# HPAI Virus Elimination: Per-Square-Foot Flat Rates for Floor-Raised Poultry

January 2026

## Introduction

Virus elimination (VE) is a crucial step in the recovery process for facilities infected with avian influenza. The cleaning and disinfection (C&D) practices used to achieve VE should be cost-effective (APHIS Highly Pathogenic Avian Influenza Red Book). During past highly pathogenic avian influenza (HPAI) events, reimbursable payments for VE activities were, at times, delayed by the necessary paperwork required for cooperative compliance agreements (CCAs). These agreements allowed contractors and owners of land and structures to be reimbursed for completed work. In January 2016, APHIS issued a flat-rate payment on a per-bird basis for HPAI virus elimination activities to help streamline the process and expedite payments to affected producers. Separate per-bird VE flat rates were released for floor-raised turkeys and broilers to account for differences in bird density.

Since then, APHIS received comments from the public on this policy and reevaluated the per-bird VE flat rates to make them more cost-effective, while maintaining awareness of our fiscal responsibility to the taxpayer. Stakeholders also expressed an interest in the production types affected by the flat rates and how those rates would be developed and updated. Therefore, APHIS revised the VE flat rate for floor-raised poultry and expressed it on a square-foot basis instead of a per-bird basis.

The per-square-foot VE flat rate for floor-raised poultry is $0.81 per square foot. This information sheet further describes implementation and development of the rate.

## What kinds of poultry production are within the scope of this flat rate for floor- raised birds?

This per-square-foot flat rate applies to meat-type turkeys, broilers, and ducks, as well as floor-raised pullets, breeder birds, and gamebirds. This rate does not apply to pullets or egg laying birds housed off the floor or to egg processing or storage facilities.

## What costs were included in calculating the flat rate for floor-raised birds?

An overview of financial implications is located on the APHIS Emergency Management website for HPAI.[1] The document outlines the appraisal and indemnity for birds and eggs, materials destroyed, depopulation and disposal, and VE. USDA makes the decision to clean and disinfect or destroy an item on a case-by-case basis for certain materials.

Disposal includes items that would cost more to clean than they are worth; however, for materials that cannot be safely or adequately cleaned, the fair market value of disposed items is paid separately. Litter cleanout is part of disposal, not VE, and is not covered by the VE flat rate. The removal of birds and litter from the houses is part of depopulation and disposal, and VE begins after the removal of birds and litter is complete. The revised VE flat rate is a single rate for all floor-raised meat birds on a square foot basis that still covers labor, equipment, and supplies to clean and disinfect the interior of barns, equipment, and materials. Traditionally, cleaning followed by application of a wet disinfectant has been used for VE on HPAI-infected premises. During the 2014–2015 event, however, APHIS found that in many instances, dry cleaning and heat disinfection of barns was the most cost- and time-effective VE method. Since the presence of organic material reduces the effectiveness of chemical disinfectants, the use of chemical disinfection requires a thorough wet cleaning phase in the barn. This wet cleaning phase has historically increased costs and delayed VE completion for several reasons. Wet cleaning requires increased time and labor to remove soil and large amounts of liquid and solid waste, as well as to apply multiple detergents, rinse, and apply disinfectant. Barns must dry out completely before the chemical disinfectant can be applied. Damp environments support the continued viability of the virus, which increases the risk for

[1] HPAI Indemnity and Compensation

spread. Heat disinfection, in contrast, penetrates remaining organic matter after dry cleaning, eliminating the need for wet cleaning and immediately removing organic matter, an environmental factor required for virus viability. Therefore, we used heat disinfection and specific related activities to calculate the VE flat rate for floor-raised poultry. The flat rate VE payment process allows the owner of the land and structures on the premises to select and implement the most appropriate method, as approved by State animal health officials and APHIS.

Tables 1 through 4 outline the specific activities used to calculate the VE flat rate for floor-raised poultry, and are based on the broad categories (e.g., barn preparation, dry cleaning, heat disinfection, equipment disinfection, wet cleaning, and other activities) listed in the January 2024 Info Sheet, "HPAI Virus Elimination: Per-Square-Foot Flat Rates for Floor-Raised Poultry" document.[2] In addition, producers were more cost-efficient when doing VE on their own farm in the 2015 HPAI event compared to contractors; the flat-rate approach recognizes cost-sharing by producers. The VE flat rate payment for floor-raised poultry does not include routine or deferred maintenance or biosecurity activities that are part of that cost share.

