



COMMONWEALTH OF PENNSYLVANIA
OFFICE OF ATTORNEY GENERAL

JOSH SHAPIRO
ATTORNEY GENERAL

August 14, 2019

Office of Attorney General
1251 Waterfront Place
Mezzanine Level
Pittsburgh, PA 15222

[REDACTED]

Elk Township Board of Supervisors
952 Chesterville Road
Lincoln University, PA 19352

[REDACTED]
[REDACTED]
[REDACTED]

Re: ACRE Complaint – Elk Township-Chester County – [REDACTED]

Dear Board of Supervisors and [REDACTED]

Act 38 of 2005, the Agricultural Communities and Rural Environment Act¹ (“ACRE”) mandates that the Office of Attorney General (“OAG”), upon request, review a local government ordinance for compliance with its requirements. The Act authorizes the OAG, in its discretion, to file a lawsuit against the local government unit if, upon review, the OAG believes that the ordinance unlawfully prohibits or limits a normal agricultural operation.

We write to inform the Board that we received a request from [REDACTED] on August 1, 2019. A copy of that request is attached for the Board’s review. [REDACTED] contends that the Cease and Desist Order the Township issued is based on ordinances² that violate ACRE. After review of this submission, the OAG conclude that [REDACTED] is correct.

INTENSIVE AGRICULTURE

Elk Township bases its Cease and Desist Order on its definition of “Intensive Agriculture.” It defines Intensive Agriculture as “[a]gricultural uses involving the processing or production of agricultural products that are likely to omit frequent, recurring odors or noises considered obnoxious to a reasonable environment including, but not limited to, mushroom production, feedlots, mink farm, commercial piggeries, slaughter houses, and poultry houses.” ARTICLE II, *Definitions*. Elk Township contends [REDACTED] are engaging in intensive agriculture and have not complied with the requirements to do so. There are several problems with this position.

While some municipalities use the term “Intensive Agriculture” as a synonym for Concentrated Animal Operations (“CAOs”) and Concentrated Animal Feeding Operations

¹ 3 Pa.C.S. §311 *et. seq.*

² ARTICLE XII, Section 1202(A) & (C), Agricultural Land Uses, General Regulations & Intensive Agricultural Uses.

("CAFOs"), "Intensive Agriculture" does not appear in any relevant state law and/or regulation. For example, nowhere in the Nutrient Management and Odor Management Act³ ("NOMA"), or in the regulations interpreting the Act found at 25 Pa.Code, Chapter 83, is the term "intensive agriculture" defined. It is the OAG's experience that the use of this term results in the imposition of additional legal requirements on farms with larger numbers of animals than so-called "traditional" farms; by extension this operates to unlawfully restrict the existence of CAOs or CAFOs within the municipalities.

The OAG contends *Commonwealth v. Richmond Township*⁴, stands for the proposition that municipalities cannot use the term "Intensive Agriculture" to impose regulations not required or authorized by state law. Moreover, this term lends itself to ambiguity and vagueness because a municipality can construe it to reach any large agricultural activity it finds objectionable. *Id.*, at 681, 682, 683. The OAG has previously dealt with municipalities seeking to require conditional use or special exception approval to operate proposed CAOs or CAFOs in a zone in which agriculture is a permitted use. In those situations, we advised the municipalities that while it is within their authority to require a conditional use or special exception for a CAO/CAFO, the conditions imposed to obtain approval cannot conflict with or exceed state law. *See* Municipalities Planning Code ("MPC"), 53 P.S. § 10603(b); *Richmond Township, supra*, 2 A.3d at 686-87 (holding that municipality exceeded its authority in imposing requirements for a special exception that conflict with the Nutrient Management Act); *Commonwealth v. Locust Township*, 49 A.3d 502, 509-511 (Pa.Cmwth. 2012)(*en banc*) (holding that a municipality exceeds its authority and is preempted from requiring smaller animal operations to comply with the NOMA).

The entirety of Elk Township's definition of "Intensive Agriculture" is vague, ambiguous, arbitrary and invites discriminatory enforcement. *See Richmond Township*, 2 A.3d at 681 ("A local government unit has no authority to adopt an ordinance that is arbitrary, vague or unreasonable or inviting of discriminatory enforcement.") *citing to Exton Quarries, Inc. v. Zoning Bd. of Adjustment*, 228 A.2d 169, 178 (Pa. 1967). A vague ordinance "prescribes activity in terms so ambiguous that reasonable persons may differ as to what is actually prohibited." *Richmond Township*, 2 A.3d at 681 *citing to Scurfield Coal, Inc. v. Commonwealth*, 582 A.2d 694, 697 (1990). An ambiguous zoning ordinance occurs where "the pertinent provision is susceptible to more than one reasonable interpretation or when the language is vague, uncertain, or indefinite." *Kohl v. New Sewickley Twp.*, 108 A.3d 961, 968 (Pa. Cmwth. 2015) (citation omitted). Moreover, "the power to . . . regulate does not extend to an arbitrary, unnecessary, or unreasonable intermeddling with the private ownership of property." *Eller v. Bd. of Adjustment*, 98 A.2d 863, 865-66 (Pa. 1964).

