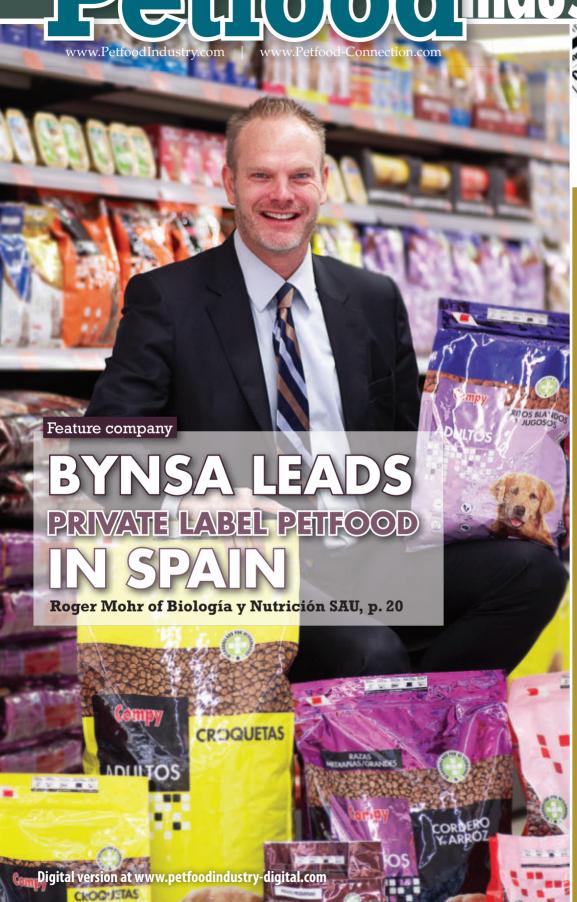
# Petro o Industry WATT



Clean labels provide

transparency

Saturated Fat

Bringing a new product to market

Target safety with process hardware



## Anatomy of Tapco Food Grade **Nylon Elevator Bucket**



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# Petro o Industry Volume 53 · Number 8

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On the cover: Roger Mohr, director of Biología y Nutrición SAU, in a Mercadona supermarket in Spain.

Photo by F. Lopez Orduna, courtesy of Biología y Nutrición SAU







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## Petto od Industry

## Check out the latest video on petfood safety



The Fox Business show "Business Day with Terry Bradshaw" aired a segment on petfood safety June 18, in which Greg Watt of WATT Publishing Co. and Scott Krebs of Extru-Tech discussed the petfood industry and safety initiatives. Take advantage of their insight at www.petfoodindustry.com/7464.html.





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## Online exclusives

## Presentation: Petfood safety from Wenger

Discover more ways to keep your facility sanitary and inspection-ready by viewing a presentation from Wenger on petfood safety at www.petfoodindustry.com/7585.html.



## Paper: Open innovation

Check out the paper by Edwin Grim, general manager for Ralco Nutrition, presented at Petfood Forum Europe 2011: www.petfoodindustry.com/7587.html.



Learn more about what other companies are doing to appeal to consumers with their labels in this Petfood Forum 2011 presentation by Lynn Dornblaser of Mintel at www.petfoodindustry.com/7595.html.



## Community

Petfood-Connection.com

Social network comments fuel offline behavior

www.petfood-connection.com/forum/topics/social-network-comments-fuel



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## **WATT**

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## Something to Chew On

Debbie Phillips-Donaldson

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Read more discussion of online petfood resources on Petfood-Connection.com.

# Petfood information at your fingertips



From the Petfood
Industry App to
countless other online
sources, you can find
a wealth of relevant
(and sometimes
bewildering) data.

**IF YOU ARE** one of the 940 million people worldwide with a mobile broadband subscription (according to the International Telecommunication Union as reported on mobithinking. com), you have access to all sorts of information and data about petfood via the smartphone or mobile device in your pocket, purse or briefcase.

For example, if you have an iPhone or iPad, you can download the free *Petfood Industry* App to read each new monthly issue and get updated news and information about new products. You can even bookmark specific articles or email them to colleagues.

Since we launched the App last October, nearly 1,200 people have downloaded it, including 85 new users in June. During that month, the App generated 939 sessions and 2,818 visits to the digital magazine; viewers read an average of 7.57 pages per visit. (To join them, visit iTunes and search for "Petfood.")

If you have any type of smartphone, you can use our Mobile Web Reader to read the latest issue of the magazine and search for terms or names within articles (www.petfoodindustry-digital.com). The June digital issue had 135 visits from mobile devices—84 Apple, 32 Droid, eight Blackberry and one Windows device—viewing an average of two pages per visit.

WHETHER I'M USING my smartphone or computer, I'm always amazed at the new sources of pet-related data I come across online. For example, a blog called Hunch (www.blog.hunch.com) had an entertaining infographic by Column Five Media on the personalities of dog owners and cat owners. (Fun "fact": Both types are generally optimists and talk to animals of all kinds.)

To gather the data, Hunch surveyed its users about pet ownership—and received 221,651 responses, which it then crossed with what it claims are over 80 million other responses to dozens of other questions it has posed to users. Imagine having a focus group of that size, engagement and access at your fingertips!

**OF COURSE, SIZE** doesn't guarantee accuracy. I also came across a *Consumer Reports* article on pet care costs that had me scratching my head over the data—not to mention some of the conclusions drawn from that data, such as the recommendation not to buy premium petfoods based solely on their prices. (Read more at www.petfood-connection. com/profiles/blogs/consumer-reports-pet-care.)

Apparently, part of the reasoning behind this advice is that survey respondents said they spend monthly averages of US\$36 on dog food and US\$20 on cat food. Who are these respondents? "We conduct many surveys by selecting a random sample from the approximately 7 million readers who subscribe to *Consumer Reports* and/or to Consumer-Reports.org, who are some of the most consumer-savvy people in the nation," the website says.

But do they represent the majority of US pet owners? Euromonitor International data shows the average North American household spent US\$225 in 2010 on not just petfood but also other petcare products; that works out to just US\$18.75 monthly.

According to the American Pet Products Association's 2011-2012 National Pet Owners Survey, US dog owners spent US\$254 on dog food the previous 12 months (just US\$21.17 a month) while cat owners spent US\$220 on cat food (US\$18.33 a month). So the Consumer Reports figures are rather suspect to be the basis of such sweeping and uninformed recommendations.

Having so much information at your fingertips is a wonderful benefit of the digital age—just don't let yourself become dizzied by the data.

Debbie Phillips-Donaldson is editor-in-chief of Petfood Industry magazine. Email her at dphillips@wattnet.net.



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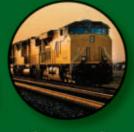




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## **Industry News**

#### **Learn more**

The latest news and updates are always on www.PetfoodIndustry.com.

### **Quick** hits

- Dr. James E. Sullivan, former president of International Ingredient Corp., formed the J E Sullivan Enterprise consulting business for the animal feed industry.
- Premium Ingredients International announced a name change to Prinova, effective July 1.
- Online pet information provider Pet360 Inc. closed an US\$18 million growth equity investment led by Updata Partners, with participation from current investor, LLR Partners.
- Diamond V announced the company began construction of its new worldwide headquarters in Cedar Rapids, Iowa, USA, which is scheduled to open in July 2012.
- Master Packaging, a flexible packaging solutions provider in Tampa, Florida, USA, completed its merger with Star Packaging, based in Atlanta, Georgia, USA.

## FDA wants food-safety law funds in fiscal 2012 budget

The US Food and Drug Administration wants the US government's fiscal 2012 budget to include US\$1.4 billion in funds for FDA's food-safety law that guides FDA regulation in cases of petfood contamination, according to Bloomberg.com.

In June, the US House voted to cut FDA's fiscal 2012 food-safety budget by 10% to US\$752 million, which FDA says would slow progress of Food Safety Modernization Act implementation.

"The funding needs ultimately will grow, not in fiscal 2012 or 2013, but in subsequent years to meet inspection mandates," said Scott Faber, vice president for federal affairs at the Grocery Manufacturers Association, a trade group of members including petfood manufacturer Nestle. "If the agency doesn't have more resources further down the road, FDA won't be able to retrain its inspectors and fulfill the promise of the food-safety reforms."

## Expert contributions sought for petfood and feed events

The animal feed industry is invited to submit presentations on advances in animal feed ingredients for the FIAAP Asia Conference 2012, which will take place in February alongside Victam Asia in Bangkok, Thailand.

The FIAAP Asia Conference, which will be held February 16, 2012, focuses on animal feed ingredients and additives. FIAAP Asia invites expert presentation contributions, by September 1, 2011, on feed formulation, nutrient requirements, traditional and novel protein sources, application of ingredients and feed additives for animal health and growth, manipulation of finished animal product quality, optimizing available raw materials, food chain safety, environmental impact and physical pellet quality.

