RECIPROCAL MEAT CONFERENCE
EXCHANGE
Continuing the conversation. Advancing meat science.

Product Development Begins With the Need

Across meat processing, product development and pet food, one principle connected much of the discussion at the 2026 Reciprocal Meat Conference: begin with the need, then determine what the product, ingredients and process must deliver.

Solve the Right Problem

Customer insight is more than asking people what products they want. At Omaha Steaks, reviews, website activity, customer-service conversations, satisfaction data and social listening are combined to identify unmet needs and sources of frustration.

The company's development of an at-home smash burger illustrates the difference. Consumers already liked smash burgers, but 73% of those familiar with them had never made one at home. They associated the process with special equipment, extra preparation and considerable mess. The opportunity was not simply another burger. It was a product that removed the friction while preserving the desired restaurant-style experience.

The same principle applies to pet food, where developers must consider two end users. The animal must find the food nutritious and palatable. The owner also evaluates its appearance, aroma, freshness, convenience and perceived quality. Visible pieces of meat or vegetables may communicate premium quality to the owner, while the animal responds to its own combination of taste, aroma and texture.

> *Key point: Product development is more likely to succeed when it solves an identified problem rather than beginning with a product the organization hopes customers will want.*

Raw Materials Shape the Finished Product

Pet food research demonstrated why raw materials must be selected for a specific purpose. Freshness, composition, functionality, particle size and physical form influence how an ingredient moves through equipment, survives processing and appears in the package. A diced chicken heart may contribute palatability and visible appeal, but it must also handle moisture and retain its identity through processing. Texture is especially important for aging pets that may need softer products.

Raw-material condition also affects shelf life and palatability. In one wet-pet-food study, the less-preferred of several batches made from the same formulation contained more lipid-oxidation products and fewer desirable Maillard-reaction compounds. The relationship was not consistent in every diet, however. Species, formulation, processing and the balance among flavor compounds all affected the response.

> *Key point: Raw-material specifications should connect freshness and composition with processing performance and the experience expected by both the pet and its owner.*

Creating More Value From Co-Products

Thinking more deliberately about raw materials also changes how the industry views materials that have traditionally received less attention. The term *co-products* recognizes that animal production generates valuable fat and protein streams, not simply waste. These materials can support products and ingredients for human food, animal feed, pet food, aquaculture, biofuels and export markets.

The opportunity is not merely to find somewhere for each material to go. R&D can help identify the characteristics that make a co-product valuable and develop the processing technologies needed to use it effectively. For example, researchers have used alginate systems to bind and stabilize formulations containing wooden-breast chicken, carcass frames and organ meats. This can turn variable materials into pet foods or treats with more consistent form and texture.

Pet food is one potential market, but it is not simply an outlet for co-products. Premium and fresh pet foods increasingly use ingredients selected intentionally for their nutrition, palatability, functionality and visual appeal. Other co-products may deliver greater value in aquaculture, biofuels, human food or global markets. The best use depends on the material and the need it can fill.

> *Key point: Full utilization requires more than finding an outlet. It requires understanding each co-product well enough to develop it for the application where it can deliver the greatest value.*

Once the raw material and its intended use are established, the next question is what additional ingredients are needed to protect its quality and performance.

Ingredients Still Have a Job to Do

Selecting the right raw material is only part of product development. Developers must also determine what ingredients are needed to help the product maintain its color, flavor, texture, safety and shelf life.

Antioxidants are a good example of the challenge. BHA and BHT have been used effectively for decades to control oxidation in meat products, but they are receiving renewed scrutiny. The Make America Healthy Again movement, state legislative activity and broader consumer interest in simpler labels have brought more attention to the purpose and perceived health effects of individual ingredients.

For product developers, removing an ingredient is not the same as replacing its function. Without effective oxidation control, products may discolor, develop off-flavors or lose freshness before the end of their intended shelf life. Alternatives such as rosemary, green tea and other plant-derived compounds are available, but their effectiveness depends on the product, processing method, concentration and combination with other ingredients. A solution that works in fresh sausage may not perform the same way in a dried protein ingredient or another meat system.

Research is also exploring less familiar possibilities. One example is a newly studied class of compounds called 2-oxo imidazole dipeptides. These are related to naturally occurring compounds such as carnosine and anserine but contain an additional oxygen atom and have demonstrated strong antioxidant activity. Researchers are also investigating bioactive peptides recovered from materials such as bovine blood and seafood processing co-products. New delivery approaches, including microencapsulation and edible coatings, could help protect antioxidant compounds during processing and improve their effectiveness in the finished product.

The challenge is moving these discoveries from promising laboratory results into practical applications that provide the necessary function, meet regulatory requirements and align with consumer expectations.

> *Key point: Simpler labels do not eliminate the need for ingredient functionality. The opportunity for R&D is to find solutions that protect the product while responding to changing consumer and marketplace expectations.*

Consistent Methods Support Better Decisions

Product development depends on good ideas, but it also depends on generating data that can guide decisions. The updated AMSA Research Guidelines for Cookery, Sensory Evaluation, and Instrumental Tenderness Measurements of Meat give industry R&D teams and university researchers a shared resource for designing studies and comparing results.

The guidelines address the details that can substantially affect an outcome. How should a meat sample be prepared and cooked? What serving temperature and holding conditions should be used? Which instrumental texture test fits the product, and what information must be reported so someone else can repeat the work? The 2026 edition expands cookery methods, product lexicons, species and processed-product coverage, along with methods such as texture profile analysis, slice integrity, protein bind, and more.

Just as important, the guidelines help researchers select the right test for the question. Discrimination testing determines whether a detectable difference exists. Descriptive testing identifies what changed and by how much. Consumer testing evaluates preference or acceptance. Choosing the correct method produces data that can support a decision rather than simply documenting that a test was conducted.

Consistent methods also make shared learning possible. When companies and universities prepare samples, measure texture and conduct sensory testing in comparable ways, results can be interpreted across products, studies and organizations. That strengthens reproducibility and allows each new project to build more effectively on what has already been learned.

Key point: Shared methods give R&D teams and university researchers a common foundation for producing comparable data, learning from one another and making better product-development decisions.

Conference Presentations Featured in This Article

This article synthesizes presentations and discussions from the Processing and R&D track and related reciprocation sessions at the 2026 Reciprocal Meat Conference, including contributions from Julie Evans; Sebastian Hernandez, Ph.D.; Willy Nunez, Ph.D.; Shannon Neumann; Jeff Sindelar, Ph.D.; Poulson Joseph, Ph.D.; Rhonda Miller, Ph.D.; Wes Schilling, Ph.D.; and Charles Starkey, Ph.D.

About RMC Exchange

RMC Exchange extends the value of the Reciprocal Meat Conference by synthesizing research and discussions from multiple presentations into topic-focused articles. Each feature connects the science, highlights emerging trends, and explores the practical applications advancing meat science and the meat industry.