

## **Molasses Inclusion and Mixing**

### **OVERVIEW**

Through the selection of the appropriate mixing and inclusion method, greater levels of molasses can be more accurately incorporated into compound feed, at the same time aiding the production process. Pellet quality is much higher, even where low levels of molasses are included. Molasses has proved very effective as an aid to reducing inherent dust in meals and improving the flow from storage bins.

### **ACHIEVING GOOD MOLASSES INCLUSIONS**

To achieve good molasses inclusion levels with standard milling equipment it is essential to be aware of two basic rules: 1. Use a good mechanical mixer to blend the molasses and meal together to ensure that every particle of meal is coated. 2. The higher the viscosity of the molasses, the thicker the coating will be and the more time is required for absorption. When looking at the absorption process the following key factors should be considered –

- Meal particle size, smaller particles will be absorb quicker
- Inclusion level, the higher the proportion of molasses the time required is greater
- Simultaneous addition of high levels of oil, fat or water will slow molasses incorporation
- The meal must be dry enough to accept the formulated level of molasses

### **MIXING**

With many conventional milling systems it is possible to add molasses to the meal in two or three stages during the production process. Up to 2% molasses can be added to the meal at the main mixer, achieved through injecting molasses at a controlled rate into the lower half of the horizontal mixer (unlike fat and other liquids which are added from the top). This allows maximum absorption time. An in-line high speed molasses mixer can be installed after the main mixer. They are extremely effective if correctly positioned and used within the limitations of the subsequent conveying and storage systems.

## **INCLUSION ACCURACY**

While the density of molasses is reasonably stable at all times, the meals into which it is mixed vary considerably due to the variety of raw materials used in feed manufacture today. This is most apparent in mills where ruminant feeds are made. These feeds can contain materials as varied as Beet Pulp, Wheatfeed, Bran, Oatfeed and sunflower husks. The precise addition of molasses must be given special attention where large variations in feed densities do occur. If these variations are not accounted for there could be serious problems with molasses usage and pellet quality. Various methods using fully automatic controls linking a continuous weighing system are available to solve such difficulties.

## **BATCH MIXING**

The addition of molasses to specialised coarse type mixes for cattle, sheep and horses is completely different from the principle applied to meals. Most of the raw materials used are in pelleted, flaked, bruised or caked form and specialised mixing is necessary to preserve the state of the raw materials. This calls for mixers which have a gentle action. The addition of molasses to coarse mixes, aside from nutritional value, also makes feed more palatable, dust free and acceptable to stock. In coarse mixtures it is desirable for a major part of the molasses to remain on the ingredient surface after mixing, unlike meals where molasses has to be absorbed. To assist in the coating process, Premier Molasses makes a special molasses blend containing vegetable oils under the trade name of Molashine.