In *Richmond Township*, the ordinance defined intensive agricultural activities as "specialized agricultural activities including, but not limited to, mushroom farms, poultry production and dry lot livestock production, which due to the intensity of production, necessitate development or specialized sanitary facilities and control." *Richmond Township*, 3 A.3d at 682. The Court opined that "reasonable people may differ as to what actually falls within the definition of intensive agriculture." *Id.* at 683. Therefore, the Court held that "because a person cannot read the Ordinance and ascertain whether a particular activity would be considered intensive agriculture, the Ordinance is vague and ambiguous." *Id.* Moreover, the Court held that because the "enforcement of the ordinance depends upon the subjective determination of Township officials, the Ordinance invites discriminatory enforcement." *Id.* Accordingly, the Court enjoined

³ 3 Pa.C.S. §§501 - 522.

⁴ 2 A.3d 678 (Pa.Cmwth. 2010).

enforcement of the ordinance because it drew no “clear distinction between intensive agriculture and normal agriculture.” *Id.*

The same is true here. Elk Township’s definition provides no meaningful or defined method to determine when an agricultural operation is so-called “normal” agriculture versus “intensive” agriculture. The terms that comprise the definition are completely subjective and their meaning depends entirely on the discretion of Elk Township officials. What constitutes emissions, “frequent,” “recurring,” “odors,” and “noises” is open to a wide range of interpretations. So too the word “obnoxious.” Thus, a person cannot read the ordinance and definitively determine when an agricultural operation is “intensive” or not. As in *Richmond Township*, “the Ordinance fails to provide any guidance as to how the Township determines when activities associated with [an animal husbandry] operation intensify to the level that they transform into an intensive agricultural activity.” *Id.* at 683.

Animal operations under Pennsylvania law fall into one of three categories, as determined by number of Animal Equivalent Units (“AEUs”)⁵: (1) small/non-CAO/CAFO; (2) CAO; and (3) CAFO. *See* 25 Pa. Code §§ 83.201, 83.701, 91.36, 92a.1. There is no such thing as an “intensive” operation. The regulatory definitions and formulas used to calculate the animal density of an operation determines the parameters of whether a farm is a small/non-CAO or CAFO, a CAO, or a CAFO. Under the NOMA, a CAO is defined as “an agricultural operation with eight or more animal equivalent units where the animal density exceeds two AEUs per acre on an annualized basis.” 25 Pa. Code §§ 83.201 & 262. In addition, a CAFO is a CAO with greater than 300 AEUs, any agricultural operation with greater than 1,000 AEUs, or any agricultural operation defined as a large CAFO under 40 CFR § 122.23. *See* 25 Pa. Code § 92.1. Elk Township cannot define what constitutes “Intensive Agriculture” based on its own arbitrary standards while ignoring the validly enacted state regulatory structure that unequivocally establishes what amount of AEUs and number of animals constitutes a CAO or CAFO.

We suggest the Township amend its definition of “Intensive Agriculture” by incorporating the State law definitions for CAO and CAFO. In the alternative, the Township may amend the ordinances to delete the term “Intensive Agriculture” and simply add the terms CAO and CAFO using the State law definitions, which are as follows:

Concentrated Animal Operation (CAO) is “an agricultural operation with eight or more animal equivalent units [AEUs] where the animal density exceeds two AEUs per acre on an annualized basis.” 25 Pa. Code §§ 83.201, 262.

Concentrated Animal Feeding Operation (CAFO) is “a CAO with greater than 300 AEUs, any agricultural operation with greater than 1,000 AEUs, or any agricultural operation defined as a large CAFO under 40 CFR § 122.23.” 25 Pa. Code § 92a.2.

