Maxi-Mil®
MAKING BETTER QUALITY FEED MORE EFFICIENTLY

Maxi-Mil® I

Product Summary Sheet

Introduction

Efficient livestock production requires high quality pellets with the right balance and moisture, produced with minimal 'shrink'. Feed technologists and mill operators are crucial in achieving this, but inclusion of a processing aid such as Maxi-Mil I can augment their good work. Maxi-Mil I gives mill managers the control to balance productivity through increasing throughput, improving pellet quality and reducing process loss.

MAXI-MIL I

Making better quality feeds more efficiently

Maxi-Mil I is a liquid processing aid added during feed milling, the benefits of which are felt throughout animal feed production and include: improved milling efficiency (reduced process loss, higher throughput and lower energy costs), improved pellet quality and improved animal performance.

What's in Maxi-Mil I?

Maxi-Mil I is a complex blend of:

Surfactant

- Reduces surface tension of water
- Aids moisture binding
- Lubricates Process

Organic Acids

- Aids moisture penetration
- Reduces the surface tension of water, potentiating the effects of the surfactant.

APPLICATIONS OF MAXI-MIL I

Maxi-Mil I offers integrators and other large producers around the world the benefits of significantly better quality feed produced more efficiently. Maxi-Mil I allows mill managers to balance their productivity by reducing shrink, improving pellet quality, reducing energy consumption or increasing throughput.

HOW DOES MAXI-MIL I WORK?

Maxi-Mil I works in several ways:

• The surfactant in Maxi-Mil I reduces the surface tension of water, allowing for faster and improved penetration of moisture through feed particles in the conditioner.

This not only evenly disperses moisture within the particle, aiding binding, reducing shrink/process loss and increasing throughput, but also helps lubricate the transit of meal through the pelleting process.

• Reducing the surface tension of water also enhances the thermal energy transfer from steam, which improves conditioning, allowing heat to fully penetrate feed particles. Starch gelatinization and protein plasticization are improved, leading to better pellet quality.

• Maxi-Mil I is a highly concentrated product. Typically, a 1 MT IBC (***Figure 1***) will treat 20,000 MT of feed.

EFFECT OF MAXI-MIL I ON MILL AND ANIMAL PERFORMANCE

• Maxi-Mil I helps meal retain moisture, reducing process loss and increasing profit.

• Adding water to try to compensate for process loss will decrease production rates. However, the addition of Maxi-Mil I improves throughput, producing more feed volume more quickly, and decreasing energy consumption.

• When meal is extruded through a die, friction occurs that causes a sudden temperature increase (Delta T). This can lead to degradation of feed nutrients (e.g. vitamins, minerals, enzymes) and cause faster die wear. By lubricating the meal, Maxi-Mil I reduces friction between feed and die, lowering Delta T and retaining the nutrient value of the pellets while reducing die wear.

• By enhancing conditioning, Maxi-Mil I improves both the physical and nutritional quality of the pellet. Better steam penetration results in improved gelatinization and plasticization of the starch and proteins that bind pellets together. This leads to fewer fines, higher PDI and less nutrient degradation.

• By improving pellet quality, Maxi-Mil I improves animal performance. By decreasing fines less nutrient segregation occurs, improving livestock uniformity and feed conversion, as livestock demonstrate better feed efficiency when fed pellets over fines.

Maxi-Mil® I

Product Summary Sheet (cont.)

