

PURDUE UNIVERSITY EXTENSION

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

JANUARY 2016 REPORT

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Advancing Collaboration : Energizing Regions

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BACKGROUND

In May of 2015, Purdue Extension was commissioned by the State of Indiana to study Indiana county zoning ordinances as they apply to confined feeding operations. Of the 81 Indiana counties operating with a zoning ordinance, 64 zoning ordinances currently (August 2015) contain language specific to CFOs^{1,2}. Operation of a CFO may be impacted by other regulations at the county level. This project, however, focuses solely on county zoning ordinances and the provisions in these ordinances specific to CFOs.

The report is separated into several sections including:

- A brief introduction to CFO regulations;
- A description of the procedures used to collect data;
- An overview of zoning tools and provisions found in CFO ordinances across Indiana;
- A comparison of specific provisions found in CFO ordinances in Indiana; and
- County-specific factsheets describing their current zoning provisions for CFOs and related information about the county.

This report is part of an on-going research project. Cataloging the individual ordinances is an important first step in characterizing how CFOs are regulated at the county level across Indiana. It is our hope that plan directors and plan commission members can use this information to make comparisons to other zoning ordinances and zoning tools used in counties with both similar and different backgrounds. Coupled with dialogue between counties as to the actual efficacy of different standards or tools, plan commissions can then draft CFO ordinances that are effective in addressing concerns and development goals of the community without undue or unnecessary restrictions.

INTRODUCTION

Livestock and poultry are produced on over 22,000 farms across Indiana (Wilcox *et al.*, 2014). Approximately 1,780 of these farms produce livestock and poultry under Indiana's Confined Feeding Program (IDEM 2015). Such farms (confined feeding operations or CFOs) are generally defined by:

1. Confinement of animals in buildings or lots with less than 50 percent vegetation or ground cover for 45 days or more over a 12-month period; and
2. Numbers of animals (IDEM 2014; IAC 327, 2012; **Table 1**).

¹ Copies of each ordinance that addressed CFOs are available at: <https://ag.purdue.edu/Documents/ordinance>.

² Marion County was not included in our study as it does not contain any unincorporated land.

Table 1: Confined Feeding Operation (CFO) and Concentrated Animal Feeding Operation (CAFO) Definitions by Number of Animals (Adapted from IDEM 2014).

Animal and/or Operation System	CFO	CAFO
	<i>(Number of Animals)</i>	
Swine		
Growers, Finishers, Sows (> 55 lbs.)	≥600	≥2,500
Nursery Pigs (< 55 lbs.)	≥600	≥10,000
Beef		
Cattle	≥300	≥1,000
Cow/Calf Pairs	≥300	≥1,000
Dairy		
Mature Dairy Cow	≥300	≥700
Other than Mature Dairy Cows ^a	≥300	≥1,000
Chickens		
Layers/Broilers (Liquid Manure System)	≥30,000	≥30,000
Non-layers (Non-Liquid Manure System)	≥30,000	≥125,000
Layers (Non-Liquid Manure System)	≥30,000	≥82,000
Ducks		
Liquid Manure System	≥30,000	≥5,000
Non-Liquid Manure Systems	≥30,000	≥30,000
Other Animals		
Turkeys	≥30,000	≥55,000
Horses	≥500	≥500
Sheep/Lambs	≥600	≥10,000

^a Dairy heifers and calves, veal calves.

At the state level, CFOs are regulated by the Indiana Department of Environmental Management (IDEM). Approval to operate a CFO in Indiana requires a permit administered through the IDEM Confined Feeding Program. The stated purpose of the Confined Feeding Program is to ensure that CFOs are constructed and operated “in a manner that protects human health and the environment” (IDEM 2014). Indiana’s Confined Feeding Program largely focuses on effective storage and application of manure and related wastes generated from CFOs. Details describing the Confined Feeding Program and IDEM’s role in CFO regulation are available in IDEM’s *Guidance Manual for Confined Feeding Program* (IDEM 2014).

Concentrated Animal Feeding Operations (CAFOs) are a subset of CFOs containing high numbers of confined animals (see Table 1 for more information). In the past, farms defined as CAFOs were subject to significantly different regulation compared to the smaller CFOs. Most notably, CAFOs were required to obtain a National Pollutant Discharge Elimination System (NDPES) from the US Environmental Protection Agency (EPA). Following a series of court rulings (National Pork Producers v. US EPA 2011), however, CAFOs in Indiana are no longer required to obtain NDPES permits for operation unless they directly discharge into a state water. Since 2012, CAFO sized CFOs are largely regulated by IDEM as

simply CFOs³. The areas in which CFOs and CAFOs differ in regulation in Indiana mainly revolve around storm water management (See 327 IAC 19-11-1).

Several other state agencies are involved in regulating CFOs either directly or indirectly, as they have jurisdiction over different aspects of livestock production in general. The Indiana State Board of Animal Health (BOAH) monitors the overall health of Indiana's livestock population, develops animal care standards, and operates the Meat and Poultry Inspection Program in line with the USDA Food Safety Inspection Service. Since 2013, the Office of the Indiana State Chemist (OISC) has administered the Fertilizer Material Use, Distribution, and Record Keeping Rule⁴. The application of manure as fertilizer (regardless of the size of the farm generating the manure) must meet standards set forth in this rule. The Indiana State Department of Health operates the Food Protection Program as well as other public health programs that relate to livestock production, often in concert with BOAH. Finally, several other agencies including the State Egg Board and Creamery License Division are involved in regulating the sale of livestock products.

COUNTY OVERSIGHT OF CONFINED FEEDING OPERATIONS

CFOs may also be regulated at the local level. In Indiana, counties and municipalities have the option of enacting planning and zoning. This process begins with the plan commission developing a comprehensive plan describing future development and land use objectives for the county or other jurisdiction. The plan commission is then develops a zoning ordinance which must be adopted by the legislative body (e.g., board of county commissioners) to become law.

Eighty-one of Indiana's 92 counties currently have adopted both planning and zoning. Sixty-four counties have zoning ordinances that regulate or set provisions for CFOs within the county. These ordinances may designate districts in which a CFO is allowed, define buffers or separation distances from other uses such as residences or schools, or, in some cases, protect the CFO or other agricultural business from the impact of other types of development.

In May of 2015, Purdue Extension was commissioned by the State of Indiana to study Indiana county zoning ordinances as they apply to confined feeding operations. Of the 81 Indiana counties operating with a zoning ordinance, 64 zoning ordinances currently (November 2015) contain standards, regulations, or language specific to CFOs^{5,6}. Here, we present a characterization of those ordinances. The report is separated into several sections including:

- A description of the procedures used to collect data;
- An overview of zoning tools and characteristics found in CFO ordinances across Indiana;
- A comparison of specific characteristics found in CFO ordinances in Indiana; and

³ Several zoning ordinances we examined still distinguish CAFOs from CFOs using either EPA/IDEM animal numbers or their own definitions and contain different standards for the different size operations.

⁴ 355 IAC 8

⁵ Copies of each ordinance addressing CFOs are available at: <https://aq.purdue.edu/Documents/ordinance>.

⁶ Operation of a CFO may be impacted by other regulations at the county level. This project, however, focuses solely on county zoning ordinances.

- County-specific factsheets describing their current CFO ordinances and related information about the county.

PROCEDURES

Individual surveys were sent to 80 Indiana County Plan Directors of Indiana counties that have adopted planning and zoning⁷. Marion County was not included in the results as there is no unincorporated land in the county. A similar survey was sent to Purdue Agricultural and Natural Resources (ANR) Extension Educators who, in some cases, are required by Indiana law to serve on county plan commissions (IC 36-7-208). The surveys were designed to identify and characterize provisions in the zoning ordinance specific to the regulation of CFOs, determine if changes or amendments had been made to these provisions in the recent past, and begin to determine the level of discourse regarding CFO related zoning issues in different counties. Seventy-seven plan commission directors or staff from counties with planning and zoning as well as 90 Purdue Extension Educators completed their respective surveys at least in part⁸. Copies of the survey instruments are included in the Appendix.

Copies of zoning ordinances containing provisions for CFOs are available at <https://ag.purdue.edu/Documents/ordinance>. The zoning ordinances were collected, reviewed to identify CFO related language, and indexed to identifying common attributes of CFO specific regulations across counties, including:

- 1) confined feeding definitions;
- 2) review and approval methods; and
- 3) developmental standards, such as buffers and setbacks; and
- 4) other miscellaneous provisions and application

Demographic information including population, farmland percentage, top employing industries, county type (e.g. rural, urban, mixed), population and housing densities, and per capita individual income was collected on each county with a CFO ordinance using available information (Ayres et al., 2013; USDA-NASS 2012; USCB 2000; USCB 2014a, USCB 2014b, EMSI 2014; 2014; STATS Indiana 2015). Individual factsheets for each county were then generated containing both demographic information as well as detailed descriptions of their respective zoning provisions for CFOs. A copy of this report and all associated factsheets are available at t will be made available at <https://purdue.edu/extension/cfo/pages/report.aspx>.

⁷ For this study, all research involving human subjects was approved by the Purdue University Institutional Review Board (IRB Protocol # 1507016246).

⁸ In cases where there was no response, the county zoning ordinance was still obtained for this analysis. In many cases involving Purdue Extension Educators, there were vacancies in the position.

Inventory of Zoning Provisions for Confined Feeding Operations in Indiana County Ordinances

OVERVIEW OF ZONING PROVISIONS USED TO REGULATE CFOS IN INDIANA

Eight-eight percent of Indiana’s 92 counties currently have adopted both planning and/or zoning in some form⁹. Of the counties ordinances included in this study (n = 80)¹⁰, 64 zoning ordinances currently contain language specific to CFOs¹¹. Counties have the capacity to define specific regulations or standards as they see appropriate, provided these regulations do not interfere with existing state laws or regulations. While there are many intricacies to planning and zoning in Indiana, the zoning provisions and processes typically used to regulate CFOs (e.g., setbacks, buffer distances, etc.) are described below.

