



Opportunities for Farm-to-School in Hancock County, Indiana

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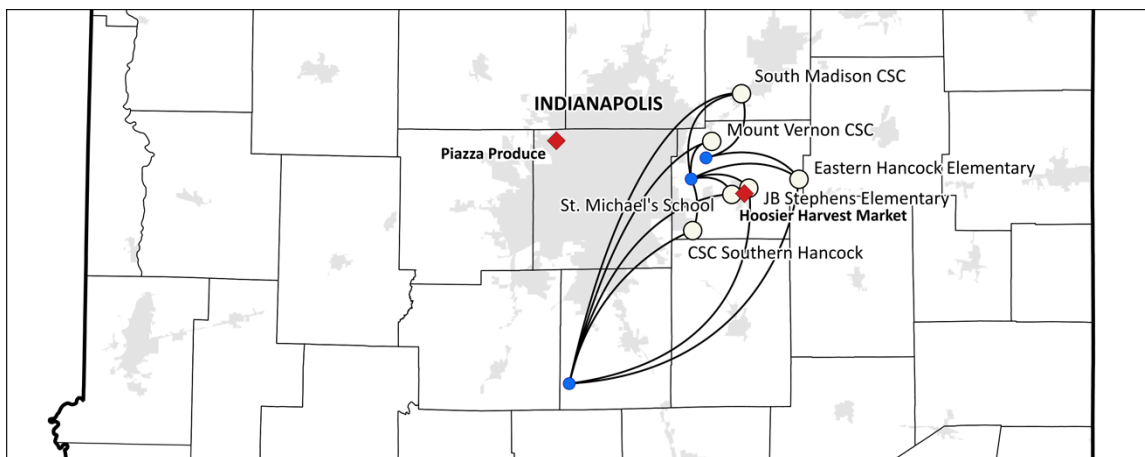


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Executive Summary

Indiana State Department of Health wishes to learn more about how farmers and schools can be encouraged to collaborate to source locally produced foods through aggregation points such as Hoosier Harvest Market in Greenfield. To that end, the agency allocated \$8,000 of grant funds among several schools in the Greenfield area, hoping to encourage each of the schools to incorporate locally produced foods into their nutrition programs. ISDH further asked Crossroads Resource Center to assist technically in this process.

This initiative produced important new learnings and created tangible new opportunities for farm-to-school collaboration, as outlined in this report.

All told, the true promise of farm-to-school may be to educate youth about the foods that can easily be grown and stored in Indiana, and to foster sufficient growing, preparation, and eating skills that those foods which Indiana farms can easily raise, store, and ship become familiar to consumers and favored by them.

Results

- Two new farms surfaced that are deeply interested in serving the school market in Hancock County.
- The Greenfield aggregator, Hoosier Harvest Market, has taken a stronger interest in assisting these farmers to serve local schools.
- Several food items have been purchased by Hancock County schools using this special allocation of funds.
- Partners have learned the importance of having someone make frequent contact with all parties to facilitate conversations, to help build trust, and to clear away obstacles. In this case, the party serving this coordination function was ISDH itself; in the future this capacity would have to be taken up by local organizations.

However, it proved difficult to move larger amounts of food due to several obstacles.

Obstacles

- School food service staff still express doubt that they are allowed to purchase food from local farms – despite USDA’s assurance that this is encouraged.
- School staff are already facing intense deadline pressure in their jobs, and do not have significant time to explore new purchasing arrangements. Having a coordinator engage staff in a conversation about this appears to help them focus their attention on local suppliers more effectively, so that purchases can be made.
- Nutrition budgets are severely limited, so schools are unlikely to source more food from local farms without special funding being allocated to them for that purpose. Plenty of similar food is available through established (but distant) sources at relatively low prices. As oil prices rise, the ease of importing these foods is likely to erode.¹

¹ Although oil prices are low at this writing, in the long term supplies are limited and prices will rise.

- Farmers who are interested in the local food trade are not always able to deliver even small amounts of produce reliably, because they are new farms. They experience some gaps in their ability to supply from time to time, and have limited delivery capacity.
- Larger farmers, who have plenty of food that could supply schools, do not often see schools as an important market, because they already sell to buyers who can pay higher prices than schools can pay. Some are happy to sell seconds in years when a surplus is available.
- One locally minded distributor, Piazza Produce, has taken solid steps to increase the importance of local foods in their offerings for school nutrition programs.
- Hoosier Harvest Market has set a priority of attracting individual customers of means in the eastern suburbs of Indianapolis, hoping to sell them the service of delivering CSA shares from HHM farmers direct to their neighborhoods. This is potentially a more lucrative market than sourcing local food to local school districts. Yet HHM has also become more open to the idea of sourcing food for school nutrition programs as a result of this project.

Larger lessons were also learned that are highly applicable to the broader Indiana local food context:

Broader lessons

- The core issue is a lack of farmers who are producing food for local markets. Addressing this issue requires implementing several simultaneous strategies: (a) training new farmers in a sustained manner; (b) providing adequate incentives; (c) building appropriate (smaller-scale) infrastructure for local food trade; and (d) marketing local foods to the general population to increase demand for local food. Examples of supportive infrastructure include, but are not limited to: (a) on-farm packing, washing and storage facilities; (b) local processing plants; (c) local food distribution routes in smaller vehicles that efficiently convey fresh foods to local area schools; (e) internet ordering systems; (f) community knowledge and databases showing which farmers are selling food to local markets and highlighting emerging trends; (g) marketing campaigns that promote local food trade, healthy eating, and healthy lifestyles; and (h) supportive education in schools so that students learn practical skills in growing, processing, preparing, and eating healthy foods.
- While the role of an aggregator or food hub is valuable – in working with emerging growers to help connect them to buyers and ensure that they grow and package their food items in a safe and marketable manner — it is difficult to imagine that hosting this capacity would pay for itself as a business proposition. At this juncture, this is typically a nonprofit educational function, one that some for-profit firms have shouldered as an investment in future local food trade. It necessarily will require subsidy, either because private firms build this into their budget, or because philanthropic or public funds pay to maintain this capacity in each community or region.
- Building a physical aggregation center or larger food hub will not, in itself, solve the issue of growing new farmers. Indeed, a food hub requires support from enough emerging farmers to cover operating costs, and the farmers in turn require support from the hub. These capacities must be built simultaneously, with supply and demand in balance at all stages. This will require stable long-term investment for limited short-term returns.

- Thus, Indiana's prospects for building sustainable food hubs are limited primarily not by available funding, but by the lack of farmers supplying local markets. The most successful food business clusters to emerge recently have grown up around farms that had enough resources to grow high-quality items and then to market these products to nearby consumers — often upper-income consumers. Building a hub without harnessing an astute capacity to produce food for local markets seems unlikely to work.
- These findings reinforce the conclusions of ISDH's earlier study, *Hoosier Farmer? Emergent Food Systems in Indiana*:² networks of food firms that collaborate locally are emerging already, and will need to be strengthened, so that supply and demand can grow commensurately. While food hubs may be part of these commercial networks, hubs cannot launch these networks single-handedly. New food must be produced for local markets. Moreover, a larger vision committed to building a strong network of local support is required to maintain hubs, smaller nodes³, and other connection points that help create these business clusters. Only when these networks are robust will food hubs be sustained as businesses.
- Local food purchases by schools can create multiple benefits beyond the value of the food sold, including making a solid contribution to the formation of business clusters:
 - Introducing students to farming and gardening skills at an early age.
 - Planning food production, tending gardens, and preparing tasty meals have shown themselves to be valuable venues for science education, because they involve very tangible measurements of quantities and mastery of logical concepts that encourage scientific experimentation.
 - Students who know they are eating food from local farms as part of school meals will be more motivated to visit nearby farms and to support both local farms and broader agriculture in the long term. These experiences will also aid students in getting more informed about food production and preparation.
 - Students who draw upon the above experiences and skills are also more likely to be savvy consumers as they mature.
 - Drawing upon these skills, students will be more likely to grow up wanting to be farmers, chefs, food service workers, and food production trainers, etc.
 - New social and commercial connections are created as farmers, wholesalers, hubs, and schools collaborate to strengthen local food trade.
 - These new connections also help shape a wider vision for future food systems work in each region. Such a vision in turn helps build capacities among graduates, and helps strengthen local food business clusters.

Health conditions continue to pose dilemmas for Indiana

- Medical costs for diabetes and related conditions in the state of Indiana rose from \$3.7 billion per year (as cited in the previous study⁴) to \$5.1 billion in 2012.⁵

² Meter, K. (2012). *Hoosier Farmer?: Emergent Food Systems in Indiana*. Minneapolis: Crossroads Resource Center, for the Indiana State Department of Health. Available at: <http://www.crcworks.org/infood.pdf>

³ Meter, K. and Goldenberg, M.P. (2013). *Making Small Farms into Big Business*. Minneapolis: Crossroads Resource Center. Produced for the State of South Carolina Departments of Agriculture and Commerce. Available at: <http://www.crcworks.org/scfood.pdf>

⁴ Meter, K. (2012).

- Indiana ranked 14th in the U.S. for prevalence of diabetes in 2012, with a rate of 7.3%, or 483,000 people.⁶

Recommendations:

1. ISDH and its partners should **recognize that farm-to-school efforts are the crucible in which new economic relationships are being formed**, so their value far surpasses the quantity of actual food purchases made. Farm-to-school trade is an essential community-building strategy, a capacity-building venture, and an opportunity for farmers, students, parents, and civic leaders to come together to frame a vision for the foods they want to grow and eat.
2. **Indiana must make a concerted effort to train new farmers and ensure they have access to land in and near major urban areas** — including suburban areas east of Indianapolis in Hancock County — at prices appropriate to the costs and risks of farm production, rather than at real estate development costs.
3. **Special training and land access will be required for farmers who wish to grow produce at scale**. This requires a different set of skills, different equipment, and often requires a different temperament than farming produce for direct sale to households, or farming more conventional crops and livestock.
4. **Several barriers exist to farming at scale, however:** (a) Few Indiana farmers currently have the technical knowledge or own the equipment required for produce farming at a larger scale. (b) Prevailing infrastructure does not support local produce trade as efficiently as it does exporting grains or livestock. (c) If a farmer has established wholesale markets, she/he may not need to sell to schools; if a farmer is a newly emerging one, she/he may not be able to afford to sell to schools. (d) Tremendous amounts of competing produce of decent quality is readily available from sources such as California, Canada, Mexico, and South America. (e) All this means that it may well be that only those farmers who can tap stored wealth (an inheritance, investors, foundation support, or public support) will be able to afford to launch new produce farms for local food trade.
5. **Ultimately, success in farm-to-school will be built on growing and selling to schools the foods that are easy to grow and store in Indiana's climate**, not based on substituting for imported food that is more readily grown in warmer locales. As oil prices increase, a wider range of import substitution may become more desirable.
6. **The Indiana Legislature should allocate several million dollars per year in special funds for schools to use in purchasing locally raised and processed food items**. When schools can count on specific funding to arrive consistently, they will be more free to work directly with farmers and processors to ensure local sourcing. Many other states have made such appropriations.

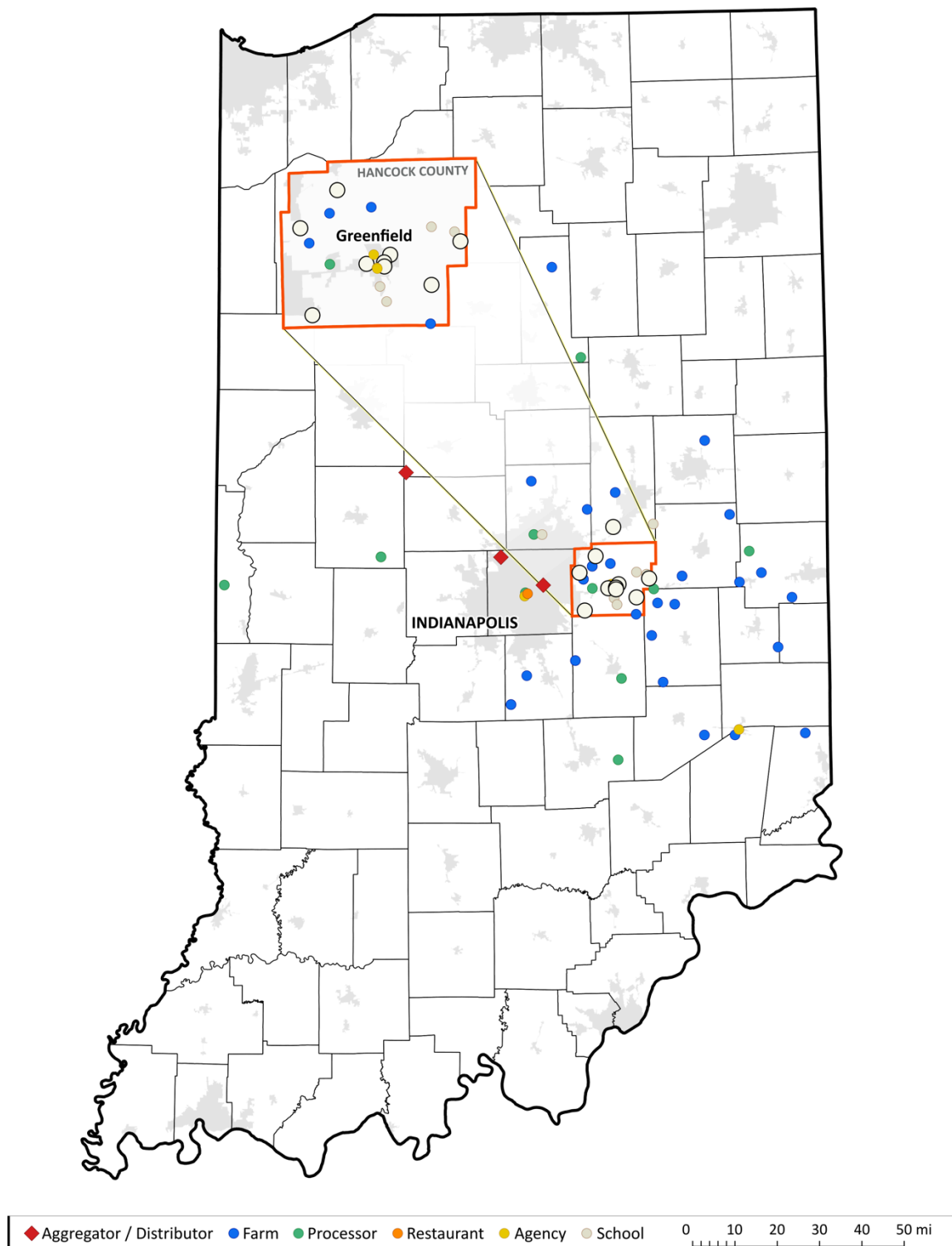
⁵ American Diabetes Association (2013). "Economic Costs of Diabetes in the U.S. in 2012." *Diabetes Care*, vol. 36, April. Supplemental Data report. DOI: 10.2337/dc12-2625. Supplementary Data online at <http://care.diabetesjournals.org/lookup/suppl/doi:10.2337/dc12-2625/-/DC1>

⁶ American Diabetes Association (2013).

7. The educational component of farm-to-school is at least as important, if not more important, than the financial value of farm-to-school purchases. Indiana is a farm state that proudly boasts that it “feeds the world,” yet schools often do not have enough money to purchase food from local farms. Many rural students grow up not knowing about farming, food preparation, or healthy eating. Diabetes and obesity rates are high. Integrating farm-to-school activities into the curriculum, connected to specific school food purchases, will reap multiple rewards in reducing living costs, improving health, and building local capacity.

8. For some high schools, the best way to source local foods may well be to grow these foods at the school itself, engaging students in farming and marketing the products. For example, a school might want to build a greenhouse as an instructional facility that also supplies the school lunch program with the salad greens it requires over the school year. Pursuing such strategies would of course enhance the goal of building food industry clusters, by training students in production and management skills.





The Hancock County Farm-to-School Initiative

ISDH wishes to learn more about how farmers and schools can be encouraged to collaborate to source locally produced foods, perhaps through aggregation points such as Hoosier Harvest Market (HHM) in Greenfield. To that end, the agency allocated \$8,000 of grant funds among several schools in the Greenfield area, hoping to encourage each of the schools to incorporate locally produced foods into their nutrition programs.

Crossroads Resource Center was engaged to work with HHM and with local partners to learn more about the potential for local foods. Toward this end, 21 key practitioners were interviewed. These ranged from farmers who might be in a position to source foods for Greenfield area schools, to food entrepreneurs, staff and board of Hoosier Harvest Market, state officials with the Indiana Grown program, civic leaders in Greenfield, and economic development professionals.

School food service directors were contacted by Laura Hormuth of the Indiana State Department of Health, who administered this program, and devoted considerable hours to communicating among farmers, school food service directors, and others in an effort to expand the impact of this initiative.

In addition to these interviews, overviews of the Hancock County and Indiana farm and food economies were prepared. This material is included as Appendix A & B of the report, starting on page 42.

Originally, a survey of producers in Hancock County was contemplated. Yet in the early phases of this research it became clear that administering such a survey was pointless since so few farmers in the county were in a position to source foods to local schools. Subsequently, it was decided that in-depth interviews with key leaders involved in emerging food business clusters would be a more fruitful use of resources. Results of those interviews are detailed below, starting on page 12.

Combining insights gained from each of these activities, as well as using insights Hormuth gained through her coordination activities, researchers offer the following assessment of the potential for farm-to-school initiatives in Hancock County.

Background

Indiana continues to absorb steep public costs for treatment of food-related medical conditions, creating a sense of urgency for strengthening education about healthy eating in the schools, and ensuring that all Indiana students gain a basic knowledge of how food is grown and where it comes from. Farm-to-school initiatives appear to be critical to achieving these outcomes.

To cite only two examples: Annual medical costs for treatment of diabetes and related conditions paid by Indiana residents rose to \$5.1 billion in 2012. More than 483,000 people, or

7.3% of the state's population, have been diagnosed with diabetes, making Indiana the 14th-ranked state in the U.S. for prevalence of diabetes.⁷

Such trends help fuel interest in farm-to-school initiatives. The 2015 Farm-to-School Survey of Indiana schools⁸ showed that farm-to-school is picking up considerable momentum across the state. Fully 83% of the 41 school districts that responded to the survey (there are more than 270 school districts in the state) are offering local foods as part of their school lunch programs. Nearly three-fourths of these districts (70%) received produce from some Indiana distributor.

Nearly half of the survey respondents say they already offer a daily salad bar as part of their school lunch program. Most (85%) said they would like to incorporate more farm-to-school recipes into their school meals, and 77% of the responding schools plan to increase the number of local foods offered.

Yet these are still relatively small steps taken amidst a farm economy that is deeply focused on exporting food commodities both domestically and internationally. At least 96% of the \$110 million of crop and livestock sales made by Hancock County farms, as tracked in the 2012 Census of Agriculture, were three products — corn, soybeans, and hogs — that are essentially raw materials destined for industrial processing or export, not foods to feed local residents.

Only 15 of Hancock County's 604 farms raise vegetables, selling \$236,000 worth in 2012, even though the household consumer market for fruits and vegetables is \$23 million. Slightly more of the county's farms (52), sold food direct to household consumers, worth a total of \$239,000. These are small increments in a household consumer market that purchases \$200 million of food each year, sourced almost entirely outside the county even in this accomplished farm community.

