



PetShure[®]
TURNING IMAGINATION INTO REALITY



What if you could:
Minimize Risk &
Maximize Appeal





Our Solution:

PetShure® pH Control Systems

Balchem's PetShure® pH Control Systems offer a transformative solution to the challenges of producing minimally processed, meat-based foods and treats. Our proprietary microencapsulated acidulants deliver cost-effective, efficient pathogen control, laying the foundation for safe, high-quality pet nutrition.

PetShure pH Control Systems leverage lipid-encapsulated organic acids, such as lactic and citric acids. This advanced encapsulation technology is designed to release organic acids gradually and strategically into the meat matrix. The controlled release creates a consistent and reliable barrier to pathogenic bacteria growth while preserving the natural qualities of the product.





What If You Could:

Create Safe, Nutritious Meat-Based Products

The fresh pet food market—raw, refrigerated, and frozen products—is booming. U.S. dollar sales for fresh dog food soared 86.5% from 2012–2023, with fresh cat food up 53.8%. Fueled by demand for minimally processed, high-meat options, this segment is expected to surpass \$5 billion by 2027, with a CAGR of 29–30%.

Yet, significant challenges loom. These perishable products are prone to bacterial contamination and recalls, with Salmonella responsible for 47% of pet food recalls since 2017.

The impact of a recall can be devastating for manufacturers:

- ▶ 55% of customers temporarily leave the brand
- ▶ 21% reject other products by the manufacturer
- ▶ 15% never return to the brand

This poses a dilemma—while the market offers huge potential, it also put your brand reputation and financial stability at risk. How can companies seize this opportunity without jeopardizing consumer trust?



How It Works: A Fresh Approach to Acidulants

Our microencapsulated lactic and citric acids provide a smoother, more controlled pH adjustment, ensuring better preservation of your products.

► Gradual pH Control:

Our acidulants slowly lower pH over time, preventing sudden acid shocks in meat products (Figure 3). This steady process helps maintain optimal pH levels, offering a continuous barrier to harmful pathogen growth.

► Preserving Freshness:

By protecting proteins and fats, our acidulants help preserve the color, texture, and flavor of meat, keeping it fresh longer.

Proven Effectiveness

Research from Kansas State University compared raw organic lactic and citric acids with their encapsulated counterparts. The results showed that PetShure pH Control acidulants (lactic acid and citric acid) offer an added benefit by delivering a controlled, gradual pH reduction over several days (Figure 1). Studies demonstrated that microencapsulated lactic acid can lower the pH of raw meat-based diets to below 5 within four days, ensuring long-lasting pathogen control (Figure 2).

This approach is all about maintaining quality and safety, with a gentle, effective solution.



Figure 1. pH of meat patties treated with 2.0% PetShure or raw lactic acid.

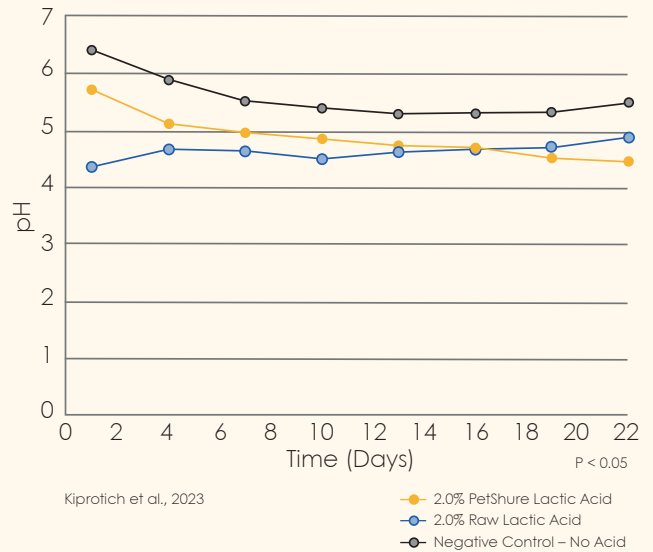
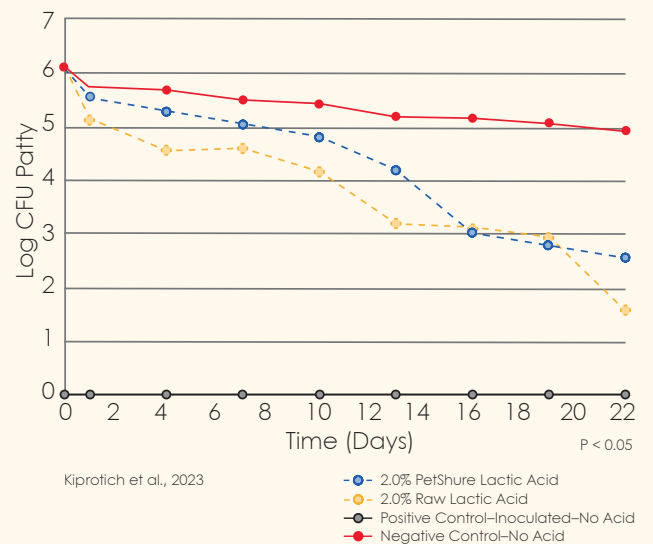