First, counties designate zoning districts and define the land uses permitted in those districts. Uses can be permitted by right or by special exception (sometimes referred to as a conditional use or special use). Uses permitted by right must adhere to district and use standards or developmental standards as stated in the ordinance, but they are not required to go before the plan commission or board of zoning appeals for approval.

Special exceptions allow counties to review the details and site of a particular application to make sure it is compatible with their comprehensive plan and zoning ordinance. Special exceptions must go before the board of zoning appeals for approval (IC 36-7-4-918.2). Criteria for considering a special exception are set in the zoning ordinance or by rule of the BZA. Some counties use a general set of criteria while others set criteria specific to the use (ILRC, 2014). When setting criteria for a CFO, some counties may consider factors such as county road conditions, buffers or screening, or whether it is harmonious with neighboring uses.

Counties also can create multiple agricultural zones for general agricultural purposes, rural estates, conservation, agribusinesses, or intensive agricultural uses like CFOs. This allows the commission to separate possible conflicting land uses. Often, CFOs are located in a district titled “Intensive Agriculture” or “High Impact Use”. The commission may prohibit other uses such as businesses or residences from locating in that district to avoid future land use conflict.

Sometimes a zoning ordinance specifies multiple agricultural zoning districts, but no land on the zoning map is zoned for the district in which CFOs are permitted. In these situations, the proposed CFO would

⁹ Some counties in Indiana have adopted planning in that they have a comprehensive plan, but have not adopted or implemented a corresponding zoning ordinance.

¹⁰ Marion County was not included as the study looked only at unincorporated areas.

¹¹ Copies of each ordinance that addressed CFOs are available at: <https://ag.purdue.edu/Documents/ordinance>.

have to go through the rezoning process in order to change the parcel on the zoning map to a district that permits CFOs. In the rezoning process, the plan commission considers the criteria set forth for rezoning in IC 36-7-4-603 during a public hearing and makes a recommendation to the legislative body. The legislative body, in this case the board of county commissioners, then has the final authority to approve or deny the rezoning.

A zoning ordinance can set developmental standards. Each district will have its own set of development standards, but zoning ordinances can implement use standards for a specific use as well. These may define a buffer or separation distance between CFOs and other uses, such as schools, residences, or other zoning districts. Standards can also prescribe a setback from the road or property line for the CFO's structures or a minimum lot size. Beyond buffers and setbacks, standards may require landscaping or screening, odor abatement technologies, or a number of other practices or designs. If an applicant is unable to meet the development standards, they do have the ability to apply for a variance with the board of zoning appeals.

Site scoring systems are a more flexible standard, which awards points to an applicant based on management practices, site location, facility characteristics, and other criteria. A predetermined number of points must be scored in order for a permit to be issued. A site scoring system can be used with additional minimum standards. The Indiana Land Resource Council's Guide for *Local Use Planning for Agriculture Operations* describes model scoring systems in more detail (ILRC 2014).

The zoning ordinance may include some other provisions for regulating CFOs. Required proof of other permits, studies, or plans such as a transportation plan or route permit from the highway department are some of the other coming used zoning provisions used by counties to regulate CFOs. One provision which may not be as self-explanatory is an existing violation clause. This provision basically excludes an applicant from obtaining a permit for a CFO if they have had an environmental or other type of violation issued in the recent past (e.g., last five years) for another operation in which they hold ownership or currently have an unresolved violation with IDEM or another local, state, or federal agency.

Site plans, developmental plan reviews, and pre-applications permits are among other application requirements sometimes employed in zoning ordinances. Site plans are often used by planning staff to determine whether standards will be met. A site plan is a scaled drawing which would include location and size of the buildings on the parcel, surrounding uses and zones, and other details needed to ensure compliance with the standards. A development plan review may also be required by the zoning ordinance. The zoning ordinance must specify objectives and contain clear standards by which a plan will be evaluated. The process for development plan review differs by commission. The review may be done by staff, a committee, or through a public hearing held by the plan commission, depending on how the procedures are defined in the ordinance. Both a site plan and development plan review are largely used to ensure standards are followed. Finally, some counties require a pre-application permit. The details and purpose of the pre-application permit are defined in the ordinance, but, in general, counties utilizing this permit for CFOs prohibit improvement location permits from being issued to conflicting uses within the buffer zone of the proposed CFO for a set time period. This gives the applicant time to collect all the information and permits needed in order to apply for their improvement location permit.

Finally, there are related standards and provisions that apply to non-CFO uses, which commissions can implement to avoid land use conflict. One of these standards is a reciprocal buffer. A reciprocal buffer applies the same buffer required for an established CFOs to other surrounding, new uses. For example, if a CFO cannot locate within 1320 feet of a residence in a county with a reciprocal buffer, a new residence also cannot locate within 1320 ft. of a CFO. The details of this type of standard vary from county to county.¹² An agricultural clause or notice of agriculture activity is a provision in the zoning ordinance that notifies new uses locating in, or perhaps near, an agriculture zone that agricultural activity is a permitted use and how that might impact them. Sometimes the notice is signed when a new permit is applied for, or it could require a restriction attached to the deed.

USE DEFINITIONS AND ZONING DISTRICTS

CFO Definitions

While the majority of ordinances (44 of 64) studied use definitions comparable to the IDEM definition for CFOs (**Table 1**), there is a degree of non-uniformity in the types and sizes of operations that are regulated by the different ordinances. In eight ordinances, the CFO definition or size of operation is based on a lower number of animals or animal units than the IDEM definition. In some cases, the definition includes any confined feeding use regardless of the number of animals. Three ordinances define CFOs based on numbers of animals that were either higher or lower than the IDEM definition depending on species. Likewise, four ordinances specify regulations are applicable to only CAFO¹³ sized (larger) operations. In other cases, “CFO” is either not defined or defined by other parameters such as animal units (e.g., one mature cow = 1 animal unit; one mature pig = 0.3 animal units) or the equivalent of a stocking density (e.g., number of animals per defined area)

Zoning Districts and Review and Approval Methods

For the purposes of this study, zoning ordinances were categorized into five different review and approval methods for CFOs: permitted use, permitted use with additional zoning provisions, special exception, rezoning required, and rezoning required and special exception. These categories do not speak directly to the difficulty of siting a CFO, however they do indicate the process required during permitting, ranging from no public hearings with a permitted use to a public hearing with both the plan commission and the board of zoning appeals (BZA) when rezoning is required and the use is permitted by special exception. Thirty-one¹⁴ counties permit CFOs by right. Of these counties, Johnson and Owen require no additional zoning provisions specific to CFOs (**Table 10** [Appendix]). A similar number of counties (n=27) permit CFOs by special exception, also known as a conditional use or special use. These counties may have additional zoning provisions within the ordinance. The BZA may also apply additional developmental standards during the special exception process. Five counties treat CFOs as a permitted use in a specified district, but do not have land zoned for that district in the zoning map. In these counties, CFOs are required to go through the rezoning process before they are permitted, which

¹² Detailed tables with county specific comparisons can be found in the following sections as well as the Appendix.

¹³ CAFO: Concentrated Animal Feeding Operation. See Table 1 for differentiation of CFO vs. CAFO based on animal numbers.

¹⁴ DeKalb, Fulton, Howard and Whitley counties are a permitted use by right only under a certain size threshold.

requires a public hearing before the plan commission. The plan commission makes a recommendation to the legislative body who make the final decision. In a few counties, rezoning is required for larger operations. Finally there are two counties, Elkhart¹⁵ and Porter, where operations are required to go through the rezoning process followed by the special exception process. This would involve public hearings before both the plan commission and the BZA (and a decision by the legislative body).

APPLICATION PROCESS REQUIREMENTS AND SITE SCORING SYSTEMS

Five zoning ordinances require a pre-application or intent permit (Carroll, Jay, LaPorte, Madison, and Wabash) for CFOs. Generally, the pre-application permit provides the applicant and plan department a period of time, most commonly 12-18 months, to get their application and other permits in order and notify surround property owners as required by the ordinance during which time other buffered uses would be prohibited within the buffer zone of the proposed CFO. Eighteen ordinances require a site plan, while 10 require applications to go through a development plan review. Counties use these tools to ensure the necessary standards and provisions are met..

Five zoning ordinances (Fayette, Henry, Rush, Washington, and Wells) currently employ a site scoring or point system¹⁶. The scoring systems are very similar in the five counties. Applications receive a set number of points based on several factors, including all or some of the following: odor abatement practices, buffers above minimum standards, manure application practices, or homestead on property, among other factors. The site scoring system allows for some flexibility in the provisions or standards required of the applicant. All five ordinances employing site scoring systems also have minimum development standards or other provisions specific to CFOs which have to be met to obtain a minimum score. The specifics of the different scoring systems are described in Error! Reference source not found..

Table 2: Criteria of CFO Site Scoring Systems.

Site Scoring Criteria	Fayette	Henry	Rush	Washington	Wells
Additional separation distance	•	•	•	•	•
Closure Plan	•		•		
Community Support	•				•
Existing land use	•	•	•	•	
Filter strips					•
Homestead	•	•	•	•	
Manure Application	•	•	•		•
Neighbor Notification	•	•	•		
Neighbor Objection		•			
Non-use of CRP			•		
Odor Abatement	•	•	•	•	•

¹⁵ Elkhart County only applies to CAFOs.

¹⁶ See the Indiana Land Resources Council's "A Guide for Local Use Planning for Agriculture Operations" for more details on site scoring systems.

Section Density	•	•	•	•
Shelterbelt		•		
Truck Turn-around	• ^a	•	•	
Utilities			•	
Violations	•	• ^b	• ^b	• ^c
Waivers				•
Water conservation	•	•	•	

^a Points for truck turn-around as well.

