Exhibit 1

Hickman's Family Farms

Biosecurity Plan – Tonopah

2024

(Edits & Redactions by Arizona Department of Agriculture)

HICKMAN'S
FAMILY FARMS

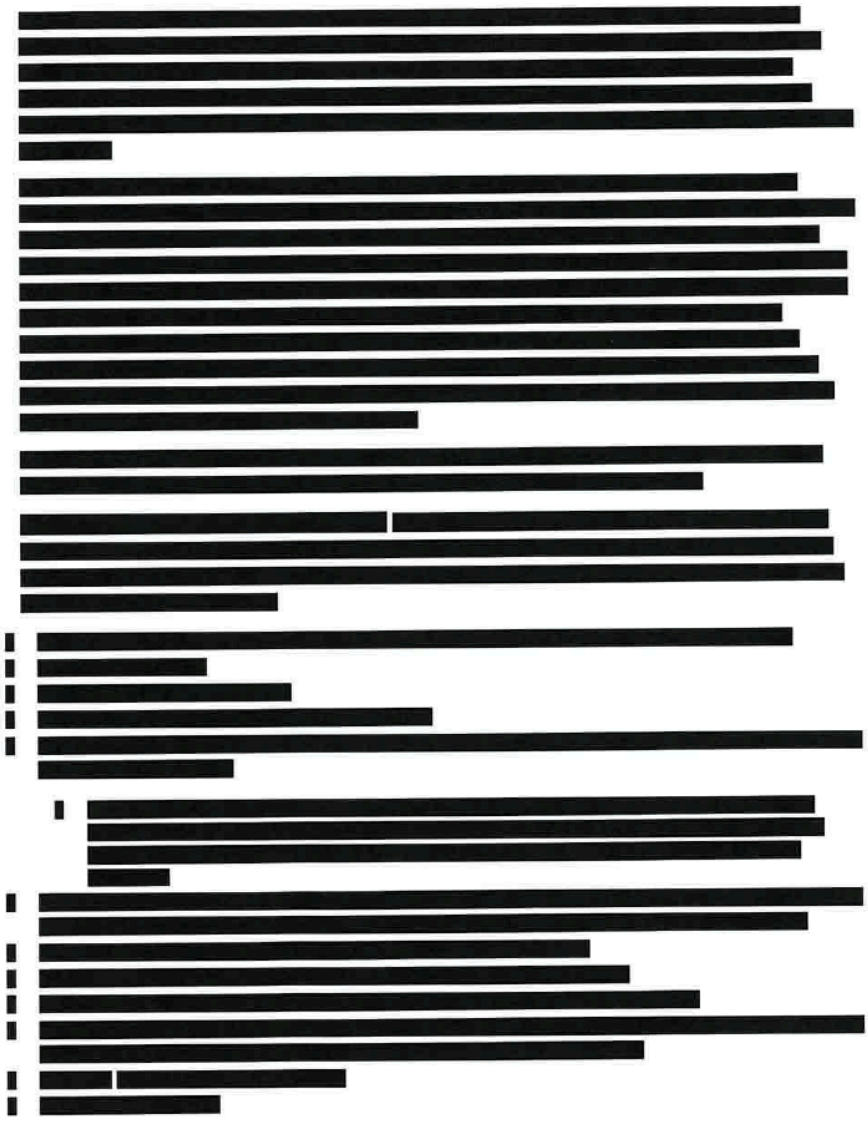
Biosecurity Plan – Tonopah

Biosecurity Plan – Tonopah

This Biosecurity Plan is based on the NPIP, APHIS, FDA and USDA Biosecurity requirements and Hickman's Egg Ranch Inc. will implement, monitor and follow all Biosecurity processes by implementing the guidelines described in the following sections.

Date Created: 03/23/2022
Date Validated Arizona OSA:

20. Live Poultry Movements –Replacement Pullets/Spent Hens



Spent Hens:

Hens are euthanized on site, in the hen houses, using carbon dioxide. Equipment used to euthanize hens is owned by Hickman's, and is disinfected when being moved between sites. Spent hens are hauled off site to our Hickman's protein plant, located at 7909 S. 331st Ave, Tonopah, AZ.

In case of an FAD event, the spent hens can be hauled to Southwest regional landfill (for more details see Section 28, Pg. 32 "Disposal and Pest Control). Premises personnel will be responsible for loading of spent hens onto hauling vehicles. Premises Management will train employees on the loading of spent hens. If approved VSD + heat will be considered for LPAI or HPAI whole farm depopulation.

- This SOP will be used to train employees in the following areas prior to loading spent hens.
  a. Proper use of this PPE
  b. Changing and disposal of PPE
  c. Disinfectants

Premises and Haulers should contact transportation manager for Product Movement Permit requirements.

Premises personnel will be responsible for the loading of spent hens or unloading of replacement pullets on-site.

Complex Manager and Senior Management will evaluate the potential of "onsite" composting.

21. Mortality Movement and Disposal

[redacted]

Mortality removal and processing: Mortality is removed from the housing system by layer house barn associate and placed in mortality containers at the back of the barns. The mortality containers are picked up and emptied at least 5 days a week. Mortality barrels are removed by a disinfected HFF truck dedicated to only mortality. The truck empties all barrels at the back of each lay house into the side dump trailer and then brings the mortality to the HFF Protein Plant, located at 7909 S 331st Avenue, Tonopah, AZ, 8535, where it is processed daily.

22. [redacted]

[redacted]

Disposal and Pest Control

28. Disposal Plan

Designated landfill: Southwest Regional Landfill

24427 AZ-85, Buckeye, AZ 85326, (623) 393 – 0085

Route to be taken to the landfill:

- Exit Tonopah facility through exit gate and head East on Indian School road toward 411th avenue
- Turn left onto 411th avenue, continue for a quarter of a mile and then bear right on to the I-10 East entrance ramp
- Follow I-10 E to AZ-85S/Phoenix bypass route. Take exit 112 from I-10E
- Follow AZ-85S/Phoenix bypass route to destination

High risk materials shall include items such as, but not limited to, dead birds, unmarketable eggs, disposable equipment, sampling supplies, soiled litter, manure, and used PPE.

High risk materials will be specifically dealt with as follows:

- **Animal Products (eggs) and egg spillage:** Spoiled or wasted eggs are discarded in the manure storage area.
- **Dead animals**: Dead birds will be hauled to the HFF Protein plant, located at 7909 S. 331st avenue, Tonopah AZ. If the protein plant is at capacity, or in the case of an FAD, dead birds will be brought to **Southwest Regional Landfill** using a company truck. (With appropriate permit)
- **Live animals found outside aviary houses:** Poultry that escape containment present a disease risk, as they may commingle with unmonitored avian population. These birds are euthanized and included with mortality.
- **Manure:** Used manure is hauled off site as permitted. Storage capacity exists for 2 weeks as needed.
- **Disposable equipment, sampling supplies, and used PPE:**
  a. Used disposable PPE will be discarded into lined, plastic trash bins located at perimeter access points/internal LOS access points.
  b. Disposable equipment and sampling supplies will be discarded into lined, lidded plastic trash bins located away from animal housing areas.
  c. All waste materials will be double-bagged and sealed prior to placement in the garbage dumpster.
  d. The trash dumpster is located outside the perimeter in the designated waste transfer area.
  e. Disposal containers will not leave the premises.

The premises has the ability to store disposed items for a minimum of 72 hours in the case of movement delays and can store high risk materials (not including dead animals) for 8-10 weeks and dead animals for 3-5 days.

