State of California
Department of Food and Agriculture
Safe Animal Feed Education Program

Cleanout Procedures

*A method of establishing the validity of the flushing procedure that is specified in the feed safety plan. **

Flush Verification

Objective:

The objective of a flush verification is to test the effectiveness of the flush procedure in removing drug and high-risk mineral residues from all equipment that was used in the production of a medicated or concentrated mineral feed.

Person Responsible:

Plant Manager or Designated Employee

Procedure:

Verification of flushing procedure effectiveness involves several steps:

1. A feed containing a drug or high-risk mineral is manufactured.
2. The flush procedure is performed (See “Sequencing and Flushing” SOP for example of a flushing procedure).
3. The flush material is sampled and analyzed for the drug or high-risk material to determine how much residue was effectively captured by the flush and identify possible issues if the amount is higher than expected.
4. A subsequent feed is manufactured which does NOT contain that medication or high-risk mineral.
5. The subsequent feed travels through all common manufacturing and conveyance equipment as the medicated or high-risk mineral feed.
6. Samples of the first part of the subsequent feed are taken at load-out or sack-off and tested for the drug or high-risk mineral. It is important that this sample represents the first amount of the feed which passed through the conveyance after the flush.

7. If the drug or high-risk mineral is found in unsafe amount, the flush procedure was not effective.

There are several considerations in performing a valuable flush verification:

- Use a formula with the highest concentration of drug/mineral manufactured at the facility for the test.
- Utilize all the same equipment, materials, and procedures for the test which are used in actual daily production.
- Ensure the subsequent feed travels through all the exact same equipment and conveyance from beginning to load-out.
- The subsequent feed sampled should be a 1-batch run to accurately identify the potential for carryover residue in the mixer and conveyance. For example, if mixer capacity is 2 tons, then the flush verification should be performed using a single batch of 2 tons of feed.
- The sample obtained of the subsequent feed should represent the first 100 lbs that discharge after the conveyance to ensure the flush was effective at preventing carryover in the most susceptible portion of the feed.
- Obtain a representative sample or perform a mixer efficiency test of the medicated/ mineral feed at the same time as flush verification in order to verify drug or mineral level in the feed is accurate as well.

Sampling Procedure

The flush verification sample must take place at load-out to encompass all conveyance and storage systems that the medicated feed has contacted. Prepare 4 sample bags labeled with the name and formula of the feed, the date, the drug being tested, the words “Flush Verification” and a number (1-3) so that the samples can be distinguished after being taken. Label the 4th bag with the name of the unmedicated (or with no high-risk mineral) feed which is being manufactured following the flush. Select intervals that are evenly spaced thought out the load-out time that will allow for 3 flush samples to be taken. The 4th sample should be taken at the very beginning (first 100 lbs) of discharge of the subsequent feed which follows the flush.

1- at the very beginning

2- at the middle

3- at the end of the load-out

4- at the very beginning of the following feed discharge.

When offloading feed from the load out or sack off (refer to Load Out SOP) use a stream cut sampler to catch the feed as it is being unloaded but before it reaches its destination (i.e truck, loader, or bag).

Once all samples have been collected the plastic bags should be sealed with plastic tape and then sent to a 3rd party lab for analysis.

The “Flush Verification Form” will be filled out and kept within the food safety plan with all the details of the flushing procedure and flush verification performed.

Frequency:

This test will be performed in all the following scenarios:

- Initially for each flushing procedure in use and with each manufacturing system in which those flushing procedures are used.
- Upon any alterations in the flushing procedure or manufacturing process or equipment.
- Upon any formulation changes that could alter the effectiveness of the flushing procedure (new drug or higher concentration).
- Annual flush verification will also be performed routinely.

Corrective Action:

Corrective actions will be documented if a flush verification is not performed within the time frame specified or in the event that the drug, mineral, or other additive residue is found.

Related Documents:

Flush Verification Form

Cleanout Procedures

Flushing and Scheduling Sequence

Load-out Procedure

Mixer Efficiency

*AAFCO Feed Industry HACCP Auditor Manual

NOTE: Safe Animal Feed Education Program (SAFE) guidance materials are provided for educational purposes only and do not guarantee adequacy of procedures or compliance with regulations.