Along with this event, Petfood Forum Asia 2012 will take place February 16 for professionals in the petfood industry. This conference is also accepting abstracts until September 1, 2011, at www.petfoodindustry.com/PFFAsia2012.aspx.

Petfood Forum 2012, scheduled for April 2-4 in Schaumburg, Illinois, USA, is accepting papers until October 1, 2011. See www.petfoodindustry.com/PFF2012.aspx.

## PFIA confirms South African dog deaths from aflatoxin contamination

The Pet Food Industry Association in South Africa confirmed that dog deaths continued into May, after three dog food brands were ordered to be removed from store shelves in April due to aflatoxin contamination, according to reports. The Department of Agriculture ordered the Hi Pro, Buddies and Legends petfood brands be removed from store shelves following the initial deaths of 12 dogs in Gauteng, South Africa.

PFIA says it has been collecting samples for independent testing of the petfoods involved and has recently identified another brand, Vito, that also showed potential aflatoxin contamination. The Department of Agriculture recommended that all products thought to be contaminated should be composted for plant fertilizer. The department also recommended Vito food should be withdrawn from store shelves until the brand owner can verify that all contaminated products have been removed from the market and the public informed of specific affected batches.

## Kemin completes acquisition of ADF's spray drying technology, products

Petfood ingredients provider Kemin Industries completed its purchase and acquisition of selected property, equipment and other assets of American Dehydrated Foods Inc. The acquisition includes spray dried liver hydrolysate products, spray dried liver products, other specialty dried products and spray drying technology for use in premium and super premium petfood.

Under the deal, Kemin acquires ADF's spray dried meat protein manufacturing facility, Verona South, in Verona, Missouri, USA. ADF continues to own and operate its drying facilities at the Verona North plant in Verona, Missouri, and at its plant in Social Circle, Georgia, USA.

Kemin is also expanding its headquarters in Des Moines, Iowa, USA, with a US\$30 million investment in its manufacturing, research and corporate facilities.

"This investment is one of many we are making in our commitment to the millions of pet owners who care about their pets' quality of life," said Chris Nelson, president and CEO of Kemin Industries. "Our expansion plans and related global investments are all part of our vision to improve the quality of life for people and animals."

## Petfood study looks at ingredients in wet, dry cat foods

A study on the macronutrient regulation of petfood was conducted to determine how adult domesticated cats select what to eat when given a choice of petfoods with different ingredient amounts.

The study, "Geometric analysis of macronutrient selection in adult domestic cats, *Felis catus*," looked at whether adult domesticated cats, given a choice of three foods with variable amounts of protein, carbohydrate and fat, would deliberately select a food that is biologically appropriate for them.

The study found that when the cats were restricted to a high-carbohydrate food, they did not eat enough of it to get the targeted amount of protein. The cats that were more experienced in eating dry foods increased their protein intake and ate a smaller amount of carbohydrates than cats with little experience that were offered the same choices in the study.

According to study authors, when given a choice, cats learn to avoid eating an excessive amount of carbohydrates because they do not produce the enzymes required to digest high amounts of carbohydrates.



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## Feedback

## Say more

Send your feedback about Petfood Industry magazine, PetfoodIndustry.com or Petfood-Connection.com to editor@wattnet.net

## Feedback

**WHILE THE ANALYSIS** prepared by Zepol for the article on US petfood imports and exports in the June issue adequately explores shipments transported by sea vessel, the company's exclusion of shipments by truck, rail and other methods ignores the largest and fourth largest importers of US petfood, Canada and Mexico.

Last year exports of petfood to Canada exceeded US\$503 million. Exports to Mexico totaled US\$39 million. Together these two markets account for nearly half the value of all US petfood exports, which were valued at US\$1.249 billion in 2010. Exports have become an important growth area for the industry.

At PFI's Feed and Pet Food Joint Conference September 14-16 in Kansas City, Missouri, USA, an Export Exchange will bring together importers and distributers from PFI's Market Access Program (under the US Department of Agriculture) so petfood companies can schedule appointments to discuss potential distribution arrangements. Companies wishing to learn more should visit www.petfoodinstitute.org.

Kurt Gallagher, director, communications and export development, Pet Food Institute





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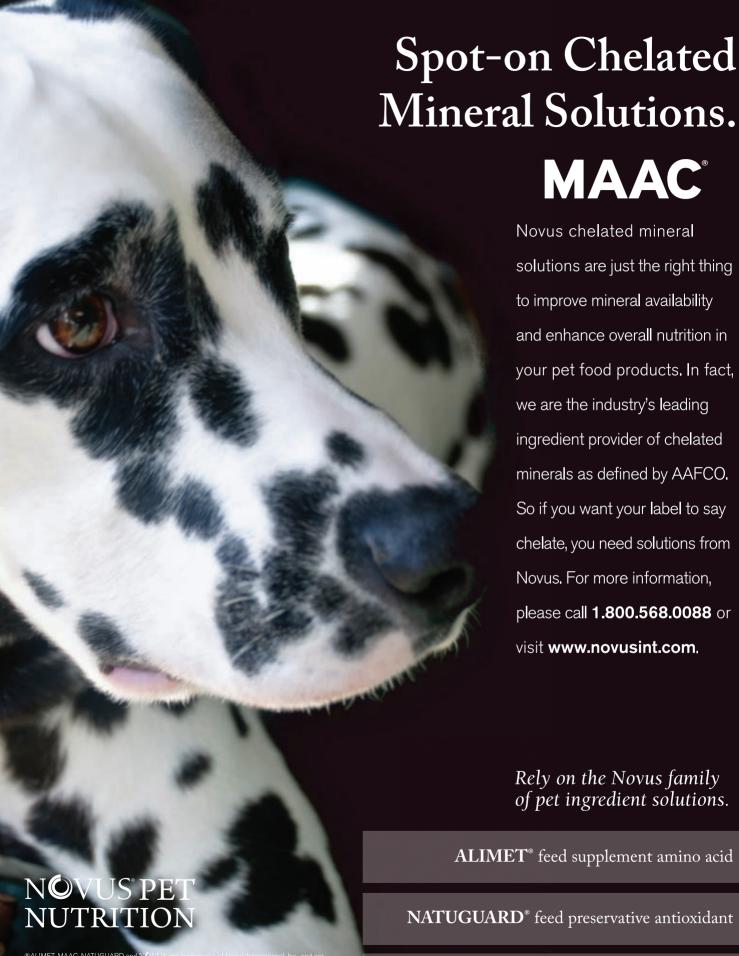




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## **New Products**

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### **For Consumers**

## Oven-baked dog cookies

Beggars Bakery offers oven-baked dog cookies. The cookies are hypoallergenic, containing no wheat, corn, soy or gluten, the company says. They are baked using all-natural, human-grade ingredients from American-sourced suppliers. Flavors

include blueberry apple, cheesy cheddar, honey cinnamon and honey peanut butter. The soft texture is great for senior dogs and training dogs of all ages, breeds and sizes, according to the company.

Beggars Bakery +1.760.860.8000 www.beggarsbakery.com

### **Natural Balance Perfect Bites**

Natural Balance Pet Foods Inc. offers three varieties



of its Perfect Bites cat treats. These treats come in rabbit, chicken and salmon formulas in 3-ounce packages. These 1-calorie cat treats do not contain corn, soy, wheat, artificial flavors or colors, according to the company.

Dick Van Patten's Natural Balance Pet Foods Inc. +1.800.829.4493

www.naturalbalanceinc.com

## Stella & Chewy's freeze-dried dinners

Stella & Chewy's "kitty-tailored" freeze-dried line includes dinners for cats and kittens. The Cat Dinners contain no added hormones or antibiotics and are also free of grains,

fillers and artificial colors. Dinner flavors include Super Beef-A-Licious; Chick, Chick, Chicken; Charming Chicken & Beef; and Yummy Lickin' Salmon & Chicken.

> Stella & Chewy's +1.888.477.8977 www.stellaandchewys.com



## **Pastovit Fruttavit parrot food**

Pastovit's Fruttavit is a bird food for the daily diet of large and medium exotic birds, including parrots, macaws, cockatiels, cockatoos and rosellas. The company says its bird food contains ingredients like sunflower, corn, pumpkin seeds, grape, apple, pineapple, carobs, husked oats, peanuts and hazelnuts. Fruttavit is available in packages of 1 kg, 5 kg and 25 kg.

