

# *AminoShure*<sup>®</sup>-XM

Precision Release Methionine

Save Up To  
**5¢/Cow/Day\***  
ON YOUR  
METHIONINE INVESTMENT



balchem<sup>®</sup>

# The Difference is



Balchem has invested more than 50 years perfecting the art and science of encapsulation. And with X-Technology, encapsulation has taken a leap forward. This new encapsulation system optimizes core composition, coating technology and release timing to create a revolutionary new encapsulated methionine product.

## **Payload is in the Core**

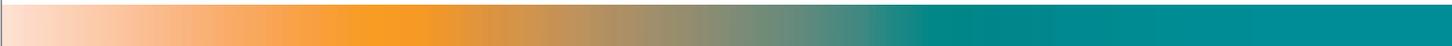
Through a proprietary process, the core of AminoShure-XM is created with the highest quality raw ingredients. These advancements in core development ensure delivery of the highest quality amino acid composition to the cow.

## **Coating Technology**

Balchem uses a true encapsulation process that includes consistent layers of lipids around the core to create a protective barrier. Many other processes use matrix encapsulation, suspending the active ingredient in a lipid matrix. This process leaves some of the active ingredient exposed on the surface and available for degradation in the rumen.

## **Metered Release**

AminoShure-XM is engineered to meter its methionine payload gradually in the small intestine, providing a continuous supply of methionine to the cells. This allows the cells to absorb methionine as it is needed, versus a surge of methionine that may not be used as efficiently.





AminoShure®-XM Precision Release Methionine delivers the next generation in precision amino acid balancing technology. Through the proprietary X-Technology, AminoShure-XM delivers the methionine payload safely through the rumen and releases it gradually in the small intestine to more efficiently and cost effectively meet the cows' methionine needs.

**The X-Technology:** The ultimate measure of an effective encapsulated methionine is the cost at which it can deliver a unit of bioavailable nutrient to the cow. This is a function of product cost, feed stability, rumen protection and intestinal digestibility. The X-Technology carefully balances these key, though somewhat antagonistic, characteristics to deliver the best value to our customers.

**Cost:** The new X-Technology has improved the nutrient bioavailability, which lowers the encapsulation cost per unit of metabolizable methionine.

**Feed Stability:** The new X-Technology employs a true lipid-based system that is more durable than polymer and ethylcellulose coatings.

**Rumen Stability:** The X-Technology is masterfully designed to resist ruminal degradation, maximizing the nutrient payload delivered to the small intestine.

**Intestinal Release:** The X-Technology gradually meters the methionine into the small intestine where it is absorbed and utilized by the cow to maximize productivity.



### The Difference

Balchem's new X-Technology provides the optimal combination of cost, feed stability, rumen stability and intestinal release to deliver the best cost per unit of available methionine on the market today. Numerous research studies at multiple universities were completed to accurately characterize and validate the attributes so you can be confident when choosing AminoShure-XM as your new rumen-protected methionine source.

# Save on Your Methionine Investment

New AminoShure-XM reliably delivers methionine at a substantial savings over other rumen-protected methionine sources. Research shows that savings could be as much as 5¢ per cow per day.\*

FIND YOUR



**AminoShure<sup>®</sup>-XM**  
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Herd Size (lactating & dry cows)			<input type="text" value="1,000"/>	
Current Rumen-Protected Methionine Product			Select from dropdown menu <input type="text" value="Competitive Product"/>	
Groups	# of Cows	g/h/d Competitive Product	g/h/d AminoShure-XM	Savings \$/h/d
Fresh Cow Group	<input type="text" value="55"/>	<input type="text" value="18.0"/>	<input type="text" value="26.6"/>	<input type="text" value="\$0.070"/>
High Cow Group(s)	<input type="text" value="510"/>	<input type="text" value="12.0"/>	<input type="text" value="17.7"/>	<input type="text" value="\$0.047"/>
Low Cow Group(s)	<input type="text" value="310"/>	<input type="text" value="8.0"/>	<input type="text" value="11.8"/>	<input type="text" value="\$0.031"/>
Close-up Dry Cow Group(s)	<input type="text" value="45"/>	<input type="text" value="10.0"/>	<input type="text" value="14.8"/>	<input type="text" value="\$0.039"/>
Far-off Dry Cow Group(s)	<input type="text" value="80"/>	<input type="text" value="-"/>	<input type="text" value="0.0"/>	<input type="text" value="\$ -"/>