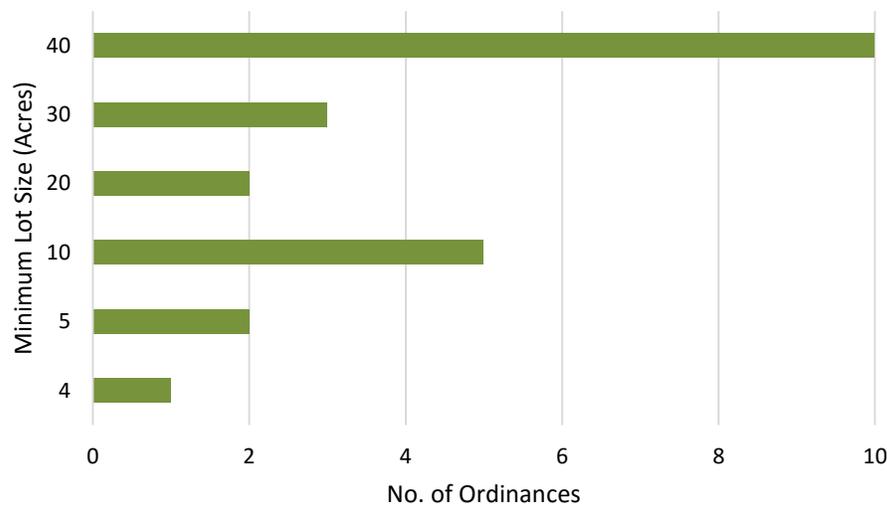
^b Both add points for clean records and subtract for violations.

^c Only adds points for clean records.

MINIMUM LOT SIZES

Twenty-four zoning ordinances have minimum lot size requirements for CFOs ranging from four acres to 120 acres¹⁷ (median: 30 acres; mean: 25.8 acres; **Figure 1; Table 11** [appendix]). In three cases (Miami, Morgan, and Randolph) siting a CFO on a lot smaller than the requirement is possible, but requires the permit to go through the special exception process.

Figure 1: Range of Lot Sizes in Zoning Ordinances (n = 24)^a Specifying CFO Lot Size Requirements^{b,c}.



^a Once ordinance lot size requirement applies on to CAFOs. This is not included in this figure.

^b Median: 30 acres; mean: 25.8 acres.

^c Two ordinances require a lot of 30 acres for a CFO and 120 acres for a CAFO. The 30 acre requirement is used here.

¹⁷ In two cases, the 120 acre requirement only applies to CAFO sized farms. The CFO requirement (30 acres) was used in calculations. In one case, lot size requirements only apply to CAFOs. This is not included in calculations.

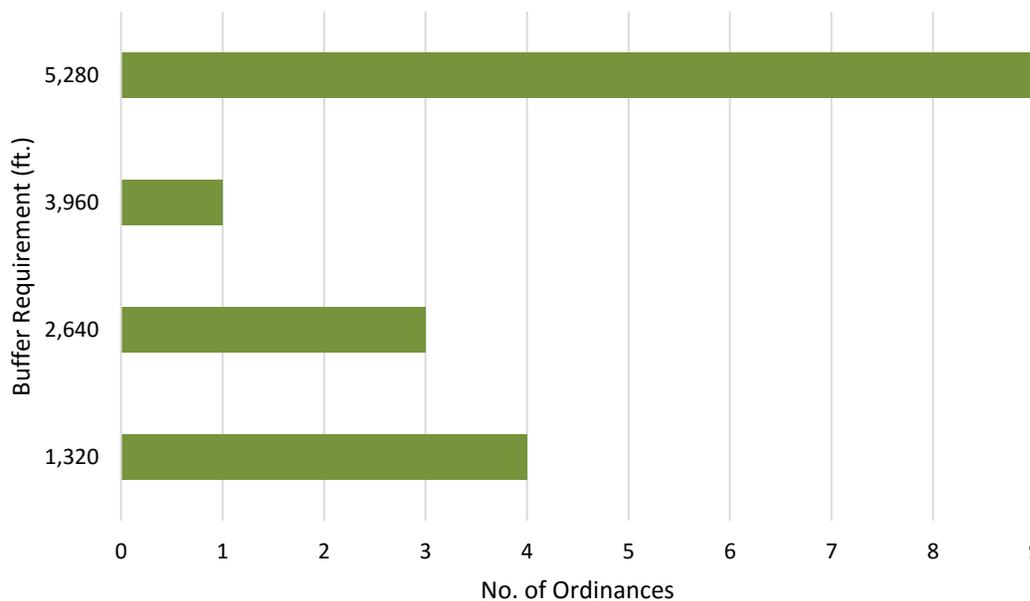
BUFFERS

Zoning Districts and Municipality Buffers

Thirty-nine of the 64 ordinances (60.9 percent) containing standards for CFOs require buffers from specified zoning districts and/or municipalities. Four ordinances require buffers between CFOs and any other zoning district and two specify buffer requirements between CFOs and any non-agriculture district. Municipal buffers are specified in twenty-one ordinances and range from 1,320 ft. to 5,280 ft.¹⁸ (median: 5,280 ft.; mean 3,804 ft.; **Figure 2**;

Table 12 [Appendix]). Buffer requirements between CFOs and residential districts or residential and business districts together (n = 25)¹⁹ range from 500 ft. to 2,640 ft. (**Figure** ; median: 1,320 ft.; mean: 1,513 ft.)²⁰.

Figure 2: Range of Buffer Requirements (ft.) in Zoning Ordinances (n = 21)^a Requiring Buffers between CFOs and Adjacent Municipalities^b.



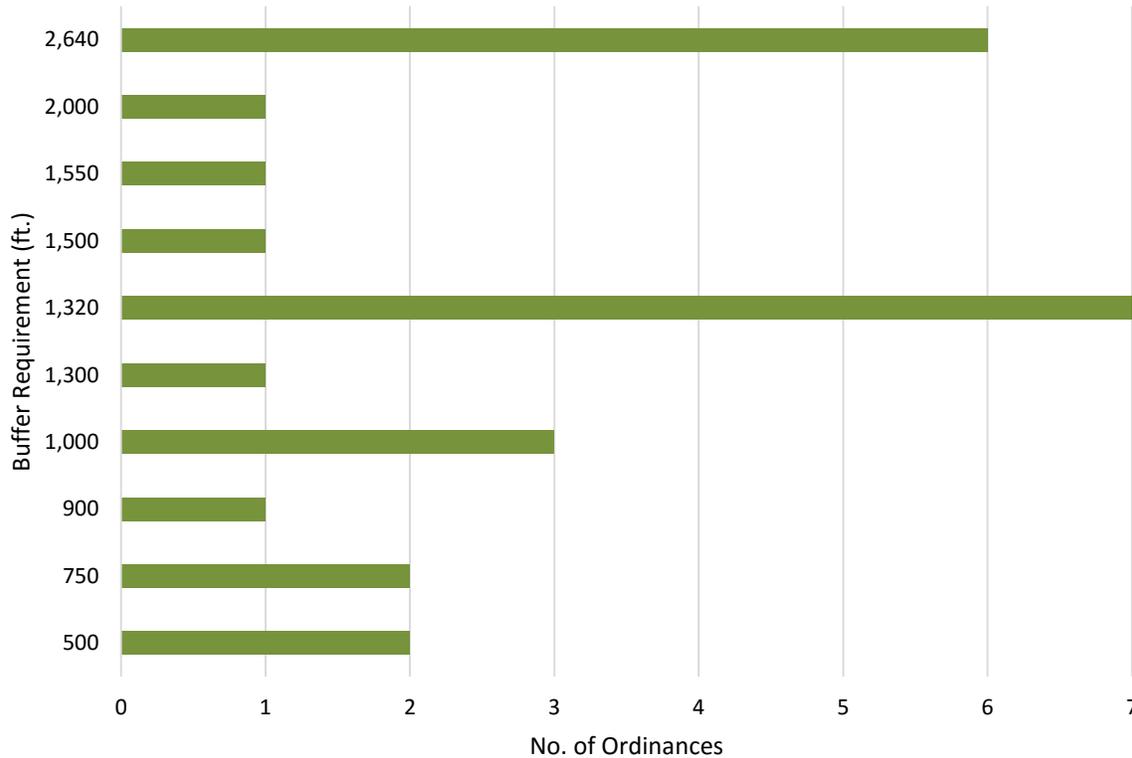
¹⁸ Three ordinances employed a range of buffer distances depending on different factors including the type of municipality or a specific municipality. A fourth ordinance required municipal buffers, but only for CAFOs. These are not included in these calculations.

¹⁹ One ordinance requires buffers for both residential and business districts, but at differing distances of 1,550 ft. and 1,250 ft., respectively.

²⁰ Two additional ordinances specified a range of buffer requirements for different municipalities. Those data are not included in these figures.

^a Three ordinances employ a range of buffer distances depending on different factors including the type of municipality or a specific municipality. A fourth ordinance requires municipal buffers, but only for CAFOs. These are not included in these figures.
^b Median: 5,280 ft.; mean 3,804 ft.

Figure 3: Range of Buffer Requirements (ft.) in Ordinances (n = 25) Requiring Buffers between CFOs and Residential Districts and/or Residential and Business Districts Together.^{a,b}



^a Median: 1,320 ft.; mean: 1,513 ft.

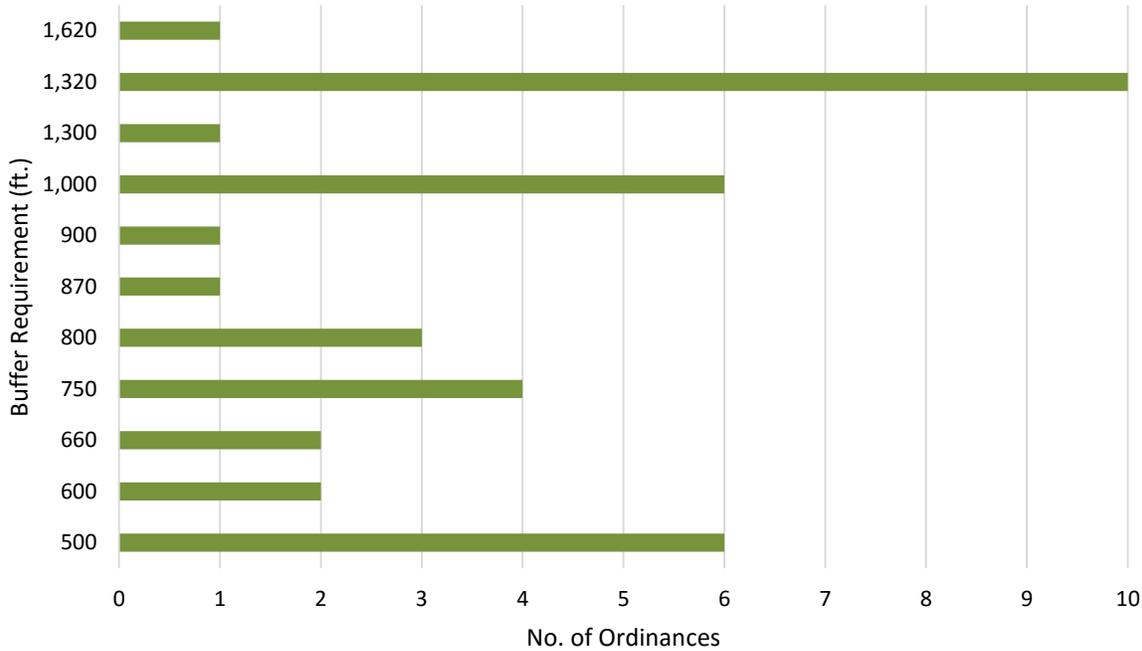
^b One ordinance specifies different buffers for residential districts (1,550 ft.) and business districts (1,250 ft.). The 1,550 ft. residential buffer is used here.