Pastovit +39.0332.766611 www.pastovit.com

## Italian Way Sport and Nursing formula

Giuntini's Crancy Italian Way Sport and Nursing formula is a dog food designed for active dogs or for female dogs feeding a litter. The food includes ingredients like fish, meat protein, rice, wheat and maize, as well as omega-3 fatty acids from whole linseed and omega-6 fatty acids from soya bean, the company says. Italian Way dog food is available in 3-kg and 15-kg aluminum fresh packs.

+39.075.8517845 www.conagit.it

## Barktastic Fruitmax natural fruit treats

MarketWise Pet Nutrition says its Barktastic Fruitmax natural fruit treats for dogs are made with 100% real fruit. The dog treats contain vitamin C for a healthy immune system, omega-3 fatty acids to support the skin and coat and the equivalent of six whole apples in each box, according to the company. MarketWise also says the treats are free of gluten, wheat, soy, grains and allergens.



MarketWise Pet Nutrition +1.888.472.2275 fruitmax@aol.com

### **For Consumers**

#### Blue Wilderness Wild Bites

Blue Buffalo Co. makes its Blue Wilderness Wild Bites for dogs.

These soft, moist treats include chunks of chicken or salmon. The company says its treats are grainfree, contain no chicken or poultry by-product



meals and are also free of artificial flavors, colors or preservatives.

Blue Buffalo Co. +1.800.919.2833 bluebuffalo.com

#### Pure Bites Freeze Dried cat treats

Pure Treats Inc. makes PureBites Freeze Dried treats for cats with only

one pure ingredient in each variety, the company says. The cat treats are available in flavors that include chicken breast, beef liver, ocean whitefish and shrimp. The chicken breast and beef liver treats

are made with 100% US Department of Agriculture-inspected meat, according to the company.

Pure Treats Inc. +1.450.424.1110

www.purebites.com

## Well Pet Cubed, Sliced and Minced cat cans

Well Pet LLC makes Wellness Cubed, Sliced and Minced cat cans in twelve different varieties. The formulas come in 3-ounce cans and include Minced Chicken Dinner, Minced Turkey Entree, Minced Tuna Dinner, Sliced Turkey Entree, Sliced Chicken Entree, Sliced Salmon Entree, Sliced Turkey & Salmon Dinner, Cubed Tuna Entree, Cubed Turkey & Salmon Entree, Cubed Turkey Dinner and Cubed Chicken Entree. The company says the cat cans are 100% grain-free and contain all-natural protein sources.

Well Pet LLC +1.978.289.5500

www.wellpet.com



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- ✓ R&D and food science
- ✓ Quality assurance
- ✓ Quality control
- ✓ Senior level management
- ✓ Vendor assurance
- Companion animal veterinary practices



Linda P. Case, M.S.

#### **About the Instructor**

Course developer Linda P. Case, M.S., is a recognized expert in the fields of canine and feline nutrition, behavior and training, and companion animal health care. She operates AutumnGold Dog Training Center and is the author of four books, as well as numerous scientific papers and pet owner educational materials.

Case has also served as an adjunct assistant professor at the University of Illinois College of Veterinary Medicine, and lecturer and program coordinator at the University of Illinois Department of Animal Sciences.



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#### For Manufacturers

## Force Measurement Suspension System

Thaver Scale's Force Measurement Suspension System technology is designed for high sensitivity in petfood applications. The technology is an interposed active structure, consisting of one or more articulated members, placed between the load receptor and a load cell. Feeder and weigh hopper "dead load" are masscounterbalanced so only material weight is measured. Configurations consist of various constant sensitivity platforms (flexure and cable scales), graded sensitivity weighbridges (conveyor belt scales) and lateral torque transmitting devices (model D).

> Thayer Scale +1.781.826.8101 www.thayerscale.com

## Petrotest Instruments PA5 digital manometer

The Petrotest PA5 digital manometer from Petrotest Instruments uses PetroNet software to provide data logging and management solutions for determining the oxidation stability of lubricants and oils according to various standards. Petrotest's PA5 manometer can simultaneously

record temperatures along with pressure and time data with selectable measuring units. The PA5 manometer performs actual data sampling, and PetroNet application software manages



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### For Manufacturers

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## 100GW gross weigh bagging scale

Hamer Inc.'s model 100GW gross weigh bagging scale features a dual load cell system. The machine has a capability of bagging up to 16 bags

> per minute, the company says. The all-steel design is powder coated, and the bag clamp has a bag position window.

> > Hamer Inc. +1.800.927.4674

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## Box Type Tru-Balance sifter

The Great Western Manufacturing Box Type Tru-Balance sifter is designed for screening dry, free-flowing products in sizes from 1/4-inch to 400 mesh. The machine includes a dust-tight rotating sieve housing mounted in a sanitary tubular steel drive frame. Depending on the application, the Box Type Tru-Balance sifter can be configured

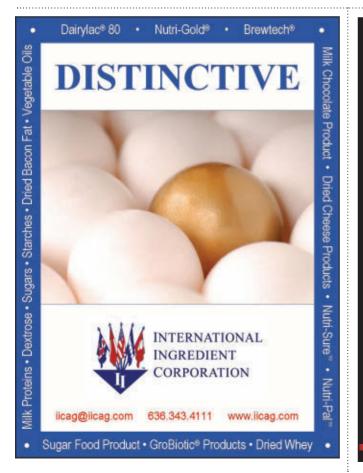
for up to six separations. The sieve box is finished with standard exterior semi-gloss lacquer or optional enamel finish and interior lined with stainless steel or plastic laminate.

> Great Western Manufacturing +1.913.682.2291 www.gwmfg.com

## Screen classifying cutter

Munson Machinery's screen classifying cutter reduces hard, soft and fibrous materials into controlled particle sizes. The cutter tips are available in stainless steel, tool steel and







## For Manufacturers

tungsten carbide. The cutter has a 15-inch throat width that accommodates up to 30 parallelograms with 60 cutter inserts. Perforations of the bed screen range from 1/32- to 1-1/2-inches in diameter and up to 3 inches square. Shaft rotation speed is variable between 30 and 3,600 rpm, producing up to 500 cu. ft./ hour of sized product, depending on application.

Munson Machinery +1.315.797.0090 www.munsonmachinery.com



## Pack 301 LD flow wrapper

Bosch offers the Pack 301 LD flow wrapper. The machine features a revolving long-dwell sealing system, automatic detection of product between cross-sealing jaws and temperature control for both top and bottom sealing jaws. Pack 301 LD is ideal for fresh, perishable goods where modified atmosphere packaging is requested, Bosch says.

Bosch +49.0.711.811.6271 www.bosch.com

## Fibertech bulk plastic containers

Fibertech Inc. manufactures a variety of plastic bulk containers. The 2Series containers have a one-piece design to accommodate two-way fork entry. The 4Series containers are flatbottom, material handling containers with four-way entry replaceable pallets. The company says all of its

bulk plastic containers are nestable when empty and stackable with lids.

Fibertech Inc. +1.812.983.2642 www.fibertechinc.net

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#### Learn more about BYNSA

Read the full article and see more photos of BYNSA's plant and products at www.petfoodindustry.com/7519.html.

Thanks to an exclusive arrangement with Mercadona, BYNSA has grown dramatically under Roger Mohr's direction in the past four years.



**Headquarters:** El Burgo de Ebro, Spain

Officers: Roger Mohr, director; Gerardo Nieto, direction of operations; Isabel Castellanos, director of quality/R&D; Virginia Pérez, director of finances/HR/administration; Begoña Fuika, director of purchasing/product development; Elena Lalinde, controller; Ignacio Colás, director of engineering/maintenance

**Sales:** 54 million Euro (US\$76.5 million) in 2010, expects to reach 60 million Euro (US\$85 million) by end of 2011

**Brands:** Compy, Bobby and Lucy, sold exclusively in Mercadona supermarkets

**Distribution:** 1,300+ Mercadona supermarkets in Spain

Facility: Also in El Burgo de Fbro

Employees: 90

Website:

www.biologiaynutricion.com



# BYNSA leads private label petfood in Spain

By Debbie Phillips-Donaldson

A unique marriage between Biología y Nutrición SAU and its retail partner has captured 39% of Spain's petfood market

**BIOLOGÍA Y NUTRICIÓN** SAU's position as the sole petfood supplier and category manager for Mercadona, a supermarket chain with 1,325 stores and a 39% petfood market share in Spain, makes its need for a central location critical. Fortunately, the company has found that just outside Zaragoza, in a converted feed

factory in El Burgo de Ebro.

"Zaragoza is called the logistical heart of Spain," says Roger Mohr, director of BYNSA, "because it's only about 300 kilometers from all four major Spanish cities: Madrid, Barcelona, Bilbao and Valencia."

Thanks to the exclusive arrangement with Mercadona—which Mohr calls a

"marriage" because the exclusivity goes both ways—BYNSA has grown dramatically in the four years Mohr has owned it, increasing its sales sixfold and its production five-fold from 20,000 to 100,000 tons a year.