Exhibit 2

United States Department of Agriculture

Natural Resources Conservation Service
Conservation Practice Standard

Emergency Animal Mortality Management

Code 368

July 2022

Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

EMERGENCY ANIMAL MORTALITY MANAGEMENT

CODE 368

(no)

DEFINITION

A means or method for the management of animal carcasses from catastrophic mortality events.

PURPOSE

This practice is used to accomplish one or more of the following purposes:

- Reduce impacts to surface water and ground water including downstrean drinking water sources
- Reduce the impact of odors
- Decrease the spread of pathogens

CONDITIONS WHERE PRACTICE APPLIES

This standard applies to animal operations where a catastrophic event results in the need to manage animal carcasses.

This standard may not apply to catastrophic mortality resulting from disease. In cases of disease-related catastrophic mortality, this standard is applicable only when the appropriate State or Federal authority (typically the State veterinarian or USDA Animal and Plant Health Inspection Service (APHIS)) approves the use of the methods in this standard.

This standard does not apply when animal carcasses are contaminated with hazardous waste, potentially hazardous or radioactive material.

This standard does not apply to routine animal mortality. For routine animal mortality, use NRCS Conservation Practice Standard (CPS) Animal Mortality Facility (Code 316).

CRITERIA

General Criteria Applicable to All Purposes

Plan, design, and construct this practice to comply with all Federal, State, Tribal, and local regulations. The landowner must obtain all necessary permissions from regulatory agencies or document that no permits are required. The landowner and contractor are responsible for locating all buried utilities in the project area, including drainage tile and other structural measures.

Address biosecurity concerns in all aspects of planning, installation, operation, and maintenance of a catastrophic animal mortality operation. Provide warning signs, fences, refrigeration unit locks, and other devices, as appropriate, to ensure the safety of humans and livestock. Include provisions in the design for closing or removing temporary components of the emergency mortality management operation, where required.

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Plan for the maximum size animals that might be dealt with and in conjunction with a complete depopulation schedule for the facility. In lieu of more site-specific data, use the following animal carcass densities.

Table 1. Animal Densities

Animal	Density[1] pounds per cubic foot
Beef cattle	60
Dairy cattle	62
Horse	60
Poultry	60
Sheep	65
Swine	60
[1] Data source: NRAES-54. On-farm Composting Handook, table 7.4.	

Onsite Disposal

Location

Choose the location of onsite mortality management activities using the following criteria:

- The prevailing winds and landscape elements minimize odors and protect visual resources.
- Down-gradient from springs or wells, where possible, or take steps necessary to prevent ground water contamination.
- Above the 100-year floodplain elevation unless site restrictions require location within the floodplain and the management operations located within the floodplain are portable and can be quickly relocated if it becomes necessary (i.e., loading site for transportation to offsite disposal location).
- Where runoff from the 25-year, 24-hour storm can be diverted around the site.
- Where ingress and egress for mortality management will not interfere with other travel patterns on the farm, such as livestock pathways, feed lanes, and other ongoing daily activities.
- Where a minimum of 2 feet between the bottom of the mortality management site and the seasonal high water table can be achieved unless special design features are incorporated that address seepage.
- Follow State regulations for required distances away from streams, lakes, deep wells, residences, drains, and other sensitive features, as applicable.

Refer to applicable soil interpretations found in the “Disaster Recovery Planning” category under “Soil Suitabilities and Limitations for Use” in the Web Soil Survey (https://websoilsurvey.nrcs.usda.gov/app/) as an initial screening tool to identify areas that are likely to be most suitable for this practice. If a suitable location cannot be found on the farm for onsite disposal, use an offsite disposal method.

Use the criteria in NRCS CPS Critical Area Planting (Code 342) to revegetate all areas disturbed by mortality management activities, as applicable.

Burial pit or trench

General

Bury catastrophic mortality onsite or as otherwise directed by State and local regulatory agencies. More than one pit/trench (pit) may be required. When possible, time the burial of catastrophic mortality to minimize the effects of mortality carcass expansion during the early stages of the decay process. Where possible and permitted by State law, leave large animal mortality uncovered or lightly covered until bloating has occurred, or use methods to reduce or vent thoracic and abdominal cavities to eliminate bloating. Retain topsoil to regrade the disposal site after the ground has settled as the decay process is completed.

Remove or render inoperable all field drainage tile (subsurface drains) within the operational area of the burial pit.

Soil suitability
Perform an onsite soils investigation to determine the suitability of the site for a burial pit. Locate burial pits on soils that do not flood and that do not have a water table within 2 feet of the bottom of the burial pit. Avoid areas that have the presence of hard bedrock, bedrock crevices, or highly permeable strata at or directly below the proposed pit bottom. These sites are unacceptable because of the potential pollution of ground water.

Seepage control
Where seepage will create a potential water quality problem, provide a liner that meets the requirements of the NRCS National Engineering Handbook (NEH) (Title 210), Part 651, Chapter 10, Appendix 10D, "Design and Construction Guidelines for Waste Impoundments Lined with Clay or Amendment-treated Soil," or other acceptable liner technology.

Size and capacity
Size the pits to accommodate the catastrophic mortality using appropriate weight to volume conversions shown in table 1. Construct the pit bottoms to be relatively level. Soil suitability and slope may limit the length of the pit. Separate multiple pits by a minimum of 3 feet of undisturbed or compacted soil. Place a minimum of 2 feet of cover over the mortality. Provide a finished grade for the burial site that is above natural ground elevation to accommodate settling and to reduce ponding from precipitation events. Divert runoff from burial location.

Burial trench safety
Use excavation techniques that are Occupational Safety and Health Administration (OSHA) compliant. For pits that are 4–5 feet deep, provide a step or bench 18 inches wide and 1 foot deep dug around the perimeter of the main pit so that the remaining vertical wall will not exceed 4 feet. For pits greater than 5 feet deep, provide earthen walls that are sloped at 2 horizontal and 1 vertical or flatter. Use barriers to keep vehicular traffic at least 4 feet from the edge of the pit. Keep equipment, animal carcasses, stockpiled soil, and other materials a minimum of 2 feet from the edge of the burial pit.

Composting
If composting mortality is planned, refer to NRCS 210-NEH, Part 637, Chapter 2, "Composting," and Part 651, Chapter 10-651.1007, "Mortality Management" design requirements.

Plan for the needed amount and type of carbonaceous material required to facilitate the composting action.

Protect composting mortality from precipitation as necessary or provide an appropriate filter area or means for collecting contaminated runoff. Cover dead animals in static piles or windrows with a minimum of 18 inches of sawdust, finished compost, or other carbonaceous material to discourage scavenging animals and minimize odors. Do not protect the piles or windrows from precipitation or scavengers by covering with an impervious material as air exchange and oxygen are needed to fuel the composting action.

Incinerators and gasifiers
General
Use type 4 (human and animal remains) incinerators approved for use within the State. Gasification (a high temperature method of vaporizing biomass without direct flame but with oxidation of the fumes in an after-burning chamber) must meet all applicable State air quality and emissions requirements.

Capacity
Base the minimum incinerator or gasifier capacity on the average weight of animals times the number of animals in the event. Refrigeration units may be necessary in conjunction with incinerators and gasifiers to improve the loading cycle and fuel use efficiency of the incineration or gasification unit.

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Open-air burning
Open-air burning involves combustion of waste at high temperatures, converting the waste into heat, gaseous emissions, and ash. The gaseous emissions are vented directly into the atmosphere in the human breathing zone without passing through a stack or chimney.

Open-air burning operations are strictly regulated, usually by State and/or local officials. A permit is usually required to perform open-air burning, if it is allowed at all.