USE BUFFERS

Numerous ordinances specify buffer requirements for specific uses within the county. Forty ordinances require standard buffers between a CFO and a residence within the zone ranging from 500 ft. to 1,620 ft. (median: 900 ft.; mean: 941 ft.; **Figure 3**). Four of these ordinances (Adams, Fayette, Henry, and Noble) specify larger buffer requirements for residential subdivisions. Of those ordinances, however, 27 make exceptions for the applicant’s house or a house associated with the farm operation. Some counties provide the opportunity for the neighbor to waive the buffer, which would also likely result in an exception for the applicant’s house. Several ordinances require buffers for other uses, most commonly schools, churches, businesses, public buildings, and recreational area (public and private;

Table 3 and **Table 12** [appendix]). Twenty-three ordinances also require reciprocal buffers or a buffer between new or proposed uses (largely residential) from an established CFO ranging from 500 ft. to 1,500 ft.

Figure 3: Range of Buffer Requirements (ft.) in Zoning Ordinances (n = 40)^a Specifying Standard Buffer Requirements between CFOs and Residential Uses^b.



^a Three additional ordinances specify a range of buffer requirements based on CFO size or waste handling system. These are not included in this figure.

^b Median: 900 ft.; mean: 941 ft.

Table 3: Range of Buffer Requirements in Ordinances Requiring Buffers between CFOs and Schools, Religious Institutions, Businesses, and/or Recreational Areas^a.

Description	Number of Ordinances	Range (ft.)	Median (ft.)	Mean (ft.)
Schools ^b	27	500-5,280	1,320	2,391
Religious Institutions ^c	23	600-5,280	1,320	1,500
Businesses ^d	18	500-10,560 ^e	1,320	1,750
Recreational Areas ^f	23	500-5,280	1,320	1,519

^a Other common buffer requirements included public buildings and wells not used by the CFO.

^b One ordinance requires different buffers for CFO vs. CAFOs. This is not included in this calculation.

^c One ordinance requires different buffers for CFOs vs. CAFOs. This is not included in this calculation.

^d See Table 12 for several specifics regarding business buffers. One ordinance requires different buffers for CFOs vs. CAFOs. This is not included in this calculation.

^e One ordinance specifies a two-mile buffer requirement from any food processing center.

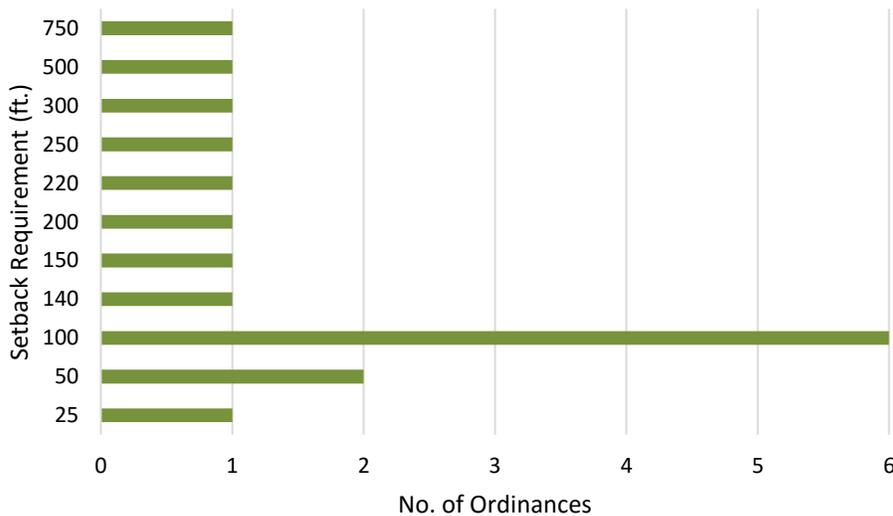
^f Three ordinances include private recreational areas in their standard. Two ordinances require different buffers for CFOs vs. CAFOs. This is not included in this calculation. These are not included in this calculation.

SETBACKS

Setback requirements for CFOs, beyond the general zoning district setbacks, are common in zoning ordinances that contain provisions specific to CFOs (

Table 13). Twenty-one zoning ordinances specify setbacks from adjacent rights of way. Seventeen such ordinances define standard setbacks (range: 25 ft. to 750 ft.; median: 100 ft.; mean: 190 ft.; **Figure 4**) and an additional four ordinances provide a range of setback requirements based on the type of right of way (e.g., county road vs. state highway). Thirty-three ordinances specify setback requirements from adjacent property lines, with 28 ordinances using a standard setback (range: 15 ft. to 1,320 ft.; median: 140 ft.; mean: 216 ft.; **Figure 6**) with three ordinances using a different setback for side, rear, and front property lines. When defined, measurements are most often taken from any CFO structure including waste handling systems (e.g., lagoons).

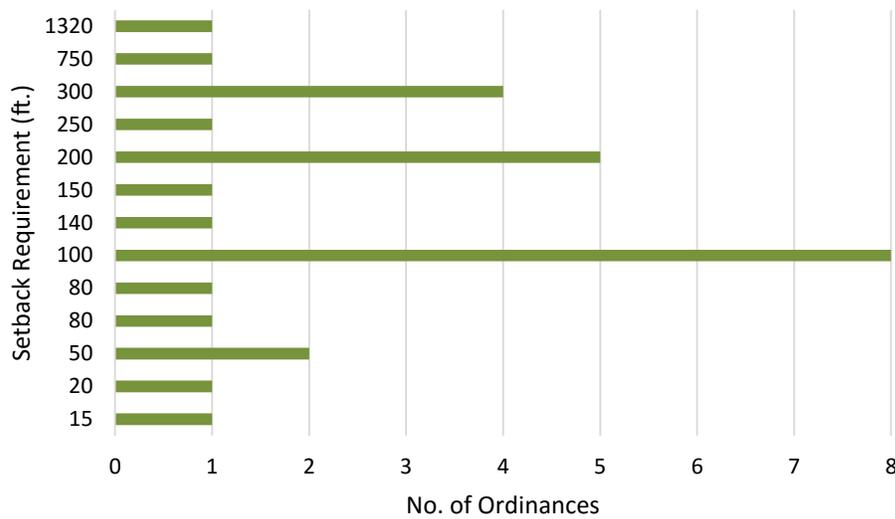
Figure 4: Setback Requirements (ft.) in Zoning Ordinances (n = 21)^a Specifying Standard Setback Requirements between CFOs and Adjacent Rights of Way^b.



^a Four ordinances required a range of setback requirements depending on the type of right of way (e.g., county road vs. state highway). These are not included in this figure.

^b Median: 100 ft.; mean: 193 ft.

Figure 5: Setback Requirements (ft.) in Zoning Ordinances (n = 33)^a Specifying Standard Setbacks between CFOs and Adjacent Property Lines^b.



^a Four ordinances specify varying setback requirements depending upon measurement site (e.g., side vs. rear). One ordinance applies only to CAFOs. These are not included in this figure.

^b Median: 140 ft.; mean: 216 ft.

OTHER DEVELOPMENT STANDARDS AND PROVISIONS

A variety of other development standards and provisions is described in (**Table 14**). A small number of ordinances (n = 8) contain language regarding odor control²¹. Only three ordinances, however, require any type of specific abatement practices (e.g., biofilter and/or similar odor reduction practice). Two ordinances indicate that the use of odor abatement practices were not required, but could reduce buffer requirements. Seventeen ordinances contain specific provisions for manure application or storage such as restrictions on application near different uses, incorporation of manure within specific time periods, or requirement of a manure application plan. Eleven ordinances contain specific standards or provisions for transportation including a route permit or plan or parking/driveway standards. A smaller number of ordinances specify standards for animal mortalities (handling), shelterbelts, or contain prohibitions on permits for individuals with previous environmental violations²². The five counties employing site scoring systems also incorporated similar standards through their scoring criteria.

²¹ Five additional ordinances require a site scoring system that also incorporate odor abatement.

²² Shelterbelts and previous environmental violations are also incorporated into some scoring systems.

RECENT ZONING ORDINANCE MODIFICATIONS

Approximately 39 percent of Plan Directors (24 of 61) and 38 percent Extension Educators (20 of 55 respondents) indicated their zoning ordinances related to CFOs have changed in the last five years. Fifteen of 59 Plan Directors (respondents) indicated that their county has restricted zoning districts where CFOs could be sited in the past five years. Four plan commissions (Bartholomew, Henry, Jackson, and Porter) implemented moratoria on CFO construction in their respective counties in the past five years; each moratorium, however, has expired. A small number of counties (15 percent or 10 of 65 Plan Directors; 17 percent or 13 of 77 Extension Educators) indicated that they are currently considering ordinance revisions that may impact zoning provisions for CFOs. Many of these pending revisions, however, are not specific to CFOs and relate to general revisions or updating of the existing zoning ordinance.

