

Indiana Land Resource Council  
Wednesday, November 15, 2017  
1:30 p.m. – 3:30 p.m.  
Agricultural Innovation Center  
698 Ahlers Dr.  
West Lafayette, IN 47906

Members Present:

Jeff Healy  
Kara Salazar  
Beth Tharp  
Jeff Page  
Steve Eberly  
Matt Williams  
David Kovich  
Tom Slater  
Mayor Michael Pavey

1. Melissa Rekeweg calls the meeting to order at 1:36 p.m.
2. Welcome and Introductions
3. Approval of Minutes
4. Mike Schutz, Land Use Team Update
  - a. The Land Use Team parallels the IRLC
    - i. Ideas to form each happened at the same time
  - b. A few of the accomplishments over the last year
    - i. County Extension educators are required to serve on area plan commissions via state statute
    - ii. Quite a lot of turnover for this job so we treat training very seriously
    - iii. PLUT has helped with this and provide training for people in similar roles
    - iv. Training sessions attracted 71 of our educators, we are getting good reach and connections
    - v. One session on serving on a plan commission
    - vi. Another on CAFO and issues that come up
    - vii. Formalize mentoring process for beginning educators
    - viii. American Citizen Planner
    - ix. Land Use Team putting in a lot of work in this to adapt it for Indiana
    - x. Online training program
    - xi. People who are interested in learning about Area Plan Commissions
      1. Two sessions
      2. Should be online soon, going through peer review
  - c. Land Use Team History
    - i. Land Use Team in place before 1996, looking at things relating to land use questions, zoning.

- ii. Over time, the team lost some momentum
- iii. Started a brand new team instead of repopulating
- iv. Period of 5-6 years when not much was happening, not many people left to take the leadership
- v. Jason Henderson and others saw the importance of re-establishing the team
- vi. Handed it to extension educators and specialists
- vii. Key departments and extension areas are represented
- viii. Goal is to help educators and others involved with land use issues
- d. David: What is the size of the team?
  - i. 18-20 members, 1 from each area, 2 from each district and some specialists
- e. Melissa: How many times a year does the team meet?
  - i. About monthly
- f. Jeff: What are some of the major projects?
  - i. ILRC project for Comprehensive Planning Guidance Document
  - ii. A number of publications
  - iii. 1 this last year and 8 others in progress
  - iv. CAFO website stocked with 12 new publications
  - v. Establishing Advisory Board
  - vi. Continued internal training for educators
    - 1. 18 months since last face to face training
    - 2. Time to revisit that
  - vii. Enough resources to start looking at additional public meetings for decision makers and those that participate in planning commissions
  - viii. Webinar series for outreach
    - 1. Topics include bylaws and rules of procedures
    - 2. Findings of Fact
    - 3. New publications and some for revision
- g. Melissa: Can you tell us a little more about what the trainings entail? What are your educators taking away from these trainings?
  - i. Tamara: Few different audiences, those that don't know anything about it, have come into a whole new role
  - ii. Basics of how plan commissions operate and why it is available for counties and municipalities in Indiana
  - iii. Reviewing site plans, going over hot topics and how commissions are handling it, study committees for new ordinances
  - iv. Hiring consultants could be upcoming topics
  - v. Helping new members get comfortable
  - vi. Helping older members gain more knowledge and dive deeper into topics
- h. Melissa: How do you measure success?

- i. By asking educators
    - ii. Going forward, work on some more external programs
    - iii. Are the programs we are doing, making a difference?
    - iv. Kara: We do have evaluation and survey research
  - i. David: Will you work with APC in the future?
    - i. Tamara: If we did, we would develop survey questions
    - ii. Surveying extension educators more informally through mentoring process
    - iii. Evaluation tool after webinar as well
  - j. Jeff H: launch next year?
    - i. Kara: APC next year, webinars soon as well. We will put notices out when those things are ready
    - ii. Citizen Planner is based on the speed of the group able to upload all the content
- 5. Discussion on location of future ILRC meetings
  - a. Plenty of places we can go, but is Indianapolis a good place? For you folks coming from other areas and public as well?
  - b. Central Indiana
  - c. Within 2 hours from council members home base
- 6. Update on Summer Study Committee
  - a. Tasked with studying CAFOs
    - i. Proximity to and interaction of CAFOs with suburban and urban areas, issue relating to transformation of traditional farms to CAFOs, and the need for special regulations
  - b. Made up of House and Senate members from both parties
  - c. Met 3 times
  - d. Testimony heard from ISDA, IDEM, Indiana Soybean/Corn Growers, Indiana Pork, citizens, farmers, HSUS, ACI, HEC, OISC
  - e. Odor and siting were primary reasons for this committee meeting.
  - f. Short answer on digesters was they are a solution but not the solution
  - g. Zoning and Home Rule also brought up
  - h. Lots of misconceptions on the authority of locals in siting CAFOs
  - i. Locals have as much control as they want to have
  - j. Committee heard from a lot of people and a lot of perspectives
  - k. Committee recommended,
    - i. Additional resources for IDEM
      - 1. Would allow for more periodic inspections
      - 2. Paul: more resources for complaints and response
    - ii. What's reasonable notice? Called for review of that rule
      - 1. Greater radius and more notification
  - l. Could expect a bill that includes these recommendations