Although county farmers have been having banner years for the past three years, there are strong signs that these prosperous times will not last. Corn prices rose as high as \$7 per bushel in 2012, but are hovering about \$3.70 per bushel at this writing only three years later — a level that is likely well below the cost of production. Soybean prices are similarly weak, having fallen from \$14.00 to \$8.60 per bushel. Hog prices have fallen from \$95 to \$60 per animal. USDA expects these low prices to remain for several years. Our sources said that these falling returns have encouraged several farmers to consider shifting their production to different markets. Yet making such shifts is expensive. Many older farmers would not be inclined to make such investments unless returns were quite rapid.

This creates a severe mismatch between the production on Hancock County farms and the needs that county schools have for purchasing food for their nutrition programs. Hoosier Harvest Market, which was born out of the hope that products from small farms could be aggregated into larger shipments to sell to institutional and wholesale markets, is at this point targeting household customers who can pay higher retail prices for food. Moreover, at the start of this project, HHM did not consider school sales a priority.

⁷ American Diabetes Association (2013). "Economic Costs of Diabetes in the U.S. in 2012." *Diabetes Care*, vol. 36, April. Supplemental Data report. DOI: 10.2337/dc12-2625. Supplementary Data online at <http://care.diabetesjournals.org/lookup/suppl/doi:10.2337/dc12-2625/-/DC1>

⁸ Indiana State Department of Health (2015). "Farm-to-school: Indiana Survey and USDA Census Results."

So ISDH officials identified a short list of farms in Hancock County that would be likely candidates for farm-to-school trade. Of these, only two, Lush Leaf and Nature's Gift, took strong interest in supplying schools, largely because each farm is new and working diligently to build market share. A third farm, Tuttle Orchard, supplies schools with apples primarily when the crop year is especially bountiful, when they can ship surplus product so it does not go to waste, perhaps selling at a lower price.

As the interviews below show, many of the farms (like Tuttle Orchard) that produce enough to satisfy the demand that schools represent already have established markets that are more lucrative than selling to schools. This suggests that the region may need to cultivate new farmers who wish to grow food at scale sufficient for supplying schools. Yet it is also clear that any such farmers who wish to raise food at larger quantities may similarly find more lucrative markets as they build their own farm businesses — and may not be able to build a new business by supplying school nutrition programs that are also cash strapped.

This suggests that for the time being, smaller endeavors such as the ones outlined in this report may prove the most practical in building a foundation for future farm-to-school trade. To learn why this is true, we summarize the results of interviews conducted for this study.

Summaries of Interviews

Indiana Grown (ISDA)

David King, head of the Indiana Grown program for the Indiana State Department of Agriculture (ISDA), set an ambitious tone in his interview: "We could grow just about everything. Why aren't we? We have to make a shift to grow different commodities that have greater returns: free-range chickens, grass-fed beef, and produce." He said his first priority was to source Indiana products to Indiana consumers, but he also sees great potential for selling Indiana products to the world.

Having previously directed the Kentucky Proud program, King hopes to engage larger supermarket chains such as Kroger and WalMart. Indeed it is reported that King has arranged for some 60 Indiana growers to sell more than a million dollars worth of foods to Kroger.

With such markets opening up for Indiana farmers, when many farmers have established direct sales, schools may have difficulty purchasing from local farms except in special circumstances.

Economic Development for ISDA

Echoing King, ISDA's economic development coordinator Connie Neiningger points to a bright future for Indiana agriculture. The state is developing a list of food firms they would like to bring to Indiana, all with the same goal of feeding Hoosiers first, and exporting the surplus.

Neiningger and King both point out that one of Indiana's potential competitive strengths is that it has abundant water resources. "California is facing a major decline in water, so Indiana has the advantage here," Neiningger says.

Becker Farms (Mooreland)

One farm that expressed interest in selling to institutional food services is Becker Farms near Mooreland, Southeast of Muncie. Emily Becker says she and her husband Kyle have sold food through Hoosier Harvest Market, and small amounts of produce to the food service at Taylor University. At this point they have not explored selling to schools, although she says she would “love to have wholesale accounts. We could serve all needs.”

The Becker Farm has been in operation for seven years, and focuses on selling a wide variety of meats, including beef, chicken, lamb, goat, and turkey, as well as eggs from their laying hens. The farm sells meat and eggs year round through a Community Supported Agriculture (CSA) program. They also sell quarter shares and half shares of animals direct to nearby consumers, and supply small independent restaurants. The farm sells direct to consumers at three winter markets and four summer markets. Beckers’ farm is 98 acres, and they rent another 50 acres for forage and pasturing.

Emily Becker says they sell their meats through Hoosier Harvest Market, but did not realize at first that the hub would take a commission of 15% for each sale. This meant the couple ultimately raised their meat prices to fully cover their production and distribution costs.

Currently the Beckers are building up produce sales. As of 2015, they raise six acres of vegetables, including potatoes, sweet potatoes, peppers, onions, tomatoes, sprouts, green beans, and okra. They are now seeking funds so they can build a high tunnel to raise greens and carrots. To augment their CSA shares, the couple partners with nearby farms that raise squash, zucchini, and melons.

Yet it does not seem that the price the Beckers would need for selling their meats would be within the budgets of schools in Greenfield or surrounding communities, or that they would have sufficient produce in the near term to meet school demand.

Tuttle Orchards (Greenfield)

Moreover, few of the farmers near Greenfield were interested in sourcing foods to local schools. One example is Tuttle Orchards, an 85-year old apple orchard and produce farm northwest of Greenfield. Co-owner Ruth Ann Roney points out that “90% of our sales are retail sales” direct from their farm or to selected retail locations visited by customers who mostly live in Marion and Hancock Counties. They have even a bit more retail trade than they desire, yet this is growing fast as residents of the Fishers area east of Indianapolis take a stronger interest in purchasing local foods.

Overall, she adds, “We’d prefer not to sell wholesale, because we can command a better price with retail (\$50 per bushel compared to \$20 per bushel).” The farm even cut back apple sales to local restaurants because the volumes were small and it was not making a profit. So the special circumstance that opens up the potential for selling to schools is when the orchard has an unusually bountiful harvest. Roney continues, “If we have a surplus, then we are happy to sell wholesale. We had a bit of a surplus last year, so we sold to two schools. The feedback we got was good, but we are selling at a price lower than their distributor charges. In general though, we are not that interested.”

Several factors combine to limit the farm's interest. One is the time it takes to distribute their products. "One district has 14-15 schools. It takes us one full day to deliver one order to all of those schools," and it is difficult to recoup those distribution costs. In general, Roney adds, "We're fine with delivering as long as it is off-season." A second obstacle, which appears to be a deal killer, is that "If they require certification, we would opt out of the market. We are already GAP (Good Agricultural Practices) certified, and we are safety conscious, but we don't aspire to be audited." They do sell to a few restaurants that have sought out their apples, and to the Harvest Land Co-op, a program for autistic and disabled people — a total of 60 bushels each week during apple season — but these are not typical of their business model.



Tuttle also partners with the Dillman Farm (Southwest of Indianapolis on Highway 45) to make applesauce. Because this is a shelf-stable product, Roney thinks it could interest schools. Yet, she hastens to add, "It is still expensive, costing up to 99 cents per serving." Average school lunch costs run less than \$2 per plate.

Tuttle has branched out to sell higher value vegetables to local markets, however. Roney adds, "In addition to apples, we also sell sweet corn, high tunnel tomatoes, and lettuce." She estimates that about 50% of the tomatoes are sold to restaurants, and 50% are sold wholesale, primarily inside Indiana. The farm delivers eggs to restaurants as well, and sells straw to Spencer's, a u-pick farm Northeast of Indianapolis. They also sell through Locally Grown Gardens, a grocery store on East 54th Street in Indianapolis.

Overall, Roney points out that the supply of local foods is quite limited so far. Statewide, she laments, “There are about 100-150 producers, and they are mostly small. There are really only three wholesalers covering the state’s entire market.” This fact encouraged her to devote considerable time (as a former board member) to assisting Hoosier Harvest Market (HHM) strengthen its distribution planning. HHM delivered Tuttle’s CSA shares last year, but in 2015 the orchard decided it would deliver for itself. While Tuttle sells to retail customers through HHM, she is not convinced that adding a middleman to her wholesale transactions makes financial sense for the customer. She also notices that Green B.E.A.N. delivery in Indianapolis poses stiff competition for Hoosier Harvest Market as HHM enters the direct delivery market.

Tyner Pond Farms (Greenfield)

Southeast of Greenfield, an interesting cluster of food activity has emerged from Tyner Pond Farm, where a former software engineer has devoted himself to a second career in farming. In fact, he uses his wealth to help build a cluster of food enterprises in the greater Greenfield region. How this cluster has been formed will be the topic of a later section of this report (see page 30). For now, this narrative will focus on how Chris Baggott and Tyner Pond Farm view the prospects of trading with schools.

Chandra Chaves, staff at the farm, took time away from her pressing marketing duties to offer a glimpse of the farm. It has been in production for only four years, but already has amassed a staff of 10 full-time employees, including two full-time farmers and two full-time butchers. This growth has been unusually robust for a family-size farm, primarily because Baggott can finance his own expansion quite readily.

The core of the farm operation is pastured livestock, with beef cattle ranging over grassy pastures, and heritage pigs (Large Black, Berkshire, and Duroc) roaming freely. The farm also raises chickens for meat, and hosts a flock of 100 laying hens so it can sell eggs. All of these products, and more, are available at an on-farm store, where customers can pick up their own food items and pay on an honor system.

Tyner Pond also makes 90 home deliveries five days each week, all within a 50-mile radius of the farm, an area that includes most of Indianapolis. Deliveries consist of Tyner Pond meats as well as vegetables they assure are free of GMOs [Genetically Modified Organisms]. Tyner Pond also sells to several restaurants including Foodology and Libertine, but also to two restaurants Baggott himself has founded: The Mug (a drive-in format which is the farm’s largest single customer), and the forthcoming Grigsby Station, a more upscale dining experience that Baggott calls a “gastropub,” which will also open a second branch 10 miles north in Fortville. The farm sells four or five items through Hoosier Harvest Market, as well. Tyner Pond also sells to two wholesalers: Tuttle Orchard and Indianapolis’ Tiny Footprint, which is devoted to local distribution of locally processed food items.

Another sister business to Tyner Pond is Husk, a food processing business west of Greenfield that was founded with considerable investment from Baggott. Husk freezes locally grown sweet corn raised on about 50 acres of land by four partner farms, as well as green beans and butternut squash. The firm aspires to sell these frozen products to grocers across the state of Indiana and into Chicago. Husk also leases its space to two separate firms who use their processing facility to make soups and candies [*for more on Husk see page 16 below*].

Tyner Pond is growing at a rapid pace, since Baggott plans to build three more drive-in restaurants in nearby towns. To address this expansion, Baggott is now planning to build a slaughterhouse in the area to reduce travel time and processing costs. Currently the farm drives its animals to Columbus or Alexandria for slaughtering, and then performs the retail butchering in-house.

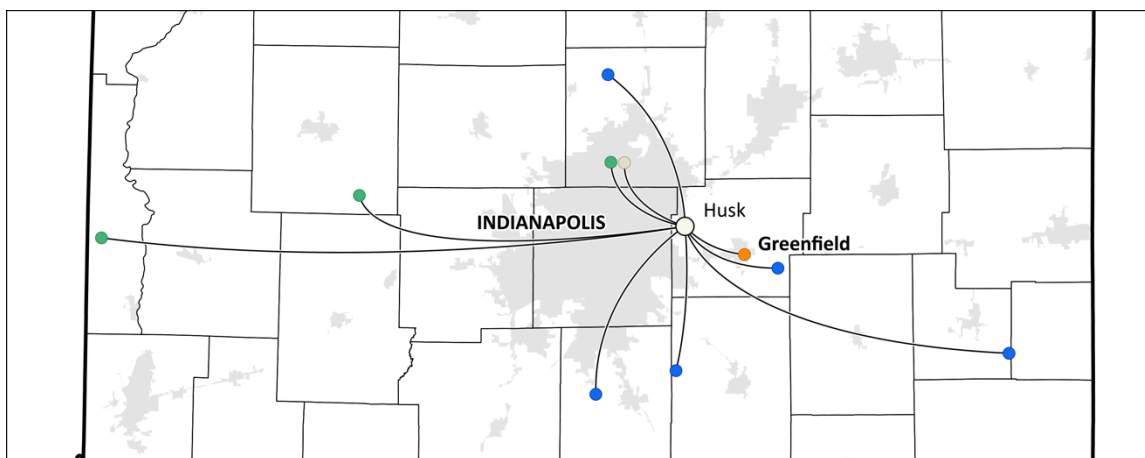
Chaves added that there are two main obstacles to the growth of this cluster of businesses: “We don’t have enough land, and we are looking for more farmers to grow for us.”

When asked about the school market, however, Chaves was quick to reply that the farm did not see itself addressing the school food service market. “As far as schools are concerned, we want to keep up with what we have — doing tours for students.”

Husk (Greenfield)

Meanwhile, visions are expansive at Husk, the food processing operation launched with Baggott’s assistance. Adam Moody, owner of Moody’s Meats in Ladoga, and Nick Carter, former software engineer, have teamed up with Baggott to launch a line of frozen vegetables, all raised on Indiana farms.

As mentioned above, Husk aspires to sell larger volumes of sweet corn, green beans, and butternut squash to grocers across Indiana — yet it has also played a role in strengthening local food trade in Hancock County. Nick Carter says that Hoosier Harvest Market now sells about one case of Husk products each week to Greenfield schools (primarily as a result of this ISDH initiative). The firm also fills a fairly regular order with the Carmel Clay Public School in Hamilton County, selling 150 cases per semester.



The process of perfecting Husk’s freezing techniques took nearly a year, Carter adds. Now that production is established, the firm is ready to search for wider markets. Aware of the seasonality of their product line, Carter and Moody are leasing out their processing room when it would otherwise be idle to two emerging businesses: Urban Ladle, which makes artisanal soups (Baggott purchased half of the company to capitalize the firm), and Brooke’s Naturals, which manufactures gourmet candies and gluten-free products during Husk’s off-season.

Once their model is honed, Moody says, he hopes their business will serve as a template for others who wish to set up local food businesses elsewhere. As this report was written, Husk was negotiating a potential sale of the firm to an Indianapolis investor.

Lush Leaf Farm (Greenville)

Tony Barnett welcomes his visitors to Lush Leaf Farm, based in a high tunnel (a metal frame with plastic covering similar to a greenhouse, but far less expensive to build) of 3,000 square feet west of Greenville — not far from Husk or Tuttle Orchards.

On a bright March day, Barnett looks over his embryonic operation, where a small plot of lettuce springs up out of a dark liquid. Here he raises up to ten varieties of lettuce in what he calls a “hydromineral solution,” where the fluid is pumped through wide flat pools to reach the roots of the lettuce plants.

Barnett envisions that when his 96- by 30-foot hoophouse is fully utilized, he will have three watery beds that extend the length of the structure, all producing lettuce on a rotating schedule that corresponds to customer demand. Hope also intends to install steam heat inside the structure, with a wood stove as backup.

Along with his high school friend Cody, Barnett has grown lettuce in a similar environment near Centerville, where he sold to local schools. So he feels like he has a firm handle on his production process. What is new for him is this new environment closer to east metro consumers.

Already, he is selling lettuce through the farm store at Tuttle Orchard, and he will soon offer a few sample heads to Greenville Schools. He aspires to grow enough quantity to attract the interest of the Indianapolis wholesaler, Piazza Produce. By fall, Lush Leaf will be sourcing lettuce to the drive-in, The Mug, and will have completed trial sales to Greenfield schools.

Even in March, in these early stages, Barnett reflects a moment and adds that he hopes to sell to all of the schools in Hancock County. “We want to be the lettuce hub of Hancock County.”

Nature’s Gift Aquaponics (Morgantown)

The second farm to take an interest in selling greens to public schools is Nature’s Gift Aquaponics, based on a farm near Morgantown. Owner John Woodbury has constructed an elaborate set of equipment on his father’s farm: inside one outbuilding, he installed four 200-gallon tanks that hold hundreds of small minnows or about 50 adult tilapia fish each. Water is constantly being renewed by circulating through these tanks through three purification steps until clean enough, though nutrient-rich, to be directed through underground pipes to a greenhouse next door — where Woodbury grows various vegetables planted through a floating styrofoam mat. This includes raising fresh greens for sale to schools.

The wooden building containing the fish farm is heavily insulated and heated with an external wood stove. He is pleased to note that he did not have to rely upon his backup heat source,

propane, during the winter of 2014-2015. It is a system he designed and set up himself after attending a practical workshop at the University of Wisconsin — Madison. It took him three years to refine his approach. He can now grow 40 heads of leaf lettuce each week, each of which takes seven weeks to grow. He also grows several other vegetables including spinach, cucumbers, tomatoes, and bok choy, which he sells through Hoosier Harvest Market. He has just purchased a high tunnel, and wants to expand into other crops including blackberries.

He also has a second product: the fish themselves. Since his father is a member of a local country club, he is able to take his fish to their commercial kitchen to clean and filet them. After cleaning, they are frozen in two-pound bags, for sale to his neighbors at the Granville and Franklin farmers markets.

When we visited in March, Woodbury said, “We’re definitely interested in selling lettuce to schools.” He hopes to serve as a year-round source to the schools, just as Lush Leaf intends.

At the conclusion of this study, Woodbury expressed great enthusiasm for the process. “Who better to enjoy and appreciate the produce I devote my life to than the young people of Greenfield?” he says. “Sales are rewarding as I reflect on helping change a young person’s mindset toward healthy eating.”

Woodbury adds that for him the most enjoyable aspect of the program was the way that ISDH coordinator Laura Hormuth “approached the project as an educator and a bridge,” helping reduce obstacles to success. “She consistently monitored my available products, pursued orders, and provided tips and other education to me.”

He continues that the program “drove home the realization that marketing requires a skilled individual working as a marketer for the farm. Most farmers are hands-on at their farm and lack administrative capacity. What a great service the F2S program provides!” He adds that he is moving forward with a plan to sell to local schools during the 2016 growing season.

Most gratifying, he says, was when a potential buyer told him, “Thank you so much for contacting me. I have been searching for a local supplier for several years and am very excited to learn more about the opportunity to work with you.”

Piazza Produce (Indianapolis)

Piazza Produce has played a strong role in fostering local food production for many years (See *Hoosier Farmer? Emergent Food Systems in Indiana*), not only in the Indianapolis region, but also in Louisville. Their staff have trained small farmers in preparing and packaging fresh produce for delivery to Piazza in a way that will meet food safety standards, and they have dedicated themselves to purchasing local products when possible.

Rachel Miller, the K-12 specialist for Piazza Produce in Indiana and connector to local farms, says that “Schools are huge to Piazza.” The firm holds major accounts with school districts in Wayne, Carmel, and Lawrence, and also has convened a farm-to-school advisory board to help it negotiate the process.

Miller explains that it is up to the school district to ask for local food. “They get local if we have it.” Piazza defines “local” as the geography through which their trucks travel. “If we can backhaul it (that is, bring the product on a return trip after delivering produce to a certain location), it is local.”

At this time, Piazza does not have a contract with Hancock County schools, so it is not yet delivering to schools in the Greenfield region. Still, Miller came to Greenfield to express her interest in laying the foundation for that to happen someday.

Food and Growers Association of Laughery Valley and Environs (Southeast Indiana)

Interestingly, the network of food activity that revolves around Hancock County extends to Southeast Indiana quite directly. Kathy Cooley, owner of the Alpine Berry Farm in Batesville, has launched a regional collaboration called the Food and Growers Association of Laughery Valley and Environs, which addresses local foods development in a region that includes Dearborn, Franklin, Ohio, Ripley, & Switzerland Counties.