THE PRIVATELY OWNED Mercadona established a business model in 1993 based on SPB: an abbreviation of the Spanish words for "always low prices." All products it offers fall into the economy-priced category, many under the stores' own labels: this is true for almost 80% of the petfood products. To keep prices low and quality high, including for its private-label products, Mercadona adopted the practice of having one exclusive supplier for each major category—what it calls buying directly from the source.

In 2007, the chain approached Mohr, who has more than 20 years' experience in the petfood industry, to create an entity that would become its sole petfood supplier. After securing venture capital partners, Atitlan Capital, Mohr purchased BYNSA. (The company was founded 23 years ago by Juan Pardo and moved to El Burgo de Ebro in 2001.)

One of Mohr's first steps was to hire two key petfood professionals— Gerardo Nieto as director of operations and Isabel Castellanos as director of quality and R&D—to help him evolve BYNSA into a top-class company and facility. "I'm very proud of the progress we've made in just four years," Mohr says. "Our factory is not yet human grade, but we're working toward that.

"THROUGH THE END of this year, we will have invested 19.5 million Euro (US\$27.6 million) since buying the company," Mohr adds. "We expect to

invest another 13 million Euro (US\$18.4 million) by end of 2014." Besides building new office space (with existing offices being converted into an employee locker room and cafeteria), those investments have gone toward instilling quality and safety into all aspects of the company's operations and products.

BYNSA is ISO 9001 and ISO 14001 certified and is working toward British Retail Consortium certification. The

facility's state-of-the-art features include an odor control system (see sidebar) and a lab that analyzes all incoming raw materials for quality, moisture and nutrients. It also tests for Salmonella, dioxins and other contaminants weekly and GMOs every three months (a Mercadona requirement). The lab tests competitive products, too.

Three extruder lines feed finished products to seven packaging lines in

## State-of-the-art odor control

Odor pollution is a common problem in dry petfood production. Many producers control their plants' odor emissions to remain in compliance with local, national or European Union directives.

In modernizing his petfood factory, Roger Mohr of Biología y Nutrición SAU chose to proactively control odor pollution. "It's good for the community, and our client, Mercadona, requires it. There's no competitive advantage to investing in it; you can't promote it. But it's the right thing to do."

> When building a new factory, you can design odor control into it. Because BYNSA's plant is a converted feed factory, Mohr had to retrofit it, meaning a significant investment in a new airflow system comprised of stainless steel tubing that redirects air emitted from the three extrusion lines' dryers and coolers into odor control units from Applied Plasma Physics (www.app.no).

> These units use a small amount of electricity (10 to 20 kWh) to create a "cold plasma zone where direct ionization and non-thermal oxidation of the emitted air takes place," according to Environmental-Expert.

com. "The same slow natural processes that clean the air in our atmosphere are accelerated within the reaction zone to occur within less than a second." This technology rates the highest among Best Available Techniques under the European Commission's Integrated Pollution Prevention and Control directive.

Mohr says he chose the APP system because of its high efficiency (ranging from 85% to 97%), low operating cost, small footprint in terms of floor space, reasonable up-front cost and ease of operation. In addition, it requires no consumables other than the low level of electricity and water for monthly cleanings to flush out the dust the units collect—another

benefit in a dry petfood plant, where fine particles and dust are a way of life. The APP units are connected to BYNSA's overall PC control system, allowing the plant's operators to track the units' activity from the control room. In addition, the system is connected via the Internet to APP's headquarters in Sandnes, Norway, for remote monitoring and very quick service should a problem arise.



A new airflow system comprised of stainless steel tubing redirects air emitted from three extrusion lines into odor control units from APP.

a section of the plant that Mohr says "looks like Disneyland" because of its colorful activity and machinery. Nieto designed the packaging lines for ultimate flexibility, depending on product runs, and for maximum safety all lines run through X-ray machines, which Mohr believes is a first for the global petfood industry.

Three palletizers offer flexibility to build regular "Euro" pallets



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Packaging for BYNSA petfoods is all plastic, some with foil, with carrying handles on larger packages for convenience.

or half-size "Düsseldorf" pallets that better accommodate the supermarkets' needs. BYNSA uses only plastic pallets, as Mercadona requires, because wood is susceptible to humidity and other conditions common in Spain. The warehouse's FIFO (first in first out) setup is achieved through a mechanical system called Flow Rail for handling the two different sizes of pallets, based on one used by Coca-Cola in Switzerland, that requires no electricity or other energy source (another first for Spain, Mohr says).

The pallets hold packages of 18 different products—a total of 22 SKUs—produced by BYNSA under the Compy brand sold on Mercadona shelves. BYNSA also supplies 15 SKUs of snacks and treats to Mercadona under the Bobby and Lucy brands. Currently these are bought from other producers, fully audited for quality and traceability of their raw materials by Castellanos' staff.

BYNSA's veterinarian-developed formulations use only top-quality ingredients, Mohr says, such as MDM (mechanically deboned meat) fresh chicken delivered to the plant chilled, not frozen. Other ingredients come from the company's relationship with its sole client, which allows BYNSA

to obtain premium by-products, such as broken rice, at low cost from other Mercadona suppliers.

As a PRIVATE label producer, BYNSA doesn't have to spend on marketing, nor does Mercadona do any promotion, which helps both meet their high-quality standards despite their products' economy pricing. For example, a 20-kg bag (about 44 pounds) of Compy dog food retails for only 10 Euro (US\$14.17) in Mercadona; an 800-gram bag (about 28 ounces) of premium cat food sells for only 2 Euro (US\$2.84).

The recession significantly affected Spain, which is suffering 20% unemployment. That has forced Mercadona to keep its prices even more competitive, which can put financial pressure on its suppliers. Yet Mohr insists he will not compromise the quality of his products or packaging. "That's a short-term solution," he says. "It's not good for the long-term." So he is researching export opportunities while continuing to invest in R&D and his facility.



BYNSA is located just outside Zaragoza, Spain, in a converted feed factory in El Burgo de Ebro.

BYNSA's production grew 21% last year, and Mohr expects a similar increase this year. "The goal is to build our capacity to 150,000 tons. We would then be producing one-third of Spain's annual 350,000 tons of dry petfood," he says. Not bad for only four years of work.





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A clean label utilizes simple packaging that conveys clearly the benefits of the product and lists easy-to-understand ingredients—this often means ones that consumers eat themselves.



# Clean labels provide transparency for pet owners By Jessica Taylor

Help consumers understand what is in your products with the clearest communication possible

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and the rise of clean labels
Learn more about what other companies
are doing to appeal to consumers with their
labels and implement a strategy for your own
brand with tips from Lynn Dornblaser of
Mintel in this Petfood Forum 2011 presentation: www.petfoodindustrv.com/7595.html.

**As consumers have** made it clear that they trust what they understand and perceive to be fresh, "real" ingre-

dients, and as they demand the right to know what is in the foods they eat, should it come as a surprise that those same consumers are now insisting on the same right for the foods they feed their pets?

The focus on a clear brand message and using language consumers clearly understand

is growing and not going away, according to Lynn Dornblaser of Mintel. So what exactly is a "clean label" and why is it important to not only pet parents, but packagers, marketers and manufacturers? WHEN WE TALK about labels, we are refering to claims made on the packaging of the product as well as the list of ingredients and nutritional information. According to Mintel research, the most prevalent claims—no additives/preservatives, vitamin/mineral fortified and all natural—focus on the inherent goodness of ingredients in the food or treat. This pattern is similar to what we see in human food and drink.

As bloggers and Internet forums turn their attention to recent petfood contamination issues, consumers are more focused than ever on what's in the products they buy. A clean label utilizes simple packaging that conveys clearly the benefits of the product and lists easy-to-understand ingredients—this often

## PETCO HAS CREATED THE FOLLOWING TIPS TO HELP PET PARENTS EVALUATE PET FOOD LABELS:

#### BASIC PET FOOD LABEL

#### GUARANTEED ANALYSIS:

 CRUDE PROTEIN
 (MIN) 18.0%
 CRUDE FIBER
 (MAX) 3.0%

 CRUDE FAT
 (MIN) 5.0%
 MOISTURE
 (MAX) 33.0%

 CRUDE FAT
 (MAX) 8.0%
 SALT (NACL)
 (MAX) 0.0%

#### INGREDIENTS:

Wheat flour, soybean grits, soybean flour, high fructose com syrup, brewers condensed solubles, beef, water, liver, calcium carbonate, phosphoric acid, salt, sorbic acid (added to prevent spoilage), calcium propionate (added to prevent spoilage), Dt.-Methionine, choline chloride, zinc codde, vitamin supplements (E, B-12, A, D-3), ferrous sulfate, ethoxyquin (a preservative), added color (Red 40), niacin, riboflavin supplement, calcium pantothenate, manganese sulfate, biotin, thiamine mononitrate, folic acid, copper sulfate, menadione sodium bisulfite compla

pyridoxine hydrochloride, calcium iodate.