- m. Our new project deals with livestock issues and this summer study committee brings up new relevance and renewed discussion. Wanted to give a lay of the land from a legislative standpoint and then have some additional information from Tamara and Paul
  - n. Legislature doesn't seem as interested in new authority for IDEM, do what they have the authority to do but do it better. Don't want to encroach on local control either
7. Additional ISDA policy updates
- a. ISDA is doing a cleanup bill in their statute
  - b. FSMA Produce Rule proposal with Indiana State Department of Health
  - c. Keeping track of everything else as well
  - d. Study Committee was civil, well conducted, collaborative
  - e. David: inspection reports online?
    - i. Jeff: Yes, all available online. In fact someone testified on a legislator's record of inspection for his own CAFO
    - ii. Constituent: this legislator was 9 years out, not in compliance
    - iii. Jeff H. You mention odor? It is very subjective, did anyone testify on that? Any recommendation on odor?
    - iv. Jeff: Ultimately, no recommendation. Setbacks and buffers can fix this, digesters were brought up on this. What is the answer here, probably not just one answer
    - v. Jeff Page: Odor and siting were the reason for this hearing?
    - vi. Jeff: The concerns on this were driven by constituents contacting legislators about the location of these barns so it started as odor and siting but also moved to IDEM, pollution, water quality, property values.
    - vii. Jeff Page: How does their recommendation correct the initial complaint? Dumping additional resources into regulatory body
    - viii. Jeff: So much misconception. As it went on, legislators realized local control, zoning, model zoning ordinances
    - ix. Setbacks not the silver bullet, locals do have other options
    - x. Jeff Page: IDEM process complaint driven? Is there an audit on how that is effectively working? To see if people are using it for nonconstructive purposes
    - xi. Jeff: State Chemist addressed that in testimony. They investigate every complaint. There was no discussion on whether those complaints bore fruit or if they were malicious. Not sure if the agency could come up with a way to track the kinds of complaints etc.
    - xii. Melissa: Average interval of 5 years, and obviously someone got missed. Agency report on them missing this?

- xiii. Jeff, you can see each inspection report and the gap between them. Not sure of an agency operating metric. 5 years not a requirement, just their current average.
  - xiv. Jeff Healy: A lot of resources for something to monitor inspection metric. Such as the owner requesting an inspection.
  - xv. Jeff C: There was also discussion on IDEM responding to complaints about unregulated facilities. Small unregulated operations are complained on as well.
8. Confined Feeding Operation Ordinances Research at Purdue – Tamara Ogle and Paul Ebner (Presentation slides attached)
- a. Background
  - b. What we did
    - i. Surveyed educators
    - ii. Identified who has planning and zoning and who doesn't
    - iii. After we collected ordinances, identified common components
    - iv. We asked educators a series of questions about the ordinances
    - v. Did they feel like there were adequate resources?
  - c. What resulted was this report: County Regulation of Confined Feeding Operations in Indiana: an Overview
    - i. Available online
  - d. January 2016 Report
    - i. Counties use a few different tools
    - ii. Site scoring
    - iii. Neighbor's approval
    - iv. Homesteading
    - v. Straight standards, i.e. odor standards
    - vi. You can see what may be some issues in that county, based on the ordinance specifics
    - vii. Most distances were somewhat arbitrary
    - viii. Very little to indicate which provisions, or standards are effective. No research that says ½ mile is effective.
  - e. County Regulation of Confined feeding Operations in Indiana: Progress Report
    - i. What stuck out was arbitrary numbers, are their provisions that are more effective than others?
  - f. Our findings were limited by
    - i. Small sample size
    - ii. Randomness of data
      - 1. No true mean of a residential use buffer in Indiana
      - 2. Correlation does not mean cause and effect
  - g. Number of permitted farms in a county, as they increase, the number of complaints lowers