The group is twice connected to Hancock County. The group has hired Michael Morrow, head of Hoosier Harvest Market, to explore the feasibility of starting a food hub for Southeast Indiana. The impetus for this work is that Interact for Health, a nonprofit serving inner-city Cincinnati, just across the state border, obtained funds from Proctor and Gamble to source food from nearby farms into the city. Indeed, the Food and Growers Association aims to serve as a second outpost for HHM.

The collaboration also has a second connection with Hancock, since it has already succeeded in sourcing food from Southeast Indiana farms to local schools and other institutions. The Batesville intermediate school has its own garden that supplies its salad bar, with the cooks harvesting the product for their own use.

A nearby farm, Michaela Farm, also sells about \$2,500 of food each year to a local hospital food service, whose director buys tomatoes, zucchini, cucumbers, lettuce, and other vegetables for their salad bar. The hospital also grows its own herbs as a way of reducing food expenditures.

Cooley is excited about the potential for institutional sales to flourish. Representing a hardy group of six farmers, she beams, “Both the hospital and the schools are ready to buy whatever we can grow.” Still small quantities, to be sure, but a hopeful sign of local connections being built.

Hancock County Economic Development (Greenfield)

Even though most of this local foods activity has been energized by private action, none of would have flourished without public support — the occasional grant here to write a feasibility study, or to purchase a hoop house, or to create a supportive business environment.

As Skip Kuker, Director of Economic Development for Hancock County, looks over the context in Greenfield, he sees exceptional opportunity for the region, primarily due to its location. East of Indianapolis, the town offers a quiet respite, yet easy access to the urban center. It is a place where rural and urban energies meet each other. Indeed, Kuker says, “We’re marketing Hancock

County as a ‘rural urban community.’ ” It is perhaps precisely because of these complementary forces, operating at the urban/rural boundary, that gives the county its creative juices.

Kuker expands. “Our county is experiencing the third-fastest growth in the state of Indiana; we have low unemployment, and good jobs. We’re getting more and more urbanized, especially on the west side of the county, past Highway 9.” One major employer, Elanco, he adds, “is very much into fresh foods.” We have new industry, too, but its employees do not necessarily live in Hancock County. One-third of our workforce lives in Indianapolis.”

This means “We’re in a good location for day trips from the city, and for agri-tourism. The old county farm may become our new fairgrounds. My goal there is to create a center for entrepreneurs making boutique food products, possibly with a butcher shop for small-animal processing.”

Central to this dynamism is the increasing interest in local foods, he adds. “Local food has been an explosion. It has a totally different taste.” But he says the interest could be focused more effectively if the county had money for one person to coordinate all of this activity. He concludes, “It all comes down to budgeting.”

City of Greenfield

Joanie Fitzwater has long been a city government advocate for local foods in the Greenfield region. Her vision echoes Kuker’s: implement a city revitalization plan that uses food to create a destination for visitors to Greenfield. Draw urban bicyclists out to the area using the Riley Trail. Use Placemaking grants to create a stronger sense of place that will draw tourists to town. Add a second brewery that will entice people to linger.

Still, Fitzwater has seen many ups and downs in progress toward this vision through the years. The City formed an education committee that is exploring options for incubating food businesses, but a food committee fell apart due to dissension within the membership. She worked with Hoosier Harvest Market to source food to the Hancock Regional Hospital, but the opportunity was not a good fit for the chef.

The vision of food businesses coordinating with each other and complementing each other’s work to create a larger destination persists, and Fitzwater continues to work doggedly toward that vision.



Hoosier Harvest Market (Greenfield)

Roy Ballard has long been the pioneer of local foods in the Hancock County region; serving as a lone visionary for decades and using his presence as Purdue Extension Educator to both leverage the work of emerging growers, and also to carry out the University's land grant mission to serve Indiana residents.

Ballard is justifiably proud of the fact that Hoosier Harvest Market was the first initiative in Indiana to attempt to build a food hub. This Old Farm in Colfax, which martialed a wider network of producers more rapidly, has since surpassed it. Yet HHM was well-tuned to the realities of farming in Hancock County — with a limited number of producers available, it took smaller steps forward, and launched an internet ordering platform that allowed Hancock County residents to order food through HHM. The Market delivers these shares to several locations around the county, including the Purdue Extension office on North Apple Street, where customers pick up the foods they have ordered on a set day.

As of March, 2015, HHM had 20 farmers involved, and expected more to join them as the harvest seasons approaches. These farmers offer their products for sale to some 300 customers through the HHM internet platform. Yet each farmer retains the right to also sell independently, often through a CSA or at a local farmers market, where they can often get higher prices than through the Market. "We struggle to find farmers who can sell us produce," Ballard laments. "A lot of what they have offered us is excess produce." Even one of the founding farmers ultimately decided to sell sweet corn to Husk, rather than selling fresh product through the Market he helped create.

Ballard explained that the board of Hoosier Harvest Market has set a priority of selling more produce items through home delivery to the eastern suburbs of Indianapolis, where there is considerable spending power and a more densely settled population than in Hancock County. This priority means that selling to schools has not been a major goal. Member farmers raise products schools could use, such as lettuce, cucumbers, cherry tomatoes, and other salad vegetables. However, the volume that HHM can currently deliver is too low to attract many school food service purchases. Moreover, any farmer that grows enough produce to supply a school also has the market presence to sell directly to either the school, or to a larger distributor, so the Market may not have a clear role in that process.

Nevertheless, Market manager Michael Morrow engaged with ISDH when this opportunity arose to source lettuce and greens to Hancock County schools. He set up the Market's internet platform so it could handle an order from an institutional buyer. He and his assistant, Kahfii King, worked with Laura Hormuth to introduce the growers to the food service staff, and to facilitate logistics once orders were placed.

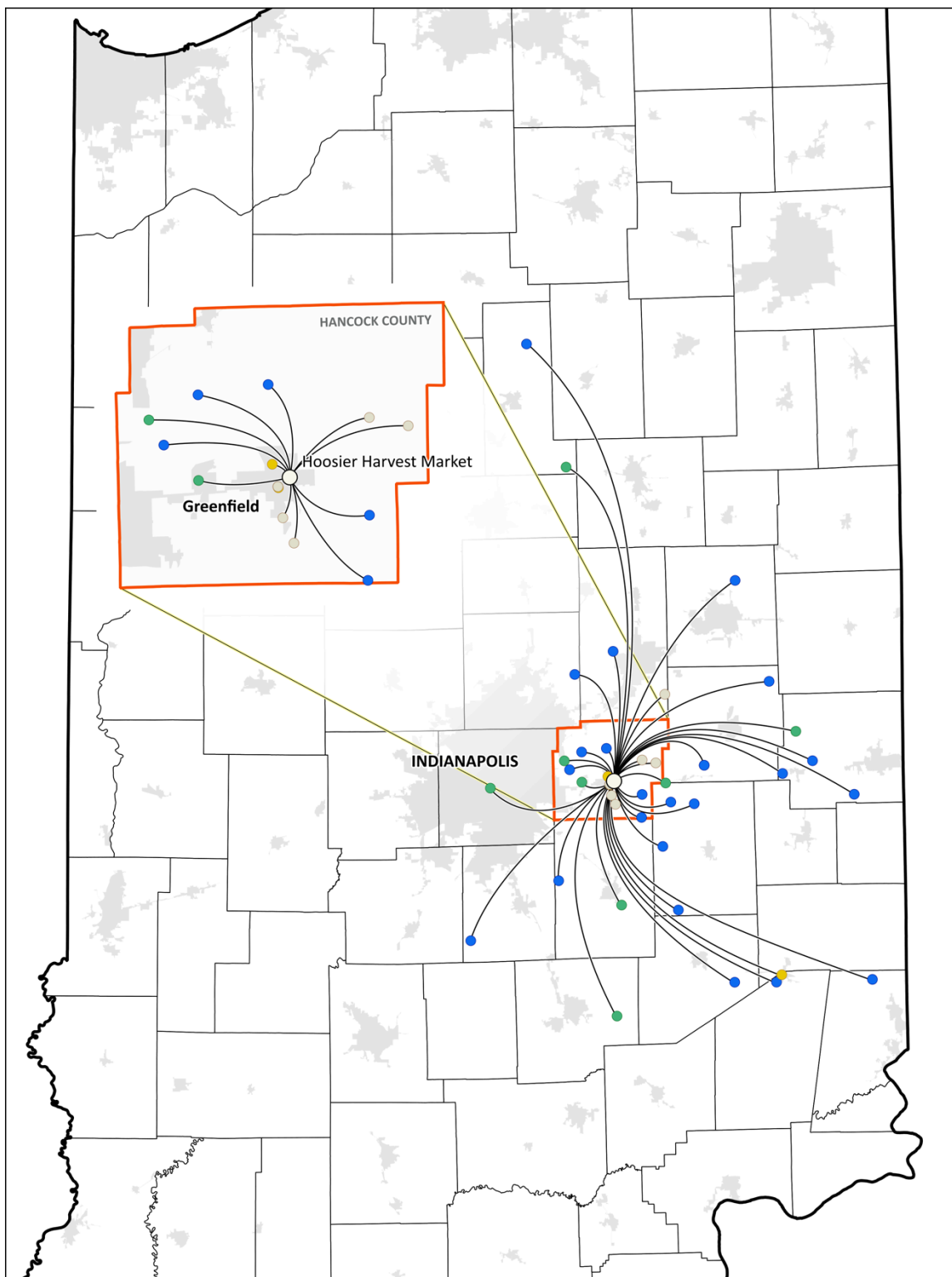
As he reflected on the past season of activity, Morrow said, "It's really been a great experience. Laura Hormuth helped a lot. She showed us how producers fit into the meal planning, and how we fit into the transactions." By working closely with the growers and the schools, he adds, "She saved us a great deal of time. I would do it again."

Through the ISDH process, Morrow also learned about what he called a "disconnect." Hoosier Harvest Market's internet ordering platform had difficulty accepting orders from schools. Once Hormuth placed a standing order for several schools, Morrow then entered the orders into the platform himself, no longer waiting for the schools to take the initiative.

Once that logjam was opened, a second concern surfaced. Each school had a specific day they wanted food orders to come in, to make their process as efficient as possible. Yet Hoosier Harvest Market delivers only one day each week. This meant special runs had to be made, in some cases by the farmer. Reflecting on this, Morrow adds, "it might be best to involve the producer directly in each order."

Morrow said HHM also found it difficult to make claims on the time of food service directors, who run intensely busy schedules. "There needs to be someone tasked to serve as the liaison with the schools," to take pressure off both the Market and the school food service. With the grant for this project ending, some other entity will have to fill that gap.





Hoosier Harvest Market helps create important business networks in Central Indiana.

Key Conclusions From Interviews and Quantitative Data

This initiative produced important new learnings and created tangible new opportunities for farm-to-school collaboration, as outlined below.

Results

- Two new farms surfaced that are deeply interested in serving the school market in Hancock County.
- The Greenfield aggregator, Hoosier Harvest Market, has taken a stronger interest in assisting these farmers to serve local schools.
- Several food items have been purchased by Hancock County schools using this special allocation of funds.
- Partners have learned the importance of having someone make frequent contact with all parties to facilitate conversations, to help build trust, and to clear away obstacles. In this case, the party serving this coordination function was ISDH itself; in the future this capacity would have to be taken up by local organizations.

However, it proved difficult to move a larger amounts of food due to several obstacles.

Obstacles

- School food service staff still express doubt that they are allowed to purchase food from local farms – despite USDA’s assurance that this is encouraged.
- School staff are already facing intense deadline pressure in their jobs, and do not have significant time to explore new purchasing arrangements. Having a coordinator engage staff in a conversation about this appears to help them focus their attention on local suppliers more effectively, so that purchases can be made.
- Nutrition budgets are severely limited, so schools are unlikely to source more food from local farms without special funding being allocated to them for that purpose. Plenty of similar food is available through established (but distant) sources at relatively low prices. As oil prices rise, the ease of importing these foods is likely to erode.
- Farmers who are interested in the local food trade are not always able to deliver even small amounts of produce reliably, because they are new farms. They experience some gaps in their ability to supply from time to time, and have limited delivery capacity.
- Larger farmers who have plenty of food that could supply schools do not often see schools as an important market, because they already sell to buyers who can pay higher prices than schools can pay. Some are happy to sell seconds when in years when a surplus becomes available.

- One locally minded distributor, Piazza Produce, has taken solid steps to increase the importance of local foods in their offerings for school nutrition programs.
- Hoosier Harvest Market has set a priority of attracting individual customers of means in the eastern suburbs of Indianapolis, hoping to sell them the service of delivering CSA shares from HHM farmers direct to their homes. This is potentially a more lucrative market than sourcing local food to local school districts. Yet HHM has also become more open to the idea of sourcing food for school nutrition programs as a result of this project.

Larger lessons were also learned that are highly applicable to the broader Indiana local food context:

Broader Lessons

- The core issue is a lack of farmers who are producing food for local markets. Addressing this issue requires implementing several simultaneous strategies: (a) training new farmers in a sustained manner; (b) providing adequate incentives; (c) building appropriate (smaller-scale) infrastructure for local food trade; and (d) marketing local foods to the general population to increase demand for local food. Examples of supportive infrastructure include, but are not limited to: (a) on-farm packing, washing and storage facilities; (b) local processing plants; (c) local food distribution routes in smaller vehicles that efficiently convey fresh foods to local area schools; (e) internet ordering systems; (f) community knowledge and data bases showing which farmers are selling food to local markets and highlighting emerging trends; (g) marketing campaigns that promote local food trade, healthy eating, and healthy lifestyles; and (h) supportive education in schools so that students learn practical skills in growing, processing, preparing, and eating healthy foods.
- While the role of an aggregator or food hub is valuable – in working with emerging growers to help connect them to buyers and ensure that they grow and package their food items in a safe and marketable manner — it is difficult to imagine that hosting this capacity would pay for itself as a business proposition in most communities at this time. At this juncture, this is typically a nonprofit educational function, one that some for-profit firms have shouldered as an investment in future local food trade. It necessarily will require subsidy, either because private firms build this into their budget, or because philanthropic or public funds pay to maintain this capacity in each community or region.
- Building a physical aggregation center or larger food hub will not, in itself, solve the issue of growing new farmers. Indeed, a food hub requires support from enough emerging farmers to cover operating costs, and the farmers in turn require support from the hub. These capacities must be built simultaneously, with supply and demand in balance at all stages. This will require long-term investment for limited short-term returns.
- Thus, Indiana's prospects for building sustainable food hubs are limited primarily not by available funding, but by the lack of farmers supplying local markets. The most successful food business clusters to emerge recently have grown up around farms that had enough resources to grow high-quality items and then to market these products to

nearby consumers — often upper-income consumers. Building a hub without harnessing an astute capacity to produce food for local markets seems unlikely to work.

- These findings reinforce the conclusions of ISDH’s earlier study, *Hoosier Farmer? Emergent Food Systems in Indiana*:⁹ networks of food firms that collaborate locally are emerging already, and will need to be strengthened, so that supply and demand can grow commensurately. While food hubs may be part of these commercial networks, hubs cannot launch these networks single-handedly. New food must be produced for local markets. Moreover, a larger vision committed to building a strong network of local support is required to maintain hubs, smaller nodes¹⁰, and other connection points that help create these business clusters. Only when these networks are robust will food hubs be sustained as businesses.
- Local food purchases by schools can create multiple benefits beyond the value of the food sold, including making a solid contribution to the formation of business clusters:
 - Introducing students to farming and gardening skills at an early age.
 - Planning food production, tending gardens, and preparing tasty meals have shown themselves to be valuable venues for science education, because they involve very tangible measurements of quantities and mastery of logical concepts that encourage scientific experimentation.
 - Students who know they are eating food from local farms as part of school meals will be more motivated to visit nearby farms and to support both local farms and broader agriculture in the long term. These experiences will also aid students in getting more informed about food production and preparation.
 - Students who draw upon the above experiences and skills are also more likely to be savvy consumers as they mature.
 - Drawing upon these skills, students will be more likely to grow up wanting to be farmers, chefs, food service workers, and food production trainers, etc.
 - New social and commercial connections are created as farmers, wholesalers, hubs, and schools collaborate to strengthen local food trade.
 - These new connections also help shape a wider vision for future food systems work in each region. Such a vision in turn helps build capacities among graduates, and helps strengthen local food business clusters.

This report continues by looking in greater depth at the potential for building food business clusters in the Hancock County region.

⁹ Meter, K. (2012). *Hoosier Farmer?: Emergent Food Systems in Indiana*. Minneapolis: Crossroads Resource Center, for the Indiana State Department of Health. Available at: <http://www.crcworks.org/infood.pdf>

¹⁰ Meter, K. and Goldenberg, M.P. (2013). *Making Small Farms into Big Business*. Minneapolis: Crossroads Resource Center. Produced for the State of South Carolina Departments of Agriculture and Commerce. Available at: <http://www.crcworks.org/scfood.pdf>

Emergent Business Clusters

Lessons in How Food Business Clusters Form

The testimony offered above by local food leaders makes it very clear that building new connections among local stakeholders can lead very seamlessly to forming effective networks of collaboration, which can create robust business clusters. If done well, these help to retain local wealth, and create new food opportunities, by connecting local farmers to local consumers under supportive infrastructure.

In the course of this work, many leaders have made an exceptional difference by promoting local foods activity long before it became popular. Targeted investments have been made, and key players have effectively coordinated their activities. These clusters grow only if diverse members of a community hold a common vision and collaborate to work toward that future. Each has cultivated a unique style of organization and leadership suited to local conditions and available resources.

Bloomingfoods Co-op Market and Deli (Bloomington)

- Initiated Indiana's attention to local foods as early as 1976
- Retail store created opportunity for young farmers who sought to sell to nearby residents
- Central to the growth of organic production in Central Indiana
- Now the store helps other communities form co-op groceries

One of the first food business clusters to form in Indiana was the group of farms that serve Bloomingfoods Co-op Market and Deli in Bloomington. In this case, the act of opening a community minded grocery store, co-owned by several thousand members who invested smaller amounts of capital, helped create in the mid-1970s an entire network of local food activity: It encouraged a generation of young farmers by offering them a place to sell foods they grew for local consumers. The formation of the co-op grocery also sparked intense discussions about what foods should be offered for sale, and encouraged many shoppers to opt for a healthier diet because new foods became available — such as organic vegetables and fruits, high quality meats, and whole grains — that had been difficult to locate before the store opened. The leadership the store took encouraged chefs to open restaurants that featured local foods on their menus. Complementary civic efforts led to broad community gardening initiatives.

This cluster of activity assured that Bloomington would serve as the local food capital of Indiana. The Co-op now has four locations, and also sponsors a winter market. For a more detailed history of food efforts in Bloomington, see *Hoosier Farmer? Emergent Food Systems in Indiana*.¹¹ Interestingly, all of this activity was spawned without opening a food hub. Bloomingfoods has

¹¹ Meter, K. (2012). Available at <http://www.crcworks.org/infood.pdf>

considered launching a food hub, but so far has kept its focus on managing a retail grocery business. The co-op also holds annual trainings for Midwesterners seeking to form co-op groceries in their own communities.

Conditions are very different today. Launching a co-op grocery in this era is to enter a far more competitive environment, where lots of major grocers offer organic produce and many of the food options that were new to early co-op shoppers in the 1970s. Margins are thin in this business. Still, several new co-ops have emerged in Indiana in recent years.