Open-air burning includes burning carcasses in open fields and on combustible open heaps, or pyres, or air curtain destructors. Burning must take place as far away as possible from the public. Local conditions and circumstances may determine if this is a feasible disposal option to choose.

On-farm preprocessing may be required prior to open-air burning. Preprocessing could include the grinding of carcasses that can be transported in sealed containers or subjected to fermentation or freezing. However, grinding or shredding of carcasses infected with an infectious disease such as highly pathogenic avian influenza (HPAI) is not recommended because of the risk of aerosolizing the virus.

Use NRCS CPS Critical Area Planting (Code 342) to revegetate all areas disturbed by burning operations.

Temporary mortality storage with refrigeration units
General
Catastrophic mortality may be held in refrigeration units prior to disposal. Because of the large number of dead animals normally encountered in a catastrophic mortality situation, if refrigeration is used, it is likely that multiple units will be needed. Use refrigeration units with a construction compatible with the mechanism to be used to empty the refrigeration unit. Where necessary, provide protection for the refrigeration unit from precipitation and direct sun.

The refrigeration unit design, construction, power source, and unit installation will be in accordance with manufacturer's recommendations. Refrigeration units will be constructed of durable material and leakproof.

Place refrigeration units on a pad of suitable strength to withstand loads imposed by vehicular traffic used to load or remove mortality from the unit.

Temperature
The refrigeration units will be self-contained units designed to freeze animal carcasses before decomposition occurs. Maintain carcasses to be rendered between 22–26°F. Carcasses that will be composted, incinerated, gasified, or burned should be stored a few degrees above freezing to facilitate burning and to reduce the composting time or amount of fuel needed to incinerate or gasify the carcasses.

Capacity
Size the refrigeration units to accommodate the volume of mortality. When calculating the volume required, use the number of dead animals, the average weight of the animal, and a conversion factor for weight to volume.

Power Source
Provide an adequate source of power for cooling or freezing carcasses or both.

Offsite Disposal
In some instances, onsite disposal of all or a portion of the mortality may not be practical. In these instances, transportation and disposal by a third party at an offsite facility will be necessary. Tipping fees for offsite services will be required.

Transportation
Truck beds, trailers, dumpsters, etc. used to transport mortality to another location for disposal will be leakproof, tarped, and covered. Farmer and contractor will comply with all requirements established by local and Federal regulatory agencies.

Rendering
Rendering animal mortalities involves conversion of carcasses into three end products—carcass meal, melted fat or tallow, and water—using mechanical processes (e.g., grinding, mixing, pressing, decanting, and separating), thermal processes (e.g., cooking, evaporating, and drying), and chemical processes (e.g., solvent extraction). When the proper processing conditions are achieved the final product is free of pathogenic bacteria and unpleasant odors.

In an outbreak of disease such as foot and mouth disease, transport and travel restrictions may make it impossible for rendering plants to obtain material from traditional sources within a quarantine area. Additionally, animals killed because of a natural disaster, such as a hurricane, might not be accessible before they decompose to the point that they cannot be transported to a rendering facility and must be disposed of onsite.

Use of some pharmaceuticals may eliminate rendering as a option, due to residual of some drugs in the end products. Producers should contact renderer on what to avoid.

Collect and transfer animal mortalities in a hygienically safe manner according to State and local rules and regulations.

Landfill
Use Subtitle D landfill sites for animal carcass disposal. State and local governments will have reviewed approved Subtitle D landfill sites, and the necessary environmental protection measures will be preexisting; therefore, landfills represent a disposal option that generally poses little risk to the environment.

Modern Resource Conservation and Recovery Act Subtitle D landfills are highly regulated operations, engineered and built with technically complex systems specifically designed to protect the environment. The environmental protection systems of a Subtitle D landfill are generally more robust than those small, arid, or remote landfills that meet U.S. Environmental Protection Agency (EPA) criteria for exemption from environmental protection systems. Subtitle D landfills would likely be less prone to failure following high organic loading from the disposal of large quantities of carcass material than those exempt from EPA criteria.

In many States disposal of animal carcasses in Subtitle D landfills is an allowed option. However, it is not necessarily an available option as individual landfill operators generally decide whether to accept carcass material.

Producers should verify with individual landfill operators to determine availability for a particular event and for any requirements to utilize the landfill. Some landfills may require bagging of carcasses for disposal. During an emergency or instance of catastrophic loss, time is often very limited; therefore, landfills offer the advantage of infrastructures for waste disposal that are preexisting and immediately available. Furthermore, the quantity of carcass material that can be disposed of in landfills can be relatively large.

CONSIDERATIONS

Major considerations in planning emergency animal mortality management include—

- Available equipment and land application area at the operation.
- The management capabilities of the operator.
- The emotional impact on the producer caused by the mortality losses.
- The degree of pollution control required by State and local agencies.

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- Effects on wildlife and domestic animals.
- The economics of the available alternatives.
- Effects on neighbors (aesthetic, odors, traffic on public roads).

Consider taking measures to maintain appropriate visual resources, reduce odor, and provide dust control. Measures may include use of existing vegetative screens and topography to shield the catastrophic animal mortality disposal from public view, to reduce odors, and to minimize visual impact.

An alternative to prevent bloating of catastrophic mortality includes opening animal thoracic and abdominal cavities and viscera prior to placing the required cover.

Consider using the applicable operating procedures described in USDA Animal and Plant Health Inspection Service "Emergency Carcass Management, Desk Reference Guide."

State requirements for recordkeeping vary. State or local regulations may require recording items such as burial site location, type and quantity of mortality, burial date, photographs documenting the burial process, and other pertinent details.

PLANS AND SPECIFICATIONS

Prepare plans and specifications for emergency animal mortality management to comply with this standard and that describe the requirements for applying this practice to achieve its intended purpose. As a minimum, include—

- Contact information for State authorities since they may have specific requirements dependent upon cause of death, animal species, and housing.
- Amount, type, and weight of mortality.
- Layout and location of on-farm mortality management activities.
- Number, capacity, and type of on-farm disposal methods.
- Grading plan showing excavation and fill. Include drainage features, as appropriate.
- Soil and foundation findings, interpretations, and reports, as appropriate.
- Requirements for onsite disposal (i.e., composting, burial, etc.) and quantity of materials, as appropriate.
- Structural details of all components, as appropriate.
- Vegetative requirements for preventing erosion, as appropriate.
- Odor management or odor minimization requirement.
- Name, location, and contact information for the selected offsite transportation and disposal facility if offsite disposal, such as rendering or landfilling, will be used.

OPERATION AND MAINTENANCE

Prepare an operation and maintenance plan specific to the facilities installed for use by the landowner or operator responsible for operation and maintenance. The plan should provide specific instructions for operating and maintaining facilities to ensure they function properly. At a minimum, address—

- Specific instructions for proper operation and maintenance of each component of this practice. Detail the level of inspection and repairs needed to maintain the effectiveness and useful life of the practice.
- Safety considerations.
- Biosecurity concerns in all aspects of installation, operation, and maintenance.
- Contact(s) and phone numbers of person(s) to contact for catastrophic losses (figure 1).
- Maintaining recordkeeping of number, average weight, cause, and date of animal deaths.
- Method and procedures of catastrophic mortality disposal.

- Periodic inspections of disposal sites, as appropriate.
- Prompt repair or replacement of damaged components, as appropriate.
- Site references and/or manufacturer or installer for trouble shooting mechanical equipment, as appropriate.

