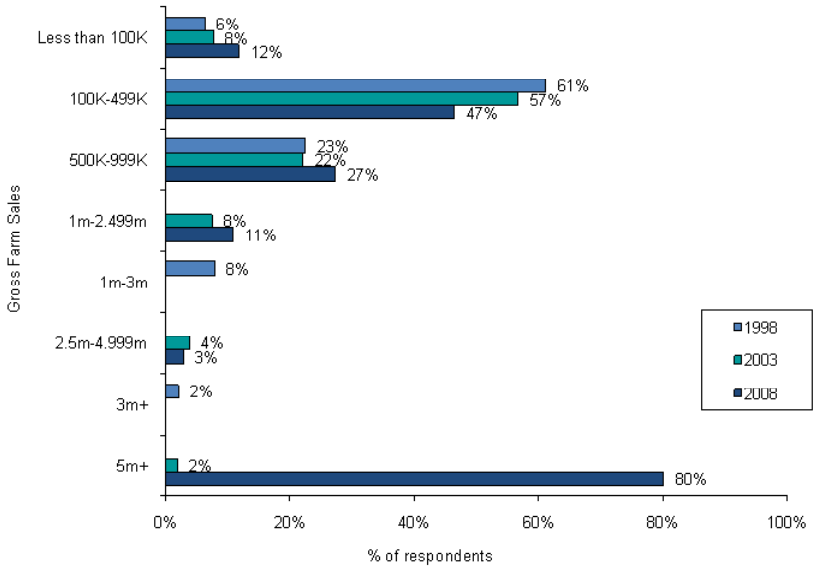
Most of the respondents generated between $100,000 and $999,999 in gross farm sales. High growth producers (those expecting to grow more than 50% in size over the next 5 years) reported greater gross farm sales than their counterparts. Compared to previous surveys, gross farm sales had increased dramatically (see Figure 1).

Respondents were asked to report the percentage of crop and livestock production activities (fertilizer application, pesticide application, seeding, harvesting, row crop tillage, livestock handling, livestock finishing, and raising of breeding stock replacement) performed on their farm that were hired out to retailers, other farmers, or private custom service providers in 2007. Table 2 presents the percentage of respondents contracting some or all of their crop and livestock production activities. Results show that in general as size increases, producers were less likely to outsource their crop production activities but more likely to outsource their livestock production activities. Many corn/soybean producers outsource their crop production activities while fewer cotton producers did. Hog producers were more likely to outsource waste handling. Relative to previous surveys, there was less outsourcing for pesticide application and harvesting.

Respondents were asked to report the percentage of their crop and livestock production produced under contract in which the buyer/contractor sets guidelines for at least one input. About 20% of the respondents contracted some or all their crop production. This number was slightly lower for livestock production under contract: about 18%. Large farms were more likely to use contracts for some of their crop production while fewer mid-size farms contracted their livestock production. Corn and hog operations were more likely to produce under contract. Farmers under 35 years old used crop contracting the least, while those 65 and older employed it the most. However, older producers used livestock contracting the least. There were significantly fewer respondents running their crop operations under contract in 2008 than in 2003.

Respondents were also asked to report the percentage of their crop and livestock production that would be certified organic over the next five years; about 5% of the respondents expected to do so in crop production versus 7% for livestock production. Interestingly, 11% of the under 35 age group reported that they will have between 75 and 100% of their livestock production certified organic over the next five years.

Figure 1. Distribution of Respondents' Gross Farm Sales



Production

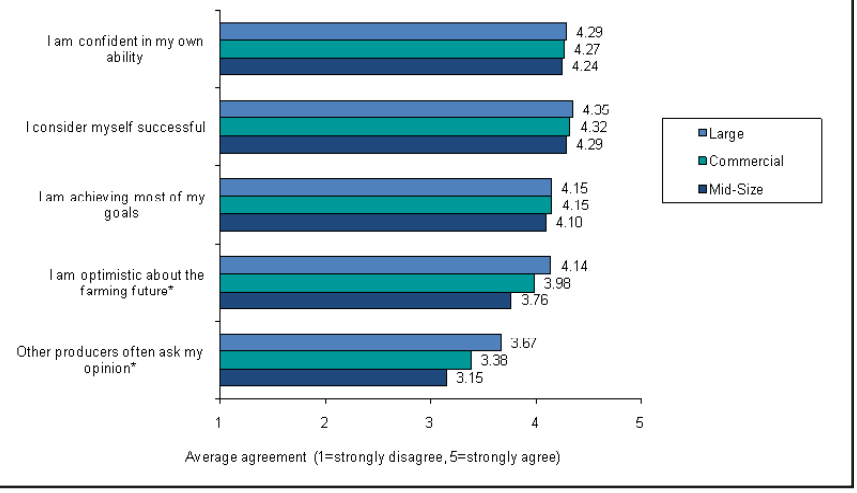
Respondents were asked to report their number of acres or head marketed in each enterprise for 2007 and their expectations for 2012. Compared to the 2003 survey, overall farm sizes had increased modestly; finishing hogs and feeder pigs had seen the most change.