## START WITH THE GUARANTEED ANALYSIS.

Much like human food, the guaranteed analysis on any package or can of pet food will tell you the overall fat, protein, fiber and moisture content of the food. Look for a healthy balance of nutrients and moisture.

> LOOK FOR A BALANCE OF PRO-TEINS, FATS, CARBOHYDRATES AND OTHER NUTRIENT SOURCES THAT IS RIGHT FOR YOUR PET AND HIS/HER LIFE STAGE.

For example, puppies require more protein than adult dogs for healthy growth, while senior dogs need more fiber and moisture to help with digestion and joint health. See your local PETCO nutrition expert to learn more about your pet's specific needs

DON'T ASSUME WHAT'S GOOD FOR YOUR SGOOD FOR YOUR PET.

While we're trained to eat a lowfat diet, dogs and cats get most of their energy from fat and need fat, which should account for at least 20 percent of their overall diet.

#### PREMIUM PET FOOD LABEL

#### GUARANTEED ANALYSIS:

CRUDE PROTEIN:	23.0% MIN.
CRUDE FAT:	13.0% MIN.
CRUDE FIBER:	3.0% MAX.
MOISTURE:	10.0% MAX.
OMEGA 3 FATTY ACIDS:	0.5% MIN.
OMEGA 6 FATTY ACIDS-	3.096 MIN

#### INGREDIENTS:

Chicken, Brown Rice, Lamb Meal, Oatmeal, Barley, Duck Meal, Potatoes, Carrots, Chicken Fat (preserved with natural mixed tocopherols). Tomato Pomace, Natural Flavor, Canola Oil, Brewers Yeast, Salmon Meal, Salmon Oil, Whole Ground Flaxseed, Potassium Chloride, Choline Chloride, Taurine, Spinach, Parsley Flakes, Cranberries, L-Lysine, L-Carnitine, Yucca Schidigera Extract, Dried Kelp, Vitamin E Supplement, Iron Proteinate, Zinc Proteinate, Copper Proteinate, Ferrous Sulfate, Zinc Sulfate, Copper Sulfate, Potassium Iodide, Thiamine Mononitrate (Vitamin B-1), Manganese Proteinate, Manganous Oxide, Ascorbic Acid, Vitamin A Supplement, Biotin, Calcium Pantothenate, Manganese Sulfate, Sodium Selenite, Pyridoxine Hydrochloride (Vitamin B-6), Vitamin B-12 Supplement, Riboflavin (Vitamin B-2), Vitamin D-3 Supplement, Folic Acid.

THE COMBINATION OF INGREDI-ENTS IS MORE IMPORTANT THAN ANY SINGLE INGREDIENT.

> Food can contain more than one form of the same ingredient, so read the entire label for a healthy balance of protein, fat and carbohydrate sources with natural names you recognize.

DETERMINE THE PRIMARY INGREDIENTS AND PROTEIN SOURCES.

Ingredients on pet food labels are listed by weight, but whole meats contain a lot of water so they weigh more than other ingredients. For that reason, it's important to look beyond the first two or three ingredients listed. Look at the first five to eight ingredients and ensure there is a healthy combination of high-quality protein sources.

DON'T GUESS THE QUALITY BY THE PACKAGE.

Just because a package is covered with wholesome-looking ingredients, doesn't mean the food is nutritious. Read the small print on the ingredients list and nutrition label instead of depending on illustrations or advertising on the package.

For more information about the PETCO nutrition pledge, to find the best premium food for your pet, or for other details on pet nutrition, visit PETCO.com, or ask a nutrition expert at a PETCO near you.

Petco launched a national pet nutrition education campaign that includes educational materials and trained nutrition experts in every store.

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Pet owners want simple ingredients they recognize, a label that clearly explains the benefits of the products and marketing claims that either comfort or intrigue, never

means ones that consumers eat themselves. But pets are—no matter how much we humanize them—animals and have different dietary needs than their pet parents.

Some brands understand that better than others and emphasize exactly why the ingredients in their recipes are vital to the health and well-being of the pet. Take, for example, K9 Natural's dog food, which positions itself as 100% natural and also calls attention to the fact that the product is "based on the actual diet of a Grey Wolf, which shares 99.8% of its DNA with domestic dogs."

**According to the** Petfood Forum presentation "Marketing & the Power

of Pet Ownership" by Bob Wheatley, when savvy consumers choose a petfood from the shelf they look for the following things in the product:

- Helps my pet and me improve our health and well-being;
- Facilitates my passion for experiences and connection with my pet;
- Enables a pet parenting community;
- Educates me about pet nutrition;
- Is labeled as holistic, natural or organic;
- Has form and flavor variety;
- Includes quality ingredients; and
- Has the right price.

Are your labels clean, concise and portraying the right message to your audience?

## Petco's pet nutrition education campaign focuses on labels

According to a 2009 survey commissioned by Petco, 60% of pet owners said they needed better information to choose healthy food for their pets. Petco responded by launching a national pet nutrition education campaign for consumers that includes educational materials, pet nutrition guidance and a minimum of two

-26-

Pet parents want to know exactly what they are getting when they pick up a petfood product—this packaging design concept clearly conveys what's inside with simple, bold text.

trained nutrition experts in every one of Petco's 950 US stores to help guide consumers to make smart decisions for their pets' needs (see p. 27).

The survey results show nearly 80% of pet parents are confident their pets' food is healthy and nutritious, but only four in 10 say they understand petfood labels. Results also show that whether choosing food for their families or their pets, most Americans are paying attention to nutritional value. The survey highlighted a significant disconnect between pet parent confidence in the nutritional value of their pets' food and their ability to evaluate petfood value by reading package labels.





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Safe and Secure Ingredients

Once a product idea is conceived and planned, often it becomes a balancing act of activities and reactions.



## Read more about innovation online

Check out the paper by Edwin Grim, general manager for Ralco Nutrition, presented at Petfood Forum Europe 2011, about Open Innovation: www.petfoodindustry.com/7587.html.

# Bringing a new petfood concept to market By George Collings, PhD

Innovative companies take an idea and add to it, managing the inevitable balancing act among competing interests, requirements and realities

WHERE DO NEW product ideas come from in the petfood industry? Do they only come from marketing or sales? In my experience, some of the fastest growing new products or brands have come from single entrepreneurs as well as large multifunctional groups. They are led by people with financial backgrounds, those who are highly technical and people with diverse backgrounds.

New product concepts are not limited to any one specific group. Ideas come from personal experience, sales meetings, specific pet needs, scientific discovery, focus groups, customer demand, operational observation and entrepreneurial perception.

**INNOVATION IS TAKING** an idea and building on it. It requires assessing the product completely and agreeing to a timely, flexible development plan. Once a product idea is conceived and planned, often it becomes a balancing act:

- The proposed product may totally be out of the realm of production and nutritional reality;
- The desired ingredients and suggested order may not balance with proposed textures, shapes and shelf life;



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- The desire to be all natural may not be in balance with the hope for an extended shelf life;
- Ingredient terms that are market friendly may not be in balance with regulatory approvals;
- A nutritionally great formulation may miss the market targets for taste and consumer appeal.

In addition, packaging goals must be in balance with product strength, shelf life and production capabilities. Product throughput and process need to be in balance with the target cost of goods. These balancing acts are usually under timeline pressures.

**BEING PROACTIVE IN** the beginning of a project will help reduce problems but will also help keep the project on course as issues arise. Any company

seeking to be innovative should have a process in place that allows each business function to have a voice and an opportunity to build the product and ultimately the business.

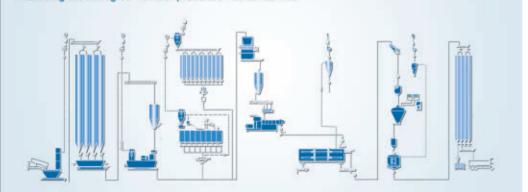
When one group's perspective becomes the loudest voice, the potential to limit innovation is high. A company with longer development cycles may even try to force concepts through its product development process without wide support and belief in the product. The innovative company takes an idea or concept and adds to it—like adding bricks to a foundation, with each brick supporting the one next to it.

**A GOOD PLAN** lays out the specifics in the beginning—such as claims, product attributes, marketing goals

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and costs—and determines the likelihood of success given the known capabilities: personnel, productions, resources, etc. It is always best to determine the "must-haves" in the beginning versus the "nice-to-haves."