USDA–APHIS–VS is not mandating any certain approach to VE. The information in this document includes examples of the kinds of expenses considered when calculating the flat rate for VE, such as labor, supplies, equipment, and utilities. Producers should not interpret this list to be required expenses. The VE flat rate is calculated using the costs for heat disinfection, which is a proven, cost-effective way of performing VE. This approach gives the owner of the land and structures the latitude to decide what is needed to perform VE on their premises. However, if the total expenses exceed the amount paid under the VE flat rate, the remaining cost would be the responsibility of the owner of the land and structures.

[2] HPAI Virus Elimination: Per-Square-Foot Flat Rates for Floor-Raised Poultry

**Table 1. Categories of barn preparation activities in the VE flat rate for floor-raised poultry and responsible parties**

| Categories of activities | Activities covered–Federal | Industry/grower cost-share |
|---|---|---|
| **Barn preparation** | | |
| Labor | Disassembly and reassembly of:<br>• Feeders<br>• Drinkers<br>• Fans (when cannot stay in the barn and be heat disinfected)<br>• Heaters (when cannot stay in the barn and heat disinfected)<br>• Other cleanable equipment<br>Equipment operator time<br>Supervisor time | • Mowing around barns<br>• Barn repairs, such as screens in barn walls or holes in barn walls<br>• Other routine maintenance<br>• Gravel and road repairs |
| Equipment | Equipment to move items listed above, including trucks and trailers to haul equipment, fuel, and machinery | • Mowers<br>• Herbicide sprayers |
| Supplies | Worker safety supplies:<br>• Personal protective equipment (PPE)<br>• Dumpster for disposal of PPE | • Screens<br>• Herbicide, insecticide, or rodenticide |

**Table 2. Categories of dry cleaning activities in the VE flat rate for floor-raised poultry and responsible parties**

| Categories of activities | Activities covered–Federal | Industry/grower cost-share |
|---|---|---|
| **Dry cleaning (removal of any remaining organic material in barn, including vacant barns and feed storage facilities) interior after disposal of birds and bedding is complete.** | | |
| Labor | Cleaning of:<br>• Feeders<br>• Drinkers<br>• Fans (when cannot stay in the barn and be heat disinfected)<br>• Heaters (when cannot stay in the barn and be heat disinfected)<br>• Other cleanable equipment<br>Dusting of barn interior spaces that house or have direct contact with poultry or poultry products<br>Equipment operator time<br>Supervisor time | Cleaning of:<br>• Spaces that contain equipment, but not birds, such as control, tool, or ventilation rooms<br>• Break room<br>• Locker room<br>• Office<br>• Hallway<br>• Manure sheds detached from bird housing<br>• Storage spaces for clean litter or feed<br>• Outdoor areas |
| Equipment | Equipment to dry clean barn interior spaces that house or have direct contact with poultry or poultry products, including trucks and trailers to haul equipment, fuel, and machinery | • Trucks and ATVs for site supervisors<br>• Portable toilets |
| Supplies | Worker safety supplies:<br>• Personal protective equipment (PPE)<br>• Dumpster for disposal of PPE and supplies used in dry cleaning | • Meals for workers<br>• Utilities (keeping the lights on while dry cleaning)<br>• Hotel and transportation |

**Table 3. Categories of disinfection activities in the VE flat rate for floor-raised poultry and responsible parties**

| Categories of activities | Activities covered–Federal | Industry/grower cost-share |
|---|---|---|
| **Heat disinfection of barns (heat barns to between 100°F and 120°F for 7 days, with at least 3 of those days being consecutive)** | | |
| Labor | Time to:<br>• Set up heaters<br>• Monitor heating<br>• Record temperatures<br>Equipment operator time<br>Supervisor time<br>Electrician time to reroute existing heaters ***OR*** technician time to set up external heaters | Disinfection of:<br>• Spaces that contain equipment, but not birds, such as control, tool, or ventilation rooms<br>• Break room<br>• Locker room<br>• Office<br>• Hallway<br>• Manure sheds detached from bird housing<br>• Storage spaces for clean litter or feed |
| Equipment | Equipment to heat disinfect barns, including trucks and trailers to haul equipment, fuel, and machinery | • Trucks and ATVs for site supervisors |
| Supplies | Supplies needed to heat disinfect barns | |
| Utilities | Utilities to run heaters and fuel for heaters | |
| **Decontamination of equipment** | | |
| Labor | Wash and disinfect:<br>• Feeders<br>• Drinkers<br>• Fans (when cannot stay in the barn and be heat disinfected)<br>• Heaters (when cannot stay in the barn and be heat disinfected)<br>• All equipment listed for dry cleaning<br>• Other cleanable equipment<br>Equipment operator time<br>Supervisor time | Wash and disinfect:<br>• Household goods, personal vehicles, and other personal, non-farm items<br>• Office equipment |
| Equipment | Equipment to decontaminate equipment listed above, including trucks and trailers to haul equipment, fuel, and machinery | • Trucks and ATVs for site supervisors |
| Supplies | Worker safety supplies:<br>• Personal protective equipment (PPE)<br>• Dumpster for disposal of PPE and supplies used in disinfecting equipment<br>Water and approved detergent/disinfectant for decontaminating equipment | • Sawdust |