Using the responses of the respondents for their 2007 production and their expected 2012 production, we computed the growth rate for the respondents' primary enterprise. Commercial corn/soybean and dairy producers anticipated the most growth. Commercial cotton producers

Table 2. Percentage of Respondents with Outsourcing Production Activities

Crop and Livestock Outsourcing Activities	Percentage of respondents with Some Outsourcing
Fertilizer application	54.8%
Pesticide application	39.0%
Harvesting	9.9%
Seeding	16.0%
Row crop tillage	6.3%
Livestock waste handling	19.66%
Livestock finishing	10.3%
Raising of breeding stock replacement	11.2%

Figure 2. Average of Respondents' General Attitudes

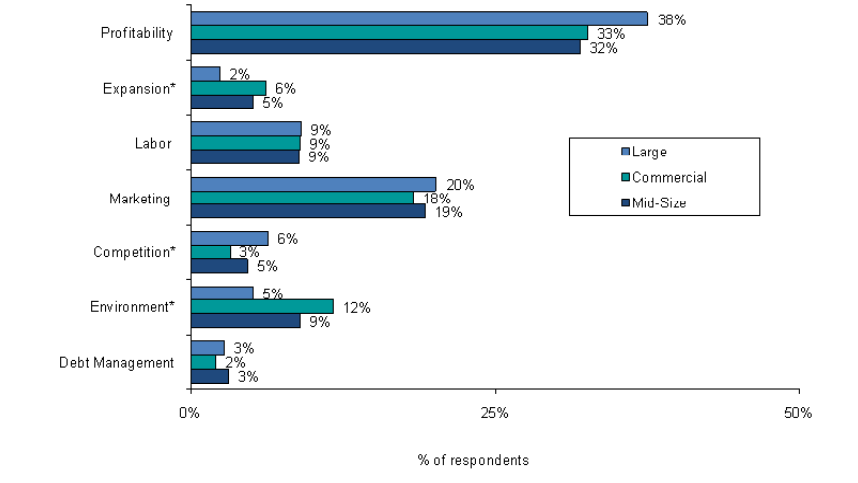


and cattle producers foresaw the least growth. Significant growth was expected for the largest finished hog operations. Not surprisingly, younger producers anticipated more growth. Relative to previous surveys, much slower growth was anticipated for all respondents.

To grasp better the anticipated change over the next five years, beyond a numeric growth rate, respondents were asked to describe how their farming operation may change in business enterprise focus over the next five years. The majority selected the category "remain the same". This was particularly true for cattle producers. High growth producers were more likely to become more specialized. Relative to previous surveys, the category "remain the same" was selected more often this time.

When asked how they anticipate their crop rotation will be determined over the next five years, over 55% of the respondents selected "historical crop rotation patterns". For cotton producers, historic crop rotation patterns were less likely to determine their crop rotation. For wheat producers, and for the under 35 and 65+ age groups, crop prices during pre-plant planning were much less important.

Figure 3. Distribution of Respondents' Top Management Challenges



Prices were more important for high growth producers. Weather conditions at planting time were less of a criterion for corn/soybean producers.

General Attitudes

Overall respondents were confident in their farming ability (see Figure 2). They considered themselves successful, particularly younger producers. They believe they were achieving most of their goals, particularly again younger producers. They were optimistic about their farming future, particularly as size increases and again for younger producers. Relative to other survey years, this year marked more optimism and more agreement with those general attitudes. High growth producers also tended to be more optimistic and positive regarding those general attitudes. Respondents were also asked to rate their agreement with the statement "other producers often ask my opinion". They tended to agree with this statement, particularly as size increases, and particularly for younger and high growth producers. However, fewer than in the past agree that others ask for their opinion.