More recent food system efforts have wrestled with the fact that many of Indiana's farms are focused on exporting food to other states, and have become so large that many cannot be passed down to a new generation.¹² As in the 1970s, many young people are interested in farming in new ways and have adopted new technologies and new approaches that could not have been imagined forty years earlier.

One such emergent effort is This Old Farm, founded by Erick and Jessica Smith on their 88-acre farm near Colfax in 2000. The farm was launched as a Community Supported Agriculture (CSA) operation, in which members invested money up front to help the couple cover the costs (and risks) of farming. These members were repaid with boxes of produce and meat that the couple had raised. After bootstrapping their effort largely on their own determination, they have expanded to become a respected regional food source. In the course of building this market presence, they purchased a meat slaughter and processing plant. Now, more focused on wholesale trade, the Smiths consider This Old Farm to be a food hub. Recently featured in a USDA report covering food hub management,¹³ and profiled in an earlier report for ISDH — *Hoosier Farmer: Emergent Food Systems in Indiana*¹⁴ — its basic approach has been quite different than that of Hoosier Harvest Market.

Jessica Smith — This Old Farm (Colfax & Darlington)

- Launched as a Community Supported Agriculture (CSA) farm
- Now more focused on wholesale markets
- Raises organic meats on pasture
- Carries food from 40 neighboring farmers and 15 artisanal producers
- Also owns a meat slaughter and processing facility

After purchasing the Smith family's land and launching a produce farm, Erick and Jessica quickly discovered that they could not sell enough produce by themselves to either supply local demand, or to earn enough money to cover all of their costs. They welcomed Aaron Worde, an experienced sustainable farmer, to join them in expanding production. They began to reach out to neighboring farmers to encourage them to raise food for local customers. This grew into an informal network called the Alliance. This cluster of farms supplies This Old Farm (TOF) with produce, meats, eggs, and artisanal processed foods and eggs that the Smiths sell to retail and

¹² Meter, K. (2012). Available at <http://www.crcworks.org/infood.pdf>

¹³ Matson, James; Thayer, Jeremiah; & Shaw, Jessica (2015). *Running a Food Hub: Lessons Learned from the Field*. Matson Consulting, for USDA Rural Development.

¹⁴ Meter, Ken (2012).

wholesale customers. TOF now represents 40 farmers, and another 15 artisanal food makers. Smith says that 2013 sales totaled \$1.4 million, only ten percent of which was produce.

As they built the business, the Smiths felt limited by nearby processors who were not always able to cut meat to their specifications. The couple found themselves shipping to three different plants to get the quality they desired, and incurring considerable extra cost. Then a nearby 7,000 square-foot slaughter and meat processing plant went up for sale after the previous owner decided to retire. The Smiths bought the plant in 2009, remodeled the property, purchased new equipment, and hired the former manager to run the plant. They were aided by grants from USDA and matching funds from the Indiana Economic Development Corporation. The new plant can handle poultry, beef, pork, lamb, goats, and bison, with each animal processed in small batches, and the name of each producing farm preserved on each package.

Obtaining food safety certification from Indiana, as well as organic processing certification, the Smiths expanded their line of available meats, and over time the plant attained USDA certification. Although a fire ravaged the plant in 2010, they were able to re-open within a year with a slightly larger 10,000 square-foot plant. The business also features a retail store on the property so their neighbors can purchase direct from the firm.

Having started as a Community Supported Agriculture (CSA) farm that sold direct to household customers, the couple expanded by supplying nearby restaurants, grocers, and institutions with food as they found opportunities. They have built their meat sales primarily by wholesaling frozen meats. To expand their ability to deliver fresh produce, they are now building a 2,500 square-foot cooler facility. In addition to managing two trucks of its own, TOF works with local logistics firms that have open space on their trucks, and provides backhauling loads to Piazza Produce.

Jessica Smith says that the web they have woven encompasses a wide variety of businesses. To reduce their initial costs they relied upon their larger growing partners to provide storage space in on-farm coolers. Their strong customer base helped encourage several neighbors to launch or expand value-added production ranging from baking bread to putting up jam. To obtain organic certification, they purchase inputs from suppliers who can offer supplies that protect their certification, and the farm also supports the certifiers who come to inspect their farm as well as USDA staff who inspect the slaughter plant. The business also hires 22 employees. Four of these work in the produce operation, while the rest work at the processing plant. Smith has also been in demand as a consultant helping other food businesses form.

This Old Farm's web site expresses the firm's priority for building a Local Food Network: "We believe in creating food security by ensuring that we support local producers. Our chicks and feed are produced locally. We are constantly working with other local growers to expand our sustainable farm offerings while ensuring that you know who is producing your food." Indeed, they view their ability to connect personally with customers as a key to their competitive niche. "We are small enough to care about each and every family."

Yet TOF is also expanding into wholesale markets aggressively. While food items are still sold retail to 150 rural neighbors who join as members and come to the farm to pick up special orders, to five corporate health and wellness partners who facilitate food deliveries to their employees, and to about 20 restaurants, This Old Farm also ships to more than 20 wholesalers

that serve markets from Chicago to Ohio. Jessica Smith estimates that 40% of their business comes from services such as the health and wellness packages, 40% from wholesale trade, and 20% from sales to individual customers.

To date, This Old Farm has not engaged in any sales to schools, though this remains a long-term goal of the Smiths. Jessica believes she needs to lay a firm foundation now to make school sales possible in the future.

She adds that among the largest challenges she faces now are (1) finding and keeping staff willing to live in a rural area, and (2) maintaining loyalty among her member farmers, some of whom have split off from TOF to sell directly to customers she has helped them find. “My interest in having all of these foods fully traceable sometimes backfires,” she laments with a chuckle. Despite these obstacles, her work is fueled by the knowledge that there is such strong demand for local food products.

While This Old Farm is a homegrown effort built from the ground up from a small family farm startup, two other food business clusters have formed around individuals who hold exceptional wealth they earned in prior careers. This has placed each in the enviable position of launching local foods activity on their own terms. Each has created a cluster of supportive firms around themselves; each reflects the unique qualities of the owner as well as the unique character of the surrounding region.

These two food entrepreneurs are Chris Baggott, founder of Tyner Pond farm, and Pete Eshelman, the visionary behind the Joseph Decuis farm and restaurant in Roanoke near Fort Wayne. While few will have the opportunities they have had to build collaborations with relatively few constraints, it is interesting to learn from their experience how each has approached building an effective cluster of food businesses.

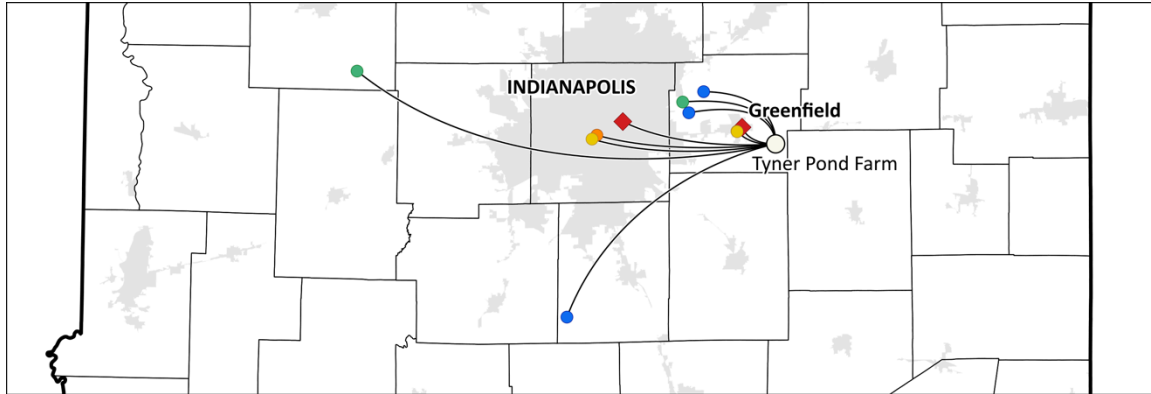
Chris Baggott —Tyner Pond Farm (Greenfield)

- Tyner Pond Farm raises meat and produce
- Buys from nearby farmers who raise meat and produce
- Delivers directly to customers ordering online within a 50-mile radius
- Launched Husk (produces frozen vegetables and offers contract manufacturing services)
- Founded The Mug, a drive-in restaurant
- Grigsby Station (planned “gastropub” and brewery)
- Sells through Hoosier Harvest Market
- Collaborates with Urban Ladle, an artisanal soup maker that uses the Husk facility
- Collaborates with Brooke’s Naturals, a confectioner that uses the Husk facility

Drawing upon earnings from the sale of a software company, Chris Baggott purchased a farm east of Greenfield in 2010, and set about learning how to produce vegetables and pasture-raised meats. He named the farm after Elijah Tyner, who had purchased this land in 1821, becoming one of the first European farmers in the area, even before Hancock County was organized.

After purchasing the Tyner property, Baggott quickly brought in Mark Farrell, a more experienced farmer, as a partner to help augment his own skills. Farrell and Baggott gradually established production of fresh vegetables, grass-fed beef, and pastured pork and poultry. They

enticed a few neighboring farmers to sell products through Tyner Pond, which sells directly to nearby residents through a CSA model in which shoppers are invited to join a buying club near their home; they order on line and their club accepts free delivery at a single location). Baggott also opened an on-farm store.



By now, Baggott says, he has invested \$7 million in helping to create several interrelated food businesses in their community. Each serves a special role in bringing awareness of the potential for local foods to their neighbors.

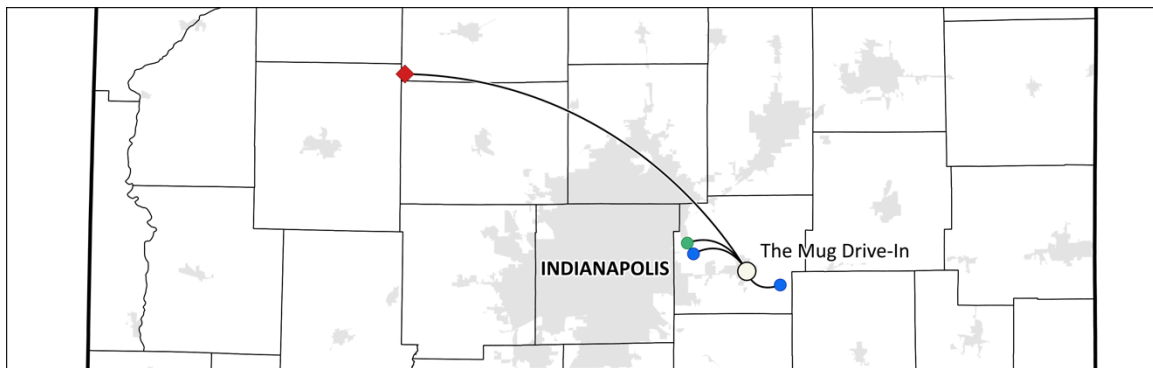
As demand for their produce rose, Baggott partnered with cattle farmer and business owner Adam Moody (Ladoga) and operations manager, Nick Carter, to create a new business freezing vegetables. That firm, Husk, now manufactures frozen sweet corn, peas, and butternut squash from a factory in a suburban industrial zone near the Greenfield airport. All these vegetables are raised on four nearby farms: Weaver's Produce, Stout's Melody Acres, Eli Creek Farms, and Wilson Farms.

Carter and Moody report that they purchased specialized smaller-scale equipment to freeze products in carefully managed batches. Still, it took them nearly a year to perfect their cooking and freezing process. Now they have set a goal of selling Husk frozen foods through every supermarket in Indiana.

Yet, they also recognize that freezing vegetables is a highly seasonal business, so Carter and Moody are also seeking ways to make year-round use of this manufacturing space. To do this, they offer custom manufacturing services; they have partnered with Urban Ladle, an artisanal soup maker that has been able to expand its business because they could produce in larger quantities in the Husk facility. Husk has a similar partnership with Brooke's Naturals, a confectioner.

Baggott also recognized that his vision of producing food for local customers would only take root if his neighbors dedicated themselves to purchasing food from local farms. He devotes considerable time to explaining his vision to his neighbors, but he also expressed this desire in a very tangible business. When a locally beloved gathering point, a drive-in restaurant, closed in Greenfield, Baggott reasoned that a drive-in format could reach diners who would not typically seek out food from local farms. Remodeling the drive-in, with larger and more open kitchen space, new ordering speakers, newly paved parking lot, and minimal indoor seating, he opened The Mug.

The Mug's logo features the head of a pig, winking with one eye, over the tag line, "Farm to Curb." One can buy a burger for \$2.75, or upgrade to a grass-fed patty for one dollar more. Hot dogs are made from Tyner Pond beef and pork, and crafted locally. For a few dollars more, The Mug offers a sandwich made from Tyner Pond pastured Berkshire pork, pounded into a flat pancake of a tenderloin. As a side, one can order Husk frozen corn cooked with Tyner Pond bacon. The Mug also purchases meats from This Old Farm, and in 2015 began purchasing lettuce from Lush Leaf Farm as that farm began to work with Hoosier Harvest Market. This is accessible local food that creates new customers for quality meats. It also turns out to be Tyner Pond's largest single customer. Baggott says he will soon open up two new versions of The Mug in nearby towns.



Baggott also is reaching out to more prosperous customers in a downtown location. The chef who devised the menu for The Mug is now forming a concept for Grigsby Station. Baggott calls this a "gastropub" that will incorporate a brewpub. He hopes it will draw urban professionals and tourists to a quality dining experience, centered around foods from Tyner Pond Farms, and also intends to open a similar format in nearby Fortville.

Like This Old Farm, Baggott built his cluster of food businesses by first ensuring that farm production was honed to a reliable system. Taking this step also required attracting loyal consumers to buy the food he raised in early stages. As the consumer base expanded, Baggott had the resources to expand into new arenas and new businesses with ease. Owning a solid foundation of food production, Baggott attracts consumers in a wide variety of ways: at the farm, at the grocer's, at the drive-in, or dining downtown.

The growth of this local food trade is not only an income stream for the farm, it is a profound educational experience for those who participate as consumers and producers. When this researcher visited The Mug, one couple was enjoying pork tenderloin sandwiches, commenting on how flavorful the pork was. They said they had driven 90 minutes to come to Greenfield to sample the food at The Mug, because the local grapevine had encouraged them to try this out.

While this model of business-cluster formation certainly depends on the wealth owned by one person, the growth of this vision also depends on a wealthy person having vision for building a local economic network. Baggott might have been able to find more lucrative investments in the short term, but he is investing with an eye to the future of their community. This cluster of firms that trade with each other create cash flows, new jobs, new customer preferences, and new infrastructure that will remain working in the Greenfield community for the long term.

Tragically, it is Indiana's legacy of extractive economics — centered in Greenfield largely around the industrial farming system — that means that only a few individuals are in such a position to start a well-capitalized farm. For the most part these individuals gained their wealth from either some nonfarm industry or inherited wealth.

As a farmer with ready investment capital, Baggott's ability to produce food gives him far more leverage than if he had simply sought an investment opportunity. As he improved his skills in raising beef, pork, and chickens, he began to produce new eating options for his neighbors. In a very real sense this created new wealth for the Greenfield community.

With the ability to raise food to standards it had set for itself, Tyner Pond farm then set about to attract consumers that would purchase the foods they grew. In many cases, this involved educating neighbors about why it would be important to buy direct from a farmer, or why it would be desirable to purchase a pasture-fed meat product that was significantly more expensive than they could find at nearby supermarkets. It meant persuading their neighbors to ask for a higher level of quality in the foods they purchased.

As a former computer software executive, Baggott also believes that having efficient software allowing customers to place orders, and for the seller to track sales, was also key to success. Such technology that would not have been available in earlier days seems to make new sales arrangements possible as Indiana moves into a more localized food future.

Baggott also envisions launching his own meat slaughtering and processing plant, both to create local business activity and also to reduce Tyner Pond's meat processing costs. He is encouraged to see that someone wants to open an organic flax and bean mill that will source organic wheat and beans. Proudly, he says, "They can make 100% of their food items using products grown within ten miles of our farm."

Underlying it all is Baggott's vision for a more self-determined community: "Local is one thing they can't take away from us."

Pete Eshelman — Joseph Decuis Farm and Restaurant (Columbia City & Roanoke)

- Joseph Decuis Farm raises Wagyu cattle, heritage pork and chickens, turkeys, eggs, goats, sheep, hops, herbs, and vegetables
- Joseph Decuis Restaurant offers world-class dining
- The Inn at Joseph Decuis provides overnight accommodations
- Joseph Decuis Emporium sells fine foods from a Roanoke storefront
- Joseph Decuis Farmstead Inn provides a farm bed & breakfast experience
- The restaurant sources Decuis' own Wagyu beef, heritage pork and duck from Greg Gunthorp in Lagrange, beef from Seven Sons Farm near Roanoke, heritage poultry from Jeff Hawkins farm near Roanoke, herbs and organic produce from Decuis farm, and many other sources.

The Joseph Decuis food business cluster also grew out of a combination of personal wealth devoted to pursuing a vision of community economic development. In this case, the region of

interest surrounds Roanoke, southwest of Fort Wayne. The guiding vision and financial means is supplied by Pete and Alice Eshelman.

Pete Eshelman built his wealth in the sports insurance industry, after playing baseball for a New York Yankees farm team and then working in the Yankees front office. When he retired from these commitments, the Eshelmans settled into Alice's home region of Northeast Indiana. They purchased land and fashioned a farm from the ground up, naming it after one of Alice's ancestors. They built new fences with redwood posts, solid outbuildings for the animals, a three-story home, a new pond, and a long wooden horse barn. Pete traveled to Japan to study with a master cattle farmer, to learn how to raise gourmet Wagyu beef, renowned for its flavor, at a level that has been recognized as equal to that of Japanese masters. He brought heritage Mangalitz hogs onto the land, and eventually added Dixie Rainbow and Naked Neck chickens, heritage breeds whose meats hold better flavor.



When Eshelman arrived in the Roanoke area, he viewed the town as a place holding great potential, despite its empty store fronts, because it offered a destination not far from Fort Wayne. He imagined he could attract tourists to the town if he created the right mix of amenities. The flagship business was the Joseph Decuis Restaurant, intended from its inception to be a world-class dining experience, featuring eggs, meats, herbs, and produce from Eshelman's own farm, but also raising the visibility of several local farms that had been raising food for local markets for years. At first, Pete says, "We sought to either source the food locally or to raise it ourselves. We struggled to find out what was available locally."

A long block away from the restaurant, Eshelman renovated an old salt-box home into an bed and breakfast with four bedrooms. Down the street, he opened up a retail store — The Emporium — which features more informal dining options (once again featuring their own meats) as well as gourmet products. This activity was enough to attract other investors to open a wine shop and a cultural center. Later Eshelman turned an old farmhouse into a six-bedroom bed and breakfast.

Yet Pete’s vision was broader than these two businesses. As he puts it, “The restaurant was the calling card for more general rural revival.” He invested in Main Street Roanoke, helping the place develop into an attractive destination. This he says, has “sparked the opening of other shops in Roanoke.”

“Our vision is to make this an epicurean village. We hope to bring in a creamery that will make cheese and sell milk, invite a micro-brewery, a distillery, artists, and other firms that source from Indiana and nearby states. An artisan baker just bought a building here. We are also opening a culinary theatre, with education programs and demonstrations by universities and culinary schools, geared for kids as well as adults.”