Additional Operation and Maintenance for Burial

- Inspect after significant storm events and at least twice a year to identify maintenance needs.
- Inspect burial site for settlement and cracks in soil cover. Maintain at least 2 feet of soil cover as final cover over carcasses. Add soil and regrade the carcass burial site as decay and settlement occur.
- Regrade area if runoff is flowing onto the location of the burial site.
- Promptly repair and revegetate bare spots and eroded areas. Apply fertilizer and lime as appropriate to maintain vigorous vegetation.
- Inspect for damage from rodents or burrowing animals. Repair any damage and take appropriate corrective actions to prevent further damage.
- In areas where animal encroachment is excessive, install a barrier (temporary fence) around the burial site to protect against scavengers such as bears, coyotes, etc., or add additional cover.
- When the site can be returned to use, remove and properly dispose of fencing materials, if used. Level the land to original grade.

Additional Operation and Maintenance for Composting

- Identify operational information and equipment that will need to be readily available.
- Locate, as soon as practical, a source for carbonaceous material sufficient to provide for the catastrophic event.
- Include a recipe of ingredients that gives the layering or mixing sequence.
- Provide maximum and minimum temperatures for operation, land application rates, moisture level, management of odors, testing, etc.
- Become familiar with composting methods and procedures as soon as practical.
- Instructions for monitoring temperature and moisture, and how to adjust as necessary to ensure that the compost operation is proceeding as planned.
- Instructions for turning the pile as appropriate.
- In areas where animal encroachment is excessive, install a barrier (temporary fence) around the burial site to protect against scavengers such as bears, coyotes, etc., or add additional cover.
- When the site can be returned to use—
  - Remove and properly dispose of fencing materials, if used.
  - Collect any bones remaining on the soil surface and disposed of them properly.
  - Level the land to original grade.
- Instructions for properly utilizing the finished compost.

Additional Operation and Maintenance for Incinerators and Gasifiers

- Operate units properly to maximize efficiency of disposal and minimize emission problems.
- Load the units according to the manufacturer's recommendations.
- Remove ashes frequently to maximize combustion and prevent damage to equipment. Include methods for collecting and disposing of the ash material remaining after incineration. Plan for ash weight of up to 20 percent of carcass weight.

Additional Operation and Maintenance for Refrigeration Units

- Load the refrigeration unit according to manufacturer's recommendations and do not exceed the

design capacity.

- Inspect the refrigeration unit periodically for leaks, structural integrity, and temperature.

Figure 1. Emergency Mortality Response Contacts and Farm Information

EMERGENCY MORTALITY RESPONSE
Emergency Contacts and Farm Information

Plan Date:	
Farm Name:	
Owner/Operator:	
County:	
Physical Address of Facility:	
Directions to Facility:	
Emergency Contacts	
Local Veterinarian:	
On-Call Veterinarian:	
Integrator	
Other:	
Local Emergency Number:	
List of Agencies to notify within 24 hours	
State Animal Health Agency:	
State Veterinarian:	
Federal Area Veterinarian in Charge:	
Heavy Equipment Contractor	
for handling carcasses:	
for excavating burial pits:	
Composting Material Supplier:	
Incinerator:	
Landfill:	
Rendering Facility:	
Other (specify):	

REFERENCES

National Agricultural Biosecurity Center Consortium. 2004. Carcass Disposal: A Comprehensive Review. National Agricultural Biosecurity Center, Kansas State University, Manhattan, KS. https://krex.k-state.edu/dspace/handle/2097/662

Texas AgriLife Extension Service. 2016. Managing Contaminated Animal and Plant Materials: Field Guide on Best Practices. College Station, TX. https://texashelp.tamu.edu/wp-content/uploads/2016/02/burial-methods-disposal-practices-plants-animals-1.pdf

USDA Animal and Plant Health Inspection Service. 2017. Emergency Carcass Management, Desk Reference Guide. Washington, D.C. https://www.aphis.usda.gov/animal_health/carcass/docs/disposal-guide.pdf

U.S. Environmental Protection Agency. 2014. Protection of Environment. 40 CFR 258.1, (4) (f) (1). Criteria for Municipal Solid Waste Landfills. Washington, D.C. https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol25/xml/CFR-2014-title40-vol25-sec258-1.xml

U.S. Environmental Protection Agency. 1998. Criteria for Meeting the Small, Arid, and Remote Municipal Solid Waste Landfill Exclusion. EPA Publication No. 530-R-98-005e. Washington, D.C. https://rcrapublic.epa.gov/files/14272.pdf

USDA NRCS. 2000. National Engineering Handbook (Title 210), Part 637, Chapter 2, Composting. Washington, D.C. https://directives.sc.egov.usda.gov/

USDA NRCS. 2000. National Engineering Handbook (Title 210), Part 651, Agricultural Waste Management Field Handbook. Washington, D.C. https://directives.sc.egov.usda.gov/

U.S. Department of Labor. Occupational Safety and Health Administration. Specific Excavation Requirements. 29 CFR 1926.651,(j)(2). Excavations. Washington, D.C. https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.651

REFERENCES

National Agricultural Biosecurity Center Consortium. 2004. Carcass Disposal: A Comprehensive Review. National Agricultural Biosecurity Center, Kansas State University, Manhattan, KS. https://krex.k-state.edu/dspace/handle/2097/662

Texas AgriLife Extension Service. 2016. Managing Contaminated Animal and Plant Materials: Field Guide on Best Practices. College Station, TX. https://texashelp.tamu.edu/wp-content/uploads/2016/02/burial-methods-disposal-practices-plants-animals-1.pdf

USDA Animal and Plant Health Inspection Service. 2017. Emergency Carcass Management, Desk Reference Guide. Washington, D.C. https://www.aphis.usda.gov/animal_health/carcass/docs/disposal-guide.pdf

U.S. Environmental Protection Agency. 2014. Protection of Environment. 40 CFR 258.1, (4) (f) (1). Criteria for Municipal Solid Waste Landfills. Washington, D.C. https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol25/xml/CFR-2014-title40-vol25-sec258-1.xml

U.S. Environmental Protection Agency. 1998. Criteria for Meeting the Small, Arid, and Remote Municipal Solid Waste Landfill Exclusion. EPA Publication No. 530-R-98-005e. Washington, D.C. https://rcrapublic.epa.gov/files/14272.pdf

USDA NRCS. 2000. National Engineering Handbook (Title 210), Part 637, Chapter 2, Composting. Washington, D.C. https://directives.sc.egov.usda.gov/

USDA NRCS. 2000. National Engineering Handbook (Title 210), Part 651, Agricultural Waste Management Field Handbook. Washington, D.C. https://directives.sc.egov.usda.gov/

U.S. Department of Labor. Occupational Safety and Health Administration. Specific Excavation Requirements. 29 CFR 1926.651,(j)(2). Excavations. Washington, D.C. https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.651

Exhibit 3

Emergency Mortalities at Hickman Family Farms

With Notes from Literature

by

Albert J. Heber, Ph.D., P.E.

July 2, 2025

Emergency Mortalities at Hickman Family Farms
With Notes from Literature
By Albert J. Heber, Ph.D., P.E.
July 2, 2025

Introduction

An emergency poultry carcass disposal operation was carried out by Hickman's Family Farms (HFF), at 41717 Indian School Road, Tonopah, AZ due to an outbreak of the Avian bird flu (Dana, 2025). The strain H5N1 of avian influenza is the most lethal variation and is known to be transmissible to humans (Kim and Kim, 2012).

Over 2 million chickens were buried in trenches at their Tonopah site with the oversight of the ADEQ (Director Karen Peters), who provided HFF with a temporary emergency waiver and will assure that groundwater is protected by assessing the area's hydrology and geology, even though she claimed that there is no current risk to the aquifer. Therefore, the impact studies will be done afterwards, rather than prior to the burial operation (Dana, June 20, 2025).

