Maxi-Mil®
MAKING BETTER QUALITY FEED MORE EFFICIENTLY

Maxi-Mil® A
Product Summary Sheet

Introduction

Efficient poultry 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 A can augment their good work. Maxi-Mil A gives mill managers the control to balance productivity through increasing throughput, improving pellet quality, reducing process loss and inhibiting mold growth.

MAXI-MIL A

Making better quality feeds more efficiently

Maxi-Mil A 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 animal performance through improved pellet quality, and mold control.

What's in Maxi-Mil A?

Maxi-Mil A is a complex blend of:

Surfactant

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

Organic Acids

- Aids moisture penetration
- Inhibits mold growth

Natural Terpenes

-Potentiates effects of organic acids

APPLICATIONS OF MAXI-MIL A

Maxi-Mil A offers feed millers and livestock producers around the world the benefits of significantly better quality feed produced more efficiently. Maxi-Mil A allows managers to balance their productivity by reducing shrink, improving pellet quality, reducing energy use, or increasing throughput.

HOW DOES MAXI-MIL A WORK?

Maxi-Mil A works in several ways:

• The surfactant in Maxi-Mil A reduces the surface tension of water, allowing faster and improved penetration of moisture into the feed particles in the conditioner. This evenly disperses moisture within the particle which aids in pellet binding, reducing shrink/process loss and increasing throughput. It also helps lubricate the transit of meal through the pellet die.This lubrication reduces the friction between the feed and the die which lowers Delta T, improves throughput and increases die life.

Figure 1: Maxi-Mil IBC

• Reducing the surface tension of water also enhances 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.

• The organic acids in Maxi-Mil A aid moisture penetration and help bind free moisture within feed particles, reducing the opportunity for mold growth. The organic acids also inhibit mold by interfering with the molds' metabolism. Natural terpenes potentiate these effects.

EFFECT OF MAXI-MIL A ON MILL AND ANIMAL PERFORMANCE

• Maxi-Mil A helps meal retain moisture, reducing process loss and increasing profit. Attempting to use only water to compensate for process loss will decrease production rates and can stimulate mold growth, reducing shelf life.

• A high Delta T can lead to degradation of feed nutrients (i.e. vitamins, minerals, enzymes) and cause faster die wear. Maxi-Mil A lubricates the feed and reduces friction between the feed and die, which lowers the Delta T, retaining the nutritional value of the pellets and reducing die wear.

• By enhancing conditioning, Maxi-Mil A 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.

Maxi-Mil® A

Product Summary Sheet (cont.)

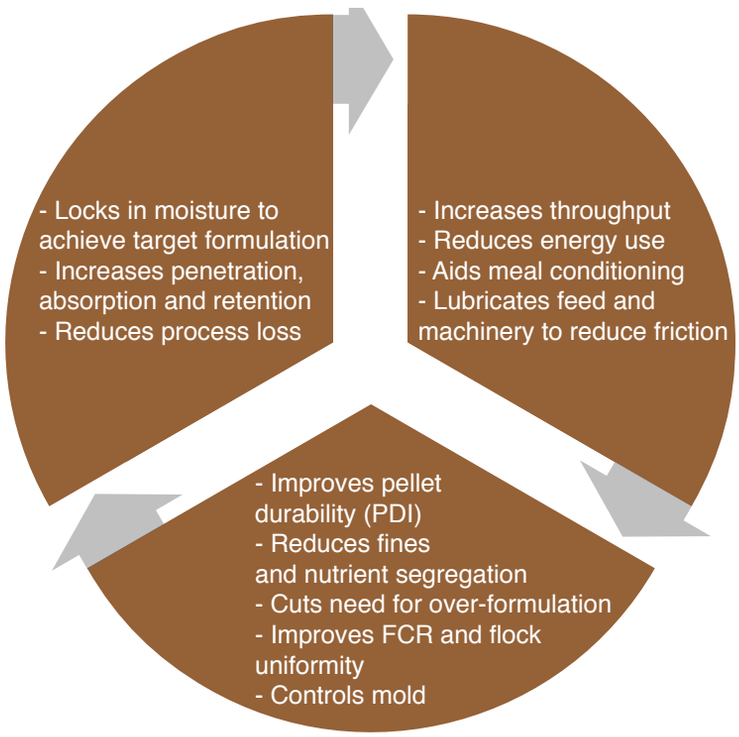

Figure 2: Benefits of Maxi-Mil

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

• The acetic acid in Maxi-Mil A has been proven to increase egg production and egg weight, while improving the quality of both shell and albumen.

• Maxi-Mil A inhibits mold growth, meaning feed pellets can be stored for longer periods of time.

INSTALLATION AND APPLICATION OF MAXI-MIL A

Specifically designed Maxi-Mil equipment is installed, monitored and maintained by Anitox's professional engineers.

Technical support is provided by 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 A is applied using purpose-built application systems (***Figure 3***), and is sprayed onto the falling side of the mixer through specialized nozzles (***Figure 4***).