**Table 4. Categories of additional activities that may be included in the industry/grower cost-share in the VE flat rate for floor-raised poultry**

| Categories of activities | Industry/grower cost-share |
|---|---|
| **Wet cleaning and disinfection of barns** | |
| Labor | Washing and disinfecting:<br>• Light bulbs<br>• Ledges<br>• Eaves<br>• Other interior barn surfaces<br>• Exterior of barn Application of insecticide/rodenticide |
| Equipment | Equipment for wet cleaning and disinfection |
| Supplies | Supplies for wet cleaning and disinfection |
| **Categories of activities** | **Industry/grower cost-share** |
| **Other activities** | |
| Admin/ bookkeeping | • Clerical and accountant time<br>• Mileage to meetings<br>• Legal counsel to review documents<br>• Time spent at meetings |
| Restocking preparation<br>(Labor, equipment, and supplies) | • Purchase of bedding<br>• Labor and equipment to spread bedding in house<br>• Any other activities related to restocking preparation after final environmental testing has occurred |

## How did USDA-APHIS-VS analyze VE data from the 2014–2015 HPAI event to estimate the flat rates for floor-raised poultry?

Over the course of the 2014–2015 HPAI event, C&D of barn interiors on affected premises shifted from wet cleaning and chemical disinfection procedures to less time-intensive and more cost-effective methods. The presence of organic material reduces the effectiveness of chemical disinfectants. Heat disinfection penetrates remaining organic matter after dry cleaning, eliminating the need for wet cleaning and saving time and money to complete VE. Data on the costs of these C&D activities were collected from farmer-reported expenditures on commercial turkey farms under CCAs, which served as a detailed source of information.

These expenditures were collected from producers who performed all VE activities themselves during the 2015 event in Iowa, Minnesota, Missouri, South Dakota, and Wisconsin in turkey finishing barns that ranged from 30,000 to 50,000 square feet and brooder barns that ranged from 10,000 to 30,000 square feet. Financial plans typically included information on the costs by barn and barn size or information with which to estimate an average cost per barn and average barn size. CCAs included the detailed labor, equipment, and supplies typically used to perform VE activities, as outlined in Tables 1 to 4.

Many turkey farms in the Midwest that used heat disinfection in the 2015 HPAI event did not report the rental of external heating units in the CCA financial plans. Instead, many of those farms reported electrician time to convert or modify heaters in barns. However, not all farms or conditions may allow for that capability going forward. Therefore, the VE flat rates used estimates of heating cost from layer barns that underwent VE in the 2015 HPAI event, including the rental of external heater units, mobilization of units to and from the farm, service technicians, and installation activities to supplement the barn preparation, dry cleaning, heating fuel, and barn temperature monitoring costs reported by turkey farms.

USDA–APHIS–VS analyzed the data from the 2015 HPAI event CCAs to calculate the VE per-square-foot flat rates for floor-raised poultry for use in future events. Supplemental data on rate inflation factors, personal protective equipment (PPE) used, and heat disinfection personnel, equipment, and supplies were also collected as described below. Farm-level response cost data used in this analysis did not include indemnity, USDA–APHIS–VS personnel, supplies, or overhead. Contractor fees were also not included. We used the Consumer Price Index reported from the Bureau of Labor Statistics to inflate some wages, equipment rental rates, and supply costs to current dollars.