Background

There are increasing concerns worldwide about the negative environmental impacts of the burial method used for mass depopulations of animals and birds (Avidov et al., 2023; Flory et al., 2017; Glanville et al., 2009).

Ritter and Chirnside (1995) warned about the impact of poultry carcass burials on ground water quality and called for regulations that require a soil survey by a certified soil scientist prior to subsurface disposal, especially for large amounts of carcasses.

EPA warns that the burial of livestock mortalities can lead to groundwater contamination. Bodily fluids and hazardous gases can impact "health and safety of surrounding humans, livestock and wildlife" (Dana and Simchuk, 2025). Thus, the residents are concerned about their drinking water which comes from wells that are less than 150 ft deep. The trenches were located near local residences, like the home of Liinda Butler.

After first saying that the chickens would go to a landfill, the Department of Agriculture informed the public that the birds at Tonopah will be buried at the site (Dana and Simchuk, 2025). Neighbors have not been given information about the process, not from Hickman's nor the state agencies. Burial is not the top method of carcass disposal as it is less preferred than composting and landfill.

Glenn Hickman equated the mass burial of chicken carcasses to cemetaries and septic systems in terms of contamination and said the number of chickens made no difference

(Dana, 2025). This is a dismissive statement that is not based on facts. His statement that "There's always going to be concerns" is also dismissive.

Karen Peters' claim that the aquifer is fine prior to any testing is basically "hoping for the best". What is the plan if the tests show contamination? (Dana, 2025) This question was answered in a nomination hearing on June 26 (McDaniel, 2025). If the burial of 2 million chickens prior to the pivoting decision to instead require landfilling causes groundwater contamination, then the aquifer will need to be pumped and treated. Members of the public and of the committee believed that the decision to allow burial without a liner exhibited poor judgement.

The Sheldon Jones' statement about a biosecurity plan implies that perhaps it would obviate the need for an emergency mortality plan (Dana, 2025), which it does not.

Best Management Practices in the Literature

Disposal of dead animals needs to be done within 72 hours in a way that prevents contamination of water and public health hazards (Texas, 2005). Texas (2005) provides a comprehensive list of factors to be evaluated at a burial site during the planning process. It includes soil properties, vertical proximity to bedrock and the water table, horizontal proximity to water bodies and public areas, and setbacks to residences and public areas. Local NRCS offices maintain a soil map for suitability for burial. The map will be divided into soil mapping units.

The location should be above the 100-year floodplain elevation, should allow runoff to be diverted, and should have proper setbacks from surface water, deep wells, residences, drains, etc. (USDA, 2022). Texas (2005) gave minimum setbacks of 50-200 ft from residential property, 150 ft from private well, springs, streams, public areas, and 500 ft from a public well. Surface runoff must not enter the pit.

Texas (2005) recommends that poultry carcasses should be placed in layers not more than 1 ft thick and each covered with 1 ft of soil. The burial site should be mounded with at least two ft of soil, and subsiding soil (Figure 5. Burial sites showing settling of soil.Figure 5) should be replaced with new soil.

Texas (2005) stated that local NRCS offices can provide soil maps with suitability criteria for burying animal mortalities in three classes: 1) not limited, 2) somewhat limited, and 3) very limited. The suitability maps should be used as a preliminary planning tool.

The burial should be timed to minimize the effects of carcass expansion. If permitted, the pit should be uncovered until bloating is completed. Topsoil should be retained to regrade the ground. The pit should not be located in the flood plain. Areas with hard bedrock and

other hard surfaces should be avoided (USDA, 2022). Seepage of leachate must be controlled if there is potential for water contamination. Mortalities should be with at least 2 feet of soil. Pit bottoms must be level and 2 or more feet above the water table. However, Kim and Kim (2012) specified a 6 to 12 ft distance above the water table.

The main problem with the burial method is the migration of leachate formed by carcass decomposition to water resources (Kim and Kim, 2012). The release of leachate, which is slowly released to external environments, is a bigger problem when large numbers of carcasses are buried in a short period of time.

The burial site must be regularly inspected for improper cover, settlement and cracks, improper runoff flow, bare spots and erosion, and rodent and animal damage, all which can develop over time.

Records of the operational details and the emergency mortality response should be kept and provided (USDA, 2022).

Kim and Kim (2012) conducted a review with the express purpose of characterizing the potential microbial contaminants expected to be found in the groundwater around mortality burial pits in Korea where 24 million birds were culled from 2003 to 2011, and 6 million birds were slaughtered and buried in 216 burial pits in 2011. They noted that the burial sites constructed in Korea often had large numbers of carcasses buried without serious consideration of hydrogeologic settings, and may serve as large sources of contamination, which in turn may possibly contaminate the groundwater. This is apparently the same scenario that occurred at Hickman's Family Farms.

It was noted in Kim and Kim (2012) that the complete decay of the buried carcasses may take two years or more, and that contaminants are released until carcass decay is completed. Korean law dictates that monitoring be conducted for two years following burial (Kim and Kim, 2012).

Kim and Pramanik (2016) presented a comprehensive set of procedures and methods for environmental management of burial sites used to control outbreaks of Avian influenza and foot-and-mouth disease. Required measures include leachate wells, gas exhaust, liners, application of lime layers, and monitoring wells. The burial protocol at Hickmans apparently fell far short of these measures.

Contamination Parameters

Flory et al (2017), citing a U.K. study, stated that burial ranked as the highest risk disposal method. Potential hazards include campylobacter, *Escherichia coli*, *Listeria*, *Salmonella B*, anthracis, *Cryptosporidium*, Giardia, *Clostridium tetani*, *Clostridium botulinum*,

Leptospira, *Mycobacterium*, tuberculosis v. bovis, *Yersinia*, and hydrogen sulfide. Kim and Kim (2012) identified 4 pathogenic bacteria (*Salmonella typhimurium, S. enteritidies, Bacillus cereus, Clostridium perfringens*) that existed in groundwater contaminated by calf burial. The quantification of coliform bacteria is often used as a surrogate for these disease agents (Kim and Kim, 2012).

Proteolytic and lipolytic bacteria are two important groups of bacteria that participate in carcass decomposition (Kim and Kim, 2012). The most commonly observed proteolytic bacteria are *Enterococcus faecalis, E. gallinarum, Proteus,* and the *Pseudomonas* species.

Other contaminants to be tested are concentrations of ammonium, ammonia, nitrate, nitrogen, phosphorus (Flory et al., 2017), and biochemical oxygen demand (BOD), total dissolved solids (TDS) and chloride (Kim and Kim, 2012).

In the case of burial of chickens because of an avian influenza (AI) virus outbreak, leachate monitoring of the virus itself should be monitored to make sure the virus is contained and not moving off site (Kim and Pramanik, 2016).

The monitoring around Hickmans should provide concentrations of the following concentrations:

Avian Influenza virus
BOD
TDS
Chloride
Ammonium
Ammonia
Nitrogen
Nitrates
Phosphorus
Proteolytic bacteria
Lipolytic bacteria
Pathogenic bacteria (*Salmonella*, *E. Coli*, etc.)
Total coliform bacteria

References

Avidov, R., A. Lublin, V.S. Varma, I. Saadi, I. Yoselwitz, Y. Chen and Y. Laor. 2023. Utilization of polyethylene sleeves with forced aeration for composting of broiler carcasses on mass depopulation vents: Laboratory-scale simulations and sensitivity analyses. Waste Management 155:107-117.