Figure 3: Maxi-Mil application system

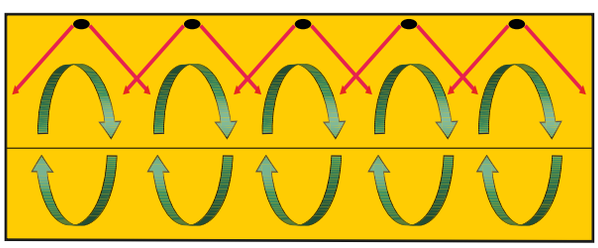

Figure 4: How Maxi-Mil is applied to the mixer

FIELDS RESULTS

Results from European commercial trials using products from the Maxi-Mil range:

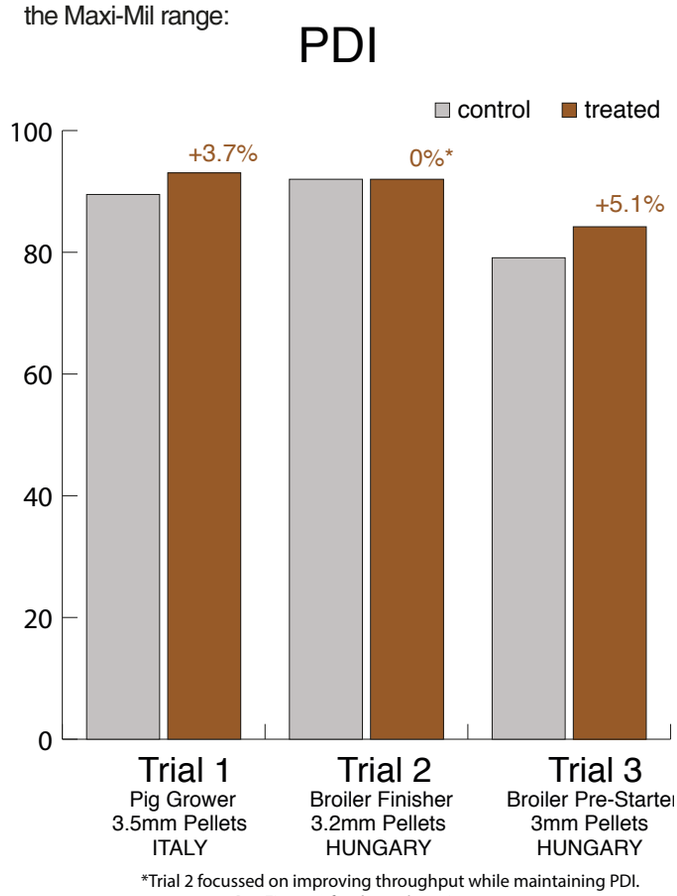

Figure 5: EMEA - Effect of Maxi-Mil on PDI

Maxi-Mil® A

Product Summary Sheet (cont.)

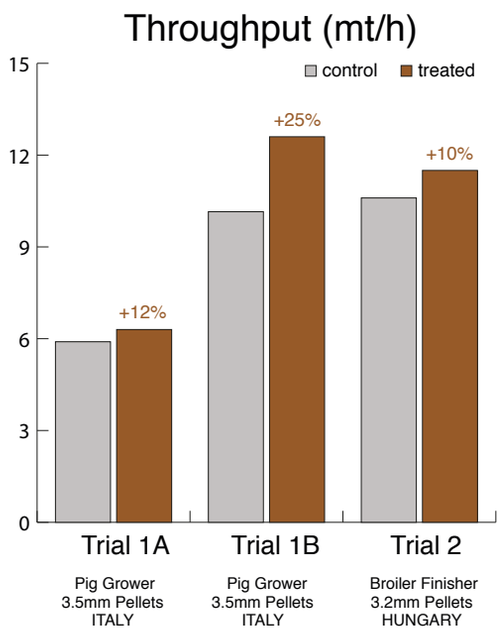

Figure 6: EMEA - Effect of Maxi-Mil on Throughput

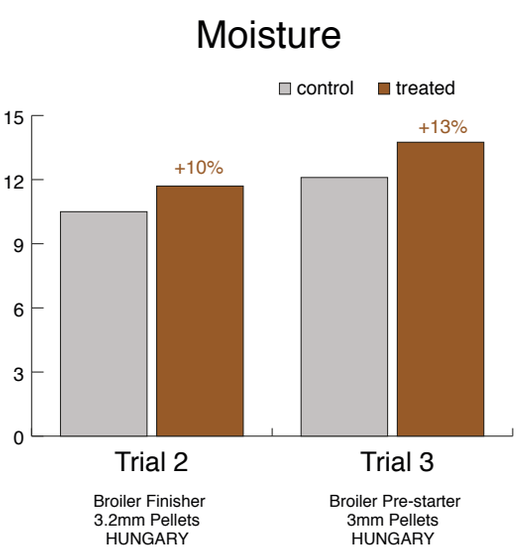

Figure 7: EMEA - Effect of Maxi-Mil on Moisture

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

- Maxi-Mil A field trial (Anitox Technical Bulletin: MM-08-0315)

- Maxi-Mil Products Mold Inhibition Experiment (CO_2) (Anitox Technical Bulletin: MM-01-0714)

- Impact of pellet quality on nutrient distribution in feed (Anitox Technical Bulletin: MM-03-0714)

- Maxi-Mil A (Anitox Technical Bulletin: MMA-TS-V1-03-10)

- Maxi-Mil A Safety Data Sheet

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

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