The PPE needed to perform VE activities was drawn from the PPE usage across USDA–APHIS–VS in the 2014–2015 HPAI event using data on actual shipments of PPE to command centers and personnel performing tasks on site. PPE includes coveralls, gloves, boot covers, a cap or hood, and a respirator. It was estimated that each responder changed out PPE once every 3 hours at a cost of approximately $10/PPE suit. This estimate was used to ensure that the flat rate is adequately funded to protect the health and safety of producer employees and supervisors performing VE activities.

The average wage rates paid for farm labor were $12.55/hour, and for poultry workers, $17.80/hour; both rates were collected from Indeed.com. The average temporary general laborer wage rate collected from State and local level temporary employment agencies was $19/hour, which included all expenses for worker's compensation, Federal and State income tax, Medicare tax, Social Security, etc., for the top 10 poultry producing States.[3] Data were also collected from Indeed.com to support an average supervisor wage of $20.74/hour.

## How are flat rates calculated for floor-raised poultry?

The median[4] rates of usage by activity were calculated across turkey finishing barns sized 30,000 square feet to 50,000 square feet and turkey brooder barns sized 10,000 square feet to 30,000 square feet. These represented the most common sizes of turkey finishing and turkey brooder barns, respectively. To calculate the flat rates, we estimated the median rates of usage on personnel, equipment, and supplies per barn.

We calculated the hourly wage for poultry workers by multiplying the average wage rates paid for farm labor and poultry workers by 1.5 to give producers the funds to cover their poultry worker costs (including wages, unemployment insurance, taxes, other benefits, and possible overtime pay). The average of these wage rates with the temporary general laborer wage rate resulted in an overall poultry worker wage rate of $22/hour. The supervisor wage rate of $20.74/hour was also multiplied by 1.5; however, compared to the previously published rates, supervisor wage rates were 1.5 times the amount of poultry worker wage rates. As a result, we set supervisor wage rates at $33/hour. For supervisors, a higher hourly wage may reflect a higher level of oversight needed for VE. The average rental rates per day for equipment were collected from national companies for the top 10 poultry-producing States. The backpack blower and air compressor were priced to reflect purchase of these items, to be retained by the producer rather than rented. Finally, all costs per unit except for propane were inflated to 2025 dollars. For propane, October 2025 values were used.

The median activity usage was multiplied by the median cost to get a total cost for each activity. These activity totals were summed per barn to get a total barn cost and divided by the average barn size to get a VE cost per square foot. Table 5 lists the budget of activities.

Again, since USDA–APHIS–VS determined dry cleaning and heating to be the most cost-effective VE method, we used that as the basis for the floor-raised poultry VE flat rate calculation. Producers are responsible for conducting or contracting some or all activities for successful VE and may choose to use any effective VE method with the funds provided.

These activities represent the requirements for successful VE in the 2014–2015 HPAI event. Because there are no VE activities associated with lying fallow, producers who choose this approach rather than cleaning to eliminate virus are not offered funding.

## How much will USDA–APHIS–VS pay for the flat rate for floor-raised birds and how is it paid?

The per-square-foot VE flat rate for floor-raised poultry is $0.81 per square foot. The VE payments are made to the owner of the land and the structures that housed the infected birds. Most often, this is the grower. USDA–APHIS–VS makes two payments directly to the owner of the land and structures, each for 50 percent of the total calculated value. Owners of the land and structures may request the initial payment via a VS 1-23 form and are paid after completing the flock plan. A (second) final VS 1-23 is signed, and payment is made after laboratory testing of environmental samples is completed with negative results reported. The flock plan should clearly outline the detailed process and timeline for the expected VE activities as well as expectations for all parties. The owner of the land and structures will receive the second payment only after following these procedures. USDA–APHIS–VS will provide continued oversight (including input and inspections) to ensure that the HPAI virus is

[3] Arkansas, California, Georgia, Indiana, Iowa, New York, North Carolina, Ohio, Pennsylvania, and Texas
[4] In this set of barns, the mean and median personnel wage rates, equipment rental rates, and supply costs were similar. We selected the median as a summary statistic across observations to provide the best representation of central tendency.

quickly contained and fully eliminated.

### How will the square footage included in the payment calculation be measured?

Federal response personnel measure the square footage. Primarily, these are case managers, site managers, or field reimbursement specialists, but any persons acceptable to the industry and State may perform this task. The areas to be measured are those directly involved with poultry housing that under normal biosecurity conditions would be expected to have contamination. Areas listed as producer cost-share in Table 2 are not included in the measurements.