Elk Township notes in its Enforcement Notice that [REDACTED] parcel is 10.8 acres and that by [REDACTED] own “admission” he is raising approximately 3,200 chickens. Elk Township considers this to be “intensive agriculture.” Utilizing the AEU calculations provided by the state mandated process [REDACTED] poultry operation does not even rise to the level of a CAO, but rather, falls

⁵ “An AEU is 1,000 pounds of live weight of any animal on an annualized basis.” *Agronomy Facts 54, Pennsylvania’s Nutrient Management Act (Act 38): Who is Affected?*, p.1. *See* 3 Pa.C.S. § 503, *Definitions*; 25 Pa.Code § 83.201, *Definitions*.

within the small, non-CAO/CAFO category. Attached for Elk Township's review is the Penn State Extension's publication, *Agronomy Facts 54, Pennsylvania's Nutrient Management Act (Act 38): Who is Affected?* which lists the standard animal weights and the equation used to determine AEU's. If [REDACTED] is raising broilers, while he may exceed the eight or more AEU's (11.36) his animal density/AEU per acre is only 1.05.⁶ If he is raising white egg layers, again he may exceed the eight or more AEU's (10.048) the AEU per acre is only .93.⁷ And finally, if [REDACTED] is raising brown egg layers, his AEU's are 12.32 but his AEU's per acre is only 1.14.⁸ Regardless of whether one uses the term "Intensive Agriculture," or CAO, or CAFO, [REDACTED] is not engaging in any of these operations. Accordingly, Elk Township cannot make [REDACTED] satisfy "Intensive Agriculture" requirements that do not exist under state law or regulation.

MINIMUM ACREAGE REQUIREMENT

ARTICLE XII, Section 1202(C), Agricultural Land Uses, Intensive Agricultural Uses, requires a "[m]inimum lot area for intensive agricultural uses shall be fifteen (15) acres in all districts, with the exception of the Agricultural Preservation District where the minimum lot size for intensive agricultural uses is ten (10) acres." Elk Township lacks authority to establish acreage amounts for agricultural operations that conflict with state law.

The Right to Farm Act ("RTFA") requires only ten (10) acres or, if less than ten acres, an anticipated yearly gross income of at least \$10,000 for a farm to qualify as a "normal agricultural operation." See 3 P.S. § 952. The Municipalities Planning Code ("MPC")⁹ precludes a municipality from enacting a zoning ordinance that regulates activities related to commercial agricultural production if it exceeds the requirements imposed under the NOMA, the RTFA or the Agricultural Area Security Law ("AASL")¹⁰ "regardless of whether any agricultural operation within the area to be affected by the ordinance would be a concentrated animal operation as defined by the [NOMA]." See 53 P.S. § 10603(b). The MPC also provides that no public health or safety issues shall require a municipality to adopt a zoning ordinance that violates or exceeds the provisions of the NOMA, AASL, or RTFA. 53 P.S. § 10603(h); see also *Richmond Township*, 2 A.3d at 687 & n.11 (explaining that section 603(h) of the MPC "indicates that, as a matter of law, an agricultural operation complying with the NMA, AASL and the RTFA does not constitute an operation that has a direct adverse effect on the public health and safety.")¹¹ Elk Township's

⁶ *Animal Type* – Broiler. *Number of Animals* – 3,200. *Animal Weight* – 3.55 lbs. *Production Days* – 365. *Factor* – 365,000. *Acres Available for Manure* – 10.8. 3,200 broilers times 3.55 lbs = 11,360. 11,360 times 365 production days = 4,146,400. 4,146,400 divided by the 365,000 factor = 11.36 AEU's. The 11.36 AEU's divided by the 10.8 acres = an animal density/AEU's per acre of 1.05

⁷ *Animal Type* – White Egg Layers. *Number of Animals* - 3,200. *Animal Weight* - 3.14. *Production Days* – 365. *Factor* - 365,000. *Acres Available for Manure* – 10.8. 3,200 white egg layers times 3.14 lbs = 10,048. 10,048 times 365 production days = 3,667,520. 3,667,520 divided by the 365,000 factor = 10.048 AEU. The 10.048 AEU's divided by 10.8 acres = an animal density/AEU's per acre of .93.

⁸ *Animal Type* – Brown Egg Layers. *Number of Animals* – 3,200. *Animal Weight* – 3.85 lbs. *Production Days* – 365. *Factor* – 365,000. *Acres Available for Manure* – 10.8. 3,200 brown egg layers times 3.85 lbs = 12,320. 12,320 times 365 production days = 4,496,800. 4,496,800 divided by the 365,000 factor = 12.32 AEU. The 12.32 AEU's divided by 10.8 acres = an animal density/AEU's per acre of 1.14.

⁹ 53 P.S. §10101 *et. seq.*

¹⁰ 3 P.S. §901 *et. seq.*

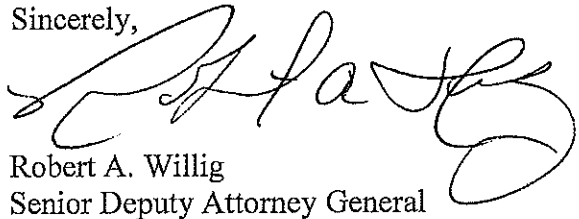
¹¹ Moreover, the MPC requires a municipality to enact uniform provisions for each class of uses within a zoning district. See 53 P.S. § 10605. The AASL also precludes a municipality from imposing unreasonable regulation on farm practices. See 3 P.S. § 911.

acreage requirements are unreasonable because they uniformly prohibit farmers with less acreage from engaging in farm practices that may be permissible under state law and/or the state's regulatory programs.