Figure 2. *Salmonella enterica* survival in patties treated with or without 2.0 encapsulated or raw lactic acid.



Now You Can:

May Reduce The Risk of Pathogen-Related Product Recalls

Ensuring pet food safety is critical to protecting your brand and consumer trust. With advanced pH control, you can create a strong defense against contamination.

▶ **Prevent Bacterial Growth:**

Maintain a lower product pH to inhibit pathogens like *Salmonella*.

▶ **Safeguard Brand Reputation:**

Reduce the risk of recalls that damage consumer confidence.

▶ **Deliver Consistent Quality:**

Provide safe, high-quality products that pet owners trust.

Extend Shelf Stability for Meat-Based Products

Longer shelf life means fresher products, reduced waste, and increased profitability.

▶ **Enhance Bacterial Control Over Time:**

Gradual acidulant release maintains a sustained defense against spoilage.

▶ **Preserve Product Freshness:**

Lower pH helps retain moisture and prevent quality deterioration.

▶ **Ensure Optimal Nutrition:**

Maintain the integrity of essential nutrients throughout storage and distribution.

Figure 3. Visual appearance of meat patties treated with 2.0% PetShure or raw acid

2.0% PetShure Lactic Acid			
2.0% Raw Lactic Acid			
	0 DAYS	7 DAYS	22 DAYS
2.0% PetShure Citric Acid			
2.0% Raw Citric Acid			

Maintain Freshness and Sensory Appeal

Pet owners expect fresh, visually appealing products that their pets will enjoy. Effective pH control helps meet those expectations.

▶ **Retain Natural Color:**

Keep pet food looking fresh and appetizing.

▶ **Preserve Texture and Palatability:**

Ensure products remain soft, moist, and enjoyable for pets.

▶ **Prevent Unwanted Off-Flavors:**

Maintain a consistent, high-quality taste that drives repeat purchases.

Elevate Your Product Line with PetShure® pH Control Systems

At Balchem, we empower pet food manufacturers with innovative solutions that enhance food safety, extend shelf life, and improve product appeal. PetShure® pH Control Systems help you:

▶ **May reduce the risk of pathogen-related product recalls.**

▶ **Extend the freshness and stability of meat-based products.**

▶ **Maintain the sensory qualities pets and owners expect.**



Elevate Your Product Portfolio with PetShure® pH Control Systems

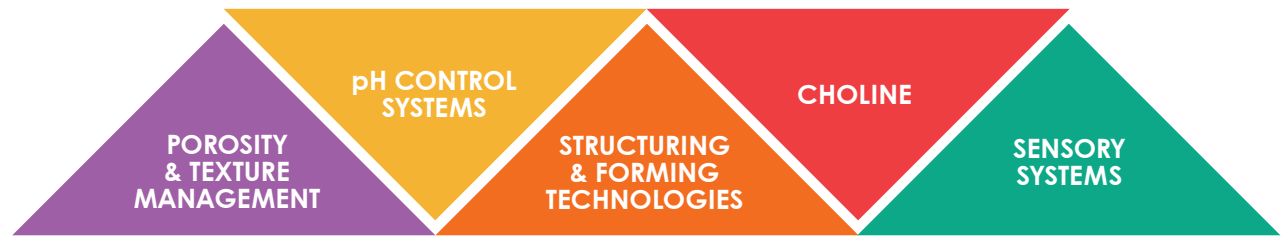
At Balchem, we deliver advanced technologies that empower pet food manufacturers to meet the growing demand for premium, sustainable, and innovative pet nutrition.

PetShure pH Control Systems makes it possible to:

- ▶ Help mitigate the risk of costly product recalls due to pathogen contamination.
- ▶ Extend the shelf stability of meat-based products.
- ▶ Maintain the freshness and sensory properties pets and pet parents love.

The future of pet food starts here.

Join us in transforming pet nutrition with solutions that prioritize pets, their owners, and the planet.



See how the PetShure team can help take your new product ideas to reality.
Visit PetShure.com to learn more.



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