- h. If a county has a CFO ordinance, less likely to have conflict
- i. Going to look at changes over time
- j. County demographics
- k. All this data was not very accessible, tried to take the data and put it in a more visual form
- l. Heat maps
  - i. Assign county to a percentile/color
  - ii. (See map in presentations)
  - iii. Something that was tabled was the amount of buffers you have, how that affects the land that is buffered
- m. Does population density matter? If it is highly concentrated in cities and towns, test these variables on GIS maps of six Indiana counties
- n. Inventory of Ordinances Update
- o. Data will be useful 5, 10, 20 years from now as we collect it
- p. We have had a county adopt planning since then
- q. Hope to update every few years
- r. Where everything can be found
  - i. <https://ag.purdue.edu/cfo>
- s. Questions:
  - i. David: Are there things that you say, “Every county should be that way” or are all counties very independent and will what they want to do
  - ii. Tamara: They can do what they want to do, and some were very different but others adopted other county language
    - 1. Wouldn’t expect them to all be the same because they are facing different issues
    - 2. You can be too livestock friendly to the point that you are not friendly to current producers
    - 3. All face different issues, probably why Study committee found it is all local control and is best that way.
    - 4. We don’t take a normative approach to policy. We show alternatives. Research on efficacy could help us get to that point
  - iii. Citizen: Have you considered factoring in property values?
    - 1. Paul: We did not, there are a lot that have though.
    - 2. 2007 or 2008 paper by Purdue
  - iv. Melissa: Did you go back to the counties and present that data? Curious about reactions?
    - 1. Tamara: No, but we did share the factsheets with all the counties and presented at APA
    - 2. Counties did review all their factsheets to make sure we characterized them correctly and fairly.

- 3. We did hear that a lot had looked at the study and were looking at how they fit in with others
    - v. Citizen: Did you run into counties that did not have participation by the extension educator?
      - 1. Tamara: State statute if it is an advisory commission they are required. Area commissions are not required. Only required if it is an advisory board.
    - vi. Citizen: Did you study the 303 impaired waters list? Seems like this should be a big concern as we the taxpayers have to pay to clean this up. What you say and what you present affects siting around our waters and may motivate IDEM changes.
      - 1. Tamara: Our intent only to look at what ordinances are currently out there. Nothing about regulations,
    - vii. Citizen: Did you ask about maybe that's why they have certain ordinances?
      - 1. Yes, but didn't go that in depth on the question. More of a general question
    - viii. Beth: How prevalent are site scoring systems?
      - 1. 5 of them for CFOs
9. Group Discussion: Model Zoning ordinances, or what has been discussed here.
- a. Group 1: Jeff Healy, Tom Slater, Steve Eberly
    - i. Steve: Reality is there is a lot of opportunity for economic development, could lead to education. Local control and BZA. In a period of learning, especially for old ordinances and lack of standards.
      - 1. Special Exception process historically has led to arbitrary comments. It is a disservice to everyone. Defined standards need to be a rock solid starting point. The discussions need to happen in a different venue instead of putting small group of locally elected officials in that setting. It is the wrong place to bring those up.
    - ii. Melissa: Defined standards came up in a first meeting but we didn't think we were at that point. Do we feel like we are now?
    - iii. Jeff Healy: Late 80s, early 90s there was collaborative group that did come up with standards, maybe something this group could advocate for?
    - iv. Steve: Clearly this group is bigger than livestock issues. Standards do create a starting point where people can discuss alternatives to a standard in a civil manner.
  - b. Group 2: Kara, Mayor Pavey, Matt
    - i. Mayor Pavey: I am a mayor in an Ag community. Large number of counties in a decline, some in heavy decline. Mine is in that heavy

decline. Balance is important. One side comes on too strong and takes over. Our county has housing scoring and CFO scoring. We broke from that in an order to try and be more successful. 40 acre rule to build a house. It is tough to market our community because someone has to buy 40 acres. Some people say “we always give the exception” Sure but how do we market this? Don’t have to always approve Ag things just make sure we appear “pro-ag”. We need that balance. What Jeff said that we have to have conversations about this before it reaches a vote. Before people have to vote on an issue. People get emotions up and get very serious.

