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Petfood Forum Petfood Forum Asia



Bright future for refrigerated, frozen and raw petfood

Nutrition and canine behavior

Technology update: dry petfood production

Available on iPad and iPhone

Geoff Bowers from K9 Natural, p. 24

Feature company

Digital version at www.petfoodindustry-digital.com

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Petro o Industry Volume 53 · Number 12

24

On the cover: Geoff Bowers, founder and director of K9 Natural, with Kylie in New Zealand



22







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Features

Preview: Petfood Forum Asia 2012 | 22

Learn from industry experts about the growing Asian petfood market.

K9 Natural ensures raw petfood is here to stay | 24

By Debbie Phillips-Donaldson

By focusing on dogs and cats as its customers, this New Zealand company is growing dramatically and helping the raw category surge.

Bright future for refrigerated, frozen and raw petfood | 30

By Jessica Taylor

According to Packaged Facts, alternative petfood channels like fresh and frozen have nowhere to go but up!

Nutrition and canine behavior | 34

By Brittany Vester Boler, PhD

How do proteins, lipids, carbohydrates and antioxidants in an animal's diet affect aggression, stress and cognition?

Technology update: advances in dry petfood production | 38

By Jessica Taylor

Our annual list of the latest extrusion, drying and cooling technologies for petfood and treats.

Columns

Something to Chew On By Debbie Phillips-Donaldson | 6
Petfood Insights By David A. Dzanis, DVM, PhD, DACVN | 44
Ingredient Issues By Greg Aldrich, PhD | 46

Departments

Industry News | 10 New Products | 14 Market Report | 48 Research Notes | 50 Market Place | 51 Advertisers' Index | 55 Industry Calendar | 56



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Video: How to start a dog treat business as a 10-year-old



DOG FOO

Don Bamber, owner of Super Dog Treats, explains how his daughter, Shirley, started the company as part of a program of the Alberta,



Canada, government. The leading ingredient in the treats is elk antler, intended to alleviate osteoarthritis in dogs: www.petfoodindustry.com/8335.html.



Always on PetfoodIndustry.com

- Videos from Petfood Forum 2011
- The latest news
- Exclusive new product database

Online exclusives

Industry opinion: How raw fits into the petfood industry

Read K9 Natural's Geoff Bowers' opinion on how the rest of the petfood industry has reacted to the growing raw category and why he believes raw feeding is here to stay: www.petfoodindustry.com/8342.html.



To read Dr. Brittany Vester Boler's entire article on nutrition and its effects on canine behavior, including an in-depth look at her references and other published research, go to www.petfoodindustry.com/NutritionBehavior.html.

Blog: Investment, financial circles remain bullish on pet industry

A new report from Cascadia Capital shows the pet industry is "gaining momentum" coming out of the recession: www.petfoodindustry.com/45236.html.



Community

Petfood-Connection.com Curious about canola — what is the extent of its use in petfood? www.petfood-connection.com/forum/topics/curious-about-canola



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Something to Chew On

Debbie Phillips-Donaldson

Join in

Read and comment on industry blogs at www.petfoodindustry.com.

More on humanization: what it means for petfood



Is humanization simply a marketing ploy or is it giving they want—or can

Geoff Bowers of raw petfood company K9 Natural has a unique take on customers. "It's a simple rule: The customer, which in our case is the cat or dog, is always right. Something I firmly believe the petfood industry has overlooked." (Read more on p. 24.)

I agree that sometimes the pet industry caters too much to humans' taste and whims at the expense of animals' needs (tutus for dogs, anyone?). But when it comes to petfood, I have never considered the use of humanization to be literal, as in giving human characteristics or attributes **consumers what** to a non-human creature or object. To me—and, I suspect, most petfood manufacturers and professionals who it be both? follow the market—humanizing pets means caring for them with the same devotion and commitment as human

> family members, which is exactly what pet owners have been doing for at least a decade.

YET SOME PEOPLE seem to think our industry is jumping on the humanization bandwagon in a literal sense and treating pet owners as dupes in the process. In the November issue of the Whole Dog Journal, editor Nancy Kerns takes to task a recent blog post I wrote, along with other examples of industry usage of "humanization." (My November column expanded on the post: www.petfoodindustry.com/8131.html.)

Her position is that humanization is an "industry insider" term that petfood companies don't dare use "in front of the shills—sorry, consumers—themselves. Petfood companies don't make shelf displays that proclaim, 'Now designed to appeal to your appetite, you silly dog owner!' even if that's exactly what they are doing," Kerns writes. (See http://bit.ly/scZ7Fo.)