Furthermore, the Department of Environmental Protection's ("DEP") regulations do not use acreage amounts to determine the appropriateness of a particular agricultural operation; rather, they employ formulas based in agricultural science that identify the optimal density of an agricultural operation. For example, the formula to ascertain density under the NOMA includes all land under the management control of the operator, including owned, rented, or leased lands. Accordingly, Elk Township's acreage amounts are unnecessarily restrictive and conflict with the State's regulation of animal agricultural operations. The ordinances should be revised to remove the acreage amounts concerning "Intensive Agriculture."

Please respond within thirty days of receipt of this letter informing me of Elk Township's position regarding whether [REDACTED] can proceed with his operation and whether the Township is willing to amend its ordinances as explained above.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. Willig", written in black ink.

Robert A. Willig
Senior Deputy Attorney General

ACRE COMPLAINT

ELK TOWNSHIP
952 Chesterville Road Lincoln University, PA 19352

CEASE AND DESIST

July 26, 2019

RE: [REDACTED]

Dear [REDACTED]

This letter is to inform you that you are the owner of record of the above property and in violation of the following Sections of the Elk Township Zoning Ordinance:

WHEREAS, VIOLATIONS OF:

ARTICLE XII, SECTION 1202.A OF THE ZONING ORDINANCE

ARTICLE XII, SECTION 1202.C OF THE ZONING ORDINANCE

ARTICLE XV, SECTION 1500.1 OF THE ZONING ORDINANCE

Have been found on these premises, IT IS HEREBY ORDERED in accordance with the above Codes that all persons cease, desist from, and

STOP WORK

at once pertaining to construction, alterations, repairs, and intensive agriculture operations on these premises known as [REDACTED]

All persons acting contrary to this order or removing or mutilating this notice are liable to arrest unless such action is authorized by Elk Township.


Zoning Officer

ELK TOWNSHIP
952 Chesterville Road Lincoln University, PA 19352

ENFORCEMENT NOTICE

July 26, 2019

[REDACTED]
[REDACTED]

RE:

[REDACTED]
[REDACTED]
[REDACTED]

Dear [REDACTED]

This letter is to inform you that you are the owner of record of the above property and in violation of the following Sections of the Elk Township Zoning Ordinance:

SECTION 1202 Agricultural Land Uses

A. General Regulations.

2. Any structures used for the shelter or housing of livestock or poultry shall be located not less than one hundred (100) feet from any lot line...

C. Intensive Agricultural Uses

• Section 1202.C Intensive Agricultural Uses. Intensive agricultural uses and customary buildings associated with intensive agricultural uses shall be in accordance with the following standards:

1. The minimum lot area for intensive agricultural uses shall be fifteen (15) acres in all districts, with the exception of the Agricultural Preservation District where the minimum lot size for intensive agricultural uses is ten (10) acres.

The definition of "Intensive Agriculture" per Article II Definitions is as follows:

AGRICULTURE, INTENSIVE – Agricultural uses involving the processing or production of agricultural products which are likely to emit frequent, recurring odors or noises considered obnoxious to a residential environment including, but not limited to, mushroom production, feedlots, mink farm, commercial piggeries, slaughter houses, and poultry houses.

Your parcel is only 10.8 acres and located in the R1 zoning district. You are raising approximately 3,200 chickens as per your own admission. You applied for a variance from the zoning ordinance and were denied your requested relief by the Elk Township Zoning Hearing Board. You are in violation of operating an intensive agricultural use (raising of poultry) within the R1 zoning district with less than 15 acres. You also have no Conservation Plan or Manure Management Plan.

SECTION 1500 Applicability and Administration

- Section 1500.A. Application
 1. Hereafter no land shall be used or occupied, and no building or structure shall be created, erected, altered, used or occupied except in conformity with the regulations herein established for the districts in which such land, building or structure is located, as well as all other applicable statutes.
- Section 1501. Violation of Zoning Ordinance and Notice of Violation
 - A. Failure to secure a permit prior to the change in use of land or buildings or the erection, enlargement, or alteration, demolition of a building or failure to secure a use and occupancy permit or any other permit required by this Ordinance shall be a violation of this Ordinance.

You have erected a structure to house chickens and have not obtained a zoning permit as required.