The plan should also identify decision making, timeframes, communication paths, regulatory reviews, financial goals and—most important—assignments. Determining expectations in the beginning will save many lost weeks later on.

A good plan will also expect some things to change as new information comes forth (see sidebar). What if:

- An in-house production solution does not work?
- Ingredients are not available in sufficient quantities and at good prices?
- Nutritional requirements cannot be met using the ingredients allowed?
- The proposed ingredients lead to physiological or stability issues? When new pieces of information arise, there must be a timely reassessment with give and take by all groups to quickly rebalance the goals.

## Example: issues can arise

A project requires two specific ingredients listed as the top two ingredients in a new food, but these ingredients are highly unstable and lead to rancidity. Additional steps have to be taken to reduce the rancidity, so the timeline must be changed as the product needs to be tested for shelf stability in accelerated laboratory trials.

Perhaps the two ingredients bring a lot of calcium and other minerals and feeding trials have led to reduced palatability and increased stool size. Perhaps the starches used are stickier and slow down production rates. Additionally, regulatory finds out that one of the ingredients is facing some new government definitions.

None of these observations were foreseen, and the cost and timeline of the product will increase beyond the original project goals. The team needs to quickly reassess, with compromise by everyone to promptly rebalance the goals.

**EXPERIENCE TELLS ME** that advanced planning is not always done. Often one functional group leads the company's development process. The ability to be flexible as new information or problems arise is sometimes difficult. Potential weaknesses in the project may not have been well evaluated or communicated.

If a good plan has not been built in the beginning, what is nice to have may end up being presented as a must-have. Timelines will have no bend. Expectations of one business

group may supersede or push the capacity and abilities of another.

Proactive, flexible companies are generally good environments for innovation, encouraging a diversity of perspectives with multiple communication and personality styles. Innovative companies allow for disagreement and failure—in fact, they expect it.

Dr. Collings is general manager of Nutrition Solutions (www.cnutritionsolutions.com), a consultancy for all phases of new and existing nutrition businesses (pet, animal, human).

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Join petfood professionals and peers from Asia and throughout the world at the third edition of Petfood Forum Asia. This exclusive event, held in conjunction with Victam Asia 2012, brings you expert content about pet nutrition, petfood processing, safety, marketing and other important topics — along with the opportunity to network with your favorite colleagues as well as new connections.



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## **Petfood Workshop: New Product Development**

April 4 - 5, 2012

Renaissance Schaumburg Convention Center Hotel Schaumburg, Illinois USA

Immediately following Petfood Forum 2012, Petfood Workshop is a focused seminar on new product development. New products have been a driving force behind the petfood industry's continual growth, but new product development requires much more than a good idea. In this interactive seminar, you will learn from experts on how to successfully bring a new petfood product to market.

Interested in being considered as a speaker for any of these events? Log on to access the call for papers.

Petfood Forum Asia: www.petfoodindustry.com/PFFAsia2012.aspx

**Petfood Forum:** www.petfoodindustry.com/PFF2012.aspx

## Processing equipment and hardware database

Check out our entire online database of manufacturing equipment designed to keep your products safe, your facilities sanitary and your customers happy by going to <a href="https://www.petfoodindustry.com/products.aspx">www.petfoodindustry.com/products.aspx</a>. Click on the "Equipment" tab to get started. Then compare and rate products, research options and contact companies for more information, all from our website!

Every aspect of the petfood facility—from product movement through the plant and contamination from outside sources to equipment design—all require rethinking in light of recent FDA regulations, sanitary practices and GMPs.



By Jessica Taylor

Skadmy. BigStockPhoto.com

Avoid cross-contamination, ruined batches and recalls by implementing processing equipment that keeps your products sterile and safe

#### PETFOOD MANUFACTURERS ARE

looking for innovative ways to modify existing facilities and processing lines to accommodate the safest petfood processes possible. But as the recent Nestlé Purina recall of dry cat food due to *Salmonella* contamination demonstrates, there are significant challenges in manufacturing, packaging and delivering these products in the supply chain.

The easiest way to combat troublesome issues such as recalls and contamination is to focus on just how your food and treats are being made and look at what equipment you are currently using to take your product from a recipe and a batch of ingredients to a totally safe, sealed, packaged meal.

Although this article focuses on hardware and equipment that can be used to upgrade a processing line's safety, not only manufacturing methods require re-engineering. The understanding of plant personnel toward sanitary practices needs to be emphasized and should be thoroughly understood. Every aspect of the facilities—from product movement through the plant and contamination from



The Tapco CC-XD (Xtreme Duty) Elevator Bucket is made with FDA-compliant resin that will not leach into or affect the integrity of ingredients.

outside sources to equipment design—all require rethinking in light of recent Food and Drug Administration regulations, sanitary practices and good manufacturing processes.

According to David S. Mast, PE, senior project manager at SSOE

Group, the major plant areas that are typically impacted by this sort of overhaul include processing lines,

Watch the National Bulk Equipment sanitary tote dumper in action and learn more about why it makes petfood safe at www. youtube.com/user/nbeinc. floor surfaces, drains, waste systems, HVAC, dryers, raw ingredient handling and

packaging—nearly every system in a manufacturing plant is a contamination pathway.

**Now to ARM** yourself with the best possible tools to keep your pet products sanitary, safe for people to handle and animals to eat!

Tapco Polyethylene, Nylon and Polyurethane buckets are made with FDA-compliant resins. Both the plastic and pigment are FDA-approved, according to the company. Tapco buckets contribute to food processing safety because plastic resins will not leach into or affect the integrity of ingredients used for food products. Precision injection molds create nonporous surfaces and seamless construction, which means commodities tend to slide off, not stick, leading to minimal cross-contamination and a bucket that is easier to clean and keep that way.

The Mepaco line of Clean Sweep surge loaders eliminate loss yields and cross contamination as well, according to the company.

Mepaco says its surge loaders

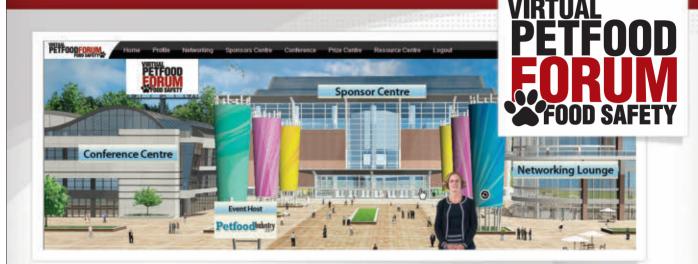
are cleanable to a microbiological level, are accessible for inspection, maintenance, cleaning and sanitation and don't allow for product or liquid collection because hollow areas should be hermetically sealed. The surge loaders are available with bead-

blast, pickle passivated or electropolished finishes.

National Bulk Equipment Inc. offers a sanitary tote dumper designed specifically for compliance to FDA, US Department of Agriculture, 3-A, BISSC or international stan-



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dards, according to the company. The dumper includes clean-in-place features such as 304-2b stainless steel framework, sheet and plate; a fully enclosed, 304-2b stainless steel, hydraulic pump cabinet; and nonmetal components with resistance to corrosive materials.

WENGER HAS ADDRESSED the problem of contamination with a full line of hygienic products known as the Wenger Hygienic System Components.

# Presentation: Petfood safety from Wenger

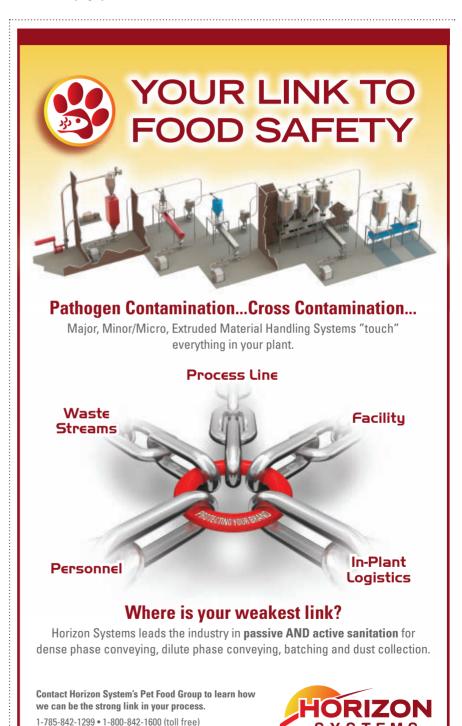
Discover more ways to keep your facility sanitary and inspection-ready by viewing a presentation from Wenger on petfood safety. Learn what steps to take, what equipment to use and how to implement a plan of attack: www.petfoodindustry. com/7585.html.