Castro, G. 2024. Managing Animal Carcass Leachate to Prevent Water Pollution. University of Nebraska, Managing Animal Carcass Leachate to Prevent Water Pollution | UNL Water | Nebraska.

Dana, Joe. 2025. Neighbors concerned about groundwater after millions of chickens were buried on Valley farm; environmental studies underway. News Report, 12news.com. June 20.

Dana and Simchuk. 2025. How will Hickman's Farms dispose of 6 million dead chickens? News Report, 12news.com. June 5.

Flory, G.A., R.W. Peer, R.A. Clark, M.N. Baccar, T.T. Le, A.B. Mbarek, and S. Farsi. 2017. Aboveground burial for managing catastrophic losses of livestock. International Journal of One Health 3:50-56.

Garden, A., T. Hayden, and C. Golightly. 2025. Avian flu forces Hickman's Family Farms to pause majority of production for 2 years. News Report, 12News, June 1.

Glanville, T.D., H.K. Ahn, T.L. Richard, L.E. Shiers, and J.D. Harmon. 2009. Soil contamination caused by emergency bio-reduction of catastrophic livestock mortalities. Water, Air and Soil Pollution 1987:285-295.

Hseu, Z.Y. and Z.S. Chen. 2016. Experiences of mass pig carcass disposal related to groundwater quality monitoring in Taiwan. Sustainability 9:46.

Kim, G.H. and S. Pramanik. 2016. Biosecurity procedures for the environmental management of carcasses burial sites in Korea. Environmental Geochemical Health 38:1229-1240.

Kim, H. and K. Kim. 2012. Microbial and chemical contamination of groundwater around livestock mortality burial sites in Korea – a review. Geoscience Journal 16:479-89.

McDaniel, M. 2025. State may have to pump and treat groundwater after Hickman buries 2M chickens. inBuckeye, June 26.

Ritter, W.F.; A.E.M. Chirnside. 1995. Impact of dead bird disposal pits on ground-water quality on the Delmarva Peninsula. Bioresource Technology 53:105–111.

Texas. 2005. Catastrophic Animal Mortality Management (Burial Method), Technical Guidance. Texas State Soil and Water Conservation Board, Austin, TX, October 26. 12 pages.

USDA. 2022. Emergency Animal Mortality Management. Conservation Practice Standard 368-CPS-1, Natural Resources Conservation Service, United States Department of Agriculture, 9 pages.

Figure 1. Burial site photo taken with drone from the north.

Figure 2. Hickmans layer houses at Tonopah. Dust cloud from burial site is visible in upper right corner of the photo.

Figure 3. Burial pit construction.

6/19/25 12News

Figure 4. Manure conveyors used to load carcasses into trucks.

Figure 5. Burial sites showing settling of soil.

Figure 6. Deep trenches used for burial of mass depopulation mortalities.

Figure 7. Google Earth image showing the burial pit location represented by the red line west of the laying hen houses.

Exhibit 4

Tonopah Egg Production Plant Fire

April 4, 2019

Exhibit 5

Arlington Egg Production Plant Fire

March 6, 2021

(Photo from Buckeye Gazette, March 6, 2021)

Exhibit 6

Tonopah Egg Production Plant Fire

July 7, 2024

Exhibit 7

Photos of Red Water Discharge

from

Tonopah Egg Production Facility Lagoons

February 10, 2023

Exhibit 8

ADEQ Water Quality Inspection

Photo 22

North Lagoon Overtopping

ADEQ Photo 22

Red Lagoon Photo
April 13, 2023

Exhibit 9

Fly Infestation Photos

January 2019

January 27, 2019

January 31, 2019

Exhibit 10

HB 2503

Building Code Exemptions; Public Notice

REFERENCE TITLE: building code exemptions; public notice

State of Arizona
House of Representatives
Fifty-third Legislature
Second Regular Session
2018

HB 2503

Introduced by
Representatives Barton: Mitchell, Payne, Shooter, Senators Borrelli, Griffin

AN ACT

AMENDING SECTION 11-865, ARIZONA REVISED STATUTES; RELATING TO COUNTY PLANNING AND ZONING.

(TEXT OF BILL BEGINS ON NEXT PAGE)

HB 2503

Be it enacted by the Legislature of the State of Arizona:

Section 1. Section 11-865, Arizona Revised Statutes, is amended to read:

11-865 . Exemptions; exception; public notice and hearing

A. The provisions of This article shall DOES not be construed to apply to:

1. Construction or operation incidental to construction and repair to irrigation and drainage ditches or appurtenances thereto, of regularly constituted districts or reclamation districts, or to farming, dairying, agriculture, viticulture, horticulture or stock or poultry raising, or clearing or other work upon ON land in rural areas for fire prevention purposes.

2. Devices used in manufacturing, processing or fabricating normally considered as involved in industry and construction, operation and maintenance of electric, gas or other public utility systems operated by public service corporations operating under a franchise or certificate of convenience and necessity.

B. Notwithstanding subsection A OF THIS SECTION , the requirements of this article apply to the use or occupation of land or improvements by a person or entity consisting of or including changing, remanufacturing or treating human sewage or sludge for distribution or resale.

C. IF AN OWNER OF PROPERTY THAT IS CLASSIFIED AS TWO(R) AGRICULTURAL PROPERTY PURSUANT TO SECTION 42-12002, PARAGRAPH 1, SUBDIVISION (a), (b) OR (d) AND THAT IS EXEMPT PURSUANT TO THIS SECTION DESIRES TO CHANGE THE AGRICULTURAL USE OF ALL OR PART OF THE PROPERTY, THE PROPERTY OWNER SHALL APPLY TO THE COMMISSION TO CHANGE THE AGRICULTURAL USE.

D. IF THE BOARD RECEIVES A REQUEST FOR AN EXEMPTION PURSUANT TO THIS SECTION FOR CLASS TWO(R) AGRICULTURAL PROPERTY AS DESCRIBED IN SECTION 42-12002, PARAGRAPH 1, SUBDIVISION (a), (b) OR (d) OR AN APPLICATION TO CHANGE THE AGRICULTURAL USE IS FILED PURSUANT TO SUBSECTION C OF THIS SECTION, THE BOARD SHALL PRESCRIBE A PROCESS FOR THE COMMISSION TO NOTIFY ADJACENT PROPERTY OWNERS AND OTHER POTENTIALLY AFFECTED CITIZENS. THE NOTIFICATION PROCESS SHALL MEET AT LEAST THE FOLLOWING REQUIREMENTS:

1. BE WRITTEN.

2. PROVIDE AN OPPORTUNITY FOR ADJACENT PROPERTY OWNERS AND OTHER POTENTIALLY AFFECTED CITIZENS TO EXPRESS ANY ISSUES OR CONCERNS THAT THEY MAY HAVE REGARDING THE EXEMPTION OR CHANGE IN AGRICULTURAL USE.

E. AFTER THE COMMISSION PROVIDES NOTICE AS PRESCRIBED IN SUBSECTION D OF THIS SECTION, THE COMMISSION SHALL HOLD A PUBLIC HEARING ON THE APPLICATION TO CHANGE THE AGRICULTURAL USE OR EXEMPTION REQUEST DESCRIBED IN SUBSECTION D OF THIS SECTION IF A PUBLIC HEARING IS REQUESTED. REASONABLE NOTICE OF THE TIME AND PLACE OF THE HEARING, INCLUDING A GENERAL EXPLANATION OF THE MATTER TO BE CONSIDERED AND A GENERAL

DESCRIPTION OF THE AREA AFFECTED, SHALL BE GIVEN TO ADJACENT PROPERTY OWNERS AND POTENTIALLY AFFECTED CITIZENS.