- ii. Kara: Best practices for engagement and getting those conversations together. Including those in this guidance document
- iii. Matt: In my perspective working with TNC, we have an extensive effort under way to reduce nutrients, especially Wabash River. I would be interested at looking where are the fields that this manure will be applied, close to ditches, field tile etc.
- iv. Mayor: Conversations in my community are best facilitated by Purdue University. They are trusted in the Ag community. Purdue offers a balance,

c. Group 3: David, Jeff Page, Beth Tharp

- i. Beth: Setback recommendations, how were these derived I wonder?
  - 1. Paul: Some counties copied others, some are arbitrary
  - 2. Tamara: Other things have buffers and setbacks. Often efficacy isn’t the goal, it is just what we want in our community.
- ii. David: You can see both sides of a lot of things.

10. New Business:

- a. Kara: Feedback on Overview Curriculum that was submitted to council. Team has met twice. Looking at robust draft in January and finishing initial draft this spring and then to peer review. You can send comments or other ideas to me. We will be in conversations with APA about the new sections in their guide. We want to compliment not duplicate.
- b. Standard guidelines?
- c. Ag and Biological Systems department at Purdue and IDEM were leads in previous efforts decades ago
- d. Steve: standard guidelines in terms of animal agriculture or more general?
  - i. Group: more general
- e. Katie will look for standard guidelines and send to council if found
- f. Jeff Healy: Ohio has interesting Right to Farm vs. Indiana Right to Farm
- g. Jeff Cummins: Legislative session starting in January, we are thinking late March or April for next meeting

11. Audience Comments



- a. Citizen: Are there minutes from Purdue land Use team online?
- b. Kara: not sure, I don't think they are online.
- c. Citizen: Does the Land Team review any meetings that are held at the local level? Do you see how the APC is working? Do they work in specific counties?
  - i. Not in specific counties. We educate on procedural rules but not on how to vote.
- d. Citizen: One thing that could stop most conflict is to make the setbacks from property lines. That is what I hear the most from people. When your son can't build on your own property that you are paying taxes because of setbacks from CAFO
- e. Citizen: Indiana Right to Farm act being contested in Hendricks County case. Result of that will be important. Right to Farm Act protects farmers from liability when that is not what it should be about. There was a lot of misrepresentation in front of the legislators. Such as the 5 year inspection average. If you go online and actually average it out, it is more like 7 or 8 years. If you are advising the state on CAFOs, someone should go in and look at this. It was brought up that complaints are followed up. You can go online and look at how long it takes IDEM to respond to complaints. One of them is 30 days. If monitoring isn't done immediately, and it is in a creek, it is gone before they get there. Any assessment done about CAFOs has to take into account property values. Studies say your property values will decline 40-80%. Only thing worse than CAFO next to you is landfill next to you. As a land use council, you should address this.

12. Council adjourns meeting at 3:40

PURDUE UNIVERSITY EXTENSION

# Confined Feeding Operation Ordinance Research at Purdue

*Indiana Land Resource Council, November 2017*

*Paul Ebner, Associate Professor, Department of Animal Sciences*

*Tamara Ogle, Community Development Regional Director*

*Yingying Hong, Project Director, Department of Animal Sciences*

*Tanya Hall, Community Development Regional Director*

*Larry DeBoer, Professor, Department of Agricultural Economics*

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# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## Background.

- In May 2015, Purdue Extension was commissioned by the State of Indiana to characterize zoning ordinances across Indiana as they apply to CFOs.

# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## What we did.

- Collected zoning ordinances from counties identified as having standards or provisions for confined feeding operations (CFOs).
- Identified and compared common zoning tools used by counties to regulate CFOs.

# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## What we did.

- Surveyed plan directors and Purdue Extension Educators regarding:
  - Provisions and standards for CFOs in their counties
  - Recent or proposed changes to zoning ordinances
  - Level of discourse regarding zoning issues related to CFOs

PURDUE UNIVERSITY EXTENSION

# County Regulation of Confined Feeding Operations in Indiana: *An Overview*

JANUARY 2016 REPORT

*Paul Ebner, Associate Professor, Department of Animal Sciences*

*Tamara Ogle, Community Development Regional Director*

*Tanya Hall, Community Development Regional Director*

*Larry DeBoer, Professor, Department of Agricultural Economics*

*Jason Henderson, Director and Associate Dean, Purdue University Extension*

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# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## January 2016 Report.


- Characterization of provisions for CFOs across counties:
  - 80 counties with P & Z; 64 with CFO ordinance
  - Review and approval process
  - Setbacks and buffers
  - Additional common standards (e.g., required lot sizes, odor control, etc.)