Offerings include Waste Recycling Systems to capture emissions and/or underprocessed material to prevent recontamination; a new, closed-loop Pneumatic Conveying System; on-line measurement and control systems to decouple personnel from direct product contact; new, stainless-steel hygienic machine frames that can be retrofitted to pre-existing extruders; and a new preconditioner slide gate and dust-tight downspout.

Underprocessed material and dust, which can act as a host for pathogens, are the greatest sources of contamination. Stopping them in their tracks is one of Wenger's primary goals, according to the company.



Wenger offers a full line of hygienic products like Waste Recycling and Pneumatic Conveying Systems.



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# Petfood Insights

David A. Dzanis, DVM, PhD, DACVN

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Read more columns by Dr. Dzanis at www.petfoodindustry.com/ petfoodinsights.aspx.

# New AAFCO website to help small petfood manufacturers



'The Business of Pet
Food' was designed
for smaller producers
who have limited
understanding of state
and federal regulatory
requirements.

**IN THE SEPTEMBER** 2010 issue of *Petfood Industry*, I briefly reported on the Association of American Feed Control Officials' intent to launch a website designed particularly to help small manufacturers understand and comply with labeling and other state and federal regulatory requirements. The preview of the site at last year's annual meeting met with tremendous applause from the audience.

After many months of anticipation, I am pleased to report "The Business of Pet Food" is now online for the public. It may be accessed through the prominent link on AAFCO's homepage (www.aafco. org) or directly via www.petfood. aafco.org.

**Ask most state** feed control officials and they would likely say a considerable, if not inordinate,

proportion of their time is spent dealing with the smaller or less-established petfood manufacturers. Particularly with regard to treats, new companies seem to sprout up daily. Some start as home-based operations, others as human food companies looking to expand into the pet product realm.

In either case, an understanding of the regulatory requirements unique to petfoods is often lacking. Feed control officials try to help the uninitiated, but there is only so much they can do and still keep up with their other duties. Since many questions are similar, AAFCO saw a need for a place to refer those seeking advice and guidance on the more common petfood issues.

The Small Manufacturers Working Group was formed a couple of years ago to help address this need. Operating under the AAFCO Pet Food Committee, the group is comprised of both regulators and industry members. The site as developed by the working group was reviewed by a number of feed control officials and modified accordingly, then approved by the AAFCO Board of Directors before going live.

**THE NEW SITE** covers many aspects of petfood

regulations. It explains the need for product registration and/or company licensure at the state level, even for Internet and farmers' market sales, and provides a table of basic state requirements as well as contact information and links for each state feed control office. It also discusses the federal requirement for Food Facility Registration and the obligation to report potential health incidents under the Reportable Food Registry.

A few other topics covered



'The Business of Pet Food' explains the need for product registration or company licensure at the state level and provides a table of basic state requirements as well as contact information and links for each state feed control office.

Dr. Dzanis is a writer and consultant on nutrition, labeling and regulation. Tel: +1.661.251.3543; email: dzanis@aol.com.

on the site include:

- Ingredients;
- Mandatory labeling requirements;
- "Romance" and "drug" claims;
- Determining appropriate guarantees;
- Calculating calorie content;
- Meeting nutritional adequacy requirements; and
- Safe handling procedures. In addition, the site lists contact information for analytical testing facilities, organized by state. Presentations and links that may be of service are also provided.

**THE BUSINESS OF** Pet Food was designed with the smaller manufacturer who has limited regulatory experience in mind. However, it may prove useful for companies of any size or degree of experience. I wouldn't be surprised if some states also found it helpful, not only as a reference to which to send manufacturers with

questions but also for their own edification on specific matters. While not expressly designed for consumer education, pet owners may find it enlightening as well.

It is important to note that the new site is not intended to replace

purchase the latest edition of the *Official Publication*, which contains the most current version of the Model Bill and Regulations, ingredient definitions, nutritional adequacy standards and other aspects that are not on the website.

# Particularly with regard to treats, new companies seem to sprout up daily.

the AAFCO *Official Publication* as the definitive resource for understanding petfood regulatory requirements. In fact, under the header "What should I do first?" the site recommends that prospective petfood manufacturers

The site also suggests investing in a copy of the AAFCO *Pet Food* and *Specialty Pet Food Labeling Guide* for further insight and guidance. Both publications may be purchased through the main AAFCO website.



# Ingredient Issues

Greg Aldrich, PhD

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Find more columns by
Dr. Aldrich at
<a href="https://www.petfoodindustry.com/">www.petfoodindustry.com/</a>
ingredientissues.aspx.

# Bones: a not-so-novel source of essential pet nutrients



Niche categories as well as conventional petfoods increasingly depend on bone to meet many pet nutrient needs. **IN HUMAN FOODS,** bones have long been a staple for making ingredients like soup stock and gelatin; however, people don't often eat bones directly. Rather, any bone that lands on our plates as a function of eating a steak, drumstick or chop often ends up being discarded or shared with the family pets.

While we are squeamish about such fare, few of our pets can resist the rich taste of the scant bits of meat and sinew clinging to the bone or the savory marrow inside. This is nothing new to the family dinner scene; this sort of behavior has been happening for the past 10,000 to 12,000 years.

In addition to these few leftovers, bone is also part of most every commercial dog and cat food sold today. Whether it is a component of rendered protein meal (e.g., meat and bone meal, chicken meal or fish meal)

or in the mechanically separated or "emulsified" meats used in wet foods and treats, each contains measurable and intentional levels of bone. However, bone is inadvertently hidden to the petfood-buying public because it is not part of most ingredient names.

**So, THE PERCEPTION** that bone is a novel ingredient is understandable. The growing grassroots movements like raw (including Bones and Raw Food, or BARF) and home-prepared petfoods have increased awareness about bone in the diet and created some demand for bones (fresh, frozen, cooked and ground).

More recently, with recall scares and concerns about low-cost micro-ingredients, some conventional petfood companies have also developed products that skip synthetic vitamins and minerals for more "natural" sources. In short,

they depend on a significant amount of bone to meet many essential nutrient needs.

Most of the bones available are beef and pork and, to a lesser degree, lamb/mutton. Due to the nature of poultry processing, straight bones from chickens or turkeys usually wind up in rendered protein meals.

On the world stage, there are several forms of bone available. They are generally identified by regulatory agencies as:

- Bones (whole, fresh or frozen) derived from hand deboning;
- Fresh bone meal or "green" bone meal produced from dried ground bones without a sterilization step;
- Bone meal or "raw" bone meal derived from bones boiled to remove tissue before drying and grinding;

# Most of the bones available are beef and pork and, to a lesser degree, lamb/ mutton.

- Steamed bone meal produced from bones that have been pressure-cooked to remove tissue and fat, then dried and ground; and
- Bone meal ash or calcinated bone meal produced from bones that have been ashed (burned) in the presence (bone charcoal) or absence (bone black) of air.

**For Petfood, Fresh** or frozen bones and steamed bone meal are the primary sources used.

Fresh or frozen bones are commonly available at a butcher shop or the meat counter of the local grocery. A commercial-industrial trade in fresh or frozen bone is not well established.

Bones make up from 7% to 12% of beef or swine live weight. Age,

polyunsaturated fatty acids and phospholipids than intramuscular and subcutaneous fats (Ockerman and Hansen, 2000).

Much of the bone meal available for purchase in the ingredient market is imported into the US and other should purchase steamed bone meal through food or feed channels rather than fertilizer and garden supply stores to avoid potential cross-contamination with herbicides and pesticides.

**FROM A SAFETY** aspect, bone has been cleared of implications in BSE. Apprehension about bone shards, splinters or chunks is often voiced, but according to people who market or feed raw petfood, this is apparently not an issue with raw bone. It should also be a non-issue with bone meal since the particle size has been reduced to a powder. In wet foods, the periodic sighting of bone bits is an appearance issue only because the bone has been reduced to gelatin and the ghost of the remaining minerals by the retort sterilization process.

So, in the end, bone can be a not-sonovel source of calcium, phosphorus and other nutrients in a pet's diet.

# Bone is inadvertently hidden to the petfood-buying public because it is not part of most ingredient names.

body condition and feeding practices affect the composition of the bone. To wit, beef and pork bones will contain around 32-50% moisture, 20-29% protein, 12-22% fat and 13-29% ash (Ockerman and Hansen, 2000). Calcium composition of the ash is relatively constant at approximately 37.7%, regardless of age or species (cattle, pigs, sheep and poultry; Field *et al.*, 1974).