The majority of county plan directors (58 percent or 14 of 24 respondents to the question) indicated there is regular disagreement in discussions concerning CFOs within the county (**Table 4**). Most indicated, however, that discussions are civil (71 percent or 17 of 24 respondents to the question). Similarly, 52 percent (15 of 29 respondents to the question) of Extension Educators indicated that there is regular disagreement with most (76 percent of 22 of 29 respondents to the question) reporting that discussions are civil. County plan directors were split as to the difficulty of zoning issues regarding CFOs compared to non-CFO issues with 46 percent (11 of 24 respondents) indicating CFO-related zoning issues were somewhat or much more difficult than other zoning issues. However, county plan directors most often (38 percent or nine of 24 respondents to the question) viewed the difficulty of CFO-related zoning issue as “about the same” as non-CFO zoning issues. Likewise, 59 percent (17 of 29 respondents to the question) of Extension Educators viewed zoning issues regarding CFOs as more difficult than other zoning issue. Details regarding these data, including response rates, which were low in many cases, are included in

Table 5.

Table 4: General “Tone” of Public Discussions Concerning Adoption or Amendments of Ordinances Regulating CFOs.

Opinion	Agreement with Statement	
	Extension Educators ^a	Plan Directors ^b
Little disagreement and civil	14%	25%
Some disagreement, but civil	34%	17%
Regular disagreement, but civil	28%	29%
Regular disagreement, sometimes with conflict	21%	12%
Regular disagreement, regular conflict	3%	17%

^a 29 of 90 Extension educators responded to the question. ^b 24 of 77 Plan directors responded to the question.

Table 5: Difficulty of Issues Regarding Zoning Ordinances Regulating CFOs in Comparison to other Planning/zoning Issues.

Opinion	Agreement with Statement	
	Extension Educators ^a	Plan Directors ^b
Much easier	3%	8%
Somewhat easier	14%	8%
About the same	24%	38%
Somewhat more difficult	45%	21%
Much more difficult	14%	25%

^a 29 of 90 Extension educators responded to the question.

^b 24 of 77 Plan directors responded to the question.

In counties where changes were recently made to CFO standards, county plan directors identified concerns regarding property values, odor, and concerns from neighbors as the top three factors (among nine options; **Table 6**) most strongly influencing decisions. Extension educators identified odor, concerns from neighbors, and water quality/proposal of a new or expanding CFO (tie) as the top three factors (among eight options; **Table 6**). Plan directors identified governmental organizations, livestock and agriculture groups, and universities as the top three (among nine options;

Table 7) information sources most often used when making decisions regarding ordinance development or amendment. Extension Educators identified universities, colleagues and peers, and governmental organizations to most often used sources of information for CFO related zoning issues (

Table 7). County plan directors generally (60 percent or 35 of 58 respondents) felt that they had access to reliable information for most issues to guide their decisions, but identified issues related to water quality and public health as highest priorities (of six options; **Table 8** and **Table 9**). While Extension Educators also generally felt they had access to reliable information for most issues (46 percent or 24 of 42 respondents), they identified conflict resolution, fiscal impact to the county, and impact on water quality, impact of odor as highest priorities (of six options; **Table 8** and **Table 9**).

Table 6: Factors Influencing Recent (Past Five Years) Changes Made to any CFO Ordinance (1 = did not influence at all; 10 = greatly influenced).

Factors Affecting Change	Extension Educators ^a	Plan Directors ^b
Proposal for a new CFO(s) or expansion of existing CFO	4.4	4.3
Concerns from neighbors	4.8	4.8
Concerns about water quality	4.4	4.6
Concerns about odor	4.7	4.9
Concerns about public health	-- ^c	4.3

Concerns about noise	2.0	2.3
Concerns about property values	4.3	5
Concerns about fiscal impact to the county	2.0	2.4
New zoning ordinances were being put into place during CFO/CAFO regulations	3.3	3.5

^a 29 of 90 Extension Educators responded to the question (only respondents who indicated that changes to the county CFO were made in the five years).

^b 24 of 77 Plan Directors responded to the question (only respondents who indicated that changes to the county CFO were made in the five years).

^c Option not included in this survey.

Table 7: Information Sources Used by Extension Educators and Plan Directors when Creating or Amending Zoning Provisions for CFOs.

Information Source	% Respondents Using Source ^a	
	Extension Educators ^b	Plan Directors ^c
Popular press	10%	12%
Colleagues and peers	76%	52%
Universities	92%	57%
Individual livestock producers	46%	48%
Livestock and agriculture groups	62%	62%
Environmental organizations	30%	50%
Governmental organizations	76%	74%
Other citizen groups	18%	34%

^a Respondents were asked “check all that apply”.

^b 50 of 90 Extension educators responded to the question.

^c 58 of 77 plan directors responded to the question.

Table 8: Availability of Reliable Information for Decision Making Regarding CFO Provisions in the Zoning Ordinance.

Opinion	Agreement with Statement	
	Extension Educators ^a	Plan Directors ^b
Reliable information is generally not available	4%	9%
Reliable information is available for some issues, but not many of them	50%	31%
Reliable information is available for most issues	46%	60%

^a 52 of 90 Extension Educators responded to the question.

^b 58 of 77 Plan Directors responded to the question.

Table 9: CFO-related Information Needs of Extension Educators and Plan Directors (1 = not needed at all; 10 = greatly needed).

Topic	Extension Educators ^a	Plan Directors ^b
Impact of odor	6.6	5.6
Impact on water quality	6.6	6.5

Impact on public health	6.3	6.4
Impact on property values	6.3	5.7
Fiscal impact to the county	6.6	4.9
Conflict management	6.7	4.6

^a 52 of 90 Extension educators responded to the question.

^b 56 of 77 plan directors responded to the question.

CONCLUSIONS

Currently, 64 of the 81²³ Indiana counties that have adopted planning and zoning regulate CFOs specifically their zoning ordinances. While zoning ordinances vary in their focus and the use of different zoning provisions and approval methods, some common themes can be drawn from them. First, the ordinances often use different terminology to describe the same or very similar provisions or processes. As a result, comparisons can be difficult, at least at first glance, as two ordinances may appear to require quite different standards. In most cases, however, many ordinances use similar treatments. Regardless, the lack of uniform language can have an impact on the end-user, especially in cross-county comparisons. As some plan commissions are in the process of revising either their CFO ordinance or their zoning ordinance as a whole, more uniform terminology could make other CFO ordinances more accessible when developing new standards if necessary. Additionally, several ordinances are not available in electronic form or are otherwise difficult to locate, which limits their physical accessibility. This not only has an impact on the ease of comparing ordinances, but also the ability of residents to access and understand the ordinances which regulate their land use or applicants who may apply for permits in multiple counties.

Different counties have different characteristics in terms of their population, topography, industries, housing densities, and development goals, which are reflected in well-designed zoning ordinances. Throughout the study, the provisions for CFOs in the zoning ordinance indicated some of the issues or factors concerning individual counties. For example, one CFO ordinance may place an emphasis on availability of water, while another may focus on the use of county roads or transportation plans. Importantly, some CFO ordinances emphasize standards that are likely in place to protect the CFO or other agriculture activities from other forms of development (e.g., reciprocal buffers). Similarly, it is possible that standards in CFO ordinances may provide requirements that are not specified by other regulatory agencies. For instance, odor associated with livestock production is not currently regulated in the State of Indiana. Concerns about odor, however, are regularly cited in discussions regarding CFOs and several CFO ordinances contain requirements or suggestions for odor abatement.

In examining the range of setback or buffer distances, it is clear that most distances are somewhat arbitrary, most often fitting $\frac{1}{4}$, $\frac{1}{2}$, or mile increments. There are modeling programs available (both at Purdue University and elsewhere) which could be employed to more scientifically predict effective setbacks based on individual characteristics of a certain site (topography, wind direction, wind-breaks, etc.) or farm. This study, however, did not examine the efficacy of any of the standards or regulations in

²³ Marion County was not included in our analysis as it does not contain any unincorporated land.

achieving their intended impact (e.g., does a CFO ordinance requiring bio-filters significantly reduce odor complaints? Are other methods more effective?). Although outside the scope of this report, it would certainly be of interest to more closely measure the impact of different standards. The results of such research could potentially lead to model ordinances or standards that most effectively address common concerns including water quality, odor, public health, and land use in general.

Finally, this report is part of an on-going research project. Cataloging the individual ordinances is an important first step in characterizing how CFOs are regulated at the county level across Indiana. It is our hope that plan directors and plan commission members can use this information to make comparisons to other zoning ordinances and zoning tools used in counties with both similar and different backgrounds. Coupled with dialogue between counties as to the actual efficacy of different standards or tools, plan commissions can then draft CFO ordinances that are effective in addressing concerns and development goals of the community without undue or unnecessary restrictions.

Appendix

REFERENCES

- Ayres J., Waldorf B., McKendree M. 2013. Defining Rural Indiana – The First Step. Purdue University Extension and Purdue Center for Regional Development. EC-766-W. Available at: <https://www.extension.purdue.edu/extmedia/ec/ec-766-w.pdf>. Last accessed November 2015.
- Economic Modeling Specialists, Intl. [EMSI]. 2014. EMSI Class of Worker 2014.4. Available at: <http://www.economicmodeling.com/2015/04/15/emsi-2015-1-data-now-available/>. Last Accessed November 2015.
- Indiana Administrative Code [IAC] 327. Article 19. 2012. Confined Feeding Operations. Available online at: www.in.gov/legislative/iac/T03270/A00190.PDF. Last accessed, October 2015.
- Indiana Code [IC] 36. Article 7. Chapter 4. 2008. Local Planning and Zoning. Available online at: http://iga.in.gov/static-documents/f/e/0/6/fe06849a/TITLE36_AR7_ch4.pdf. Last accessed November 2015.
- Indiana Department of Environmental Management [IDEM]. 2015. Requested information.
- Indiana Department of Environment Management [IDEM]. 2014. Guidance Manual for Indiana's Confined Feeding Program. Available online at: www.idem.in.gov. Last accessed October 2015.
- Gerhart-Fritz, KK. Indiana Citizen Planner's Guide, Part 2: Board of Zoning Appeals Basics. Indiana Planning Association. Available at: www.indianaplanning.org/citizen.htm. Last accessed November 2015.
- Legal Dictionary. 2015. Ordinance (definition). Available at: <http://legal-dictionary.thefreedictionary.com/Ordinance>. Last accessed November 2015.
- Meck S. 2002. Growing Smart Legislative Guidebook: Model Statutes for Planning and Management of Change. American Planning Association.
- Minnesota Department of Agriculture. 2015. Conservation Practices. In: Minnesota Conservation Funding Guide. Available at: <http://www.mda.state.mn.us/protecting/conservation/practices/shelterbelt.aspx>. Last accessed November 2015.
- STATS Indiana. 2015. Available at: <http://www.stats.indiana.edu/>. Last accessed November 2015.
- United States Census Bureau [USCB]. 2000. Density Using Land Area for States, Counties, Metropolitan Areas, and Places. Available at: <http://www.census.gov/population/www/censusdata/density.html>.