Is that what you are doing? Or are you simply responding to the pet-owning market's need to provide their pets healthy, high-quality nutrition, just as they do human family members?

Consumers are educating themselves more and more about nutrition, functional ingredients and health; dedicated pet owners are doing the same regarding their pets. Kerns interprets my post as describing "petfoods that are made to appeal to human appetites," and again, in the most literal sense, I suppose products that include fruits, vegetables and functional ingredients have that appeal. But I contend the main reason petfood companies use such ingredients is because research has shown many of them meet the unique nutritional needs and contribute to the well-being of dogs and cats.

Not all these ingredients have research to back up their benefits—in those cases, including them in a petfood and, especially, emphasizing their inclusion on the packaging and in promotional materials may be purely marketing. But that doesn't mean manufacturers employing that strategy consider pet owners "shills"; rather, they are responding to many owners' professed desire to feed their pets fresh, wholesome food.

NEARLY EVERYONE WHO works in this industry is a pet lover and owner, so viewing pet-owning consumers as ignorant and easily duped would not only feel completely foreign to them, they also know it would be a bad business strategy in this age of the informed consumer. In fact, I question whether Kerns gives her readers and other dog owners enough credit when she writes that "it's proving to be simple to manipulate consumers."

Unlike Kerns, who argues that using ingredients that "sound like real food items ... shouldn't be a marketing strategy; it should be a basic pet care precept," I believe petfood manufacturers can pursue both to the benefit of their companies, pet owners and pets all at once.

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



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Industry News

Learn more

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

Quick hits

- Petfood ingredient company APC split into two divisions: an Ingredients division for petfood companies and a Consumer **Products** division to address consumer needs.
- Perten Instruments Inc. formed a Process Instrumentation Department to meet the needs of its online/ in-line analysis customers.
- DuPont announced a call for entries to the 24th **DuPont Awards** for Packaging Innovation, with an entry deadline of February 24, 2012.
- The American Feed Industry Association honored Dr. Dave Downey. founder and executive director of the Center for Agricultural **Business** at Purdue University, with a Distinguished Service Award.
- Novus International launched a new sustainability website at www. novusint.com/ sustainability.

Opening keynote speaker announced for Petfood Forum 2012

Betsy Banks Saul, founder and president of Petfinder.com, will open Petfood Forum 2012 on April 3, sharing what she has learned in the 15 years since the start of her organization, one of North America's leading humane groups dedicated

to improving pet adoption and elevating pets as family members.

Petfood Forum runs April 2-4 at the Renaissance Schaumburg near Chicago, Illinois, USA. Besides Banks Saul—who will also discuss working with petfood companies as sponsors and partners and be joined afterward by pets from one of Petfinder.com's member shelters other featured speakers include Michael Taylor, deputy commissioner of foods for the US Food



etfood

orum

Roska Jr., founder of PetFoodDirect. com; and Thomas Meyer, secretary general of the European Pet Food Industry Federation. For a complete list of speakers and information on how to save on registration before the February 1 early bird deadline, visit www.petfoodindustry.com/ PFF2012.aspx.

Immediately following Petfood Forum on April 4-5, Petfood Workshop will focus on new product development. If you register for both events, you will receive additional savings on Petfood Workshop



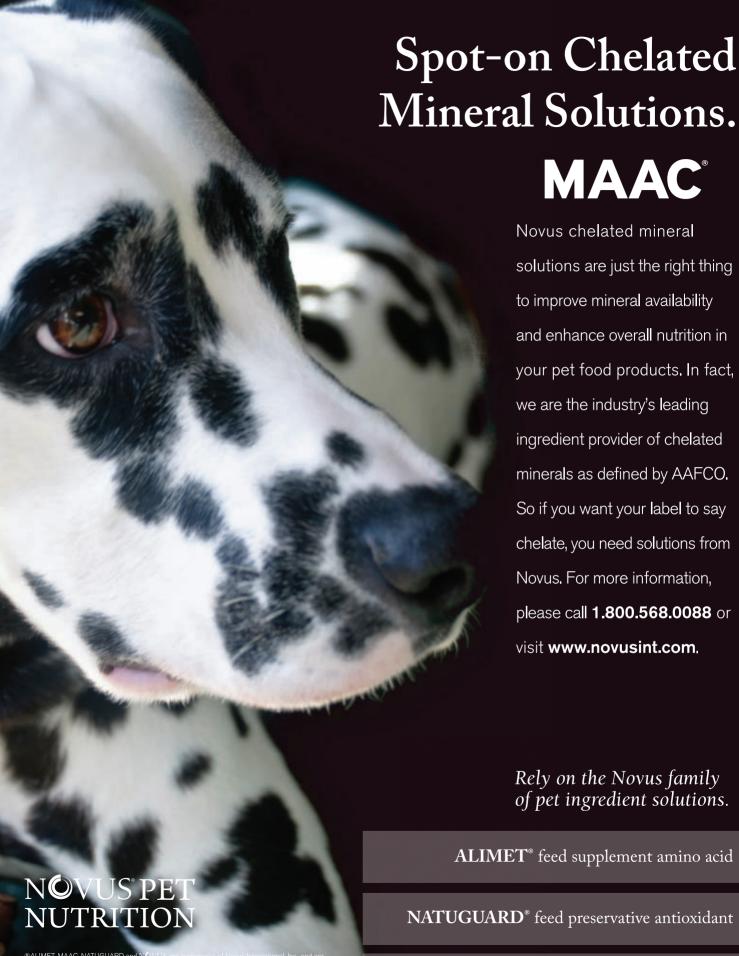
registration. For information, visit www. petfoodindustry.com/Workshop2012.aspx.

