



Protein Sources Swine Update July/August 2013

Let's Mix it Up

By: Wayne Cast, Senior Nutritionist, VAST

Feed represents 70% of the cost of pork production. Proper feed manufacturing leads to superior animal performance which helps lower feed cost. Mixing is a basic operation as well as a critical operation in feed manufacturing. Our goal in mixing feed is to distribute all nutrients evenly throughout a batch of feed. Logically it seems that having the proper levels of each nutrient in each mouthful of feed would lead to superior pig performance. You can see that this is true in Figures 1 and 2.

Figure 1.

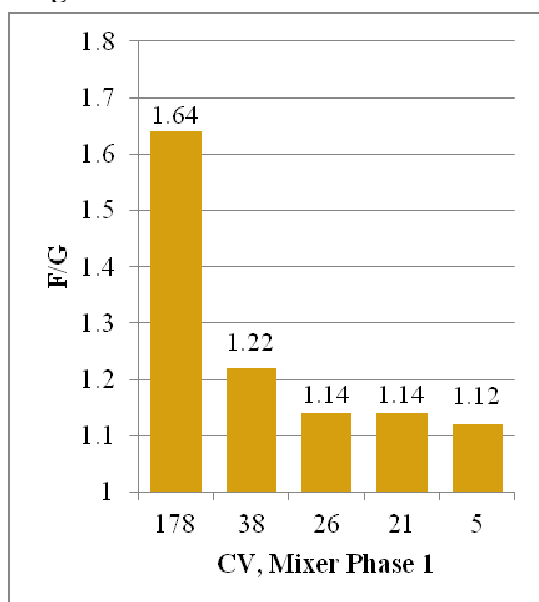
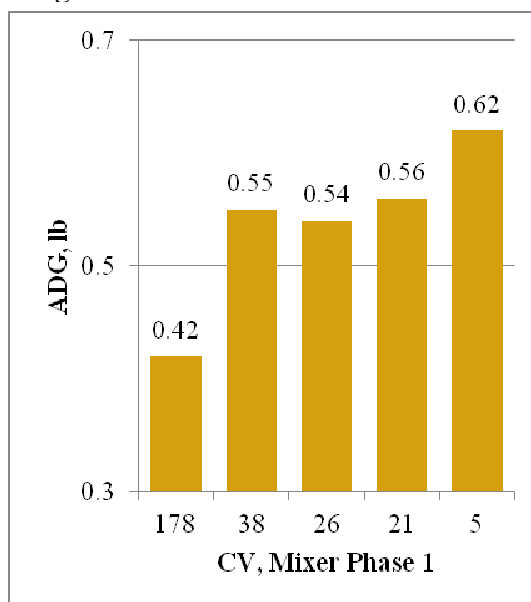


Figure 2.



Groesbeck, C.N., R.D. Goodband, M.D. Tokach, S.S. Dritz, J.L. Nelssen, J.M. DeRouche, and C.R. Neill. 2007. Diet mixing time affects nursery pig performance. *J. Anim. Sci.* 85:1793-1798.

To ensure a proper mix is being achieved a mixer test is done. In a mixer test, as the mixer discharges, 10 equally spaced samples of feed are taken from the start till the end of the mixer emptying. The feed is then tested for a small inclusion micro nutrient. I suggest testing for manganese that is supplied by the vitamin trace mineral mix. A measurement of variation of those ten samples compared to the average of those 10 samples is called a coefficient of variation (C.V.). A C.V. of 10% or below is considered a very good mix.

Protein Sources has recently put in a new state of the art 241 cubic foot Scott horizontal ribbon mixer. Notice it is sized by cubic feet not by tons. All mixers are rated by cubic feet. I have seen feed manufacturers continue to manufacture the same tons per batch even when their ingredients

became less dense than a corn-soy diet; this resulted in a less than optimal mix. The ribbons of a mixer should be exposed when feed is mixed as an indication that the mixer is not over filled. Over filling a mixer prevents adequate mixing. Roche Animal Nutrition and Health 1999 Nutrafacts reported a mixer that hit an 8% C.V. in 2.5 minutes with 5 tons of feed and jumped to a 30% C.V. when it was filled to 6 tons, even though the mixing time was increased to 3 minutes.

Mixers are designed to turn the ribbons at a selected rpm and have a suggested mixing time as prescribed by the manufacturer. To confirm that the new Scott mixer was doing its job Protein Sources conducted a mixer test and achieved a C.V. below 10% and will continue to do mixer tests routinely to ensure your feed has a proper and consistent mix .

Last Word: Protein Sources has invested capital into a new mixer. They have tested the new mixer and it is delivering a proper mix. A proper mix is important to your pigs' performance.

Ileitis

Lori Feldmann, DVM

The hottest days of summer seem to be the perfect time for Ileitis to flare up in finishing pigs. Ileitis is caused by a bacterium, *Lawsonia intracellularis*, creating an infection in the ileum, part of the small intestine. Symptoms we typically see include scours of varying color, pale pigs, gaunt pigs, and even sudden deaths. Lesions include blood in the intestines and a thickened ileum.

We have had a lot of success preventing this disease by vaccinating in late nursery or early finishing. There are limits to the vaccine so we don't vaccinate pigs that may have already been exposed to Ileitis, which is usually by 80-90 lbs. There are also feed medication programs with Tylan (Elanco) to try preventing Ileitis from occurring.

When we see clinical signs of Ileitis, we typically respond by placing pigs on Denagard (Novartis) or Tylan (Elanco) in the water. When the pigs are actively scouring it is difficult to regain control of the disease with feed meds alone. It takes too long and the medication level usually isn't high enough in the feed to control clinical ileitis.

If you are struggling with Ileitis control or have treatment questions, please contact Dr. Lori Feldmann or Dr. Mark FitzSimmons in the Protein Sources Management office at 507-524-4511.