Last accessed November 2015.

United States Census Bureau [USCB]. 2014b. American Community Survey (ACS). Available at: <https://www.census.gov/programs-surveys/acs/guidance.html>. Last accessed November 2015.

United States Department of Agriculture National Agriculture Statistics Service [USDA-NASS]. 2012. Census of Agriculture (calculated). Available at: <http://www.agcensus.usda.gov/Publications/2012/>. Last accessed: November 2015.

United States Census Bureau [USCB]. 2014a. Population and Housing Unit Estimates. Available at: <http://www.census.gov/popest/>. Last accessed November 2015.

Wilcox MD, Olynk Widmar NJ, Yadavalli A, Widmar DA, and Foster KA. 2014. An Overview of Indiana Animal Agriculture: Perspectives on the Beef, Dairy, Hog and Poultry Industries. Available online at: www.agecon.purdue.edu/extension/livestock_overview.asp. Last accessed October 2015.

DEFINITIONS

Agricultural clause: *also referred to as a notice of agricultural activity*, notification to individuals who seek to build in a rural area that they may experience noise, dust, and odor associated with generally accepted farming practices (ILRC 2014). This could be in form of a notice signed by the applicant when applying for permit or it could be attached to the deed. Counties may apply an agricultural clause to all new permits or a specific use such as new residences or platted subdivisions.

Buffer: Separation distance between two uses or a use and a zoning district or municipality. Used as a tool to reduce land use conflict between uses not usually deemed compatible with each other. This term is also sometimes used to describe landscaping bufferyards. For this study landscaping and bufferyards are classified under screening/shelterbelt.

Confined Feeding Operation (CFO): Livestock operations containing at least 300 cattle, 600 swine or sheep, or 30,000 fowl held in confinement (e.g., lots, pens, building, etc.) for at least 45 days during the year.

Development plan review: A process by which a plan commission reviews an applicant's development plan to ensure the predetermined standards of the zoning ordinance have been met as allowed for in IC 36-7-4-1401.5.

Existing Violation Clause: A standard preventing an applicant with a violation from IDEM or another regulatory agency in regards to another CFO in which they have ownership from receiving a new improvement location permit.

IDEM: Indiana Department of Environmental Management is a state agency that regulates numerous activities as they relate to the environment. IDEM is charged with the initial permitting of CFOs in Indiana at the state level.

Minimum lot size: Smallest allowable size of space (lot) designed for a specific land use.

Odor abatement practices: The adoption of technologies in facility design or management practices to reduce odor emitted from the operation. Generally, counties requiring odor abatement technologies will have a list of accepted practices which can be implemented.

Ordinance: A law, statute or regulation enacted by a local government entity. Zoning ordinances are the means for enforcing municipal law by defining land use within a municipality. Intention of zoning is to conserve the value of property and encourage appropriate land use throughout the locality (Legal Dictionary 2015).

Pre-application permit: This permit gives notice to the planning office and nearby property owners of a proposed CFO prior to the improvement location permit. This permit can restrict other property owners from obtaining a permit for a buffered use within the buffer zone of the proposed CFO, give the applicant time to obtain other necessary permits and assessments, and provide time for any necessary notification of nearby property owners.

Reciprocal buffer: A standard that requires that new uses, i.e. residences follow the same buffer as required of a new CFO to that buffered use.

Screening: Provides a visual barrier between a use and adjoining properties. Shelterbelts, fencing, or earthen mounds are some of the methods used.

Setback: The distance from a building/improvements from the property line or specified right of way.

Shelterbelt: Windbreaks or screens designed to protect farmsteads and livestock from wind and blowing snow. Created by one or more rows of trees/shrubs planted around the perimeter of the lot and or structure needing protection. Also serves as a way to mitigate emitted odors from a livestock operation (Minnesota Department of Agriculture 2015).

Site scoring system: mechanism to approve local application for a new livestock facility through achievement of a predetermined score based on a series of objective criteria. The score requirement is used in conjunction with minimum standards. This approach recognizes the difference in farms by providing many options to meet the minimum score (Minnesota Department of Agriculture 2015).

Additional separation distance: Additional distance greater than the minimum required buffer of a use.

Closure plan: A plan for ceasing operation of a CFO which generally includes removing manure from storage structure and disposing of it in a manner consistent with state and federal regulations.

Existing land use: Current use of the land where the proposed operation will be located.

Homestead award: Points earned on site score based on the applicant leaving on the property with the proposed operation or in some cases the nearest home to proposed operation.

Section density: The number of residential structures within a specified radius of the proposed CFO.

Special Exception: Also referred to as a conditional use or special use. Generally understood to be a use of property that is allowed under a zoning ordinance under specified conditions — something that needs to be considered on a site specific basis. Indiana Code leaves it up to local government to define what uses in what zoning districts should be special exceptions, but examples might include institutional uses (i.e., schools), drive-through businesses, etc. (Gerhart-Fritz 2015).

Standards: Provisions of the zoning ordinance regulating the characteristics of development of a particular use or zoning district.

Site Plan: A scaled drawing that shows the layout and arrangement of buildings and open space, including parking and yard areas, the provision for access to and from the public street system and often, the location of facilities such as water and sewer lines and storm drainage systems (Meck 2002).

Top employing industries: Please see the classification of industries by 2-digit NAICS (North American Industry Classification System) at <http://www.census.gov/eos/www/naics/>.

Zoning: A system of developing a municipal or county plan restricting various geographical areas to certain uses and development. Example uses include residential, commercial, industrial, parks, agricultural among others. Zoning is the primary planning tool of local government to guide the future development of a community, protect neighborhoods, concentrate businesses and industry, channel traffic and plays a major role in influencing city and small town life. Zoning was declared constitutional by the U.S. Supreme Court in Village Euclid v. Amber Realty Co. In 1926 (Meck 2002).

Zoning District: Designated districts based on the desired predominant use of land (e.g. residential, commercial, industrial and agricultural). Each district has a set of uses that are permitted by right or by special exception and set of standards which determine the character of the district.

EXTENSIVE TABLES

Table 10: CFO Review and Approval Methods

County Name	Permitted Use (no additional provisions)	Permitted Use (additional provisions)	Special Exception	Rezone (permitted use)	Rezone (special exception)
Adams		•			
Allen			•		
Bartholomew			•		
Benton			•		
Blackford			•		
Boone		•			
Carroll		•			
Cass			•		
Clark			•		
Clinton		•			
Daviess			•		
Dearborn			•		
DeKalb ^a		•			
Elkhart ^b					•
Fayette		•			
Floyd			•		
Franklin			•		
Fulton ^a		•			
Grant			•		

Hamilton				•
Hancock		•		
Hendricks		•		•
Henry				•
Howard ^c	•			
Huntington		•		
Jackson				•
Jasper ^d				•
Jay		•		
Jefferson		•		
Jennings		•		
Johnson	•			
Knox				•
LaGrange		•		
LaPorte ^b		•		
Madison				•
Marshall		•		
Miami				•
Morgan				•
Newton				•
Noble				•
Owen	•			
Porter				•
Posey				•
Pulaski				•
Putnam		•		
Randolph		•		
Ripley				•
Rush				•
Shelby		•		
Spencer		•		
St. Joseph		•		
Steuben				•
Switzerland				•
Tippecanoe		•		
Tipton		•		
Union		•		
Wabash ^b		•		
Warren				•
Warrick				•

Washington	•		
Wayne		•	
Wells	•		
White			•
Whitley ^c	•		

^a DeKalb and Fulton counties: require a rezone above a certain threshold

^b Elkhart, LaPorte and Wabash counties: standards apply to CAFOs only.

^c Howard and Whitley counties: permitted use below a certain threshold.

^d Jasper County: special exception above a certain threshold.

Table 11: Minimum Lot Size by County in Zoning Ordinances Requiring Provisions for CFOs

County Name	Minimum Lot Size (acres)	Minimum Lot Size Notes
Adams		
Allen	40	
Bartholomew	5	
Benton		
Blackford		
Boone		
Carroll		
Cass		
Clark		
Clinton		
Daviess		
Dearborn		
DeKalb		
Elkhart	40	Unless contiguous to an existing A-4 zoning district
Fayette	10	Minimum lot width of 500 ft.
Floyd	40	
Franklin		
Fulton		
Grant		
Hamilton		
Hancock		
Hendricks	10	
Henry	40	
Howard		
Huntington		
Jackson	20	
Jasper	5	
Jay		
Jefferson		
Jennings		
Johnson		
Knox		
LaGrange	30 (CFO) 120 (CAFO)	
LaPorte	10	
Madison	40	
Marshall		

Miami	10	Less than 10 acres requires special exception to be heard by BZA
Morgan	10	Less than 10 acres requires special exception to be heard by BZA and approved operations have slightly different standards
Newton		
Noble	4	
Owen		
Porter	30	
Posey	30 (CFO)	
	120 (CAFO)	
Pulaski	40	
Putnam		
Randolph	40	BZA may not grant a variance for less than 10 acres
Ripley		
Rush	40	
Shelby	0	0
Spencer		
St. Joseph	20	The general development standard for other ag uses, but also specified for CFOs
Steuben	40	
Switzerland		
Tippecanoe		
Tipton		
Union		
Wabash	10	Applies only to CAFOs
Warren		
Warrick		
Washington		
Wayne	40	
Wells		
White		
Whitley		

Table 12: Buffer Requirements (ft.) by County in Zoning Ordinances that Specify Provisions for CFOs.