Turning to issues that these producers consider challenges, the following question was asked: "Over the next 5 years, describe the single biggest management challenge facing farming operations like yours?" Profitability (managing costs, low prices/margins, making capital investments, etc.), marketing (pricing, promotion, etc.), and management (market fluctuations, disease and pest control, paperwork, technology) issues dominated the list of concerns for producers. Profitability was more of a concern for large (see Figure 3), hog, and wheat/barley farms. Compared to normal growth producers, high growth producers were less concerned by profitability and more by marketing. When the study was completed, market volatility in nearly all agricultural commodities was much on the minds of farmers making marketing more of an issue than in past surveys. Compared to the 2003 survey, management was also mentioned more frequently in this survey.

Finally, the types of management tools and techniques that producers are using to help achieve their goals and address the above management challenges were explored. A total of nine different tools and techniques were considered. Crop insurance, membership in a cooperative, and forward pricing for products produced or inputs purchased were the most frequently cited by producers. In most cases, the larger the farm business, the more likely they were to use a specific tool/technique (see Figure 4). Younger producers (under 35) were more likely to attend management/business seminars and technical seminars, and more likely to have written marketing plans and written long-term goals. Those producers over 65 were more likely to have written management and ownership succession plans. Forward pricing was more popular in 2008 than in 2003. Forward pricing was also more employed by crop producers, particularly by corn/soybean farmers. High growth producers were more likely to use these tools and techniques (except for future option contracts on purchased inputs).

Communications Media

Input suppliers, extension educators, and associations have many avenues through which to communicate with producers. The survey indicates that producers preferred messages delivered through printed materials (see Figures 5 part 1 and 5 part 2). More than one-half of producers indicated that they never or rarely find agricultural e-mails or Web sites useful. Just less than three-fourths of respondents indicated that they find general farm publications and agricultural newspapers sometimes, often or always useful. Ag websites and emails were not found as useful by the 65+ age group. Interestingly, all communication medias (except Ag TV programs) were found less useful than in past surveys.

Conclusion

The 2008 survey occurred at a time of high agricultural prices and margins. Hence, producer attitudes likely reflected those market

Figure 4. Respondents' Risk Management Approaches

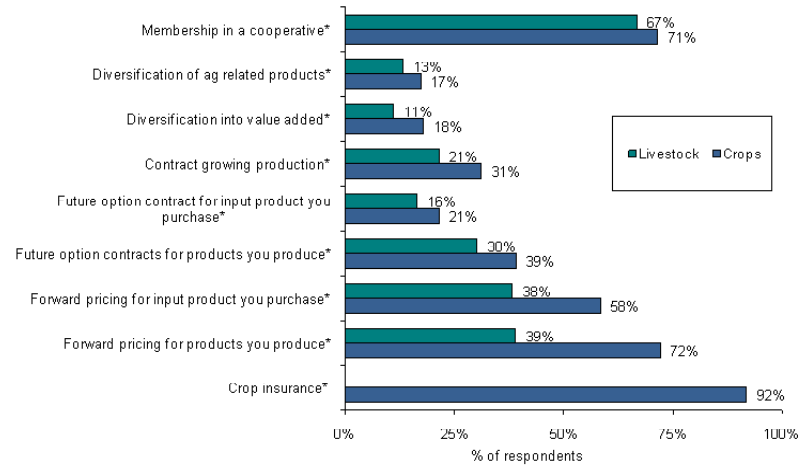


Figure 5. Usefulness of communication medias (part 1)