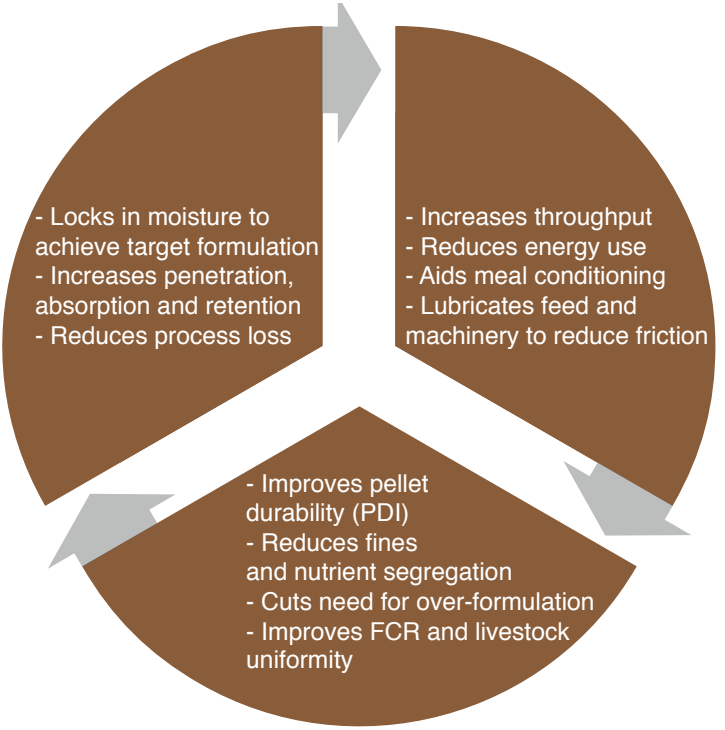

Figure 2: Benefits of Maxi-Mil

Figure 1: Maxi-Mil IBC

Figure 3: Maxi-Mil application system

INSTALLATION AND APPLICATION OF MAXI-MIL I

Specifically designed Maxi-Mil equipment is installed, monitored and maintained by Anitox's professional engineers. Technical support comes from Anitox Feed Technologists, who have direct experience of mill operations and management and work with mill managers to address the complex and varying needs of individual mills. Maxi-Mil I is applied using a purpose-built application systems (***Figure 3***), and is sprayed onto the falling side of the mixer through specialized nozzles (***Figure 4***).

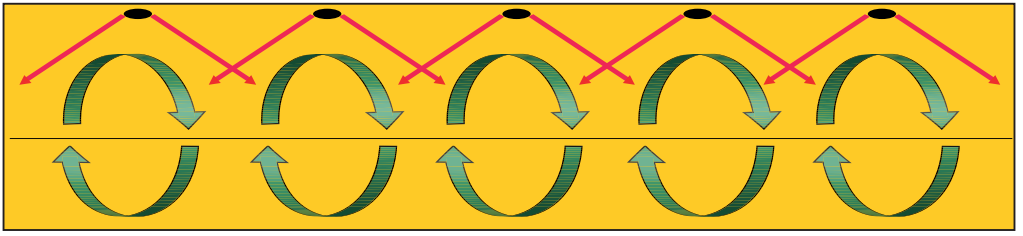

Figure 4: How Maxi-Mil is applied to the mixer

Maxi-Mil® I

Product Summary Sheet (cont.)

FIELDS RESULTS

Commercial Maxi-Mil Trials in EMEA (Europe, the Middle East and Africa):

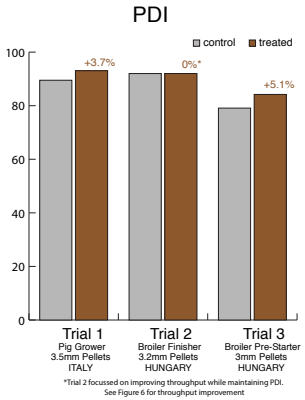

Figure 5: EMEA - Effect of Maxi-Mil on PDI

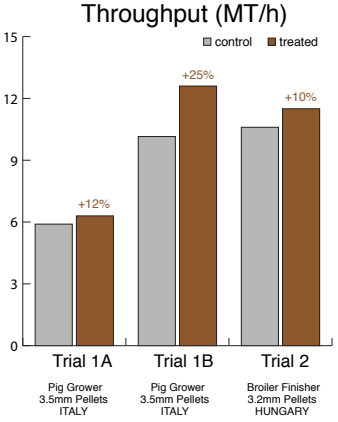

Figure 6: EMEA - Effect of Maxi-Mil on Throughput

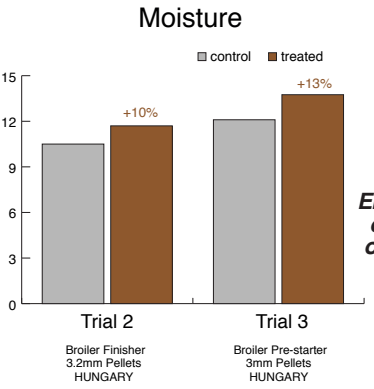

Figure 7: EMEA - Effect of Maxi-Mil on Moisture

Trial 2: Broiler finisher 3.2mm pellets in Hungary displayed a 10% increase in both throughput and moisture while maintaining PDI.

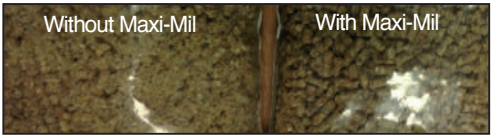

Figure 8: Effect of Maxi-Mil on overall pellet quality

Figure 9: Effect of Maxi-Mil on individual pellet quality

Further Reading

- Impact of pellet quality on nutrient distribution in feed (Anitox Technical Bulletin: MM-03-0714)
- Maxi-Mil I Safety Data Sheet

FOR ADVICE ON IMPROVING FEED MILLING, PELLETING AND QUALITY, CONTACT YOUR ANITOX FEED MILLING TECHNOLOGIST

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