Spinning off from this one farm are several other related food businesses. Eshelman continues, “We’re also forming cottage industries, and co-packers. We make 25 different products using Wagyu beef. We take the bones and make broth. The fat is rendered into cooking oil. We make signature condiments, and other products.”

Eshelman’s vision is centered upon food that is locally produced, healthy, and authentic. “These fresh foods speak for how they were raised, and where they were raised. Here we have a special environment – free range, no drugs, stress free, with great forage. This makes it Indiana distinctive. We have lush pastures, rainfall, and grain. Hoosiers are direct, hospitable, personable, friendly, and not pretentious.” These qualities are all part of creating Roanoke as a destination.

He is quick to recognize that many of the farms he trades with have been in operation longer than he has. “Some of the farms we buy from were here before. Greg Gunthorp was not that well known, but now he is,” Eshelman points out. Gunthorp has independently established a presence in major urban areas such as Chicago (partnering with gourmet restaurants and selling at farmers markets) and Indianapolis (notably partnering with Goose the Market and Smoking Goose). He built a USDA processing facility right on his farm so he could ensure high quality production. He has since launched many added-value products such as cured meats, sausages, and hams.

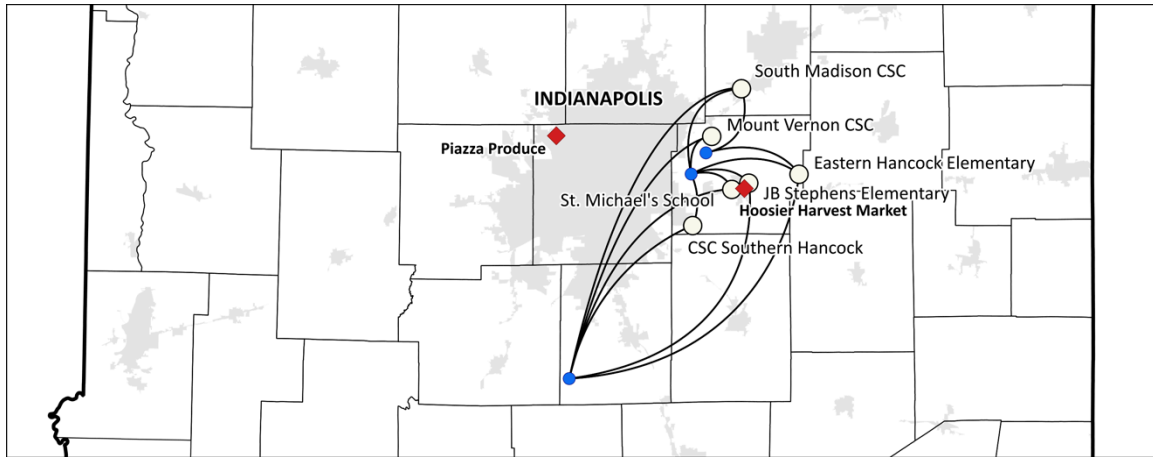
Similarly, the nearby Hawkins Family Farm, where Joseph Decuis Restaurant purchases heritage chickens, was founded in 1957. In recent years owner Jeff Hawkins began to grow a variety of French red chicken, Freedom Ranger, because of its superior flavor. “We raised Cornish Cross for a while (the typical variety bred to grow the most meat in the shortest time), but we decided we did not want them. They’ve been selected for quick growth, but they are not particularly healthy.” Hawkins also delivers shares for his CSA customers by dropping them off at the Joseph Decuis Emporium.

Out of this cluster of activity, Eshelman adds, may emerge the need for an aggregation center. “We’re considering the best location for a food hub. Producers need a place to sell their product, and they need traffic. The key is to create a marketplace.”

Joseph Decuis plays a role in educating local youth about farming through school events, public activities, and educational programming, but does not source food to local schools.

Conclusions: How farm-to-school trade can help build business clusters

- Successful food business clusters are built first around food production. Lacking the ability to produce food on their own terms, it would be very difficult to make headway.
- Then these farmers harness loyalty from consumers to create rewarding local food trade. Building a strong retail presence is key to attracting this consumer loyalty.
- This combination of farm production and consumer interest increasing hand-in-hand and step-by-step is the basis for considerable growth over the long term.
- Local foods’ unique quality is that buyers know the identity of the farm, and trade in circles that help build stronger community networks.
- Once food becomes more standardized and commodified, it loses its sense of place. Commodity trade is designed to enable impersonal trade over long distances; this is important, but is not community-based food.
- Successful food business clusters build commercial and social networks of support for local farmers and entrepreneurs.
- Schools and colleges play an essential role in educating youth about how to produce food, in fostering collaborations, and in helping strengthen local social networks.
- “Food hubs” do not appear to be essential to the creation of local food business clusters, but may be appropriate once the network of support is strong enough to support an aggregation business.
- One important measure of success for food business clusters is the extent to which they build prosperity for local farmers and other food businesses.
- Farm-to-school programs can help build new commercial connections (as happened in Hancock County), and can help train local youth in skills required for strengthening local business clusters, as well as making local business clusters more visible.



Opportunities and issues posed by farm-to-school in the Hancock County region:

Perhaps the most significant opportunity created by farm-to-school activity is the forum it creates for parents, students, farmers, school officials, and other stakeholders to convene, working together to make proactive choices regarding the foods that will be served in school nutrition programs, and to do this in a manner that builds new connections, and more food choices, in the broader community.

The farm-to-school context is especially rich because school boards are elected by school district voters, and have budgeting powers including property tax assessment and bonding authority. In theory, this means public action could be taken in a relatively straightforward manner, without waiting for other entities to make decisions.

Yet most Indiana schools face tremendous funding pressures, and the state has intervened to fund day-to-day school activities, including setting a formula for how much money each school corporation will receive, and capping property tax collections.¹⁵ While this revenue-sharing strategy was adopted to promote more equitable distribution of education funds, it had the unintended consequence of limiting the powers local school boards hold over their own budgeting.

Moreover, such a formula certainly does not in itself reduce income disparities across school districts in Indiana. These are caused by much larger economic structures that create and reinforce poverty. Both farmers and food wholesalers report that it is far easier for wealthier suburban districts, such as Carmel, to purchase from local farms, relative to inner-city and rural school, many of which have difficulty allocating funds to pay for farm-fresh food.

There are also structural dilemmas within the supply networks in which farmers and food services trade:

¹⁵ Cavazos, S. & Elliott, S. (2015). "The basics of school funding in Indiana." Difficulty defining fairness: Lawmakers expect to renew debate over the best way to pay for schools in Indiana." Indiana Chalkbeat, January 4. Viewed September 7, 2015 at in.chalkbeat.org/2015/01/04/the-basics-of-school-funding-difficulty-defining-fairness/#.Ve2zqM51Eq4.

Most schools purchase the bulk of their food items from a broadline food distributor, such as Sysco/U.S. Foods, that can offer the entire range of food service supplies from napkins to cleaning supplies to food items. This makes food ordering quite straightforward for the school, since the food service director can log onto a web site, place an order for specific items that are desired, and expect a semi truck to arrive in a few days with their order. Often, schools must place a minimum order to justify the costs of sending a large truck to the school. Since wholesalers are volume purchasers, they can often procure food items at relatively low cost, and can spread out delivery costs among a number of products and several delivery sites. This encourages schools to purchase from the larger wholesalers. Any additional orders involve extra work in addition to placing orders with the typical supplier.

Medium-size distributors, such as Piazza Produce, have traditionally left school sales to the larger vendors. Yet in recent years, Piazza has worked closely with local farmers to help them prepare products for wholesale markets. The firm sees some new opportunities for it to supply local foods to Indiana schools, especially when local products can be brought from farms to the Indianapolis region as “backhauled” items — brought in on trucks that normally would return from rural deliveries empty.

Such mid-sized firms are often more responsive to local concerns than national firms, and can provide deliveries in smaller quantities, so many have made inroads into the farm-to-school market. Yet only a handful of farmers in the Hancock County region are shipping product at a scale large enough to make these deliveries worthwhile to the distributor.

One emerging small distributor in the area, Hoosier Harvest Market (HHM), is certainly willing to supply Hancock County schools, but notes that their business model has prioritized direct sales to households. HHM leaders note that household consumers will pay higher retail prices, and that the firm does not have enough trucks to regularly supply all the schools in its region, given that each school expects delivery on a different day. HHM’s first approach involved selling a basket of fresh items from local farms to customers who had ordered directly from each farm through the HHM website. For the most part, these customers had to come by a drop site (for example, the Hancock County extension office) to pick up their purchases. Now the firm is exploring delivery direct to households, especially in more prosperous suburban communities. Key to increasing the farm-to-school trade for Hoosier Harvest Market will be growing new growers.

As noted above, nearby Tuttle Orchard does sell apples to a couple of school districts near the orchard because it wants to support them as good neighbors. Yet Ruth Ann Roney is quick to point out that Tuttle is not in general interested in selling to schools, since they can sell most of the apples they raise to commercial buyers who will pay higher prices. She adds that she is happy to sell to schools in those years when production is so high the orchard has surplus apples to sell. Yet such opportunities cannot be planned.

Other farmers who farm large acreage in the Hancock County region appear to enjoy well established markets and distribution channels, so they are not in need of new markets at this time — especially to schools with very limited budgets.

Opportunities may be more easily arranged for processed local foods. One Greenfield processor, Husk, has a relatively easy time selling frozen products, which are far easier for wholesalers to carry than fresh produce, with its limited shelf life. Husk aspires to reach stores and schools across Indiana with its frozen beans and sweet corn, and has shipped through Piazza. Husk also aspires to be carried by larger wholesalers as production increases. In such a case, schools may lose out unless they have more money to spend. The Carmel schools, with larger budgets, have ordered Husk frozen foods.

This means that many of the school food purchases that are easiest to undertake are direct sales from farms to school food services. Indeed, when the Indiana State Department of Health offered money to Hancock County schools to purchase from local farms, two new farms were the first to make deliveries. Each was a startup looking to build market share, and each school was given special funds to make these purchases. Each of the two farms supplying Hancock County schools is currently in a position to deliver food directly to Hancock schools using their own trucks, but limited capacity may diminish their ability to supply schools if purchasing rises.

Yet, even direct sales are complex. Neither of these two farms could supply schools year-round at this time, even though their growing season runs through the entire school year, because neither is yet large enough to supply schools at volume. Each hopes to build up to that point over time, but growing such a business is a gradual process, with new investments waiting until sales allow expansion. Many startup farms are not interested in selling to schools because they can sell at higher prices when supplying household consumers. Many food service directors also look askance at purchasing from a small farm, thinking that the supply may not be consistent over time. While some school food service directors enjoy making regular contact with farmers and find ways to integrate them into school programming, many food service directors prefer the convenience of placing an order from a single vendor. Indeed, the costs of dozens of farms all converging with their own trucks to supply a school or wholesale buyer, and for school staff to negotiate with each of them, can quickly outrun the benefits of sourcing food from local farms.

For farms that grow greens year round, the school market is very interesting. Yet for other products that only ripen during a few short weeks in July and August, there is a seasonal mismatch with the school schedule. For farms with limited season extension, the most likely crops to sell schools would be root crops such as onions, garlic, potatoes, sweet potatoes, beets, turnips, rutabagas, and so forth, since these could be stored either at the school or at the farm. Prices are generally lower for these items, at least at the current time. Yet many students would currently consider these to be unusual foods, even though they are easy to grow in Indiana.

This may, in fact, be the true promise of farm-to-school — to educate youth about the foods that can easily be grown and stored in Indiana, and to foster sufficient growing, preparation, and eating skills that those foods which Indiana farms can easily raise, store, and ship become familiar to consumers and favored by them. Knowing how food is produced appears to be central to understanding the diversity of foods that can be grown in the state, and eating in healthy ways. Energy costs for raising such products should be quite low compared to importing fragile specialty produce items. Overall, the promise of local food in Indiana is more likely to be realized by exploiting the foods that are easy to grow here, rather than attempting to grow substitutes for foods that are currently imported from warmer climates.

Even with access to special funds from ISDH, school food service directors have taken measured steps toward local purchasing. Each school food service staff has tremendous demands on their time, and has difficulty incorporating new tasks into their work week. The foods that Indiana farmers sell are also available through the broadline wholesalers, so it is simply easier to place an order through existing channels.

So the ISDH approach has been to cultivate a sense of connection between farmers and food service directors. Introductory conversations with ISDH staff have established a basic rapport, and introduced the special allocation for purchasing food from local farms. ISDH staff then visited each farm that expressed interest in supplying local schools to get a solid sense of the cleanliness and cogency of each operation. Selected farms were invited to drop off samples at each Hancock County school, and food service directors were invited to visit each farm to establish a stronger understanding of how each farm operates. Sample heads of lettuce were incorporated into school salads. ISDH staff report that the cooks were pleased with the quality. The next step will be to see if this special allocation of funds will be enough to create a regular presence on school menus. This will be tested in the future.

At its core, what farm-to-school efforts are rubbing up against is inequality of income. Those school districts in privileged communities that are willing to allocate special funds for farm-to-school purchases are not having difficulty creating a flow of local foods, though this flow is certainly limited by the lack of available supply. Most school districts, however, operating in a climate in which staff have multiple demands on their time and in which public funds are limited, seldom take concerted action to source food locally. In those districts where local sourcing is established as a priority, this is usually accomplished because one key leader makes it happen. If that motivated person changes jobs, or is placed under other pressures, often the farm-to-school effort is weakened.

Recommendations:

1. ISDH and its partners should [recognize that farm-to-school efforts are the crucible in which new economic relationships are being formed](#), so their value far surpasses the quantity of actual food purchases made. Farm-to-school trade is an essential community-building strategy, a capacity-building venture, and an opportunity for farmers, students, parents and civic leaders to come together to frame a vision for the foods they want to grow and eat.
2. [Indiana must make a concerted effort to train new farmers and ensure they have access to land in and near major urban areas](#) — including suburban areas east of Indianapolis in Hancock County — at prices appropriate to the costs and risks of farm production, rather than at real estate development costs.
3. [Special training and land access will be required for farmers who wish to grow produce at scale](#). This requires a different set of skills, different equipment, and often requires a different temperament than farming produce for direct sale to households, or farming more conventional crops and livestock.
4. [Several barriers exist to farming at scale, however:](#) (a) Few Indiana farmers currently have the technical knowledge or own the equipment required for produce farming at a larger scale. (b)

Prevailing infrastructure does not support local produce trade as efficiently as it does exporting grains or livestock. (c) If a farmer has established wholesale markets, she/he may not need to sell to schools; if a farmer is a newly emerging one, she/he may not be able to afford to sell to schools. (d) Tremendous amounts of competing produce of decent quality is readily available from sources such as California, Canada, Mexico, and South America. (e) All this means that it may well be that only those farmers who can tap stored wealth (an inheritance, investors, foundation support, or public support) will be able to afford to launch new produce farms for local food trade.

5. Ultimately, success in farm-to-school will be built on growing and selling to schools the foods that are easy to grow and store in Indiana's climate, not based on substituting for imported food that is more readily grown in warmer locales. As oil prices increase, a wider range of import substitution may become more desirable.

6. The Indiana Legislature should allocate several million dollars per year in special funds for schools to use in purchasing locally raised and processed food items. When schools can count on specific funding to arrive consistently, they will be more free to work directly with farmers and processors to ensure local sourcing. Many other states have made such appropriations.

7. The educational component of farm-to-school is at least as important, if not more important, than the financial value of farm-to-school purchases. Indiana is a farm state that proudly boasts it "feeds the world," yet schools often do not have enough money to purchase food from local farms. Many rural students grow up not knowing about farming, food preparation, or healthy eating. Diabetes and obesity rates are high. Integrating farm-to-school activities into the curriculum, connected to specific school food purchases, will reap multiple rewards in reducing living costs, improving health, and building local capacity.

8. For some high schools, the best way to source local foods may well be to grow these foods at the school itself, engaging students in farming and marketing the products. For example, a school might want to build a greenhouse as an instructional facility that also supplies the school lunch program with the salad greens it requires over the school year. Pursuing such strategies would of course enhance the goal of building food industry clusters, by training students in production and management skills.

Appendix A: Farm & Food Economy of Hancock County

Current conditions in the farm and food economy of Hancock County

Highlights from the Census of Agriculture, 2012:

- Hancock County had 604 farms in 2012, down 12% from 2007 (686 farms).
- Land in farms decreased 3% to 165,861 acres, largely because of expanding urban development on the west side of the county.
- Crop income accounts for 84% of farm cash receipts, and livestock sales account for 16%. Cropland accounts for 94% of land use.
- 319 farms (53%) sold less than \$10,000 of products in 2012, while 150 (25%) sold more than \$100,000.
- The most prevalent farm size in the county is 10-49 acres, with 244 farms (40%).
- Hancock County ranks 9th in Indiana for inventory of, and ranks 11th in sales of, sheep and goats. 50 farms hold an inventory of 1,171 animals, earning \$190,000 by selling these animals.
- The county also ranks 11th in the state for inventory of ducks, and 10th in the state for sales of Christmas trees.
- 117 county farms hold an inventory of 1,549 cattle and calves, and sold 746 cattle for \$782,000 in 2012.
- 44 farms hold an inventory of 43,675 hogs and pigs, and earned \$16.6 million by selling 174,681 hogs and pigs in 2012.
- 62 farms hold an inventory of 1,480 laying hens. County farms sold \$82,000 of poultry and eggs in 2012.
- 241 farms raised corn on 77,772 acres in 2012, producing 6.9 million bushels for sale, worth \$47.6 million. This was an average price of \$6.90 per bushel.
- 252 farms raised 71,767 acres of soybeans, producing 3 million bushels worth \$41.6 million, for an average price of \$13.87 per bushel.
- 39 farms raised 2,734 acres of wheat, producing 190,432 bushels that sold for \$1.3 million.
- 15 farms raised \$236,000 of vegetables. 4 farms raised fruit, but sales figures were not disclosed to protect confidentiality.

- 52 farms sold a total of \$239,000 of food items directly to household consumers in 2012. This was 6 more farms selling direct than in 2007, but \$26,000 less in sales.