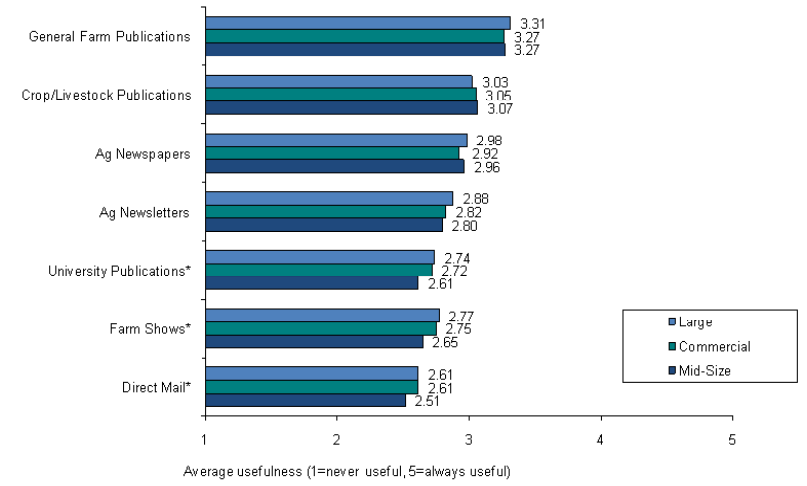
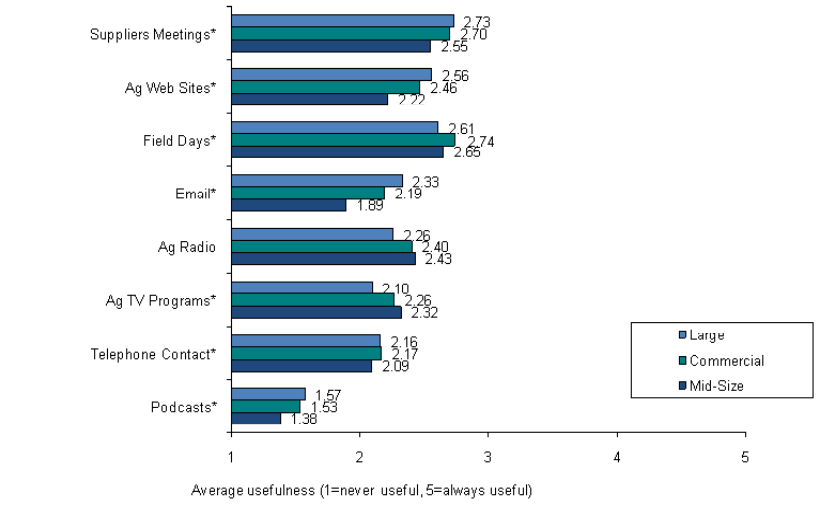


Figure 5. Usefulness of communications medias (part 2)

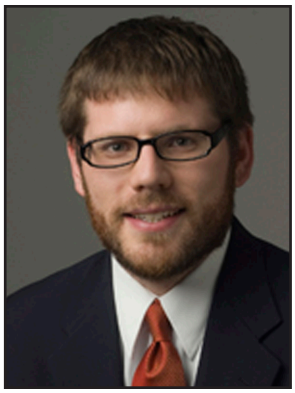


conditions. Compared to 2003, they found themselves more confident, more successful and more likely to achieve their goals. Such attitudes have important implications for suppliers' sales and marketing strategies. Producers are likely to welcome products, services and information. And, the larger the operation, the more closely other producers watch them. Consequently, getting a new product on a large farm is likely to generate word-of-mouth promotion benefits with other producers.

Given these uncertain times, farmers are likely to be more interested in risk management tools, such as forward pricing. Helping today's producers means assisting them with their management and marketing issues, along with offering risk management tools. These tools will probably become more critical to farmers as the economic crisis continues. Choosing the right communication channel to deliver this message will also be important – traditional communications media such as farm publications still count.

New Faculty

Dr. Steven Wu



Dr. Ben Gramig

Dr. Steven Wu was an associate professor at The Ohio State University before joining the Purdue Faculty. His research and teaching interests are in the areas of Applied Contract Theory and Incentive Systems, Applied Microeconomics, Experimental Economics, Regulation and Public Policy related to Agricultural Contracting. He earned his Ph.D. from the University of California Berkeley in Agricultural and Resource Economics in December 2001.

Much of his work centers around contract theory and applied contracting issues in agriculture. His current interests are in contract regulation and contract legislation in agriculture; the empirical testing of incentive systems; and the design of optimal pricing, risk sharing, and incentive schemes for marketing, production, and supply contracting. Current projects include the design of optimal risk sharing contracts for lignocellulosic ethanol crops and the testing of relational pricing mechanisms for energy products.

He is also interested in the study of informal incentives used by individuals and organizations to manage performance and regulate economic activity. Wu is a faculty affiliate in the John Glenn School of Public Affairs at Ohio State, a Research Fellow with the Institute for the Study of Labor (IZA) in Bonn, Germany, and a member of the Economic Design Network in the Department of Economics at the University of Melbourne.