Early bird registration for Petfood Forum Asia ends soon

Early bird registration and savings for Petfood Forum Asia 2012 end January 5. The conference, Petfood Forum scheduled for February 16 at the Bangkok International Centre & Exhibition Centre in Thailand, will feature industry experts sharing their insights, including lead speaker David Whye Tye Ng, executive director and CEO of Pet Lovers Centre, a large pet retail chain in Singapore and Malaysia.

Other speakers will discuss the Asian and global petfood markets; mycotoxins in the Asian petfood industry; trends in natural and organic ingredients and supplements; prebiotics, probiotics and synbiotics for dogs; validation of extrusion temperature as a critical control point in the petfood process; and a systemic approach to dog palatability. (See p. 22.)

Petfood Forum Asia is the exclusive event for the petfood manufacturing industry in Southeast Asia. It will be held in conjunction with Victam Asia 2012 (see www.victam.com). For further information and to register with early bird savings, visit www.petfoodindustry. com/PFFAsia2012.



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WATT eLearning companion animal nutrition course receives RACE approval

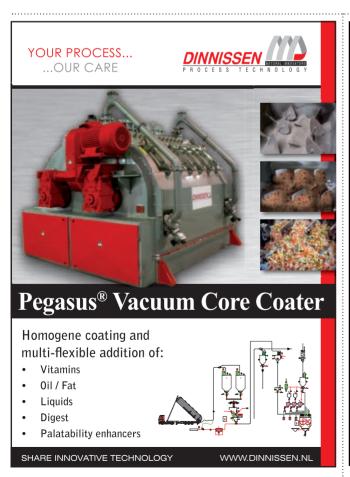
WATT eLearning's online petfood nutrition course, Building Blocks of Companion Animal Nutrition, was approved by the American Association of Veterinary State Boards' Registry of Approved Continuing Education program. Petfood and veterinary professionals can log on to www.wattelearning.com to sign up for immediate access to the course and earn six continuing education credits upon completion.

Building Blocks of Companion Animal Nutrition, developed by Linda P. Case, MS, owner of AutumnGold Consulting, provides an introduction to the science of companion animal nutrition as well as the nutrient needs of dogs and cats. This specific online course is ideal for petfood and veterinary professionals who are either professionally required or seek to have a scientific understanding of basic nutrients and their functions, companion animal nutrient needs and feeding behaviors. Enrollment includes an accompanying textbook and certificate of completion for participants.

The American Association of Veterinary State Boards' RACE program was developed to apply uniform standards related to providers and programs of continuing education in veterinary medicine. While continuing education requirements are not standardized among veterinary state boards, many states require continuing education credits for license renewal. This course meets the requirements for six hours of continuing education credit in jurisdictions that



recognize AAVSB's RACE approval. However, participants should be aware that some boards have limitations on the number of hours accepted in certain categories or restrictions on certain methods of delivery of continuing education.





Mars named among top places to work internationally

Petfood manufacturer Mars Inc. ranked 19th on the list of the "World's Best Multinational Workplaces," compiled by the Great Place to Work Institute.

The rankings recognize the 25 best companies to work for worldwide. The list, published in cooperation with Fortune.com, is based on all rankings of the best employers published between September 2010 and August 2011.

To qualify for the global ranking, candidate firms must appear on at least five national Great Place to Work lists and have

more than 5,000 employees, 40% of whom must be based outside the country that the company has its headquarters in.