County Name	Municipal Boundary	Residences			Institutional Uses			Rec Areas	Businesses	Reciprocal Buffer
		A	B	C	D	E	F			
Adams		600	1,300	1,000	1,000	1,000			Yes	
Allen	1,320	1,320		1,320	1,320	1,320	1,320 ^a	1,320		
Bartholomew										
Benton		500			500	500	500 ^b	500	Yes	
Blackford		750								
Boone		1,320							Yes	
Carroll	3,960	800		1,500	1,500	1,500		1,500	Yes	
Cass	2,640	1,320		1,320	1,320	1,320		1,320	1,320 ^c Yes	
Clark										
Clinton	5,280	1,320		1,320	5,280	1,320		1,320	1,320 Yes	
Daviess										
Dearborn										
DeKalb										
Elkhart										
Fayette	5,280	1,620	5,280	5,280	5,280	5,280	1,320 ^d	5,280	Yes	
Floyd		1,000								
Franklin										
Fulton	5,280									
Grant	1,320	1,320			5,280	1,320		1,320	10,560 ^e Yes	
Hamilton										
Hancock		750							Yes	
Hendricks										
Henry	2,640	800	2,640	1,320	2,640			2,640	800/ 1,320 ^f	
Howard										
Huntington		500/ 1,000 ^g			1,000	1,000			1,000 Yes	
Jackson	5,280	500		1,000	1,000		1,000 ^h	1,000		
Jasper										
Jay	2,640- 5,280 ^f	750		1,250	1,250	1,250		1,550- 5,280 ^f	1,250 Yes	
Jefferson		660							Yes	
Jennings		1,000								
Johnson										
Knox										
LaGrange										
LaPorte	1,570- 5,280 ^f	750- 1,570 ^g							Yes	
Madison		500								
Marshall		1,320							Yes	
Miami	1,320	1,000		1,320	1,320					
Morgan	1,320	1,000		1,320	1,320					
Newton		500		1,320	1,320	1,320		1,320	1,320 Yes	
Noble		500		1,320	1,000	1,000	1,000 ⁱ	1,000	1,000	
Owen										
Porter										
Posey	10,560 ^j	1,000		2,640	2,640	2,640	2,640 ^k	2,640	Yes	

Pulaski	5,280	1,320					1,320	
Putnam		500	1,000	1,000			1,000	1,000
Randolph	5,280	870		2,640		1,320 ^l	1,320	
Ripley		1,320	1,320	1,320	1,320			
Rush		750			5,280			
Shelby		1,300	1,300	1,300	1,300	1,300 ⁱ	1,300	1,200 ^m
Spencer		900	900	900	900		900	900
St. Joseph	2,640							
Steuben								
Switzerland								
Tippecanoe		1,000	1,000	1,000	1,000	1,000 ⁿ	1,000	
Tipton	5,280	1,320	1,320	5,280	1,320		1,320	1,320 ^c
Union								
Wabash	Varies	1,320/ 1,600 ^e	1,320/ 1,600	2,640	1,320/ 1,600		1,320/ 1,600 ^e	
Warren								
Warrick								
Washington		600		3,960	600	600 ^o	600	
Wayne		660					660	660
Wells	5,280	800		5,280	2,640		2,640	2,640
White	5,280	1,320						1,320
Whitley								

^a Hospitals, nursing homes, childcare center.

^b Semi-public building.

^c Non-agriculture commercial use.

^d Cemeteries.

^e Food processing businesses.

^f Varies for different uses within this category.

^g Variances on facility design (e.g. waste handling, odor abatement, etc.).

^h Public use areas.

ⁱ Institutional use.

^j CAFOs only.

^k Community services and similar use.

^l Public gathering place.

^m Retail, restaurant, or entertainment-related business.

ⁿ Other places of public assembly.

^o Public use facilities.

Table 13: Setback standards (ft.) specified in county zoning ordinances with provisions for CFOs

County Name	Setback		Measurement Specifics
	(Right of Way)	(Property Line)	
Adams			
Allen		100	Includes any building or structure
Bartholomew		100	Includes waste management system
Benton		80 (from front)	From structure and confined lot
Blackford	100		
Boone			
Carroll	100	100	
Cass	50	50	
Clark			
Clinton	25	15	From all structures
Daviess			
Dearborn			
DeKalb			
Elkhart			
Fayette	0	100	
Floyd	300	200	From waste management system, not structure
Franklin			
Fulton			
Grant	200	200	Includes all structures
Hamilton			
Hancock	100	750 for CAFOs only ^a	
Hendricks	35-80 ^b	30 (from side); 50 (from rear)	
Henry	500 (from centerline of road)	300 (from side and rear)	
Howard			
Huntington	60-75 ^b	50 (from side and rear)	Setback applies to building, pen, or confined feeding area as well as pit, pond, lagoon or open structure utilized for storing livestock waste or any holding tank with cover which is separate from livestock building.
Jackson		200	
Jasper	0	1,320 ^c	Includes any building, structure, storage area, or maneuvering area of the operation. Does not include on-site residence.
Jay	100	100	From structures
Jefferson	140 (from center of public roadway)	140	
Jennings			
Johnson			
Knox			
LaGrange			

LaPorte	220	100 (from side and rear)	Includes waste management system, compost facility, and mortality staging to county road centerline or property line; does not include structures
Madison	0	100	Includes waste management system
Marshall			
Miami	0	150 (from front); 25 (from side); 20 (from rear)	
Morgan	0	150 (from front); 25 (from side); 20 (from rear)	
Newton	35 (from adjacent street or highway); 100 (from center line of adjacent state or federal highway)		From building containing livestock
Noble	0	250	
Owen			
Porter	0	150 (from front); 100 (from side and rear)	
Posey	0	200 (CFO); 5000 (CAFO)	
Pulaski			
Putnam	50 ^d		
Randolph	0	100	Includes manure and silage storage structures
Ripley			
Rush	750	200 ^e	
Shelby	0	750 ^f	From facility
Spencer	150		From structure
St. Joseph			
Steuben		300	
Switzerland			
Tippecanoe	50-60 ^b		
Tipton	250 (to road ROW)	200 (from side and rear)	
Union			
Wabash		300	
Warren			
Warrick			
Washington	100 (from centerline of road)	200	Includes manure storage structures, confinement buildings, and dead animal compost area
Wayne			
Wells		300 ^g	Includes CFO and lagoon (waste management system)
White			
Whitley			

^a Can be reduced if buffer yard is implemented.

^b Depending on road type.

^c Exception: 500 ft. if adjoining property is also zoned A3 or 1,000 ft. if adjoining property is zoned A1; Adjoining lots owned by operator can be used in setback. If this is the case, the setback is 100 ft. from the property line and 300 ft. from the right of way. However, loss of adjacent land would result in violation of ordinance.

^d If facility uses an open earthen pit; otherwise district standards.

^e Setback from ROW may be reduced if industry approved buffer is used.

^f May be reduced under certain circumstances to a minimum of 100 ft. from property line/300 ft. from public ROW.

^g Unless a reduction of setback would benefit a residential structure not on the parcel.

Table 14: Additional Provisions by County Specified in Zoning Ordinances with Provisions for CFOs

County Name	Odor Control	Manure Application or Storage Standards	Animal Mortality Standards or Provisions	Transportation/ Driveway Standards	Well Regulations	Screening/ Shelterbelt
Adams		•	•			
Allen						
Bartholomew						
Benton						
Blackford						
Boone						
Carroll						
Cass		•			•	
Clark						
Clinton						
Daviess						
Dearborn						
DeKalb				•		
Elkhart						
Fayette				• ^b	• ^b	
Floyd	• ^a					
Franklin		•				•
Fulton						
Grant		•		•	• ^b	•
Hamilton	• ^b			• ^b		
Hancock						•
Hendricks						•
Henry						
Howard						
Huntington		• ^c				
Jackson	•			• ^c		•
Jasper		•	•	•		•
Jay						
Jefferson	•	•				
Jennings						
Johnson						
Knox						
LaGrange	• ^a	• ^c	• ^b			

LaPorte	•		• ^c	• ^b	
Madison		• ^c		• ^b	
Marshall	•	• ^c	• ^b	• ^b	•
Miami			•		•
Morgan			•		•
Newton					
Noble			•		
Owen					
Porter					
Posey	• ^b		• ^b		
Pulaski1					
Putnam					
Randolph		•	•		
Ripley		•			
Rush					
Shelby			•		
Spencer					
St. Joseph					
Steuben					
Switzerland		•			
Tippecanoe					
Tipton		•			
Union					
Wabash					•
Warren					
Warrick					
Washington				• ^b	
Wayne		• ^c			
Wells		• ^c		•	
White		• ^d			•
Whitley					

^a Not required, but can reduce buffer requirement.

^b plan or assessment required; in the cases of well regulations this could be monitoring or well registration.

^c Standards specified and plan or assessment required; in the cases of well regulations this could be monitoring or well registration.

^d Additional requirements for aerobic and anaerobic digesters.

SURVEY INSTRUMENT SENT TO COUNTY PLAN DIRECTORS

Senate Bill 249 has authorized Purdue University College of Agriculture and Extension to conduct a comprehensive overview study on the land use regulations for confined feeding operations (CFO) and concentrated feeding operations (CAFO). You have been identified as the primary contact for your county's plan commission and able to assist with this study.

Your response is needed and we appreciate your willingness to simplify the process by completing this survey. The responses collected by you and others in similar capacity in other counties will allow researchers to provide the State of Indiana its comprehensive inventory of county level regulations on CFO/CAFOs.

The results of your responses will help the research team with the following:

1. Understand the rules and guidelines in place for CFO/CAFOs in your county
2. Gather intelligence on factors driving the desire for rules and guidelines in place for CFO/CAFOs
3. Learn if there are pending rules and regulations pertaining to CFO/CAFOs

Thanks in advance for your assistance. If you have any questions at any time, please contact Tamara Ogle or Tanya Hall. Other members of the research team include Dr. Larry DeBoer, professor in Department of Agricultural Economics; Dr. Paul Ebner, associate professor in Department of Animal Sciences; Dr. Michael Wilcox, senior associate at Purdue Center for Regional Development and assistant program leader for community development with Purdue Extension.