# Confined Feeding Operation Research at Purdue

Indiana Land Resource Council, November 2017

## White County

*These standards include the basic standards for the Agricultural Industry district where they are stricter than the Agricultural district because this is the only district where a CFO could locate and land would have to be rezoned. Additional district standards may apply; see ordinance for details.*



Farmland Coverage 89.15% land in farmland	Population 24,453 ↓
Top Employing Industries Manufacturing, Government and Government Enterprises	County type Rural County

ZONING DISTRICT <sup>1</sup>	PERMITTED USE / SPECIAL EXCEPTION
Agricultural Industry (A-2)	Permitted Use

REZONE REQUIRED: YES

**Ordinance Regulates CFOs**

**Definition**  
County uses IDEM's definition or the same animal head numbers to define CFOs

**ADDITIONAL STANDARDS**  
Use standards for CFOs beyond zoning district's standards unless otherwise specified.

**SETBACKS**

Right of Way (ft)	None
Property Line (ft)	None


**BUFFERS<sup>2</sup>**


Zoning Districts (ft)	All non-agricultural districts- 1,320
Municipal Boundary (ft)	5280
Residential Use (ft)	1320
Exception for farm house	Yes
Religious Institution (ft)	None
School (ft)	None
Recreational Areas (ft)	None
Business (ft)	1320
Other Buffered Uses (ft)	None


**APPLICATION PROCESS REQUIREMENTS**

*Only checked processes are required.*

- Pre-application permit required
- Site plan required
- Development plan review
- Other Processes
- Site scoring system







Page 1 of 2

**OTHER**

Proof of IDEM Permit Required	Yes
Existing Violation Clause	None
Odor Control Standards	None
<b>Manure Management</b>	
Manure Application Standards	Additional standards for aerobic and anaerobic digesters.
Manure Storage Standards	None
Animal Mortalities Standards	None
Transportation/Driveway & Parking Standards	None
Well/Water Standards	None
Screening/Shelterbelt Standards	Buffer required if structure is within 200 ft of public right of way or any non-compatible zoning district. Must adhere to landscape requirements in zoning ordinance
Minimum Lot Size (acres)	None
Other	None

**RELATED STANDARDS**

Reciprocal Buffer	<input type="checkbox"/>
County Has Agricultural Clause	<input checked="" type="checkbox"/>

**COUNTY LIVESTOCK STATS**

Active CFO Permits (2014)	65
Approximate Livestock Count (2012)	209,399

**WHITE COUNTY FACTS**

2014 Population Density (people/mi <sup>2</sup> )	48.41
Housing Unit Density (houses/mi <sup>2</sup> )	25.64
Per Capita Personal Income	\$36,954.00
<i>Unincorporated Area (excluding census designated places)</i>	
Share of Population	48%
Share of Land	96%

**FOOTNOTES**


1. All future A-2 districts will require a rezone.
2. Includes all structures but not fences for areas where animals graze


**COUNTY CONTACT INFORMATION**


Name	Joe Rogers
Role	Plan Director
Phone	574-583-2917
Web	<a href="http://www.wcgcconline.net/index.php/home/area-plan">www.wcgcconline.net/index.php/home/area-plan</a>

**ORDINANCE**

*Information presented as of 8/15/2015. For more details about White County's land use ordinances on CFO/CAFOs, please visit <https://oa.purdue.edu/Documents/ordinance>.*







Page 2 of 2



## January 2016 Report.

- Preliminary observations:
  - Very little uniformity across counties
  - The provisions for CFOs in the zoning ordinance indicated some of the issues or factors concerning individual counties.
  - Most distances are somewhat arbitrary, most often fitting  $\frac{1}{4}$ ,  $\frac{1}{2}$ , or mile increments.
  - Very little to indicate which provisions, standards, or distances are effective from a land use perspective (review of literature).

PURDUE UNIVERSITY EXTENSION

# County Regulation of Confined Feeding Operations in Indiana: *Progress Report*

MARCH 2017

*Paul Ebner, Associate Professor, Department of Animal Sciences*  
*Yingying Hong, Project Director, Department of Animal Sciences*  
*Tamara Ogle, Community Development Regional Director*  
*Tanya Hall, Community Development Regional Director*  
*Larry DeBoer, Professor, Department of Agricultural Economics*

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# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## Our Objective.