F. WHEN DECIDING WHETHER TO GRANT OR DENY THE APPLICATION TO CHANGE THE AGRICULTURAL USE OR EXEMPTION REQUEST DESCRIBED IN SUBSECTION D OF THIS SECTION, THE COMMISSION SHALL CONSIDER WHETHER THE EXEMPTION OR CHANGE IN AGRICULTURAL USE WOULD CONSERVE AND PROMOTE THE PUBLIC HEALTH, SAFETY, CONVENIENCE AND GENERAL WELFARE.

Exhibit 11

HB 2503

Agricultural Operations; Nuisance; Liability

REFERENCE TITLE: agricultural operations; nuisance; liability

State of Arizona
House of Representatives
Fifty-fifth Legislature
First Regular Session
2021

HB 2372

Introduced by
Representative Dunn

AN ACT

REPEALING SECTION 3-112, ARIZONA REVISED STATUTES; AMENDING TITLE 3, CHAPTER 1, ARTICLE 2, ARIZONA REVISED STATUTES, BY ADDING A NEW SECTION 3-112; RELATING TO AGRICULTURAL ADMINISTRATION.

(TEXT OF BILL BEGINS ON NEXT PAGE)

Be it enacted by the Legislature of the State of Arizona:

Section 1. Repeal

Section 3-112, Arizona Revised Statutes, is repealed.

Sec. 2. Title 3, chapter 1, article 2, Arizona Revised Statutes, is amended by adding a new section 3-112, to read:

3-112. Agricultural operations; nuisance; liability; rebuttable presumption; state preemption

A. A NUISANCE ACTION MAY NOT BE FILED AGAINST AN AGRICULTURAL OPERATION CONDUCTED ON FARMLAND UNLESS ALL OF THE FOLLOWING APPLY:

1. THE PLAINTIFF IS THE LEGAL POSSESSOR OF THE REAL PROPERTY AFFECTED BY THE CONDITION ALLEGED TO BE A NUISANCE.

2. THE REAL PROPERTY AFFECTED BY THE CONDITION ALLEGED TO BE A NUISANCE IS LOCATED WITHIN ONE-HALF MILE OF THE SOURCE OF THE ACTIVITY OR STRUCTURE ALLEGED TO BE A NUISANCE.

3. THE ACTION IS BROUGHT WITHIN ONE YEAR AFTER THE AGRICULTURAL OPERATION IS ESTABLISHED, REGARDLESS OF ANY SUBSEQUENT CHANGE IN THE AGRICULTURAL OPERATION'S OWNERSHIP, SIZE OR AGRICULTURAL PRACTICE OR PRODUCT PRODUCED.

B. NOTWITHSTANDING ANY OTHER LAW, IT IS A REBUTTABLE PRESUMPTION THAT AN AGRICULTURAL OPERATION CONDUCTED ON FARMLAND IS NOT A PUBLIC OR PRIVATE NUISANCE.

C. THE REBUTTABLE PRESUMPTION PRESCRIBED IN SUBSECTION B OF THIS SECTION APPLIES NOTWITHSTANDING THAT THE AGRICULTURAL OPERATION DOES ANY THE FOLLOWING:

1. CHANGES ITS OWNERSHIP OR SIZE.

2. TEMPORARILY CEASES OR INTERRUPTS ITS FARMING OPERATIONS.

3. PARTICIPATES IN ANY GOVERNMENT-SPONSORED AGRICULTURAL PROGRAM.

4. USES NEW TECHNOLOGY.

5. CHANGES THE TYPE OF AGRICULTURAL PRODUCT THE AGRICULTURAL OPERATION PRODUCES.

D. THE REBUTTABLE PRESUMPTION PRESCRIBED IN SUBSECTION B OF THIS SECTION MAY BE OVERCOME BY A PREPONDERANCE OF THE EVIDENCE ONLY IF THE AGRICULTURAL OPERATION CONDUCTED ON FARMLAND IS VIOLATING APPLICABLE FEDERAL, STATE OR LOCAL LAWS OR REGULATIONS.

E. IN A NUISANCE ACTION AGAINST AN AGRICULTURAL OPERATION CONDUCTED ON FARMLAND:

1. IF THE COURT FINDS THAT THE AGRICULTURAL OPERATION IS NOT A NUISANCE, THE COURT SHALL AWARD COSTS AND EXPENSES, INCLUDING REASONABLE ATTORNEY FEES, TO THE AGRICULTURAL OPERATION.

2. IF THE COURT FINDS THE ALLEGED NUISANCE EMANATED FROM THE AGRICULTURAL OPERATION, THE COURT MAY AWARD COMPENSATORY DAMAGES TO A PLAINTIFF ACTION AS FOLLOWS:

(a) IF THE NUISANCE IS A PERMANENT NUISANCE, COMPENSATORY DAMAGES SHALL BE MEASURED BY THE REDUCTION IN THE FAIR MARKET VALUE OF THE PLAINTIFF'S PROPERTY CAUSED BY THE NUISANCE BUT MAY NOT EXCEED THE FAIR

MARKET VALUE OF THE PROPERTY.

(b) IF THE NUISANCE IS A TEMPORARY NUISANCE, COMPENSATORY DAMAGES SHALL BE LIMITED TO THE DIMINUTION OF THE FAIR RENTAL VALUE OF THE PLAINTIFF'S PROPERTY CAUSED BY THE NUISANCE.

3. THE COURT MAY NOT AWARD PUNITIVE DAMAGES FOR A NUISANCE ACTION UNLESS THE ALLEGED NUISANCE EMANATED FROM AN AGRICULTURAL OPERATION THAT HAS BEEN SUBJECT TO A CRIMINAL CONVICTION OR A CIVIL ENFORCEMENT ACTION TAKEN BY A STATE OR FEDERAL ENVIRONMENTAL REGULATORY AGENCY PURSUANT TO A NOTICE OF VIOLATION FOR THE CONDUCT ALLEGED TO BE THE SOURCE OF THE NUISANCE WITHIN THE THREE YEARS BEFORE THE FIRST ACTION ON WHICH THE NUISANCE ACTION IS BASED.

F. THE CIRCUMSTANCES UNDER WHICH AGRICULTURAL OPERATIONS CONDUCTED ON FARMLAND MAY BE REGULATED OR CONSIDERED TO BE A NUISANCE ARE A MATTER OF STATEWIDE CONCERN. THIS SECTION SUPERSEDES ANY MUNICIPAL ORDINANCE THAT MAKES AN AGRICULTURAL OPERATION CONDUCTED ON FARMLAND A NUISANCE OR PROVIDES FOR AN ABATEMENT OF THE AGRICULTURAL OPERATION AS A NUISANCE, AND ANY SUCH ORDINANCE IS, VOID AND HAS NO FORCE OR EFFECT.

Sec. 3. Legislative findings

The legislature finds that it is the policy of this state to conserve, protect and encourage the development and improvement of its agricultural land for producing food and other agricultural products. It is the purpose of this act to reduce the loss to this state of its agricultural resources by limiting the circumstances under which agricultural operations conducted on farmland may be regulated or considered to be a nuisance.

Exhibit 12

SB 148 (and HB 2503) Opposition Letter

March 23, 2021

March 23, 2021

RE: Oppose Agriculture Nuisance Law Amendment - SB1448

Dear Legislators:

Please vote against the passage of striker SB1448. This proposed change to Arizona's agricultural nuisance law (or "right-to-farm" law) would allow large-scale industrial agribusiness operations and most notably, concentrated animal feeding operations (CAFOs) to escape responsibility for their negative impacts. It would also take away the rights of local governments to protect the public health and welfare of their citizens.

