August 26, 2006

Feed phosphate must mix well, too

Size, density and composition equate to nutritional value

When it comes to producing quality animal feed phosphates, consistent phosphorus content is only part of the picture. The size and density of feed phosphate granules determine how well the product mixes with other feed ingredients.

We realize that feed formulators strive to prepare a blend of ingredients that is uniform throughout so that every mouthful of mash or pelleted feed an animal receives meets all the nutrient requirements for growth and production performance.

Our feed phosphates are designed to mix uniformly and to stay mixed during shipment — which means you have one less thing to worry about when you use PotashCorp feed phosphate.

“As our feed products are manufactured, samples are continually pulled from the production line and analyzed so that trained technicians know that each batch is meeting a variety of specifications, from phosphorus and calcium content to size

and weight requirements," said Dr. Steve Auman, Director of Business Development for Feed Phosphates. "We do not ship any product that does not stand up to our strict specifications."

The Science Behind It

The coefficient of variation, or CV, of a mix is a mathematical expression used to measure the percent variation of a mix. As a rule of thumb, a CV of 10% or less is considered acceptable mix variation. Many feeds are pelleted to preserve mix homogeneity at less than 10% CV. Mash feeds, however, can become segregated due to vibration during handling and transport. Some of the key ingredient parameters that influence mix CV are:

- compositional variation
- particle size and variation
- particle integrity or hardness
- and particle density.

"Our feed phosphate's compositional performance is less than 1% CV, so it will not break down during mixing or transport," said Auman. "And our particle size, uniformity, and density ensure that our feed phosphate mixes evenly. Unlike precipitated crystalline powder products, which are electrostatic, our product will not adhere to equipment or agglomerate with fats and oils in the mix and cause balling and segregation."