- Use data from our previous research to identify which CFO standards or provisions are effective at reducing conflict between CFOs and other land uses.
- Contribute to the broad aim of measuring the efficacy of policy, providing research to decision makers, and improving the quality of debate related to CFOs and zoning ordinances

# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## What we did.

- Catalogued CFO related violations as a proxy measurement of conflict
- Measured the “tone” of discourse surrounding CFO siting in different Indiana counties
- Measured opinions (plan directors, Extension educators) as to the difficulty of CFO siting compared to other zoning issues in different Indiana counties

# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## What we did.

- Cross-referenced and compared the different variables to determine if any of them are correlated
  - Number of permitted farms
  - IDEM enforcements
  - OISC violations
  - Complaints to OISC
  - Planning and zoning
  - CFO ordinance
  - Extended setbacks/buffers
  - Ag clause/reciprocal buffers
  - Difficulty/“Tone” of CFO siting

# Confined Feeding Operation Research at Purdue

Indiana Land Resource Council, November 2017

## What we found (correlations).

### Correlations Identified at Time of Report

<i>Independent Variable</i>	<i>Dependent Variable</i>	<i>Relationship</i>
Number of permitted farms	• Average enforcements/violations (IDEM and OISC) per permitted farm in the county	Negative
	• OISC investigations resulting from anonymous/residential complaints per permitted farm in the county	Negative
CFO Ordinance	• OISC investigations resulting from anonymous/residential complaints per permitted farm in the county	Negative
Number of Buffer Categories	• OISC investigations resulting from anonymous/residential complaints per permitted farm in the county	Negative
Residential Use Setback	• OISC investigations resulting from anonymous/residential complaints per permitted farm in the county per permitted farm in the county	Negative
Approval Process	• OISC Violations	Negative
Difficulty of CFO Siting	• “Tone” of Discourse	Positive

# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## Implications.

- Data set is established and we are interested in hearing what other types of comparisons may be helpful
  - Changes over time
  - Impact of county demographics

PURDUE UNIVERSITY EXTENSION

# Thirty-seven Factors that could Affect CFO Siting in Indiana – *Comparison of Counties*

MARCH 2017

*Paul Ebner, Associate Professor, Department of Animal Sciences*  
*Yingying Hong, Project Director, Department of Animal Sciences*  
*Tamara Ogle, Community Development Regional Director*  
*Tanya Hall, Community Development Regional Director*  
*Larry DeBoer, Professor, Department of Agricultural Economics*

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# Confined Feeding Operation Research at Purdue

Indiana Land Resource Council, November 2017

## Comparing all the factors.

- Attempt to make the data more accessible/reader-friendly
- Compared 37 factors that could affect CFO siting across all Indiana counties
- Heat maps
  - Places each county in a percentile
  - Assigns color to each percentile

Color'	Percentile'
!!	Top!20%!
!!	Top!40%!
!!	Top!60%!
!!	Bottom!40%!
!!	Bottom!20%!
!	No!standard!or!provision

County	County Demographics						Siting Basics				Buffers						Other Standards and Provisions										Violations/Complaints										
	1. Population Density	2. Housing Density	3. Typology (rural, mixed, urban)	4. Non-farmland (%)	5. No. of Permitted Farms	6. Est. Animal Density (AU)	7. Planning and Zoning	8. CFO Ordinance	9. Siting Process	10. Site scoring	11. Residences	12. Municipalities	13. Religious Institutions	14. Schools	15. Recreational Areas	16. Businesses	17. Reciprocal Buffer	18. Ag Clause	19. Pre-Application Permit	20. Site Plan	21. Minimum Lot Size	22. IDEM Permit	23. Odor Control Standards	24. Manure Application	25. Manure Storage Standards	26. Animal Mortality Standards	27. Transportation/Driveway	28. Well/Water standards	29. Screening/Shelterbelt	30. Existing Violations	31. IDEM Enforcements	32. IDEM Enforcements/Farm	33. OISC Inv. w. Violations	34. Total OISC Violations	35. Total OISC Violation/Farm	36. Anon/Res Complaints	37. Anon/Res Complaints/Farm
Adams	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Allen	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Barth.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Bento.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Blackf.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Boone	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Brown	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Carroll	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Cass	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Clark	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Clay	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Clinton	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Crawf.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Davie.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Dearb.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Decat.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
DeKalb	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Delaw.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Dubois	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Elkhart	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Fayette	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37