You also do not have a required "Conservation Plan" for your property. A Conservation Plan is a requirement for agricultural structures to be exempt from the Elk Township Stormwater Management Ordinance. A manure management plan also is required to be submitted.

WHAT YOU MUST DO:

- You must remove the chickens you are raising in the garage that is located approximately ten feet from the property line.
- You must remove the unpermitted structure you have erected or apply and receive a zoning permit.
- You must cease and desist any intensive agriculture operations in the R1 zoning district.

You as recipient of this notice have the right to appeal to the Zoning Hearing Board within thirty (30) days in accordance with the procedures set forth in the Elk Township Zoning Ordinance.

You will have thirty (30) days to comply with this notice of violation.

COMPLIANCE MUST COMMENCE IMMEDIATELY AND BE COMPLETED NOT LATER THAN MONDAY, AUGUST 26, 2019).

FAILURE TO COMPLY WITHIN THE TIME SPECIFIED, A CIVIL ENFORCEMENT PROCEDURE MAY BE COMMENCED AGAINST YOU RESULTING IN A JUDGMENT OF NOT MORE THAN FIVE HUNDRED DOLLARS (\$500.00) PLUS COSTS AND ATTORNEY FEES INCURRED BY THE TOWNSHIP OF ELK. EACH AND EVERY DAY OF CONTINUED VIOLATION SHALL CONSTITUTE A SEPARATE VIOLATION.

IF YOU FAIL TO COMPLY WITH THIS WRITTEN NOTICE THE TOWNSHIP MAY TAKE CORRECTIVE ACTION TO COMPLETE COMPLIANCE, AND COSTS THEREOF, TOGETHER WITH ATTORNEY'S FEES. AN ADMINISTRATIVE FEE OF TWENTY PERCENT (20%) OF SUCH COSTS WILL ALSO BE APPLIED.

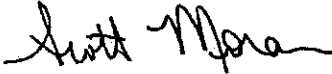
Please make every effort to comply with this Notice of Violation within thirty (30) days.

If you have any questions, or require additional information, please contact me at 610-637-1003.

David S. and Susie G. Fisher
July 26, 2019
Page 3

Sincerely,

ELK TOWNSHIP



Scott Moran
Codes Enforcement Officer

cc: 
Board of Supervisors

PUBLIC HEARING NOTICE

The Zoning Hearing Board of Elk Township will meet on Thursday, July 18, 2019, at 6:30 p.m. at the Elk Township Building, 952 Chesterville Road, Lewisville, Pennsylvania, to conduct a hearing on the Application of [REDACTED] for their property located at [REDACTED] [REDACTED] Elk Township, Pennsylvania. The applicant is seeking a variance of the following Section of the Elk Township Zoning Ordinance of 2002, as amended:

- 1) Section 503(c) stating that agriculture, farmhouses and usual farm buildings shall be permitted without restriction, except as follows: 2) no barn lot, mushroom house, or manure storage or other operation involving an obnoxious odor or appearance or air pollution shall be established closer than two hundred (200) feet to any property line unless mutually agreed on by all landowners of land within two hundred (200) feet of the proposed site. In no instance shall be less than fifty (50) feet to any property line.

The public may attend and participate in the hearing. If you would like to review the application, or are a person with a disability and require accommodations to attend or participate in the hearing, please contact the Township secretary at 610-255-0634.

(Rev. May 2014)

**ELK TOWNSHIP, CHESTER COUNTY, PA
PROCEDURES FOR APPLICATION
FOR A ZONING PERMIT**

A Zoning Permit shall be required prior to:

- A change in use of land or buildings.
- A change in the principal use or extension or enlargement of a nonconforming use.
- An application for development or disturbance within the Floodplain Conservation District.
- Construction or placement of a structure.
- Submission of an application for a Building Permit.

All applications for Zoning Permits shall be accompanied by the following:

- Three (3) copies of the approved land development and/or plot plan together with any other data and information required by the Zoning Officer to evaluate compliance with the Elk Township Zoning Ordinance and other existing statutes.
- Three (3) copies of detailed architectural plans for any proposed building or structure under application.
- Wherein the disturbance or movement of earth is contemplated, a soil and erosion control plan with an accompanying narrative prepared by a qualified person for review and approval by the Township Engineer, or, when applicable, a copy of the permit issued by the Pennsylvania Department of Environmental Protection approving earth moving operations. The standards set forth in the Stormwater Management Section of the Township Subdivision and Land Development Ordinance shall apply.
- Permits or certifications from the appropriate agency for the provision of a healthful water supply, disposal of sewage and other wastes, and control or objectionable effects as well as any other appropriate, lawful permits as may be required by statute.
- Additional copies of any information that may be required by the Zoning Officer.
- All applicable Penn DOT Permits.