There is a wealth of research showing the negative economic, social, health, and environmental impacts suffered by people who live and/or work in or near CAFOs (see e.g., 2008 Pew report on industrial farm animal production in America). Additionally, intensive industrial agricultural operations such as CAFOs operate under woefully inadequate state and federal environmental regulations that fail to address public health and welfare impacts associated with their planning, siting, and operation.

Researchers from Johns Hopkins Bloomberg School of Public Health in the Department of
Environmental Health and Engineering have provided an evidence-informed, expert perspective on the public health and environmental considerations stemming from industrial farm animal production that is highly relevant to local communities and policymakers in Arizona in this context (see attached March 18, 2021 letter). In short, a myriad peer reviewed studies have consistently shown the following:

- Significant amounts of toxins are released from CAFOs into the environment causing pollution to air, water, and soil.
- For example, communities surrounding CAFOs are exposed to large amounts of gaseous pollutants such as ammonia, methane, volatile organic compounds, endotoxins, pathogens, and particulate matter.
- This pollution, in turn, causes increased illness rates observed among people who live near them (see the American Public Health Association's policy on imposing a moratorium on new and expanding CAFOs to protect public health).
- The widespread, routine administration of antibiotics to keep animals alive in confinement increases the very deadly risk of antibiotic-resistant bacteria in both livestock and people.
- Living near CAFOs has been linked to psychological distress and other public health problems
- Property values decline and quality of life decreases significantly and consistently in areas near CAFOs.
- Local economies suffer rather than improve as small-scale farming declines. A reduced property tax base limits local government ability to provide services.

- With our current COVID crisis, this might be the most dangerous time in our state's history to abandon our rural small farmers, businesses, and residents.

SB1448 would severely limit the power of local government to regulate these types of facilities and strip away their rights to protect public health and welfare, as well as their democratic rights of selfdefense and self-determination. Creating more statutory protections for CAFOs to shield them from liability and responsibility for their negative impacts will not result in desired outcomes. An industry that seeks to do this must be questioned.

Arizona residents are familiar with the problems caused by CAFOs. These are NOT "farms." In
Arizona, some confine hundreds of thousands of animals (sometimes millions) in unnatural environments. In the town of Maricopa in Pinal County, a coalition of residents once organized itself to try to address concerns about the air emissions and public health risks posed by the numerous CAFOs located within or near the city. "Cow Town" was identified by USEPA as one of the biggest air polluters in the state, as well as in the nation. In Tonopah in Maricopa County, an entire community has been impacted by a massive CAFO that local, state and federal laws and governmental regulatory agencies have failed. See the Right-to-Harm film for more information. These circumstances have left residents with very few viable options to protect themselves. Often, a nuisance action is the only mechanism people have to protect themselves.

While purporting to protect farming and farmland, U.S. right to farm laws impede private property rights and the capacity to file nuisance lawsuits. They disrupt the common law by tipping the scales in favor of big agribusiness and industrial agriculture, as opposed to protecting other kinds of more traditional farming operations, local business operations, and enjoyment of private property. The proposed right to farm amendment is emblematic of how powerful agribusiness interest groups dominate and overtake government and lawmaking at the expense of real people, real voters, and real independent family farmers. If enacted, Arizona will help advance market domination by extractive polluting agribusiness industries to the detriment of other farmers, rural communities, and the environment.

The CAFO industry has largely succeeded in escaping responsibility for its impacts by rolling back federal regulations and stripping away public access to information regarding CAFO pollution. Thus, as proposed in this bill, for Arizona to enact a presumption that an agricultural operation is not a nuisance if it's operating in compliance with local, state, or federal laws is a misnomer. Most industrial animal agricultural operations have successfully avoided any meaningful regulation to begin with. In effect, SB1448 will make it so an agricultural operation could be a significant polluter and still not be held accountable and liable, simply by arguing they are operating in compliance with nearly non-existent or weak laws.

SB1448 will have serious negative implications according to Arizona attorney, Howard Shanker. He states in the attached letter, dated March 20, 2021, that there is an unfortunate common theme with this bill:

> (1) the legislation purports to take on a problem that does not exist; and
>
> (2) the specific legislative language is not intended to protect agriculture from frivolous suits, but rather to allow agricultural facilities to operate with impunity.
>
> This legislation is a shield for wrongdoing. It is not in the public interest and/or based on sound policy. There are already sufficient protections in place to guard against frivolous litigation and the wrongful imposition of punitive damages (which is likely why the problem does not exist). This legislation does not serve its stated purpose.
>
> The bill awards costs and fees to the prevailing party. Generally fees are not available in tort actions. This is because the prospect of having to pay a defendants' fees could have a chilling effect on a plaintiff's willingness to bring suit. The proposed language essentially shields agricultural operations from the prospect of having to pay punitive damages. Not only would an operation have to meet the new statutory definition of "nuisance," it would have to have been subject to a "criminal conviction or a civil enforcement action."

It is unconscionable to require neighbors of CAFOs to risk up to hundreds of thousands of dollars in order to protect their health or property from damages caused by CAFOs, while protecting these operations from responsibility, especially in light of inadequate government regulations and enforcement. A similar rule has had a chilling effect on nuisance cases brought against large-scale livestock operations in Wisconsin since the enactment of this law in 2009.

Moreover, SB1448 could have negative public health and financial impacts on not only Arizona, but throughout the country. Yuma County is responsible for 90% of all leafy vegetables grown in the U.S.

In 2018, there was an outbreak of E. coli in lettuce from a Yuma farm that sickened at least 210 people in 36 states and killed five. The FDA traced the E. coli strain to a water canal that irrigated the Yuma lettuce farm and suspect that a nearby CAFO caused the contamination.

Under SB1448 if a crop farm owner files a nuisance suit and wins the case, the court would not be allowed to award punitive damages unless the CAFO has already been criminally convicted or has had an enforcement action against it already. This would undercut already unenforced environmental health and safety laws. And if the crop farm

owner loses the case, they would be forced to pay the CAFO's costs and fees. Also, local government would be prohibited from declaring the CAFO a nuisance if the facility is considered in compliance with nonexistent and/or woefully inadequate laws.
Thus Arizona communities will be unable to protect their residents from further damage. At this very moment, communities all over the country are dealing with the implications of the poor choices made by their lawmakers having enacted similar misguided provisions disguised as protecting the “right to farm.” Corporate agribusinesses are the only real beneficiaries of these laws. Government needs to work for the people. Far more people will be negatively impacted by passing this legislation than those who will benefit from it. As such, we urge you to cast a "nay" vote on SB1448.

Respectfully:

Dan Mack, President of Board of Directors
Save Tonopah Oppose Poultry Plant (STOPP)
stoppboard@gmail.com
Tonopah, Arizona

Daniel E. Blackson
Tonopah, Arizona

Michael Wirth
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Sandy Bahr, Chapter Director
Sierra Club, Grand Canyon Chapter
Phoenix, AZ

Karen Michael, Secretary of Board of Directors
Animal Defense League of Arizona
Phoenix, AZ

John Rumpler, Environment America Clean Water Program Director
Environment Arizona
Mesa, AZ

Craig Watts, Director of Field Operations; Farmer and former contract grower for Purdue
Socially Responsible Agriculture Project
Golden, CO

Lynn Henning, Director of Field Operations, Farmer and Recipient of the 2010 Goldman Environmental Prize
Socially Responsible Agriculture Project

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Hannah Connor
Senior Attorney, Environmental Health
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Dr. Loka Ashwood, Representative
One Rural Collective
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Krissy Kasserman
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