	Cost/g MP-methionine (¢)	Savings		Protected Methionine Price (\$/lb)	
		\$/Month	\$/Year	Competitive Product	AminoShure-XM
Competitive Product	2.81			<input type="text" value="\$7.15"/>	
AminoShure-XM	2.12			<input type="text" value="\$3.65"/>	
Savings	0.69	<input type="text" value="\$ 1,185"/>	<input type="text" value="\$ 14,219"/>		

## See the value of X-Technology in your herd.

Contact your local Balchem representative at [ANHMarketing@Balchem.com](mailto:ANHMarketing@Balchem.com) to access the X-Value Calculator, or visit [BalchemANH.com/FindYourX](http://BalchemANH.com/FindYourX) for more details. We'll show you how AminoShure-XM will fit your amino acid balancing program and deliver a significant savings to your bottom line.

# Why Balance for Amino Acids?

Dairy cows do not have a protein requirement, but rather an amino acid requirement from which proteins are synthesized.

Methionine is an essential amino acid for mammals and a building block used to synthesize proteins required to build and maintain virtually every tissue in the body. If an animal is unable to consume enough methionine, protein synthesis will not proceed, compromising the health, productivity and life of the animal.

In dairy cattle, methionine is not only essential; it is among the first limiting amino acids. This means it is one of the first amino acids in short supply when a dairy cow synthesizes protein. Without sufficient methionine, a cow is unable to build the proteins that are required for tissue and organ maintenance, growth, reproduction, fetal growth, and perhaps most importantly, milk protein production.

A cow receives methionine from two primary sources; the feed she consumes and from microbial protein generated in the rumen. Traditional feed sources of methionine are highly degraded by rumen microbes, making them less available for absorption. Supplying methionine in a rumen-protected form is essential to ensure it reaches the small intestine for absorption.

## **The key benefits of balancing rations with AminoShure-XM are:**

### **Increased Milk Protein Production**

Milk protein is a highly valued milk component due to its importance in cheese production. Research shows that when the methionine supply is deficient, protein content in milk can drop as much as 0.10% to 0.20%.

### **Reduced Environmental Impact**

Overfeeding protein is a common approach to helping meet the cow's methionine requirement. This results in higher levels of nitrogen and phosphorus excretion into the environment. With AminoShure-XM you can dial-in the ration's methionine level to meet the herd's needs, decreasing the potential for environmental impact.

### **Improved Transition and Early Lactation Performance**

Research shows that cows in transition and early lactation respond well to supplemental methionine. This is primarily due to limited dry matter intake during very early lactation. Delivering this required amino acid leads to a smoother transition and higher peak milk production.

**AminoShure®-XM**  
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# THIS IS ANIMAL NUTRITION & HEALTH

## RUMINANT

**ReaShure®**  
Precision Release Choline

**AminoShure®-XM**  
Precision Release Methionine

**AminoShure®-L**  
Precision Release Lysine

**NiaShure™**  
Precision Release Niacin

**NitroShure™**  
Precision Release Nitrogen

**VitaShure®-C**  
Precision Release Vitamin C

**KeyShure®**  
Chelated Minerals

**KeyShure®Plus**  
Chelated Minerals

## MONOGASTRIC

**PuraChol**  
Choline Chloride

**KeyShure®**  
Chelated Minerals

**KeyShure®Plus**  
Chelated Minerals

## COMPANION ANIMALS

**PetShure**  
TURNING IMAGINATION INTO REALITY

**POROSITY & TEXTURE  
MANAGEMENT**

**pH CONTROL SYSTEMS**

**STRUCTURING & FORMING  
TECHNOLOGIES**

**CHOLINE**

**SENSORY SYSTEMS**

Balchem Animal Nutrition and Health is the global leader in choline production, chelation and encapsulation technology. With a growing portfolio of nutrition products and a dedication to innovation and industry sustainability, Balchem is leading the charge to meet the nutritional needs of ruminants, monogastrics and companion animals.

### WE ARE:

#### Real People

With a passion for animal nutrition, we are intense advocates for our customers and the animals they feed. You can count on us to provide honest, candid advice to address your toughest challenges.

#### Real Science

Balchem delivers proven science backed by years of success. Our products are some of the most extensively researched in the industry, further supported by documented on-farm results.

#### Real Results

In the end, it all comes down to results. We deliver real results you can count on, results that exceed your expectations and deliver value to your customers and your bottom line.



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\*Based on a 16 g/cow/day feeding rate of a competitive product.