Ben Gramig joined the Agricultural Economics Department in February 2008. He completed his PhD in agricultural economics at Michigan State University, his M.S. in agricultural economics and his B.S. in Natural Resource Conservation and Management are from the University of Kentucky. Ben worked previously in the Kentucky Governor's Office of Agricultural Policy on diversification away from tobacco and coordinated the Farm Services Agency, state Conservation Districts and the Kentucky chapter of The Nature Conservancy to establish the $120 Million Green River Conservation Reserve Enhancement Program.

Ben's research and teaching interests are primarily in the area of natural resource and environmental economics. He has worked on issues surrounding livestock disease management and plans to continue this work at Purdue. Ben's interests are largely motivated by public policy and striking a balance between economic achievement and environmental sustainability. To this end, he is very interested in emerging markets for environmental goods and services that agriculture can supply to society.

His interests in livestock health and natural resources management lend themselves well to interdisciplinary collaboration and Ben is currently working with colleagues across the College of Agriculture on a variety of projects involving the environmental implications of 2nd Generation Biofuels, carbon sequestration in agricultural landscapes and economic analysis of ecosystem services from agriculture.

Continued from page 16.

County. Vern's son Matt later joined the operation after following in his father's footsteps by obtaining a degree at Purdue. The current operation includes 75 brood cows in a cow-calf operation, where calves are fed out on the farm. Row crops include corn, soybeans, about 300 acres of green beans and cucumbers, and seed corn for Remington Seeds. The balance of acreage is in pasture, hay, and CRP. Approximately 1,800 acres are under irrigation. The Schafers are planning to add a new shop/office building and a new grain dryer to their existing grain complex this year.

3) Pinney-Purdue Ag Center – 5:30 p.m. CDT
Tour, Dinner, and Evening Program: "To ACRE or Not to ACRE, and Other Decision-Making in the Wake of the 2008 Farm Bill"

Wednesday June 24, 2009

4) Lawrence Brothers Farms – 8:00 a.m. CDT
Brad Lawrence and his younger brother Todd own and operate the farm started by their parents, Clarence and Peggy Lawrence. The operation is organized into several entities to provide advantages of management and liability protection. The general farming operating entity is a partner-ship called "Lawrence Brothers" and involves Brad and his son Matt and Todd and his son Josh. A regular C corporation was formed (L & L Corp) to pay salaries and own vehicles. A Subchapter S corporation, BTL Corp., was formed to own the farm equipment. Brad is currently the sole share-holder of N & L Pork, a contract feeder pig grower operation working with Co-Alliance. An important part of the hog operation is the production of manure nutrients made available for the cropping operations. Crops grown in 2009 will include seed corn for Pioneer Hi-Bred, commercial corn, soybeans, and mint. About 3,000 acres are under center pivot irrigation.