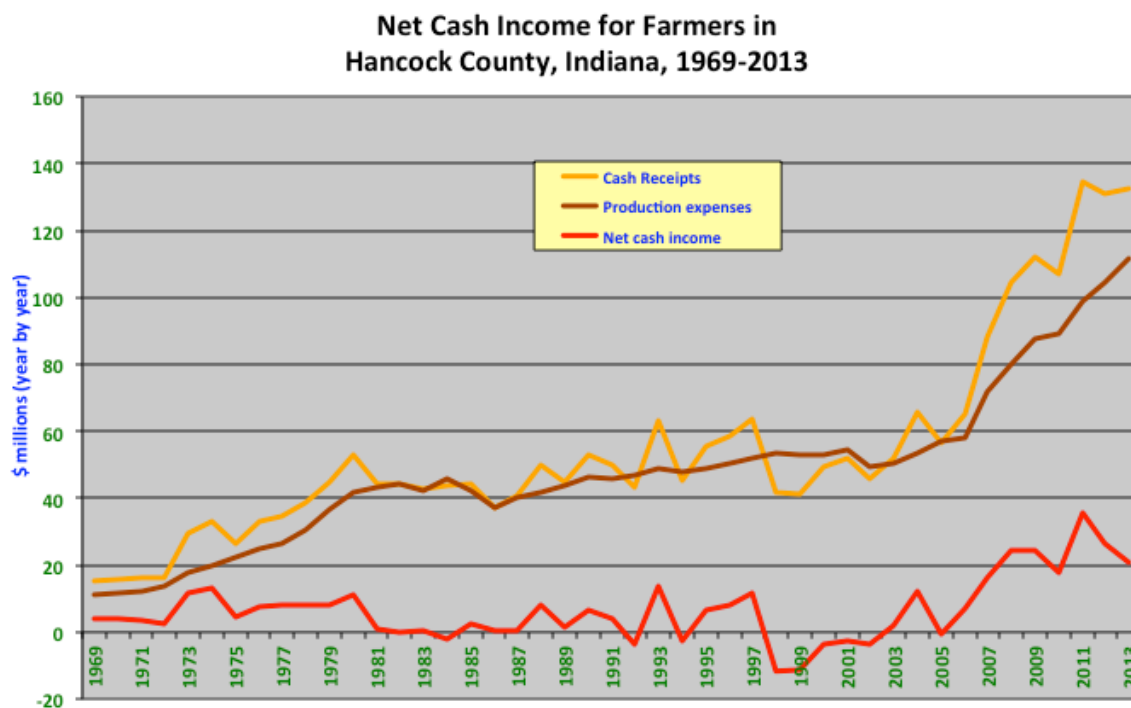
Top farm products sold by Hancock County farms in 2012:

Product	\$ millions
Corn	47.6
Soybeans	41.6
Hogs & pigs	16.6
Wheat	1.3
Ornamentals	1.0
Cattle & calves	0.78

Economic trends for Hancock County farms since 1969

The chart below shows economic conditions for all county farmers from 1969 to 2013. Note that the orange line depicts the cash receipts earned by all of the county's farms, while the maroon line show how much it cost farmers to produce these products. The red line is the net cash income of farming, calculated by subtracting expenses from cash receipts.

Chart 1: Net cash income for Hancock County farmers, 1969 - 2013



Source: Bureau of Economic Analysis

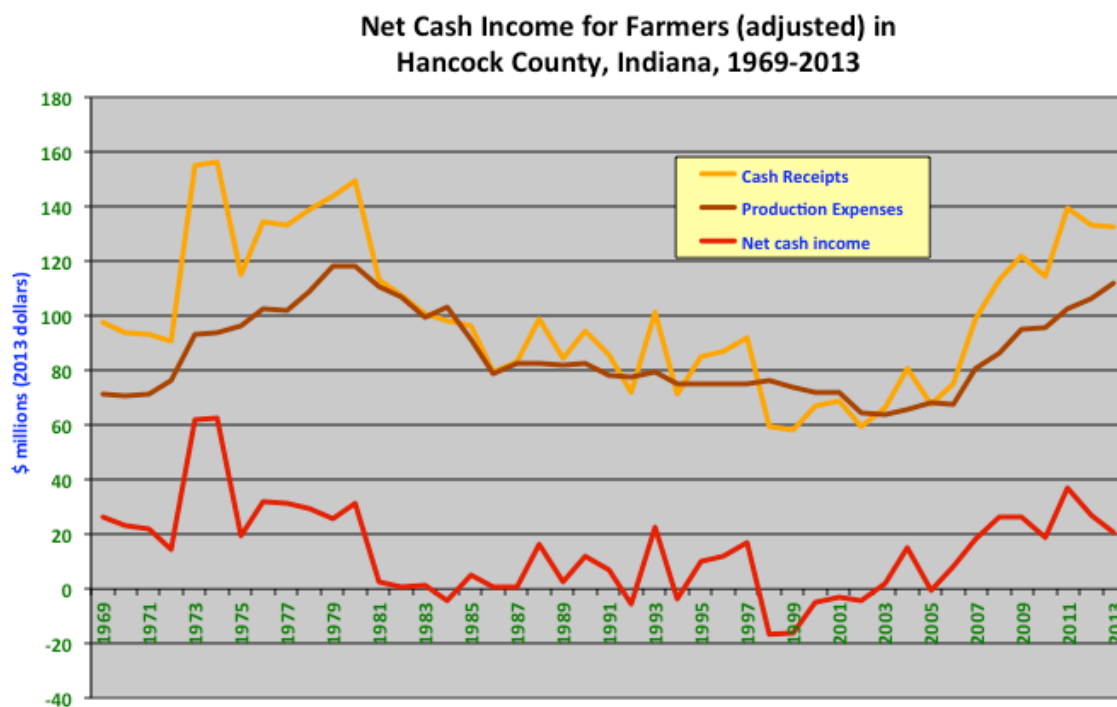
As Chart 1 clearly shows, markets for farm products have risen seven-fold in the past 45 years, though mostly prior to 1981 and after 2006. Recent years have shown the fastest rate of growth in cash receipts. However, the chart also shows that production expenses have risen at nearly

the same rates as cash receipts, with the exception of the years since 2006, when county farmers earned considerable net income, rising to \$20 million in 2013.

Yet overall, net income has been remarkably flat, during a period in which farmers have more than doubled productivity. In fact, for 9 of the 45 years tracked in this chart, farmers spent more producing crops and livestock than they earned by selling these products. Since grain prices have fallen drastically in 2015 – often below the cost of production – this spike in net income appears to be temporary, although it was a welcome relief to farmers who needed to purchase new equipment after years of austere conditions.

Yet the data in Chart 1 should also be viewed from a different perspective to get a richer sense of economic realities. Over the same timeline that data compiled for Chart 1 were collected, the value of a dollar declined six-fold due to inflation. This means that a dollar earned in the 1970s was worth far more than a dollar earned in 2013. The same data, now adjusted for cost-of-living increases, shows far different trends:

Chart 4: Net cash income for Hancock County farmers (adjusted), 1969 - 2013

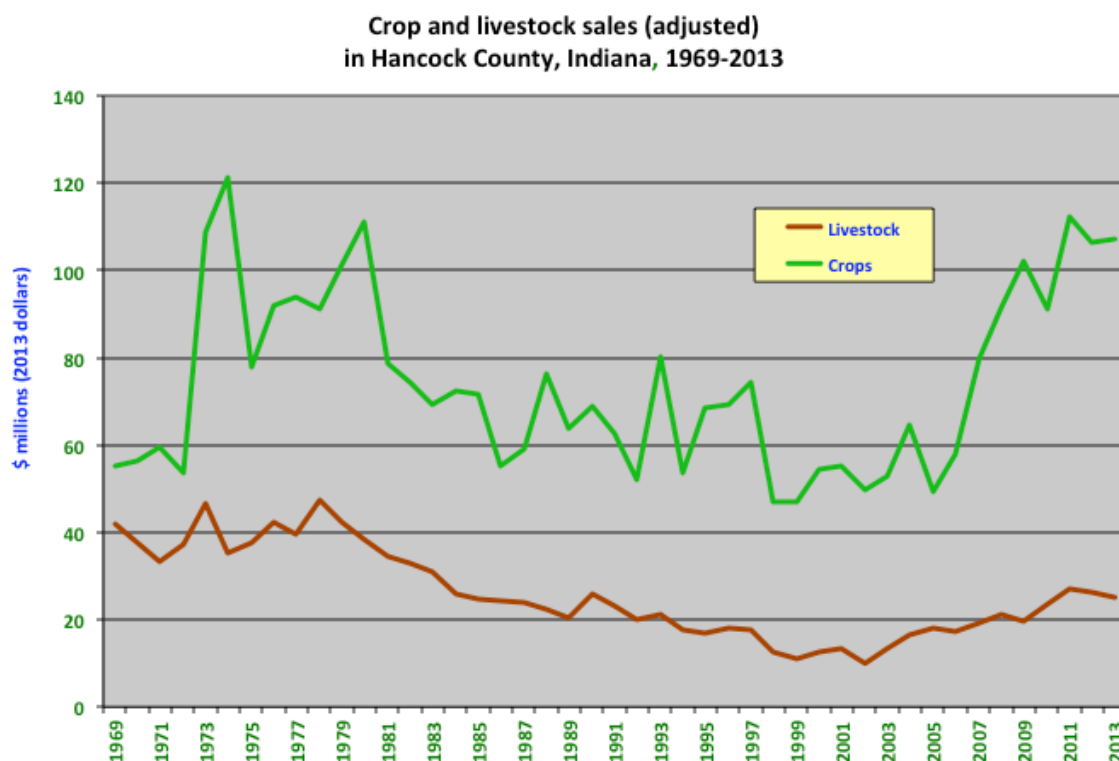


Source: Bureau of Economic Analysis

Chart 2 shows that once dollars are adjusted for inflation, farmers actually earned \$5 million less net cash income in 2013 than they had earned in 1969. In fact, net cash income essentially declined from 1969 to 1998, and then began to rise. The best years for Hancock County farmers were 1973-1974, when farmers were exporting unusually large shipments of grain to the Soviet

Union, which had experienced grain shortages. Also sobering, the net cash income of farming in the county began to deteriorate in 2013, and seems likely to plunge below zero in 2015.

Chart 3: Crop and livestock cash receipts for Hancock County farmers (adjusted), 1969 - 2013



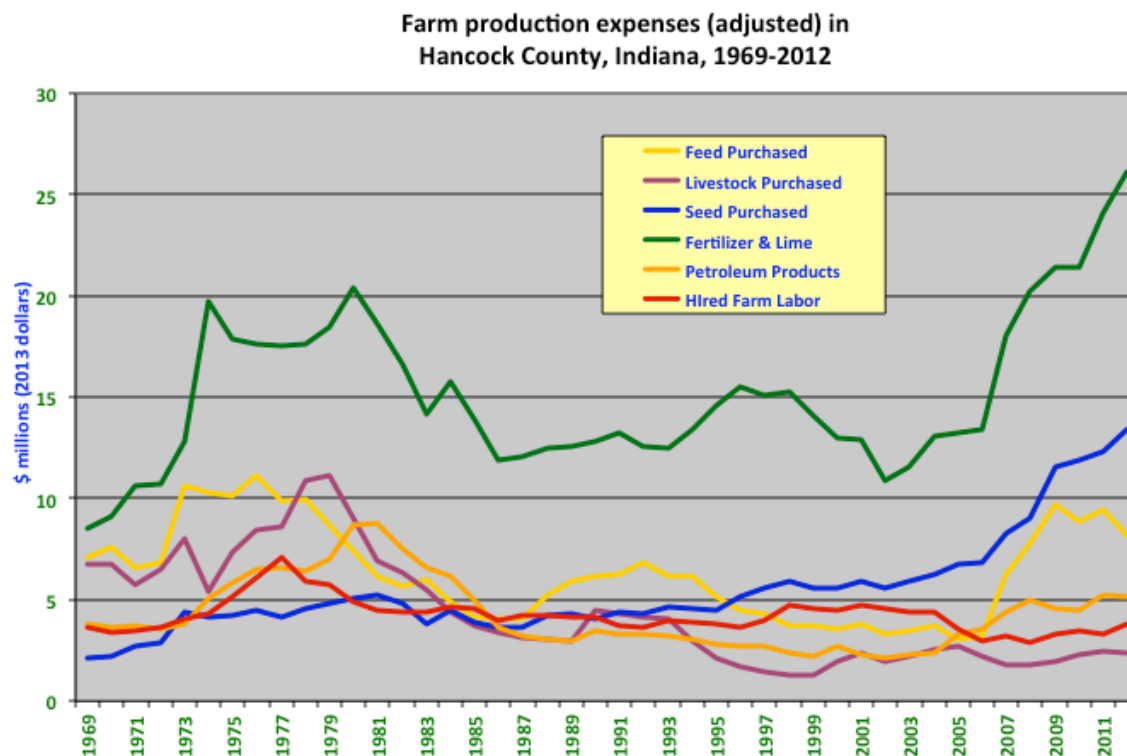
Source: Bureau of Economic Analysis

If the data on cash receipts is broken down into income from crops and income from livestock, as Chart 3 does, other interesting trends surface. First of all, the preponderance of farm income from corn and soybeans becomes quite vivid. It is also quite clear that in adjusted dollars, cash receipts for crops have hovered around similar levels for 45 years, with no signs of sustained growth. Moreover, cash receipts for livestock farmers eroded from 1969-2002, and have begun to rise since then. The region earns \$15 million less selling livestock, milk, and related products today than it earned in 1969.

The next chart shows a breakdown of farm production expenses for county farmers, also adjusted for inflation. Note that the largest single farm production expense tracked in this data set is chemical fertilizers and lime. At \$27 million in 2012, these account for about one-quarter of all production expenses, far surpassing both seed and feed.

Note that these expenses also place county farms more in the position of depending on external resources for producing crops and livestock. What is most apparent on this chart is that the recent rise in cash receipts for crop farmers in the county is closely correlated with increased chemical use.

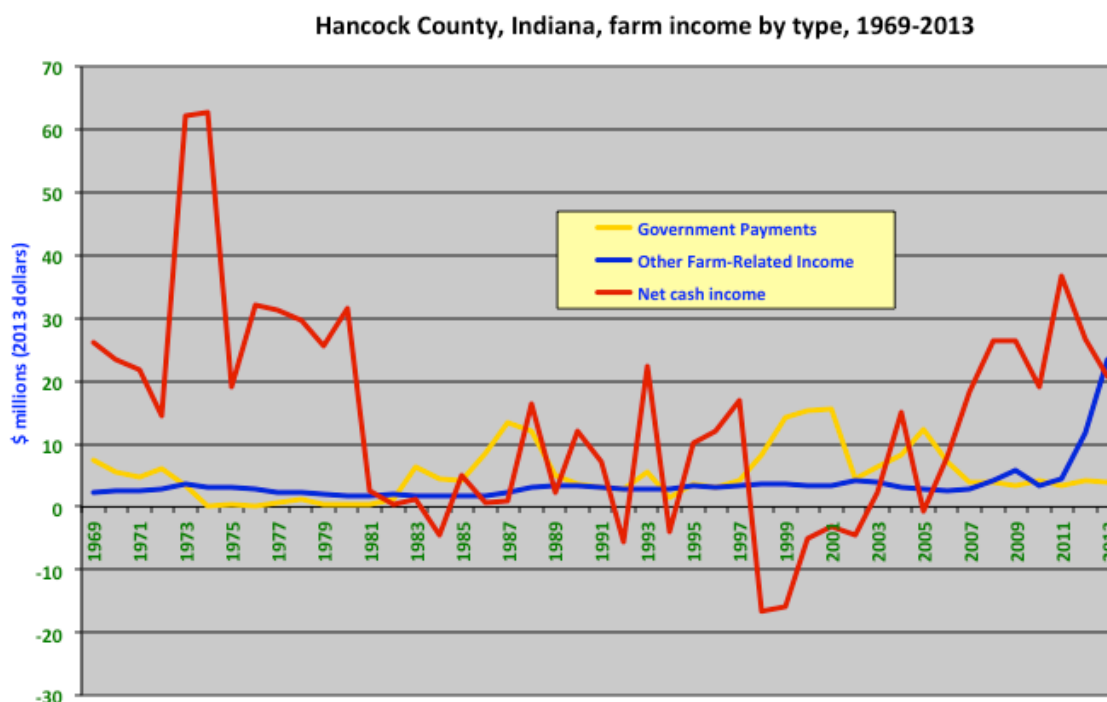
Chart 4: Selected production expenses for Hancock County farmers (adjusted), 1969 - 2013



Source: Bureau of Economic Analysis. Note that no data were reported by BEA for 2013 due to budget shortages.

The final chart, Chart 5, shows net farm income by type. Note that from 1969 to 1981, producing crops and livestock were the main sources of net income for Hancock County farmers. Then, from 1982 to 2005, federal payments were often the most important source of net income. Since 2006, cash receipts have rebounded. However, the largest single source of net income for county farmers in 2013 was farm-related income — typically cash rents — as many farmers aged, or discovered they could make more money renting out their land than by actually farming it.

Chart 5: Net farm income sources for Hancock County farmers (adjusted), 1969 - 2013



Source: Bureau of Economic Analysis

Summary: the balance of cash receipts and production costs¹⁶:

604 Hancock County farmers sell \$89 million of food commodities per year (1989-2013 average), spending \$80 million to raise them, for an average gain of \$9 million each year. This is an average net cash income of \$15,000 per farm.

Overall, Hancock County farm producers earned a surplus of \$227 million by selling crops and livestock over the years 1989 to 2013, though this gain was largely earned since 2007 as grain prices rose to temporary highs. Farm production costs exceeded cash receipts for 8 years of that 25-year period. Moreover, 48% of the county's farms reported that they lost money even in the relatively prosperous year of 2012.¹⁷ Hancock County farmers earned \$5 million less by selling commodities in 2013 than they earned in 1969 (in 2013 dollars).

Farmers earn another \$5 million per year of farm-related income — primarily custom work, and rental income (25-year average for 1989-2013). This farm-related income rose dramatically from \$4.4 million in 2011 to \$21 million in 2013, as more farmers rented land to farm. Federal farm support payments are nearly as important a source of net income as commodity production, averaging \$6 million per year for the region for the same years, of course only benefiting those farms that grow crops that are subsidized by the federal government.

¹⁶ Data from the Bureau of Economic Analysis; www.bea.gov, unless otherwise noted.

¹⁷ USDA NASS Census of Agriculture

The county's consumers:

Hancock County consumers spend \$200 million buying food each year, including \$124 million for home use. Most of this food is produced outside the county, so Hancock County consumers spend about \$190 million per year buying food sourced far away. Only \$239,000 of food products (0.3% of farm cash receipts and 0.1% of the region's consumer market) are sold by farmers directly to consumers.¹⁸

Hancock County: markets for food eaten at home (2013):¹⁹

Hancock County residents purchase \$200 million of food each year, including \$124 million to eat at home. Home purchases break down in the following way:

	<i>millions</i>
Meats, poultry, fish, and eggs	\$ 26
Fruits & vegetables	23
Cereals and bakery products	17
Dairy products	13
"Other," incl. sweets, fats, & oils	44

If Hancock County residents purchased \$5 of food each week directly from farmers in the county, this would account for \$19 million of farm income for county farms.²⁰

¹⁸ Calculations by Meter using data from Bureau of Economic Analysis, and Bureau of Labor Statistics.

¹⁹ Bureau of Labor Statistics, Consumer Expenditure Survey.

²⁰ This calculation was made by multiplying the population by \$5 by 52 weeks.