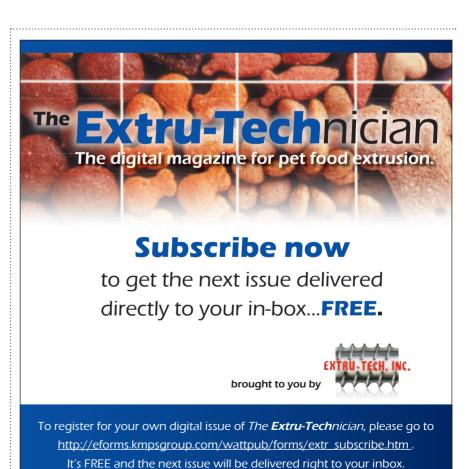
**STEAMED BONE MEAL** is a light to dark gray granule or powder. It is sold with a guaranteed analysis for minimum calcium (~23-32%) and phosphorus (~13-15%). Suppliers may also guarantee minimum crude protein (~6-8%) and maximum moisture (~7-10%).

The relative bioavailability of calcium in bone meal is equivalent to calcium carbonate (100%; Soares, 1995). Solubility and bioavailability of phosphorus is comparable to standard phosphate sources like mono-, di- and tri-calcium phosphate (Gillis *et al.*, 1948; Gillis *et al.*, 1954).

Steamed bone meal also contains measurable quantities of sodium (5.53%), iron (2.6%), magnesium (0.32%), potassium (0.18%) and zinc (0.1%; NRC, 1982). It can be a minor source of essential amino acids such as lysine and methionine (13.5% and 2.8% of crude protein, respectively; American Meat Institute, 1960). The fatty acids are derived primarily from bone marrow and contain more

developed petfood regions. China, Pakistan and Thailand appear to be the leading marketers.

Regardless of its origin, take care to verify that steamed bone meal does not exceed safe maximum limits for lead or other heavy metals. Further, one



# Research Notes

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Research Notes online at www.petfoodindustry.com/researchnotes.aspx.

## **Key concepts**

- Collagen, GLU and CHO in arthritic dogs (JAPAN online May 2011. doi: 10.1111/j.1439-0396.2011.01166.x) Moderately arthritic dogs treated with UC-II showed a marked reduction in arthritic pain with maximum improvement.
- Feeding dried okara-tempeh to dogs (Intern J Appl Res Vet Med 9:181-188). Dried okara-tempeh is effective for improving the fecal environment in dogs. Okara, which is currently discarded, can be used in dog food.
- Adaptation of healthy cats to dietary fibers (J Anim Sci online April 2011. doi: 10.2527/ jas.2010-3445) Adaptation to either FOS or pectin led to greater SCFA and gas production, but adaptation to FOS resulted in the greatest effect overall.

# Collagen, GLU and CHO in arthritic dogs

The study was conducted on client-owned, moderately arthritic dogs to evaluate therapeutic efficacy of type-II collagen (UC-II) alone or in combination with glucosamine hydrochloride (GLU) and chondroitin sulphate (CHO). Dogs were treated daily for 150 days with placebo (Group I), 10 mg active UC-II (Group II), 2,000 mg GLU + 1,600 mg CHO (Group III) or UC-II + GLU + CHO (Group IV).

The dogs were observed monthly for pain using different

numeric scales. Pain level was also measured using piezoelectric sensor-based GFP.

Significant reduction in pain was observed in Group II, III and IV dogs. Using GFP, significant increases in peak vertical force and impulse area, indicating a decrease in arthritis-associated pain, were noted in Group II dogs only. None of the groups showed changes in physical, hepatic or renal functions.

Based on GFP data, moderately arthritic dogs treated with UC-II showed a marked reduction in arthritic pain with maximum

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improvement by day 150. UC-II, GLU and CHO operated through different mechanisms and were well tolerated. Source: R.C. Gupta *et al.*, 2011. Comparative therapeutic efficacy and safety of type-II collagen (UC-II), glucosamine and chondroitin in arthritic dogs: pain evaluation by ground force plate. *JAPAN* online May 2011. doi: 10.1111/j.1439-0396.2011.01166.x

# Feeding dried okara-tempeh to dogs

Okara is a white or yellowish pulp, the insoluble portion of soybeans. It is low in fat, high in fiber and contains protein, calcium, iron and riboflavin. In Japan, it is used as a human food or livestock feed or is discarded.

This study investigated the influence of dried okara-tempeh on fecal microbiota and metabolites in dogs. Three dried okara-tempehs were given daily to each of six Beagles for two weeks. The concentrations of fecal short-chain fatty acids (SCFA), pH

and microbiota were determined.

During intake of the dried okaratempeh, the level of *Bifidobacterium* and *Bacillus* was increased significantly. Fecal concentrations of total SCFA, acetic acid and propionic acid also increased significantly. Fecal pH decreased significantly.

The findings demonstrate that dried okara-tempeh is effective for improving dogs' fecal environment and okara can be used in dog food. Source: T. Yogo *et al.*, 2011. Influence of dried okara-tempah on the composition and metabolites of fecal microbiota in dogs. *Intern J Appl Res Vet Med* 9:181-188.

# Adaptation of healthy cats to dietary fibers

Nine young adult male cats were used to determine the effects of microbial adaptation to select dietary fiber sources on changes in pH *in vitro*, total and hydrogen gas, short-chain fatty acid (SCFA) and branched-chain fatty acid

(BCFA) production. Cats were adapted to diets containing 4% cellulose, fructooligosaccharides (FOS) or pectin.

Adaptation to dietary FOS resulted in a greater change in pH when exposed to FOS than pectin. When exposed to the FOS substrate, adaptation to dietary FOS or pectin increased hydrogen gas production. Adaptation to dietary FOS increased acetate and total SCFA production when exposed to FOS substrate *in vitro*.

FOS resulted in the greatest change in pH and production of total gas, hydrogen gas, acetate, propionate, butyrate, total SCFA and total BCFA + valerate production. Adaptation to FOS or pectin led to greater SCFA and gas production, but adaptation to FOS had the greatest effect overall.

Source: K.A. Barry et al., 2011. Adaptation of healthy adult cats to select dietary fibers in vivo affects gas and short-chain fatty acid production from fiber fermentation in vitro. J Anim Sci online April 2011. doi: 10.2527/jas.2010-3445



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# **Industry Calendar**

## See more

Find out what industry events are approaching. Go to PetfoodIndustry.com.

	S	M	T	W	T	F	S
August		1	2	3	4	5	6
	7	8	9	10	11	12	13
	14	15	16	17	18	19	20
	21	22	23	24	25	26	27
	28	29	30	31			

International Grains Program **Extrusion Processing Short** 

Course, August 9-12, 2011. The IGP Conference Center, Kansas State University, Manhattan, Kansas, USA. To view the course schedule and registration, visit www.grains.k-state.edu/igp.

- International Grains Program Recent Advances in Biofuels Short Course, August 25-26, 2011. The IGP Conference Center, Kansas State University, Manhattan, Kansas, USA. To view the course schedule and registration, visit www.grains.k-state.edu/igp.
- Interpets A Happy and Healthy Life with interpets Pets, August 25-28, 2011. Makuhari Messe, Chiba, Japan. For more information about the show and to register, go to www. interpets.jp.
- ExpoZoo, August 28-29, 2011. St-Hyacinthe, Quebec, Canada. For more information and to register, go to www.pijaccanada. com/en/tradeshows/expozoo.

	S	M	T	W	T	F	S
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Sel	25	26	27	28	29	30	

Kansas City more information or

■ SuperZoo 2011, Septembe 13-15, 2011. Mandalay Las Vegas, Nevada, USA. For more infor please go to www.superzoo.org. ■ Wenger 2011 Pet Food Processing Technology Seminar, September 13-15, 2011. Sabetha, Kansas, USA. please visit www.wenger.com.



- National Pet Industry Trade Show, September 18-19, 2011. Mississauga, Ontario, Canada. For more informapijaccanada.com/en/tradeshows/
- Wenger 2011 Pet Food Advanced Seminar







- Sabetha, Kansas, USA. For more
- Center, Shanghai, China. For more
- 18th Annual Practical Short Course on Aauaculture Feed Extrusion. Nutrition and Feed Management, September 25-30, 2011. Food Protein R&D Center, Texas A&M USA. To register and for a schedule go to www.tamu.edu/extrusion.
- Pack Expo 2011, September 26-28,



Virtual Petfood Forum - Making Safe Petfood in Today's Rapidly Changing Environment will take place October 26, 2011, 8AM-5PM CST. This is a live event, so make sure to go to www.petfoodindustry.com/petfoodforum. aspx for the latest information and for information on registration, topics and schedule.

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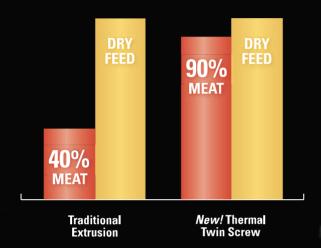
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