Instructions and Introduction

Feed quality can be considered the most important and the most overlooked factor of feed manufacturing for feed mill managers and employees. Consistent feed quality provides opportunity to minimize cost and meet nutritional goals. Changes in feed quality can lead to changes in predictable pig performance and economic return. The following is a quality feed manufacturing guide consisting of four parts: guidelines, key concepts, assessments, and visual reminders for steps in the feed manufacturing process. The goal of this program is to provide a cohesive guide and application to maintain or improve feed quality.

- The **guidelines** clearly and concisely convey the importance of feed quality focusing on collecting, monitoring and interpretation of data for feed mill managers.

- The **key concept** documents summarize information provided in the guideline into easy to digest and distribute one-page need-to-know information for feed mill managers.

- The **evaluations** apply the knowledge established in the guidelines to monitor feed quality practices for feed mill managers.

- The **visual reminder** documents provide one-page reminders for employees to be placed around the feed mill or quality assurance laboratory.

This program is broken down into six key sections of feed manufacturing.

1. **Ingredient Receiving and Sampling**
2. **Particle Size Reduction**
3. **Batching and Mixing**
4. **Pelleting**
5. **Finished Feed**
6. **Feed Mill Biosecurity**

Below is an outline of a schedule for various quality measures daily (Table 1), weekly, monthly, bimonthly, and yearly (Table 2). This schedule should be adapted to your facility for quality reporting. Additionally, a template is provided to create standard operating procedures (Table 3). This quality program is intended to be supplemental to and should in no way replace federal regulations. The program should enhance existing regulatory procedure.

Table 1. Timeline for reporting and actions to maintain feed quality daily						
Time	Area	Reporting	Minimum contents of report	Sampling	Testing	Equipment
Daily	Receiving	☐ Review incoming documents	☐ Date ☐ Time ☐ Ingredient ☐ Supplier ☐ BSE documentation ☐ Last load ☐ Driver ID	☐ Representative sample (about 1 lb)	☐ Visual Inspection ☐ Grain Moisture (each load) ☐ Mycotoxin (if evidence of threat) ☐ Scheduled analysis	☐ Clean sampling tools ☐ Re-place pit cover
	Grinding	☐ Grab sampling ☐ Particle size (roller mill)		☐ Grab sample inspect for whole grain	☐ Particle Size (3-sieve), if changing	☐ Clean magnets ☐ Roll parallel and gap width
	Batching	☐ Batching reports ☐ Drug inventory	☐ Date ☐ Time ☐ Operator ID ☐ Drug paperwork (VFD)			☐ Verify scales ☐ Count full bags (drug) ☐ Weigh opened bags (drug) ☐ Bags added to micro system
	Mixing	☐ Batching report	☐ Dry mix time ☐ Wet mix time	☐ Representative sample for each diet (about 1 lb)	☐ Visual inspection ☐ Scheduled analysis	
	Pelleting	☐ Pelleting conditions for each pelleting run	☐ Pelleting data sheet	☐ Representative sample for each diet (about 1 lb) for PDI and finished feed	☐ Pellet durability	

Table 2. Timeline for reporting and actions to maintain feed quality weekly, monthly, biannual, and annual					
Time	Area	Reporting	Sampling	Testing	Equipment
Weekly	Receiving	☐ Inventory of large storage bins ☐ Inventory of bagged ingredients		☐ Evaluate weekly mycotoxin report	
	Grinding	☐ Particle Size (hammer mil)		☐ Particle Size (3-Sieve)	☐ Clean magnet ☐ Check screens ☐ Check hammer wear ☐ Check roll gaps
	Batching				☐ Check scales, internal ☐ Inspect micro drum /tubs ☐ Check liquid application
	Mixing				☐ Clean finished feed magnet
	Pelleting				☐ Inspect die and rolls ☐ Inspect conditioner ☐ Inspect cooling equipment
Monthly	Receiving	☐ Dispose previous year reports			☐ Inspect all large storage bins
	Batching	☐ Dispose previous year reports		☐ Evaluate SPC specs	☐ Check liquid meters
	Mixing	☐ Dispose previous year reports			☐ Evaluate mixer ribbon and paddles
	Grinding			☐ Particle Size (13-sieve)	☐ Inspect bags in bag house for air assist. ☐ Hammer rotation
	Pelleting	☐ Dispose previous year reports			☐ Inspect crumble rolls ☐ Inspect cooler
Biannual	Receiving				☐ Inspect whole grain bins ☐ Inspect liquid tanks
	Grinding				☐ Roll corregation
	Batching				☐ Check scales, external calibration ☐ Check slide gates ☐ Check scale hopper gates
	Mixing	☐ Mixer uniformity	☐ 10 equally spaced representative samples for uniformity test		☐ Inspect mixer (gates, surge ribbons/paddles)
Annual	Batching	☐ VFD assays			☐ Inspect distributor, 2-way valves, spouting

Table 3: Standard operating procedures (SOP) template			
Company logo	**Company name**	**Version number**	**Document identification**
SOP title	**Date issued**	**Date supersedes**	**Number of pages**
SOP Template **Objective** **Definitions** **Responsibility** **Procedure** **Frequency** **Corrective Actions** **Verification** **Records**			