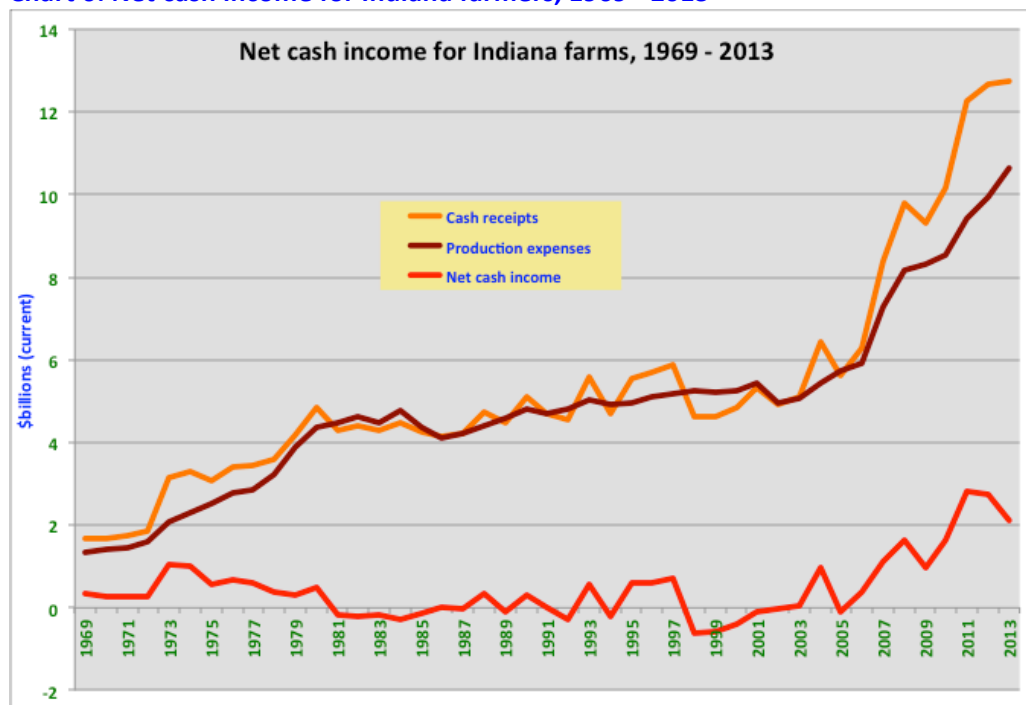
Appendix B: Farm & Food Economy of Indiana

The commodity system is stronger financially than in 2009, but this appears to be a temporary condition:

- Grain prices rose to unusually high levels in 2011-2012. This increase was driven by rising corn prices. Indiana farmers sold \$5 billion of field corn in 2012.
- Soybean prices also rose to high levels, in part because competition for land meant fewer soybeans were produced. Soybean sales totaled \$3.4 billion in 2012.
- Overall, crop sales rose from \$7 billion to nearly \$9 billion from 2009 (the most recent data available for the prior study) to 2013, in 2013 dollars.
- Corn and beans made up 65% of farm sales in 2012, slightly less than in 2009.
- Livestock sales rose from \$3 billion in 2009 to \$4 billion in 2013, led by sales of hogs and pigs (\$1.6 billion), then poultry (\$1.2 billion), and cattle (\$0.5 billion). Dairy sales held steady at \$0.7 billion.
- Considering both crops and livestock, Indiana farmers' sales rose from \$9 billion to nearly \$13 billion from 2009 to 2013.
- Farmers in Indiana netted \$2.8 billion of cash income by selling crops and livestock in 2011, the best year since 1974 (in 2013 dollars).
- However, once adjusted for inflation, net cash income in 1974 was \$5.5 billion, twice the value of 2011.
- 2012 farmers' net cash income of \$2 billion was about the same as what Indiana farmers earned in 1969 — despite doubling productivity.
- Starting in 2013, corn and soybean prices began to fall, and many experts now predict that farmers are likely to spend more to produce their 2015 crop than they earn by selling it.
- Indiana Grown officials report that several farmers are exploring diversifying their operations to include more vegetables, now that grain prices have fallen.

Chart 6 shows that cash receipts rose for Indiana farmers from 2009 to 2013, fueled by higher corn and bean prices, but net returns were limited because production expenses also rose. Indiana farmers earned a net cash income of \$2.8 billion in 2011, the highest recorded in recent memory, yet sales fell to \$2 billion two years later, a 40% decline.

Chart 6: Net cash income for Indiana farmers, 1969 - 2013

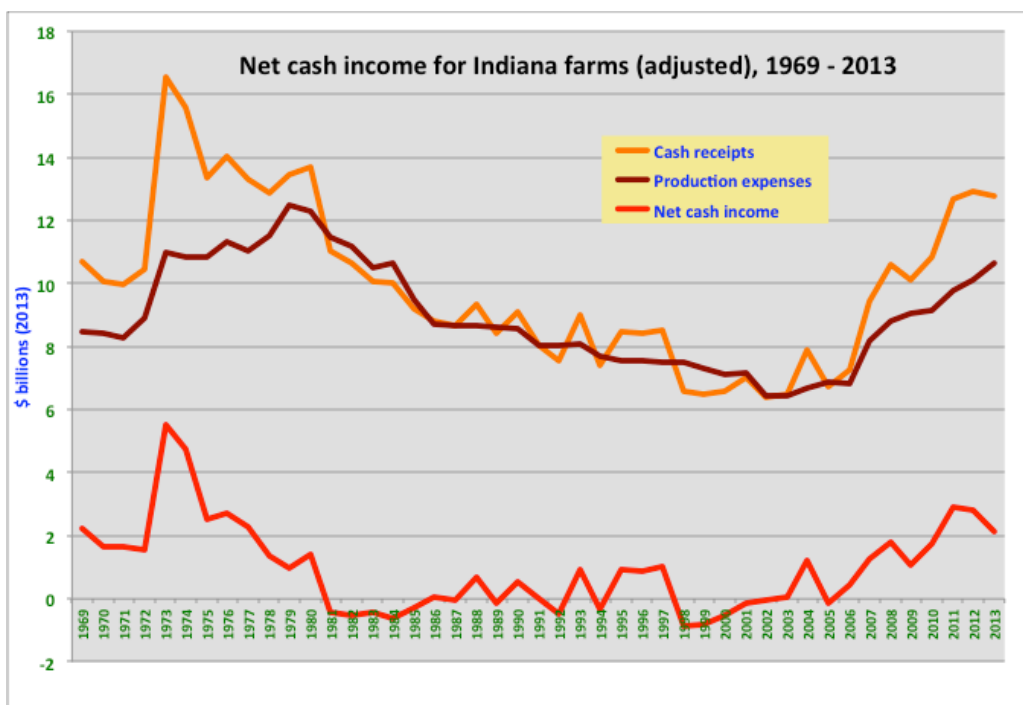


Source: Bureau of Economic Analysis. Data in dollars current for each year listed.

Despite the fact that 2012-2013 sales levels were the highest in recorded history, with dramatic increases in cash receipts in recent years, net cash income began to level off in 2012, and is likely to fall substantially in 2015.

Once data in Chart 6 were adjusted for inflation, very different patterns appear, as Chart 7 shows. While net cash income for Indiana farmers was still robust at \$2.8 billion in 2011, this was a bit more than half of the net cash income farmers earned in 1974.

Chart 7: Net cash income for Indiana farmers (adjusted to 2013 dollars), 1969 - 2013

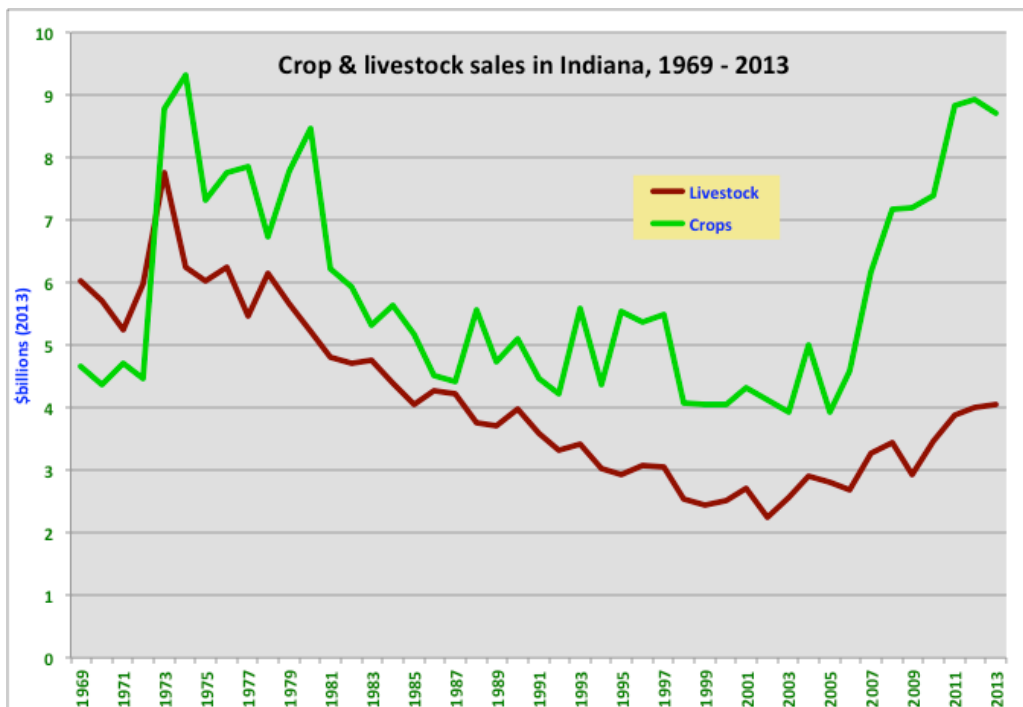


Source: Bureau of Economic Analysis. Data in 2013 dollars.

Farm production expenses fell lower than in 1974, which is explained to some extent by farms leaving production, but mostly due to the decreased value of the dollar. Net cash income for farmers has held at low levels for most years since 1980.

As Chart 8 shows, the increase in sales by Indiana farmers was led by large increases in crop (corn and soybeans) sales, as prices rose to very high levels. These rising prices, however, also had the result of increasing costs for livestock producers who fed corn or beans to their animals. Many of these costs were passed along to consumers, and consumers are increasingly asking for higher quality meats, so overall livestock sales rose. While crop sales rivaled 1974 levels, livestock income was far below 1974 levels.

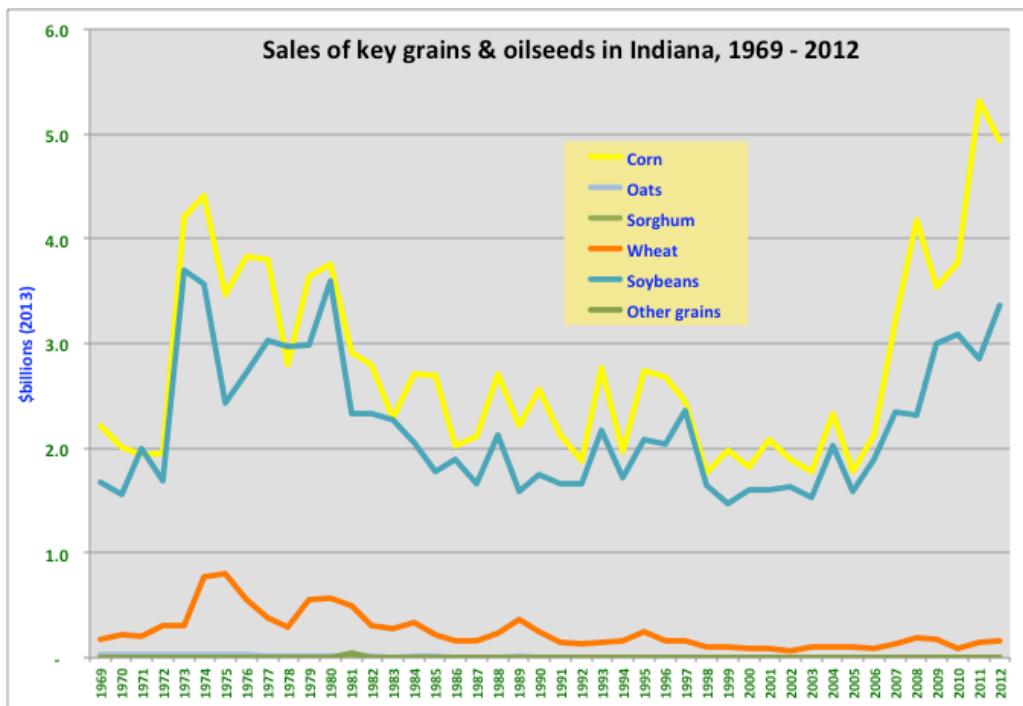
Chart 8: Sales of crops and livestock by Indiana farmers (adjusted), 1969 - 2013



Source: Bureau of Economic Analysis. Data in 2013 dollars.

As Chart 9 shows, corn sales of field corn reached historic highs in 2011, even when dollars are adjusted for inflation. Soybean sales did not quite reach 1973 levels.

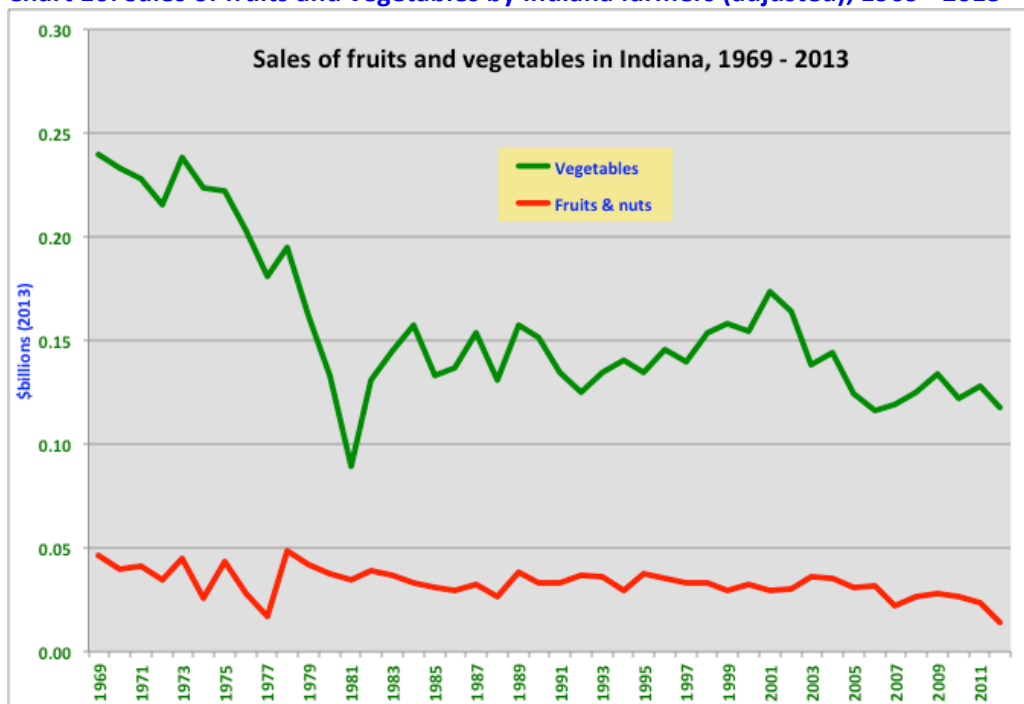
Chart 9: Sales of grains and oilseeds by Indiana farmers (adjusted), 1969 - 2013



Source: Bureau of Economic Analysis. Data in 2013 dollars.

Indiana is a respected source of watermelons, cantaloupes, and tomatoes. However, as Chart 10 shows, 2012 sales of fruits and vegetables fell to half of their 1969 levels, decreasing even as Hoosier consumers have been seeking more fresh produce, and starting farmers markets across the state. Most of the sales recorded on this chart represent products that are shipped to markets in other states, so these data do not closely reflect internal produce trade in Indiana.

Chart 10: Sales of fruits and vegetables by Indiana farmers (adjusted), 1969 - 2013



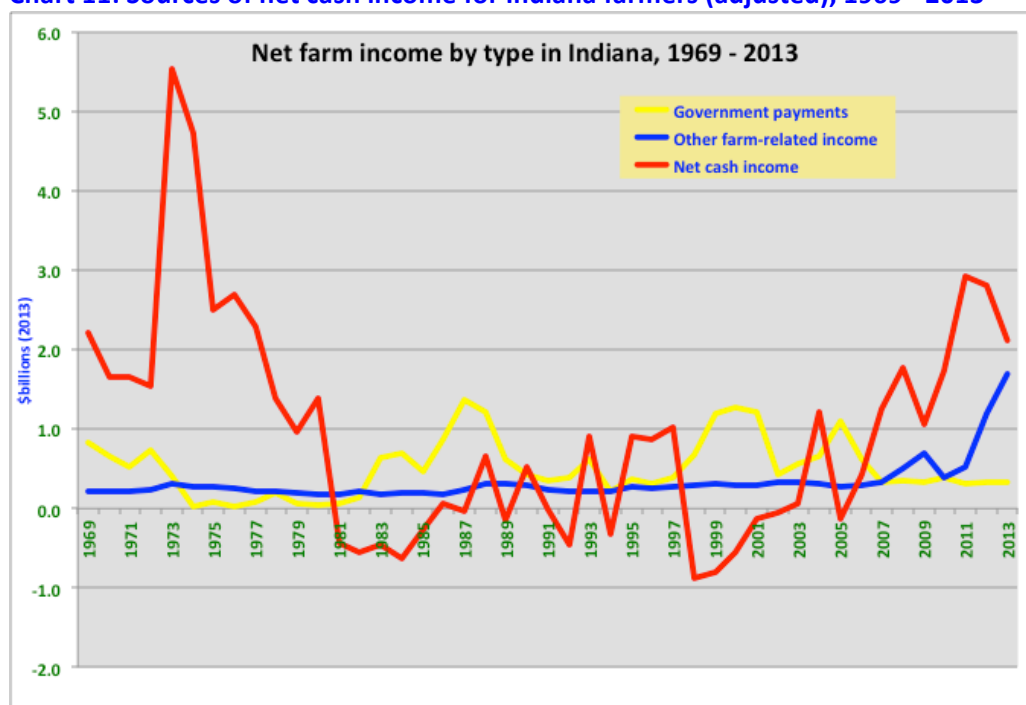
Source: Bureau of Economic Analysis. Data in 2013 dollars.

Note that the scale of this chart is considerably different than those of other charts shown in this section, since quantities sold are so much smaller.

Apparently, rising dependence on corn and soybean production after the OPEC energy crisis of 1973 encouraged farmers to abandon vegetable production in favor of these cash crops. Similar trends appeared in recent years as corn and bean prices rose, encouraging more farmers to move out of produce.

Rising corn and bean prices propelled net cash income to high levels, as stated above, and shown again on Chart 11. This means that for the past several years, farm production has been the main source of net cash income. This was seldom true in the years 1981-2007. Rising grain prices also fueled competition for land, increasing land values and cash rents, as shown on the blue line below. Higher rents often benefit established farmers while increasing costs for younger farmers who are starting out. Government payments have become a relatively small source of net income due to improved production income.

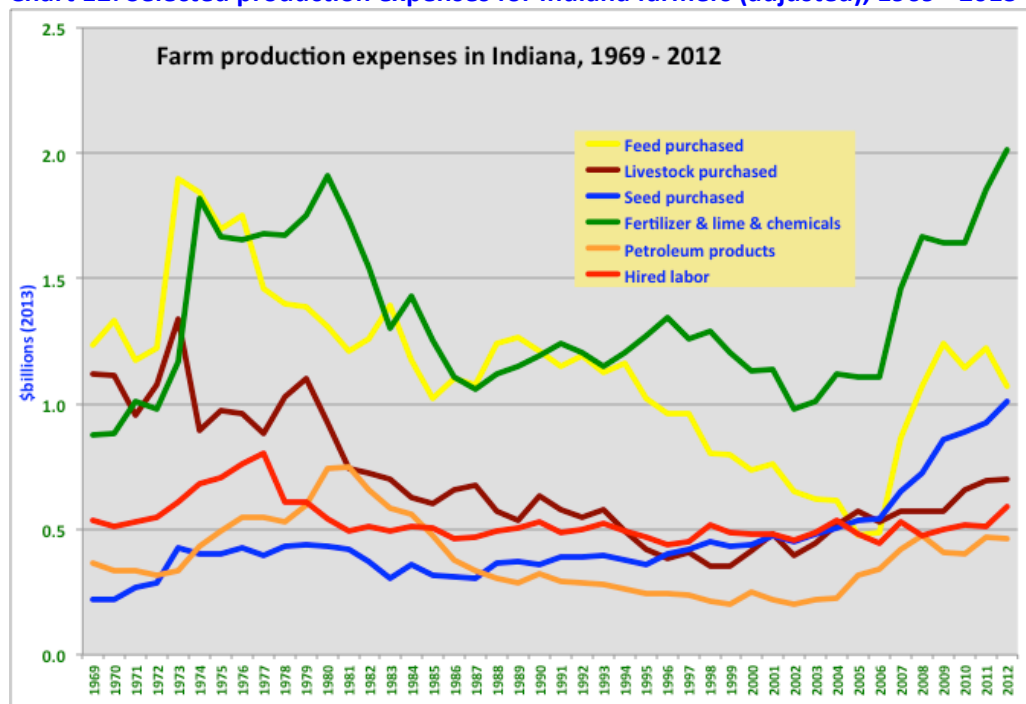
Chart 11: Sources of net cash income for Indiana farmers (adjusted), 1969 - 2013



Source: Bureau of Economic Analysis. Data in 2013 dollars.