No application for Zoning Permit is complete until all necessary documents have been filed and fees have been paid.

Permits shall be granted or refused within thirty (30) days upon satisfaction of the Township that all supplemental information has been supplied.

PLEASE CONTACT TOWNSHIP ZONING OFFICER/BUILDING CODE OFFICIAL SCOTT MORAN AT 610-637-1003 IF YOU HAVE ANY QUESTIONS.

AGRONOMY FACTS 54



Agronomy Facts 54

Pennsylvania's Nutrient Management Act (Act 38): Who Is Affected?

In spring 1993, the Pennsylvania legislature passed and the governor signed the Nutrient Management Act (Act 6) into law. The regulations implementing this law went into effect in 1997. In 2002 the State Conservation Commission began an effort to revise these regulations. In summer 2005, the Pennsylvania legislature replaced Act 6 with Act 38 as part of the Agriculture, Communities, and Rural Environment (ACRE) initiative. The new regulations, now falling under the new Act 38, were finalized in 2006 and went into effect in October of that year.

These revised regulations include several significant changes in the state's nutrient management program, including changes to who is affected by the regulations. This fact sheet addresses the question "Who is affected (regulated) by this legislation and regulations?"

CONCENTRATED ANIMAL OPERATIONS

The act states that "concentrated animal operations" will be required to develop and maintain a nutrient management plan. Concentrated animal operations (CAOs) are defined as agricultural operations where the animal density of all livestock on the farm exceeds 2 animal equivalent units (AEUs) per acre on an annualized basis. This animal density criteria has not changed in the new regulations; however, two significant changes were made. First, the definition now includes all livestock, including nonproduction animals such as horses used for recreation and transportation. Second, an operation with fewer than 8 AEUs is not considered to be a CAO regardless of the animal density.

Animal Equivalent Units

An AEU is 1,000 pounds of live weight of any animal on an annualized basis. Annualized means that if animals are not present on an operation for a whole year, the animal units are adjusted for the proportion of time during the year that animals are present on the operation. The calculation involves determining the number of AEUs of all animals on the farm based on the number of animals and their average weights and then adjusting that for the actual number of days (out of 365) that the animals are on the operation. To determine the number of AEUs on a farm, the following

formula can be used for each type of animal and then added together to get the total AEUs on the farm:

$$\text{AEUs for each type of animal} = \left[\frac{\text{average number of animals on a typical day that the animals are there} \times \text{animal weight (lb)} \div 1,000 \right] \times \left[\frac{\text{number of days the animals are on the operation per year}}{365} \right]$$

Table 1 (page 3) lists standard animal weights that are used to calculate AEUs. It is strongly suggested that these standard animal weights be used for this calculation. However, if the farmer has records of actual weights of the animals on the farm, these may be used to determine the appropriate animal weight to be used for this calculation if the records are complete enough to justify the use of the nonstandard weights. Note that for growing animals, an average weight for their growth over the year is used. For example, for medium broilers that grow from 0.09 to 5 pounds per animal over the growth cycle, the average weight would calculate to be 2.55 pounds per animal.

Acres Suitable for Application of Manure

The acreage number used in the animal density calculation is all acres, owned and rented, that are suitable for the application of manure. This acreage is determined to be those lands that meet the following criteria:

- Cropland, hay land, or pastureland (owned or rented) that is an integral part of the operation
- Land that is under the management control of the operator
- Land that is or will be used for the application of manure from the operation

Farmstead and forestland cannot be included in this calculation as land suitable for manure application.

Animal Density

The number of acres that meet the criteria listed above are then divided into the total AEUs on the farm to determine the overall animal density for the operation. Use the blank worksheet on page 4 to calculate the animal density on your farm.



PennState Extension

Concentrated Animal Operations Requirements

A CAO as defined under the original regulations that was in existence on the effective date of the revised regulation (October 1, 2006) should already have an approved nutrient management plan. The following are the new plan submission requirements of CAOs as defined in the revised regulations:

- A new CAO that comes into existence after the effective date must have an approved plan prior to the commencement of manure operations.
- An agricultural operation that is planning an expansion that will result in that operation becoming a CAO must have an approved plan prior to the expansion.
- An agricultural operation that because of loss of land suitable for manure application now meets the criteria for a CAO must submit a nutrient management plan within six months after the date of the loss of land.

EXAMPLE CAO CALCULATIONS

The following is an example of an AEU per acre calculation.