### How frequently will the flat rate for floor-raised poultry be reviewed?

VE flat rates will be reviewed annually to incorporate October propane prices, just before the beginning of the highest risk period for avian influenza. These rates should be appropriate through most of the influenza season.

**Table 5. Representative budget used to estimate a per-square-foot flat rate for floor-raised poultry for VE in a representative 35,000 square-foot barn**

| VE Activities | Description of the Activity | Use | Unit | Price ($/unit) | Total ($) |
|---|---|---|---|---|---|
| **Barn preparation** | | | | | |
| Personnel | | | | | |
| Poultry worker | Disassembly/reassembly of feeders, drinkers, fans, heaters, and other cleanable equipment | **14** | **hr** | **$27.41** | **$384** |
| Supervisor | All barn prep activities | **1** | **hr** | **$41.11** | **$41** |
| Equipment | | | | | |
| Skid steer[1] | 50 hp | **0.5** | **day** | **$610.40** | **$305** |
| Supplies | | | | | |
| PPE | Personal protective equipment | **5** | **suit** | **$12.46** | **$62** |
| **Dry cleaning** | | | | | |
| Personnel | | | | | |
| Poultry worker | All dry cleaning activities | **225** | **hr** | **$27.41** | **$6,166** |
| Supervisor | All dry cleaning activities | **2** | **hr** | **$41.11** | **$82** |
| Equipment | | | | | |
| Pay loader[1] | 150 hp | **1** | **day** | **$661.47** | **$661** |
| Skid steer[1] | 50 hp | **0.5** | **day** | **$610.40** | **$305** |
| Tractor[1] | 150 hp, with rotary broom attachment & box blade attachment | **0.5** | **day** | **$641.54** | **$321** |
| Blower[2] | Backpack blower | **1** | **per barn** | **$373.71** | **$374** |
| Air compressor[2] | 100 psi | **1** | **per barn** | **$373.71** | **$374** |
| Lifts[1] | All types | **0.5** | **day** | **$564.31** | **$282** |
| Supplies | | | | | |
| PPE | Personal protective equipment | **75** | **suit** | **$12.46** | **$934** |
| Dumpster | All dry cleaning activities | **1** | **dumpster** | **$406.10** | **$406** |
| **Wet cleaning of equipment that will not be heat-disinfected** | | | | | |
| Personnel | | | | | |
| Poultry worker | All washing and disinfection of drinkers, feeders, and equipment | **71** | **hr** | **$27.41** | **$1,946** |
| Supervisor | All washing and disinfection of drinkers, feeders, and equipment | **2** | **hr** | **$41.11** | **$82** |
| Equipment | | | | | |
| Pressure washer[1] | PTO-powered for drinkers, feeders, and equipment | **2** | **day** | **$373.71** | **$747** |
| Tractor[2] | For PTO-powered equipment | **2** | **day** | **$249.14** | **$498** |
| Water trailer[2] | 1,000 to 1,500 gallon | **2** | **day** | **$191.84** | **$384** |
| Supplies | | | | | |
| Disinfectant | Virkon | **7** | **tub** | **$82.22** | **$576** |
| Detergent | For cleaning equipment | **1** | **tub** | **$47.34** | **$47** |
| PPE | Personal protective equipment | **24** | **suit** | **$12.46** | **$299** |
| Water system cleaner | Cid 2000 | **10** | **gal** | **$39.86** | **$399** |

| **Heat disinfection** | | | | | |
|---|---|---|---|---|---|
| Personnel | | | | | |
| Poultry worker | Monitor temperatures | **14** | **hr** | **$27.41** | **$384** |
| Poultry worker | Installation | **40** | **hr** | **$27.41** | **$1,096** |
| Specialized labor | Service technician | **1** | **per barn** | **$845.84** | **$846** |
| Equipment | | | | | |
| Heaters | 1 million BTU per barn | **2** | **heater** | **$2,640.90** | **$5,282** |
| Ducting[2] | Ducting | **1** | **per barn** | **$242.91** | **$243** |
| Mobilization[1] | Mobilization–in and out | **1** | **per barn** | **$3,034.55** | **$3,035** |
| Supplies | | | | | |
| Fuel | Fuel for heaters (for the representative 35,000 square-foot barn) | **0.06** | **gal/sq ft** | **$0.82** | **$1,722** |

[1] Equipment prices ($/hr) include equipment, mobilization, operator, and fuel cost.
[2] Equipment prices ($/hr) include equipment and mobilization cost.

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