# Confined Feeding Operation Research at Purdue

Indiana Land Resource Council, November 2017

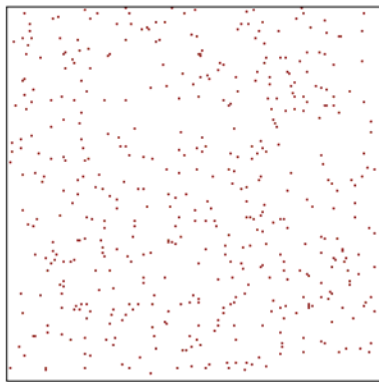
County	Population Density	Housing Density	Typology (rural, rural/mixed, urban)	Non-farmland (%)	Permitted Farms	Animal Unit Estimation
Adams	102.6	38.4	Rural/Mixed	3.1	62	96,140
Allen	556.7	232.2	Urban	35.6	13	26,520
Bartholomew	197.1	81.4	Rural/Mixed	34.1	10	8,590
Benton	21.4	9.7	Rural	2.3	9	4,557
Blackford	75.1	36.5	Rural	16.7	7	14,162
Boone	146.4	55.3	Rural/Mixed	18.1	9	11,660
Brown	48.0	26.8	Rural	92.7	1	1,534
Carroll	53.5	25.4	Rural	14.3	94	106,344

County	Dairy Cows	Beef Cattle	Other Cows	Total Pigs	Layers	Broilers	Turkeys	Ducks	Animal Unit Estimation	Animal Unit Notes
Adams	8,841	954	20,906	109,912	893,885	36,995	74	402,548	96,140	
Allen	2,031	1,641	12,442	34,093	46,508	D	168	D	26,520	does not include broilers, ducks
Bartholomew	583	1,745	1,983	12,030	1,209	143	35	31	8,590	
Benton	>1022	[537-755]	2,509	>2152	217	0	13	D	4,557	does not include ducks
Blackford	0	601	956	32,452	296	7	9	D	14,162	does not include ducks
Boone	482	1,126	2,254	21,208	1,106	103	D	33	11,660	does not include turkeys
Brown	>500	[366-424]	637	[25-49]	388	D	0	30	1,534	does not include broilers
Carroll	58	1,109	4,602	255,898	[128-1,570]	140	8	D	106,344	does not include ducks

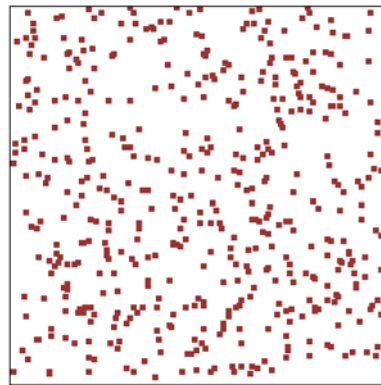
# Confined Feeding Operation Research at Purdue

Indiana Land Resource Council, November 2017

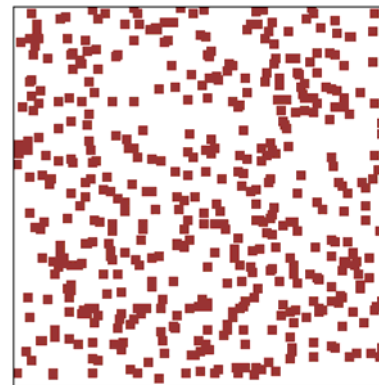
## Mapping CFO Zoning Ordinances



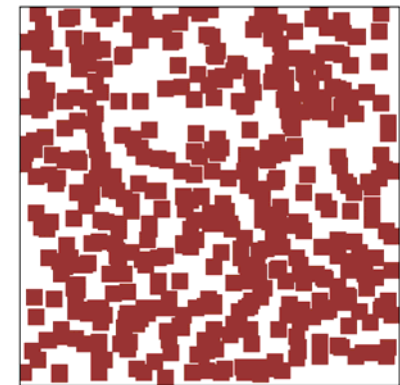
Dispersed  
Land Uses



500 ft. Buffer



1,000 ft. Buffer



2,000 ft. Buffer

**Percent Land  
Area Protected**

**9%**

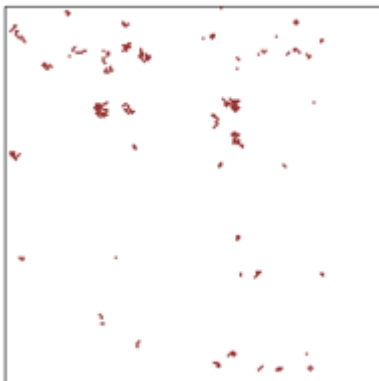
**23%**

**56%**

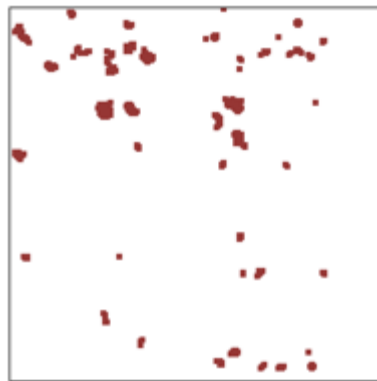
# Confined Feeding Operation Research at Purdue