Example Farm Data

Animal Inventory	110 dairy cows @ 1,450-lb average weight each (Average weights taken from Table 1)
	35 heifers @ 1,000-lb average weight each 20 calves @ 420-lb average weight each 15,000 large broilers @ 3.55-lb average weight each
Production Period	Cows = 365 days per year Broilers = 5 flocks for 57 days each, or 285 days per year
Land Inventory	Farmstead = 5 acres Woodland = 3 acres Pasture = 4 acres Cropland, home farm = 60 acres Cropland, rented farm = 36 acres

This example farm would be defined as a CAO and would be required to develop and implement an approved nutrient management plan. The animal density criterion is not to be construed as prohibiting development or expansion of agricultural operations that would exceed the criterion. It simply means that these operations will be required to have an approved nutrient management plan. Farms with an animal density higher than 2 AEU per acre are likely to have more nutrients than can be fully used by the crops grown on the farm. Thus, nutrient management plans for CAOs will often describe on-farm manure utilization and procedures for moving some manure off the farm.

OTHER REQUIRED PLANS

Farms receiving financial or technical assistance from different federal, state, local, or private funding sources may also be required to have a nutrient management plan. Any farm that violates the Clean Streams Law may also be required to develop a nutrient management plan.

VOLUNTARY PLANS

Farms with fewer than 2 AEU per acre and farms with fewer than a total of 8 AEU on the operation are encouraged to voluntarily develop nutrient management plans. Nutrient management plans, whether required or voluntary, can improve farm profits, help protect the environment, provide some protection from liability, and enhance the image with the general public of agriculture as a good steward of our natural resources.

FOR MORE INFORMATION

For more information, contact the Penn State Extension office in your county or your local conservation district. For a summary of the Nutrient Management Act and regulations, see "Agronomy Facts 40: Nutrient Management Legislation in Pennsylvania: A Summary of the 2006 Regulations," available from your Penn State Extension county office.

Using this example data and the worksheet, the calculation of animal density (AEUs per acre) for this farm would be as follows:

ANIMAL TYPE	NO. ANIMALS	X ANIMAL WEIGHT (LB)	X PROD. DAYS	÷ FACTOR =	AEU
Dairy	110	x 1,450	x 365	÷ 365,000 =	159.5
Heifers	35	x 1,000	x 365	÷ 365,000 =	35.0
Calves	20	x 420	x 365	÷ 365,000 =	8.4
Broilers	15,000	x 3.55	x 285	÷ 365,000 =	41.6
		x	x	÷ 365,000 =	
		x	x	÷ 365,000 =	
		x	x	÷ 365,000 =	
				Total* =	244.5
				Acres available for manure**	÷ 100
				AEUs/acre	= 2.45

*If this figure is less than 8, then the farm would not be a CAO, regardless of the AEU/acre figure calculated below.

**Includes only cropland, hayland, and pastures; for this example there are 96 acres of cropland/hayland and 4 acres of pasture.

Table 1. Standard animal weights used to calculate animal equivalent units to identify concentrated animal operations.

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
Dairy, Holstein/Brown Swiss	
Calf: 0-1 year	420 (90-750)
Heifer: 1-2 years	1,000 (750-1,250)
Cow	1,450
Bull	1,700
Dairy, Guernsey/Ayrshire	
Calf: 0-1 year	350 (70-630)
Heifer: 1-2 years	865 (630-1,100)
Cow	1,200
Bull	1,600
Dairy, Jersey	
Calf: 0-1 year	275 (50-500)
Heifer: 1-2 years	675 (500-850)
Cow	1,000
Bull	1,200
Beef	
Calf: 0-8 months	300 (100-500)
Replacement heifer: 8 months to 1 year	500 (300-700)
Finishing: 8-24 months	950 (500-1,400)
Replacement heifer: 1-2 years	875 (700-1,050)
Bull	1,500
Cow	1,400
Backgrounding cattle	500 (300-700)
Veal	
Calf: 0-20 weeks	280 (95-465)
Poultry, Layer	
Pullet, white egg: 0-16 weeks	1.38 (0.08-2.67)
Pullet, brown egg: 0-16 weeks	1.54 (0.08-3.0)
Breeder hen, white egg: 17-70 weeks	3.25 (2.7-3.8)
Breeder rooster, white egg: 17-70 weeks	4.37 (3.67-5.06)
Breeder hen, brown egg: 17-70 weeks	3.55 (2.9-4.2)
Breeder rooster, brown egg: 17-70 weeks	4.78 (4.5-5.06)
White egg: 18-75 weeks	3.13 (2.82-3.44)
White egg: 18-90 weeks	3.14 (2.82-3.46)
Brown egg: 18-75 weeks	3.85 (3.35-4.34)
Brown egg: 18-90 weeks	3.85 (3.35-4.34)
Poultry, Broiler	
Medium: 0-35 days	2.55 (0.09-5.0)
Large: 0-53 days	3.55 (0.09-7.0)
Roaster male: 0-7 weeks	4.70 (0.09-9.3)
Roaster female: 0-9 weeks	4.95 (0.09-9.8)
Breeder pullet: 0-20 weeks	2.55 (0.09-5.0)
Breeder cockerel: 0-20 weeks	3.55 (0.09-7.0)
Breeder hen: 20-65 weeks	8.75 (5.0-8.5)
Breeder rooster: 20-65 weeks	8.75 (7.0-10.5)