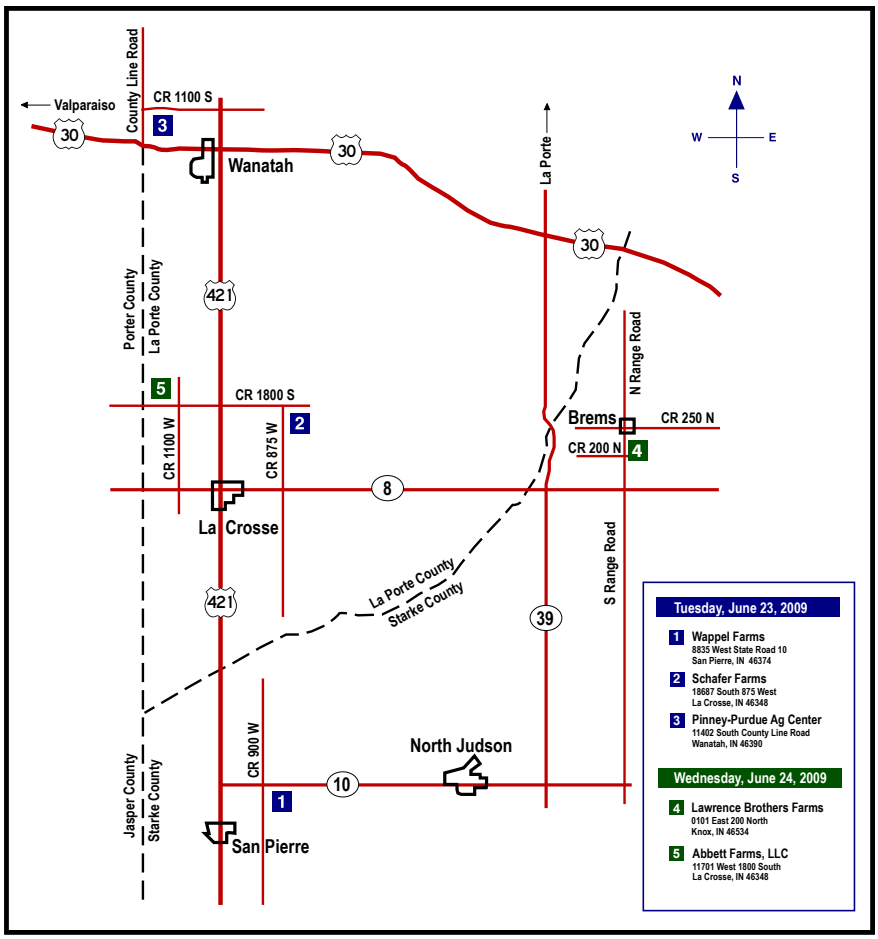
5) Abbett Farms, LLC – 10:00 a.m. CDT
Abbett Farms, LLC, is in its second generation as a large, innovative farm involved in seed corn, specialty crops, and aviation. Lou and Joan Abbett began the operation in a different location in 1962. They purchased land near La Crosse in 1968. In 1983 Lou negotiated a 100-acre tomato contract with Heinz. Glenn graduated from Purdue with a degree in Mechanical Engineering and joined the farming operation in 1994. The farm has continued to grow in acreage and types of crops. For 2009, the farm will raise tomatoes for Red Gold, green beans (double-cropped), seed corn for Remington Seeds, commercial corn, and soybeans. Most of the crop acreage is under center pivot irrigation. Besides the principal operators, Abbett Farms also has five full-time employees actively managing parts of the operation and three regular part-time employees. Abbetts have used their airplanes to investigate farming practices in California and other parts of the US as well as to monitor their own crops.

Lunch at 12:00 p.m. CDT
See the text box on pre-registration for meals.

For special dietary needs, contact 219/324-9407 by Friday June 18.

Ag Outlook – 1:00 p.m. CDT
Dr. Chris Hurt, Purdue Marketing Specialist

Lodging
Lodging is available in Valparaiso, IN. For information, contact the Porter County Convention and Visitors Bureau at 800-283-8687 or http://www.indianadunes.com/.



COLLEGE OF AGRICULTURE *Department of Agricultural Economics* PURDUE UNIVERSITY

77th Annual Indiana Farm Management Tour

Alan Miller, Farm Business Management Specialist

La Porte and Starke Counties
June 23 and 24, 2009

Tuesday June 23, 2009

Preregistration
The public is invited. Preregistration is required to participate in the dinner on June 23 and/or the lunch on June 24. The price of each meal is $5 per person payable on the tour (cash or check please, no credit cards). Please preregister by Friday June 18 by calling 1-888-EXT-INFO or 219/324-9407.

1) Wappel Farms – 1:00 p.m. CDT
All sites on this farm tour are in the central time zone.
Larry Wappel's father, Ed, started farming during World War II. Ed retired in 1986. In 1988, Wappel Farms started raising mint. Larry currently farms in partnership with his wife Debbie and their two sons, Larry, Jr., and Eric. In 2009, Wappel Farms will raise over 6,000 acres of corn, soybeans, and mint in Starke, Jasper, Porter, and Pulaski counties. A specialty crop like mint requires specialized equipment, more capital, and a keen ability to market the product, mint oil, through brokers to end users. Mint complements corn because it spreads out labor usage. Larry has served as a director of the Mint Industry Research Council and was instrumental in negotiating production contracts for mint oil for the industry. Larry, Jr. was recently elected to serve on the board of directors of the Indiana Mint Market Development Council. Guests from over 30 countries have toured the Wappel's mint operation. They also host tours for local school children and the annual North Judson Mint Festival.

2) Schafer Farms – 3:00 p.m. CDT
Schafer Farms originated near Crown Point in Lake County when Harold Schafer, a depression-era survivor, started the operation with a small herd of Hereford cattle. In 1972, when sons Myron and Vern were ready to join the operation, the farm left the encroaching urban development of Lake County and invested in farmland near La Crosse in La Porte

Continued, page 15.

Contributors to this issue from the Department of Agricultural Economics: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