Indiana Land Resource Council, November 2017

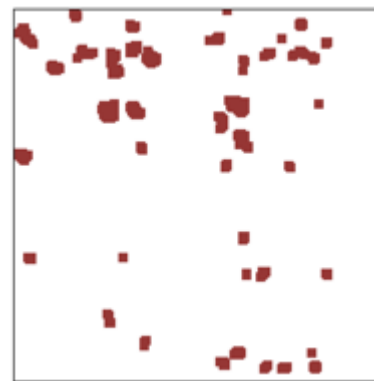
## Mapping CFO Zoning Ordinances



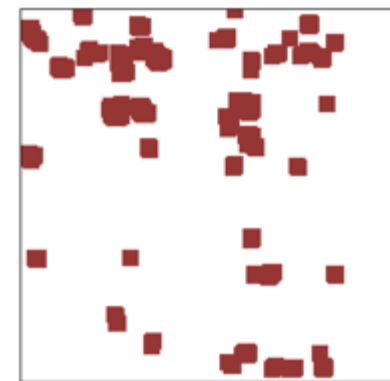
Concentrated  
Land Uses



500 ft. Buffer



1,000 ft. Buffer



2,000 ft. Buffer

**Percent Land  
Area Protected**

**3%**

**6%**

**13%**

## Mapping CFO Zoning Ordinances

- Variables that affect Percent of Land Area Protected
  - Land Area of County
  - Population / Number of Protected Land Uses
  - Concentration / Dispersion of Land Uses
  - Buffer Radius
- Measure hypothesized relationships between these variables and percent protected
  - For example, each 500 feet in added buffer adds x% to percent protected, given land area, population and concentration
- Test the effects of these variables on GIS maps of six Indiana counties

## Inventory of Ordinances Update

- Surveys being collected to capture changes or additions to in Indiana counties' zoning ordinance related to CFOs.
- County factsheets will be updated and a report issued on findings.

# Confined Feeding Operation Research at Purdue

Indiana Land Resource Council, November 2017

## Where everything can be found.

- <https://ag.purdue.edu/cfo>
- Additional information for planning professionals, Extension Educators, others involved with or interested in CFO siting and regulation
- Basic Info
- Tools for Planners
- State of Research
- Information from Purdue and other land grant schools

Find info for - Apply News Visit Give Emergency Q

**PURDUE** Confined Feeding Operations (CFOs)  
AGRICULTURE

About General Information - Tools for Planners - Current Research - Question and Answer

**CFOs**  
Confined Feeding Operations

**Confined Feeding Operations**

Indiana has close to 2000 CFOs or Confined Feeding Operations. These farms are regulated at the state level by the Indiana Department of Environmental Management (IDEM). Indiana counties, however, have the option of adopting planning and zoning, and many Indiana counties operate under zoning ordinances that specify where CFOs can locate within the county. CFOs may be restricted to certain zoning districts, but may also be subject to setbacks or buffers that further define where the farms can locate.

**Contact Us**

Please feel free to contact us at any time if you have any questions, need clarifications, or would like further information.

**Paul Ebner**  
Associate Professor  
Department of Animal Sciences  
Purdue University  
West Lafayette, IN 47907  
**765-494-4820**

This site is designed to provide information for individuals involved in the CFO siting process.



# Confined Feeding Operation Research at Purdue

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*Indiana Land Resource Council, November 2017*

## Questions/Presenter Contact Info.

- Paul Ebner, [pebner@purdue.edu](mailto:pebner@purdue.edu), 765-494-4820
- Tamara Ogle, [togle@purdue.edu](mailto:togle@purdue.edu), 317-523-8804
- Tanya Hall, [tjhall@purdue.edu](mailto:tjhall@purdue.edu), 812-723-7107
- Larry DeBoer, [ldeboer@purdue.edu](mailto:ldeboer@purdue.edu), 765-494-4314