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
Poultry, Turkey	
Tom brooder: 0-6 weeks	3.36 (0.22-6.5)
Hen brooder: 0-6 weeks	2.74 (0.22-5.25)
Hen regular: 6-12 weeks	11.13 (5.25-17)
Hen heavy: 6-16 weeks	14.63 (5.25-24)
Tom: 6-18 weeks	25.25 (6.5-44)
Poultry, Duck	
Starter: 0-17 days	1.36 (0.22-2.5)
Finisher: 17-38 days	4.88 (2.5-7.25)
Developer: 0-198 days	3.21 (0.22-6.2)
Layer	6.85 (6.2-7.5)
Poultry, Game Birds	
Guinea, growing: 0-14 weeks	1.91 (0.06-3.75)
Guinea, mature	3.75
Pheasant, growing: 0-13 weeks	1.53 (0.05-3.0)
Pheasant, mature	3.0
Chukar, growing: 0-13 weeks	0.52 (0.04-1.0)
Chukar, mature	1.0
Quail, growing: 0-13 weeks	0.26 (0.02-0.5)
Quail, mature	0.5
Swine	
Nursery pig	35 (13-57)
Wean to finish	143 (13-273)
Grow finish	165 (57-273)
Gestating sow	450
Sow and litter	470
Boar	450
Sheep, Larger Breed	
Lamb: 0-1 year	95 (10-180)
Ewe	225
Ram	300
Sheep, Medium Breed	
Lamb: 0-1 year	80 (10-150)
Ewe	175
Ram	225
Sheep, Smaller Breed	
Lamb: 0-1 year	45 (10-80)
Ewe	100
Ram	125
Goats, Meat	
Kid: 0-1 year	65 (5-125)
Doe	150
Buck	200

(continued)

Table 1. (continued)

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
Goats, Dairy	
Kid: 0-1 year	45 (5-85)
Doe	125
Buck	170
Miniature Horses and Donkeys	
Foal: 0-6 months	35 (25-45)
Weanling: 6-12 months	60 (45-75)
Yearling: 12-24 months	100 (75-125)
Two-year-old: 24-36 months	150 (125-175)
Mature	200
Ponies and Donkeys	
Foal: 0-6 months	65 (30-100)
Weanling: 6-12 months	150 (100-200)
Yearling: 12-24 months	300 (200-400)
Two-year-old: 24-36 months	400 (300-500)
Mature	600
Light Horses and Mules	
Foal: 0-6 months	190 (80-300)
Weanling: 6-12 months	450 (300-600)
Yearling: 12-24 months	700 (600-800)
Two-year-old: 24-36 months	900 (800-1,000)
Mature	1,100

TYPE OF ANIMAL	STANDARD WEIGHT (LB) DURING PRODUCTION (RANGE)
Draft Horses	
Foal: 0-6 months	360 (120-600)
Weanling: 6-12 months	800 (600-1,000)
Yearling: 12-24 months	1,150 (1,000-1,300)
Two-year-old: 24-36 months	1,450 (1,300-1,600)
Mature	1,800
Bison	
Calf: 0-1 year	275 (50-500)
Yearling: 1-2 years	650 (500-800)
Cow	1,000
Bull	1,600
Deer	
Fawn: 0-6 months	36 (7-65)
Yearling doe: 6-18 months	95 (65-125)
Yearling buck: 6-18 months	110 (65-155)
Mature doe	145
Mature buck	200
Alpaca	
Young	80 (15-145)
Mature female	145
Mature male	170
Llama	
Cria: 0-1 year	75 (25-125)
Yearling: 1-2 years	213 (125-300)
Mature	350

Using this worksheet to determine if your farm is a CAO:

ANIMAL TYPE	NO. ANIMALS	X ANIMAL WEIGHT (LB)	X PROD. DAYS	÷ FACTOR =	AEU
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
		X	X	÷ 365,000 =	
				Total* =	
			Acres available for manure		÷
			Animal density: AEU/acre**		=

*If the total AEU's on the farm is less than 8, the farm is not a CAO, regardless of the animal density.

**Farms with an animal density of greater than 2 AEU's per acre are defined as CAOs.

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