Introduction

1. Please fill out the following:

Name	
Phone number	
Email address	
County	

2. Are you the county's plan director? Y/N
3. What is your relation to the county plan commission? _____
4. What type of plan commission serves your county? Area/Advisory plan commission
 - 4a. You indicated you have an advisory plan commission. Does this advisory plan commission plan for any incorporated communities in addition to the unincorporated areas of the county?
Y/N
5. What incorporated communities are covered in its advisory or area plan commission plan?

Regulations and Causes

6. Does your county have any land use regulations on livestock facilities, often known as confined feeding operations (CFOs) or concentrated animal feeding operations (CAFOs)? Y/N (if No → Q22)

7. Has your CAFO/CFO ordinance been updated or adopted since January 1, 2010? Y/N
8. Which of the following statements best describes the general tone of public discussions in your county regarding CFO/CAFO regulations/ordinances?

Little disagreement and civil	
Some disagreement, but civil	
Regular disagreement, but civil	
Regular disagreement, sometimes with conflict	
Regular disagreement, regular conflict	

9. How do issues regarding CFO/CAFO regulations/ordinances compare with other planning/zoning issues in terms of difficulty?

Much easier	
Somewhat easier	
About the same	
Somewhat more difficult	
Much more difficult	

10. If changes were recently made to CFO regulations/ordinances, which (if any) of the following factors influenced those changes? (Likert scale: 1 = did not influence at all; 10 = greatly influenced)

Proposal for a new CFO(s) or expansion of existing CAFO	
Concerns from neighbors	
Concerns about water quality	
Concerns about odor	
Concerns about public health	
Concerns about noise	
Concerns about property values	
Concerns about fiscal impact to the county	
New zoning ordinances were being put into place during CFO/CAFO	
Other (please specify)	

11. Of the regulations in place for CFOs and CAFOs, are any specie specific? Y/N

12. What ordinance standards or tools do you currently use to regulate CFO/CAFOs?

	Yes	No
Setback regulations		
Building/lot sizes requirements		
Odor abatement practices (e.g. biofilters, windbreaks, etc.)		
Buffer regulations		
Reciprocal buffer regulations		
Manure storage practices		
Manure applications practices		
Comprehensive site scoring system		
Homestead requirement		
Multiple agricultural zoning districts		
Other (please specify)		

13. Do you have an agriculture clause or notice of agricultural activity in place? Y/N

14. In what Zoning Districts are CFO/CAFOs considered a permitted use or special exception? Is there land currently zoned for this district?

Zoning District Name	Permitted use?	Special Exception or Conditional use?	Is there land currently zoned for this district? YES	Is there land currently zoned for this district? NO

15. What factors do you consider in the special exception (conditional use) process? _____

16. Have you restricted the zoning districts in which CAFOs/CFOs are permitted since January 1, 2010?
Y/N

a. If Yes, please explain the restriction of zoning districts permitting CAFOs/CFOs. _____

17. Does your county currently have or have had since January 1, 2010 a moratorium on CAFOs/CFOs?
Y/N

a. If Yes, you indicated that your county has or had a moratorium on CAFOs/CFOs. What was the time frame for the moratorium? Start Date _____ End date _____

18. How many Improvement Location Permits (ILPs) have you issued for CFO/CAFO facilities since January 1, 2010? _____

a. Of those Improvement Location Permits how many of them required the following:

	Number of ILPs
Use variance	
Developmental standards variance	
Rezone	

19. Which of the following statements best reflects the information available to you to help make decisions regarding CFO/CAFO regulations/ordinances?

Reliable information is generally not available	
Reliable information is available for some issues, but not for many of them	
Reliable information is available for most issues	

20. Which of the following sources of information do you use to help make decisions regarding CFO/CAFO regulations/ordinances? (please check all that apply)

Popular press	
Colleagues and peers	
Universities	
Individual livestock producers	
Livestock and agriculture groups	
Environmental organizations	
Governmental organizations	
Other citizen groups	
Other (please specify)	

21. Please indicate whether you feel more reliable information is needed on the following issues to help you make decisions regarding CFO/CAFO regulations/ordinances. (Likert scale: 1 = not needed; 10 = greatly needed)

Impact of odor	
Impact on water quality	
Impact on public health	

Impact on property values	
Fiscal impact to the county	
Conflict management	

22. As of July 1, 2015, are there any proposed/pending ordinances or other regulations for CFO/CAFO operations? Y/N
23. Please upload a copy of the ordinances, existing moratoriums, rules or any other related documentation pertaining to guidelines for CFOs and/or CAFOs.
24. If your county has an electronic zoning map showing please upload a copy.
25. Any other comments you would like to provide to the research team?

End of Survey

Thank you for your time and helping the State of Indiana better understand the regulations in place regarding CFO and CAFO facilities at the county level.

SURVEY INSTRUMENT SENT TO PURDUE AGRICULTURE AND NATURAL RESOURCES COUNTY EXTENSION EDUCATORS

As an ANR educator in your county with the responsibility of serving on the county plan commission, you are being asked to help the State of Indiana better understand the land use regulations in place for confined feeding operations (CFO) and concentrated feeding operations (CAFO). Senate Bill 249 has authorized Purdue University College of Agriculture and Extension to study this issue and provide a report by November 1, 2015.

In order to provide legislators a comprehensive overview of the rules and guidelines on CFO/CAFOs, we need your response – regardless of whether your county of employment has a county plan commission in place. If your county’s ANR position is unfilled, the CED is being asked to respond. Complete the survey to the best of your knowledge and in its entirety.

The results of your responses will help the research team with the following:

1. Identify the county planning director
2. Understand the rules and guidelines in place for CFO/CAFOs in your county
3. Gather intelligence on factors driving the desire for rules and guidelines in place for CFO/CAFOs

Thanks in advance for your assistance. If you have any questions at any time, please contact Tamara Ogle or Tanya Hall.

Introduction

26. Which county are you representing? (If you serve in two counties please fill out the survey twice.) _____
27. Does your county have planning and zoning? Y/N
28. Have there been any discussions on implementing planning and zoning in the near future? _____

29. Who is your county's planning director? If there is no director, who would be the primary contact?

Director/Primary contact name	
Phone number for primary contact	
Email address for primary contact	

30. Do you serve on your county's plan commission? Y/N (if No → End)

31. Do you have an area of advisory plan commission?

Area plan commission	
Advisory plan commission	
I'm not sure	

4a. You indicated you have an advisory plan commission. Does this advisory plan commission plan for any incorporated communities in addition to the unincorporated areas of the county?
Y/N/I'm not sure

32. What incorporated communities are included in your advisory or area plan commission?

Regulations and Causes

33. Does your county have any land use regulations on livestock facilities, often known as confined feeding operations (CFOs) or concentrated animal feeding operations (CAFOs)? Y/N (if No → Q20)

34. Has your CAFO/CFO ordinance been updated or adopted since January 1, 2010? Y/N/I'm not sure

35. Which of the following statements best describes the general tone of public discussions in your county regarding CFO/CAFO regulations/ordinances?

Little disagreement and civil	
Some disagreement, but civil	
Regular disagreement, but civil	
Regular disagreement, sometimes with conflict	
Regular disagreement, regular conflict	

36. How do issues regarding CFO/CAFO regulations/ordinances compare with other planning/zoning issues in terms of difficulty?

Much easier	
Somewhat easier	
About the same	
Somewhat more difficult	
Much more difficult	

37. If changes were recently made to CFO regulations/ordinances, which (if any) of the following factors influenced those changes? (Likert scale: 1 = did not influence at all; 10 = greatly influenced)

Proposal for a new CFO(s) or expansion of existing CAFO	
Concerns from neighbors	
Concerns about water quality	
Concerns about odor	
Concerns about noise	
Concerns about property values	
Concerns about fiscal impact to the county	
New zoning ordinances were being put into place during CFO/CAFO	
Other (please specify)	

38. Of the regulations in place for CFOs and CAFOs, are any specie specific? Y/N/I'm not sure

39. What ordinance standards or tools do you currently use to regulate CFO/CAFOs?

	Yes	No
Setback regulations		
Building/lot sizes requirements		
Odor abatement practices (e.g. biofilters, windbreaks, etc.)		
Buffer regulations		
Reciprocal buffer regulations		
Manure storage practices		
Manure applications practices		
Comprehensive site scoring system		
Homestead requirement		
Multiple agricultural zoning districts		
Other (please specify)		

40. Do you have an agriculture clause or notice of agricultural activity in place? Y/N

41. Which of the following statements best reflects the information available to you to help make decisions regarding CFO/CAFO regulations/ordinances?

Reliable information is generally not available	
Reliable information is available for some issues, but not for many of them	
Reliable information is available for most issues	

42. Which of the following sources of information do you use to help make decisions regarding CFO/CAFO regulations/ordinances? (please check all that apply)

Popular press	
Colleagues and peers	
Universities	
Individual livestock producers	
Livestock and agriculture groups	
Environmental organizations	
Governmental organizations	
Other citizen groups	
Other (please specify)	

43. Please indicate whether you feel more reliable information is needed on the following issues to help you make decisions regarding CFO/CAFO regulations/ordinances. (Likert scale: 1 = not needed; 10 = greatly needed)

Impact of odor	
Impact on water quality	
Impact on public health	
Impact on property values	
Fiscal impact to the county	
Conflict management	

44. Does your county currently have or have had since January 1, 2010 a moratorium on CAFOs/CFOs?
Y/N

- a. If Yes, you indicated that your county has or had a moratorium on CAFOs/CFOs. What was the time frame for the moratorium? Start Date _____ End date _____

45. As of July 1, 2015, are there any proposed/pending ordinances or other regulations for CFO/CAFO operations? Y/N

46. Any other comments you would like to provide to the research team?

End of Survey

Thank you for your time and helping the State of Indiana better understand the regulations in place regarding CFO and CAFO facilities at the county level.