However, net cash income for farmers was limited by the fact that production expenses increased when farmers had more money to spend. The top three expense items tracked by Chart 12 below are fertilizers and chemicals (Indiana farmers purchased \$2 billion), feed costs, and seed costs. Machinery purchase and rental is not shown on this chart, however. While labor costs held steady, energy costs also rose, given higher oil prices.

Chart 12: Selected production expenses for Indiana farmers (adjusted), 1969 - 2013



Source: Bureau of Economic Analysis. Data in 2013 dollars.

90% of the food Indiana residents eat still is sourced outside of the state:

- Since food consumption has also risen, due to increased population and higher per capita food purchases, Hoosier consumers now spend \$16 billion each year buying food sourced outside the state — \$1.5 billion more than in 2009.
- The State of Indiana has announced new initiatives to strengthen local sales of dairy products.
- Indiana Grown is pursuing a vision of marketing Indiana grown products, including value-added products, both to Indiana consumers and to external markets.
- Part of this vision is to encourage farmers with larger acreage to grow vegetables for shipment to other states as well as to Indiana grocers and wholesalers.
- Focusing on exports also means the U.S. has not focused on feeding itself. Food imports into the U.S. increased 91% over the past 14 years, even after adjusting for inflation. Imports now stand at 26% of the value of farm commodity sales.

Value of foodstuffs imported into U.S.²¹

2013: \$109 billion (26% of value of farm commodity sales)

1999: \$57 million (in 2013 dollars)

Imports of Cereals: \$10.9 billion

Imports of Fruits: \$13.6 billion

Imports of Vegetables: \$10.6 billion

Imports of Fish & Shellfish: \$17.8 billion

Imports of Meats: \$6.5 billion

Imports of fruits and vegetables from Mexico (2013): \$9.3 billion

- Produce imports are now equal in value to nearly half (47%) of U.S. fruit and vegetable production.

Fruit and vegetable production by U.S. farmers in 2013:²²

Fruits & nuts: \$29 billion

Vegetables: \$22 billion

All produce: \$51 billion (total of two numbers above)

Imported produce: \$24 billion (see bullet point above)

²¹ Source: USDA Foreign Agricultural Service.

²² Source: USDA Economic Research Service.

- ERS estimates that 17% of U.S. food consumption is now imported. This rate has risen 45% in two decades, or 2.5% per year.

Percent of food imported into U.S. in 2009: 16.8%²³

Percent of food imported into U.S. in 1990: 11.6%

- 6,596,855 Hoosiers purchased \$17.5 billion of food for eating at home in 2013. This included:²⁴

Meats, poultry, fish, and eggs	\$2.1 billion
Fruits and vegetables:	\$2.0 billion
Cereals and bakery products:	\$1.5 billion
Dairy products:	\$1.1 billion
Other foods:	\$3.8 billion

Yet 90% of this food, if not more, was sourced outside Indiana. This means \$16 billion was spent purchasing food from outside sources.

- If every Hoosier bought an average of \$5 of food directly from a farmer in the state each week, this would account for farm sales of \$1.7 billion (15% of current sales).²⁵



²³ Source: USDA Economic Research Service.

²⁴ Source: Bureau of Labor Statistics, Consumer Expenditure Survey

²⁵ This calculation was made by multiplying the population by \$5 by 52 weeks.

Hoosiers still express a strong desire to eat locally:

- Grocers report that the demand for locally grown food is almost limitless, though consumers are not always willing to pay for local food if it costs more than conventional sources.
- The limiting factor is primarily supply.

Conventional farmers are more likely to take interest in diversifying their farm operations now that grain and oilseed prices are falling:

- Indiana Grown reports that several farmers with considerable acreage are interested in exploring new specialty crop production for wholesale markets.
- Several clusters of farms and related food businesses continue to grow in several regions of Indiana.

Export-based agriculture continues to pose inherent dilemmas for the state:

- To the extent that future visions of selling dairy products or meats, or growing produce for national chain stores is based on commodity shipments to distant buyers, Indiana is likely to fall victim to the same dilemmas that plague grain and oilseed production for export.
- Local foods leaders continue to report that the unique contribution of emergent food activity in Indiana is that it builds social and commercial connections of trust and mutual respect that link farmers, consumers, and other stakeholders.
- Commodity sales are inherently standardized sales that cannot generate the same levels of trust. Proposed plans to export more produce or dairy products from Indiana farms will not create sustainable economic conditions unless they build genuine connections at the local level.
- The most critical issue confronting efforts to encourage farmers to sell to wholesale markets is building market power for farmers so they will not be plagued by efforts by buyers to reduce the pay price over time. Building trust into commerce is also essential to ensure that farmers can tap rewarding markets over the long haul.

Regional foods initiatives aimed at restoring social, cultural, and financial connections among farmers and consumers have made considerable progress since 2009. These are profiled above. Key initiatives include:

- This Old Farm (Colfax)
- Tyner Pond Farms Cluster (Husk / Mugs / Grigsby Station / Partner Farms in Greenfield)

- Joseph Decuis Cluster (renewing Roanoke as a good food destination)
- Hoosier Harvest Market (Greenfield)
- Bloomingfoods (Bloomington)
- Southeast Indiana food initiative
- Northeast Indiana Food Network
- Columbus food and health initiative
- Elkhart County region local food initiative
- Ball State recently announced a \$300,000 food hub initiative for the Muncie region
- Regional discussion are also underway in Terre Haute, Evansville, Northwest Indiana, and other regions



Appendix C: Economic Costs of Food-Related Health Conditions

Medical costs of diseases related to faulty diet are rising rapidly:

- Medical costs for diabetes and related conditions rose from \$3.7 billion per year in Indiana (cited in our last study) to \$5.1 billion in 2012.²⁶

The ADA found that Indiana ranked 14th in the U.S. for prevalence of diabetes in 2012, with a rate of 7.3%, or 483,000 people.

- Direct costs of diabetes (2012): \$3.69 billion
- Indirect costs of diabetes (2012): \$1.43 billion
- Total costs (2012): \$5.12 billion.

States ranking ahead of Indiana include (in order):

Rankings are by overall costs

(influenced strongly by having large populations and urban areas)

	State	Diabetes Prevalence Rate	Total Costs (\$blns)
1	California	6.40%	\$27.55
2	Florida	8.90%	\$18.90
3	Texas	7.30%	\$18.24
4	New York	6.80%	\$16.43
5	Pennsylvania	7.40%	\$10.24
6	Ohio	7.60%	\$9.28
7	Illinois	6.40%	\$8.98
8	North Carolina	7.60%	\$8.30
9	Michigan	7.50%	\$8.00
10	New Jersey	7.00%	\$7.85
11	Georgia	7.20%	\$7.63
12	Virginia	6.80%	\$6.19
13	Massachusetts	6.80%	\$6.07
14	Indiana	7.30%	\$5.12

²⁶ Source: American Diabetes Association (2013). "Economic Costs of Diabetes in the U.S. in 2012." DOI: 10.2337/dc12-2625. Supplementary Data online at

<http://care.diabetesjournals.org/lookup/suppl/doi:10.2337/dc12-2625/-/DC1>

"This report was prepared under the direction of the American Diabetes Association by Wenya Yang (The Lewin Group, Inc., Falls Church, Virginia); Timothy M. Dall (IHS Global Inc., Washington, DC); Pragna Halder (The Lewin Group, Inc.); Paul Gallo (IHS Global Inc.); Stacey L. Kowal (IHS Global Inc.); and Paul F. Hogan (The Lewin Group, Inc.)."

Rankings by diabetes rates (ADA):

	State	Diabetes Prevalence Rate
1	West Virginia	10.20%
2	Florida	8.90%
3	Alabama	8.80%
4	Mississippi	8.80%
5	Kentucky	8.70%
6	Louisiana	8.30%
7	Arkansas	8.10%
8	Delaware	8.10%
9	Tennessee	7.80%
10	South Carolina	7.80%
11	New Mexico	7.70%
12	Ohio	7.60%
13	North Carolina	7.60%
14	Michigan	7.50%
15	Oklahoma	7.50%
16	Maine	7.50%
17	Pennsylvania	7.40%
18	Texas	7.30%
19	Indiana	7.30%

In the United States, approximately 5% of the population with diagnosed diabetes has type 1 diabetes; approximately 90-95% has type 2 diabetes (1-5% have other, rare types)²⁷

Type 2 diabetes is closely related to faulty diets.

²⁷ Source: American Diabetes Association (2015). FAST FACTS: Data and Statistics about Diabetes
http://professional.diabetes.org/admin/UserFiles/0%20-%20Sean/Documents/Fast_Facts_3-2015.pdf

Appendix D: List of Interviewees

Chris Baggott, Tyner Pond Farm (Greenfield)
Roy Ballard, Purdue Extension Hancock County / Hoosier Harvest Market (Greenfield)
Tony Barnett, Lush Leaf Farm, LLC (Greenfield)
Emily Becker, Becker Farms (Mooreland)
Nick Carter, Husk (Greenfield)
Chandra Chaves, Tyner Pond Farm (Greenfield)
Kathy Cooley, Southeast Indiana food collaborative (Batesville)
Pete Eshelman, Joseph DeCuis Farm & Restaurant (Roanoke)
Joanie Fitzwater, City of Greenfield (Greenfield)
Jerome Gust, Bloomingfoods Co-op (Bloomington)
Laura Hormuth, Indiana State Department of Health
Ben Kenney, Indiana State Department of Agriculture
David King, Director of Indiana Grown, Indiana State Department of Agriculture
Kahfii King, Hoosier Harvest Market (Greenfield)
Skip Kuker, Hancock County Economic Development (Greenfield)
Rachel E. Miller, R.D., K12 and Local Farm Specialist, Piazza Produce (Indianapolis)
Adam Moody, Husk (Greenfield)
Michael Morrow, Hoosier Harvest Market (Greenfield)
Connie Neininger, Economic Development, Indiana State Department of Agriculture
Ruth Ann Roney, Tuttle Orchards (Greenfield)
John Woodbury, Nature's Gift Aquaponics, LLC (Morgantown)

Appendix E: Hancock County Schools and Producers

Greenfield Area Schools:

St. Michael's School

Maura Hutchinson
515 North Jefferson Blvd
Greenfield, Indiana 46140
mhutchinson@stmichaelsgrfld.org
(317) 462-6380

Community School Corporation of Southern Hancock

Charissa Igo, Food Service Director
4711 S 500 W
New Palestine, Indiana 46163
charissaigo@cscshc.org
(618) 920-0786

Eastern Hancock Elementary School

Tracy Wilson
10450 East 250 North
Charlottesville, Indiana 46117
twilson@easternhancock.org
(317) 936-5444

Greenfield Central Community Schools JB Stephens Elementary

Ginnette Einsphar, Food Service Director
1331 North Blue Rd.
Greenfield, Indiana 46140
<http://jbs.gcsc.k12.in.us/>
(317) 467-2341

Mt. Vernon Community School Corporation

Doris Johnson, Food Service Director
8112 North 200 West
Fortville, Indiana 46040
doris.johnson@mvcsc.k12.in.us
(317) 485-3100

South Madison Community School Corporation

Ellen Nylen, Culinary Specialist/Chef
203 S. Heritage Way
Pendleton, Indiana 46064
enylen@smcsc.com
(765) 778-2152 ext. 1023

Current suppliers of local foods to Greenfield area schools include:

Lush Leaf Farm, LLC

Tony Barnett, Owner
2732 N. 500 W.
Greenfield, IN
765-977-6329

lushleaffarm@gmail.com

Products available through Hoosier Harvest Market:

<https://www.localfoodmarketplace.com/hoosier/Farmers.aspx?pGuid=15a4f40d-aa68-46c0-b547-9b4a880cc424>

Lush Leaf is a relatively new operation, though the owners also maintain another farm in a different community. The central production facility is a 96-foot long hoophouse just north of Interstate 70 west of Greenfield. Owner Tony Barnett says he hopes his farm can be the main supplier of fresh greens to the Greenfield school district.

Nature's Gift, LLC

John Woodbury, Owner
6601 W. 500 S.
Morgantown, IN 46160
(765) 318-1326

woodbury@netdirect.net

<http://www.aquaponicsindiana.com/>

Products available through Hoosier Harvest Market:

<https://www.localfoodmarketplace.com/hoosier/Farmers.aspx?pGuid=880b5cab-1a98-437b-bf83-9da7feb1593b>

Owner John Woodbury has established an aquaponics operation (in which fish manure supplies the key nutrients for growing plants in a nearby greenhouse) near Morgantown, supplying greens and other vegetables to farmers market customers, as well as a Community Supported Agriculture (CSA) marketing approach. Nature's Gift has supplied fresh greens to Greenfield schools.

Tuttle Orchards

Mike and Tom Roney, Owners
5717 N. 300 W.
Greenfield, IN 46140
317-326-2278

<http://www.tuttleorchards.com>

Products available through Hoosier Harvest Market:

<https://www.localfoodmarketplace.com/hoosier/Farmers.aspx?pGuid=1128d09c-3c69-45c4-8d5f-c2720d0f1d84>

Although Tuttle Orchards raises apples and other produce for on-farm sale, they also package boxes of fresh food items that were delivered for them in 2014 by Hoosier Harvest Market. They do limited wholesale business since they consider the retail prices they command now to be more rewarding than wholesale prices. They are happy to coordinate with local schools, but

view this primarily as an outlet when they have surplus produce at the end of each growing season, or if they have a considerable volume of apples that are too small to be attractive to retail customers, but appealing to school children. Tuttle Orchards has also played a key role on the board of directors of Hoosier Harvest Market.



Products that have been delivered to Greenfield area schools as part of this project:

- Salad greens
- Kale
- Cherry tomatoes
- Bell peppers
- Apples

Piazza Produce expands its school offerings:

Rachel Miller of Piazza Produce shared figures for the sales of cucumbers to Indianapolis region schools in 2014 and 2015. These data show slightly rising interest in local foods purchases by schools. The firm appears to be positioning itself for a stronger presence with local schools in future years.

Cucumbers 2014			Cucumbers 2015		
case count	# sold	total cukes	case count	# sold	total cukes
6	3,160	18,960	6	3,368	20,208
12	1,300	15,600	12	1,343	16,116
24	1,019	24,456	24	1,206	28,944
59,016			65,268		

Miller further reports that Piazza distributes many other fresh produce items to the region's schools, notably apples, romaine lettuce, and bell peppers.

Appendix F: Prior Studies of Indiana Food Systems

Hoosier Farmer? Emergent Food Systems In Indiana

In 2011, Crossroads Resource Center (CRC) was commissioned by the Indiana State Health Department to compile an overview of the Indiana food system. The purpose of this study was to help the Health Department better understand the connections between food and health by gaining deeper knowledge of how food is produced in the state.

The resulting report, *Hoosier Farmer? Emergent Food Systems In Indiana*, can be found at: <http://www.crcworks.org/infood.pdf>

First, the commodity system was not as strong financially as many assumed:

- 69% of farm commodity sales in 2009 involved two crops: corn and soybeans.
- Indiana farmers earned \$1.1 billion less by selling commodities in 2009 than they had earned in 1969 (in 2009 dollars).
- Average net cash income for Indiana farmers was only \$200 million per year — about \$3,000 for each farm in the state. This was an overall return of 2.6% of sales.
- In 13 of the previous 30 years, net farm income had fallen below zero.

Although it was the 10th largest farm state in the U.S., 90% of the food Indiana residents eat was sourced outside of the state:

- Farmers were selling about \$10 billion of products, while Indiana consumers ate about \$16 billion of food, each year
- Indiana spent \$14.5 billion per year buying food sourced outside of Indiana.
- 98% of the fruits and vegetables Hoosiers eat were imported into Indiana.

Hoosiers expressed a strong desire to eat locally:

- Farmers were increasingly selling food directly to household consumers, with sales rising 5% per year from 2002 to 2007.
- 3,576 Indiana farms sold \$22 million of food directly.
- Although this was only 0.3% of the food products farmers sold, its economic value was higher than the 13th-highest ranked food item, sweet corn.
- Five of the nine cooperative grocery stores in Indiana had been opened in the three years prior to our study, with two more being planned.
- More than 100 towns hosted farmers markets, located in 72 of Indiana's 92 counties.
- This was double the number of farmers markets the state had hosted five years earlier.
- New markets were often forming in those counties where the corn and bean rotation was strong, reflecting a desire even among rural families for better access to fruits and vegetables.

Farmers expressed a strong desire to diversify their farm operations.

- Several large-scale produce growers were well-positioned to sell to grocery stores and wholesalers in Indiana.
- Yet at least one major produce grower was diversifying by selling food items directly to nearby consumers.
- Several young farmers wanted to build farm operations very different from the ones their fathers had run; many said they could not afford to take over their family farm. Many wanted to build a more direct connection to consumers.

Overall, the report concluded that an export-based agriculture posed inherent dilemmas for the state.

- 66% of Indiana residents are overweight or obese, with 36% considered overweight, and 30% considered obese.
- 9.8% of Indiana residents had been diagnosed with diabetes.
- The medical costs for diabetes-related health conditions were estimated at \$3.7 billion — an amount that rivaled the value of the annual corn crop.

In the absence of public investment, Hoosiers were patiently building regional foods initiatives aimed at restoring social, cultural, and financial connections among farmers and consumers.

- The report urged the state to embrace these emerging regional food initiatives, and to invest in strengthening them.
- Only if public investment created supportive infrastructure would these regional initiatives prove sustainable over the long term.
- Several regional food networks had been launched by committed residents and private investors; yet the lack of public investment also risked creating new inequalities.

Hoosier Farmer? also helped inspire a \$9.85-million investment plan for local foods announced by the state of South Carolina.²⁸

²⁸ Meter, K. & Goldenberg, M.P. (2013). *Making Small Farms into Big Business*. Produced by Crossroads Resource Center for the State of South Carolina Departments of Agriculture and Commerce. Available at: <http://www.crcworks.org/scfood.pdf>

Food Hubs Feasibility Study

Earlier in 2015, ISDA also published an assessment of the feasibility of creating more food hubs in the state.

Miller, Thomas P. (2015). *Food Hubs Feasibility Study*. Indiana State Department of Agriculture.

The study was conducted on behalf of the Indiana Department of Agriculture by Indianapolis-based consulting firm Thomas P. Miller and Associates in collaboration with Monrovia-based Prosperity Consulting. The project is funded by a U.S. Department of Agriculture (USDA) Specialty Crop Block Grant and administered by ISDA.

The study is available at:

<http://www.in.gov/isda/3109.htm>