According to Mars, the reasons for its selection included the development and introduction of an employee participation program, the appointment of an ombudsman at local sites and a larger percentage (27%) of women in senior management positions.

FDA now testing petfood, pet treats for Salmonella

The US Food and Drug Administration has started to test petfood for *Salmonella* contamination to prevent pet owners from getting sick from handling the petfood.

In October 2011, FDA investigators began taking samples of dry petfood, pet treats and pet supplements from distributors, wholesalers and retailers such as PetSmart, Petco, Walmart, Costco, Sam's Club and Target.

In a memo, FDA said it is "particularly concerned about Salmonella being transmitted to humans through petfoods, pet treats and supplements for pets that are intended to be fed to animals in homes, where they are likely to be directly handled or ingested by humans."

While people usually get *Salmonella* poisoning by eating contaminated food, according to the Centers for Disease Control and Prevention, they can also become sickened by handling a product that is contaminated.



New Products

Get more

Find more products online at www.petfoodindustry.com.

For Consumers

Puppy Dust shakeable kibble treat

Puppy Dust's shakeable kibble treat is a wheat- and



corn-free sprinkle for dog food. Puppy Dust comes in two flavors: peanut butter and honey, and bacon cheddar cheese. The company says Puppy Dust includes flax for healthy skin and coat and better digestion. It includes dry ingredients so it does not require refrigeration.

Puppy Dust +1.805.637.5112

www.puppydust.com

Sam's Club Simply Right petfood line



Sam's Club offers the Simply Right line of petfood for dogs and cats, which includes the Complete Nutrition line of cat food and dog food for all ages. Other dog foods in the line include Exceed dog food in Chicken & Rice and Lamb & Rice formulas, Crunchy Bites & Savory Cones dog food for all breeds, High Performance dog food with higher protein and fat content to support active dogs and Simply Right Del Monte wet dog food.

Sam's Club +1.888.746.7726 www.samsclub.com

Good Squared Mity Meat Bites

Good Squared LLC says High Hopes Mity Meat Bites for dogs are made with 35% fresh meat. The company says they also contain ingredients like whole egg, milk and flax and are grain-free. The dog treats are available in Organic Chicken, Organic Turkey, Salmon and Beef varieties.

Good Squared LLC +1.312.624.8904

www.highhopesforpets.com



ZuPreem natural bird food

ZuPreem offers Natural Premium Daily Bird Food. The food contains five multi-grains such as ground millet, oat groats, wheat, barley and corn, as well as fruits and vegetables, the company says.

> **ZuPreem** +1.800.345.4767

www.zupreem.com



Royal Canin Starter Mousse

According to Royal Canin, Starter Mousse is an energy-dense and highly digestible product for mother dogs.

Starter Mousse is formulated to appeal to



a mother dog's decreased appetite, helping her get the calories and nutrients she needs, Royal Canin says. It can also be mixed with dry food formulas to transition puppies from suckling to chewing. Starter

Mousse comes in 5.8-ounce cans and is also sold in packs of three cans.

Royal Canin +1.800.592.6687

www.royalcanin.com



Emerald Feline Dental Treats

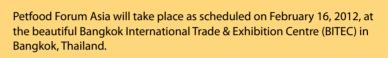
Smart n' Tasty Feline Dental Treats from Emerald Pet Products fight plaque and tartar, according to the company. The treats are grain-, gluten-, soy- and dairy-free, the company says. Feline Dental Treats are available in chicken, tuna, white fish and salmon flavors.

Emerald Pet Products +1.877.454.9977 emeraldpet.com



Bangkok is open for business!

Don't miss the early registration discount offer. Sign up before January 5, and save more than 15%.



Register now for this fast-approaching event to ensure you can network with your peers and listen to expert content about pet nutrition, petfood processing, safety, marketing and more -- including a special presentation by David Whye Tye Ng, executive director and CEO of Pet Lovers Centre.

FEATURED SPEAKER

David Whye Tye Ng, executive director and CEO of Pet Lovers Centre, will offer expertise gleaned from 16+ years of pet retailing in Asia. In 1995, he and his brother Whye Hoe took over their family's business in Singapore, started by their father and uncle in



1973, and grew it dramatically, adding stores, expanding to Malaysia and starting a new chain, Pet Safari.

Today Pet Lovers Centre bills itself as the largest pet retail chain in Singapore and Malaysia. David will discuss selling and marketing petfood in Asia and share insights on pet-owning consumers in the markets his company serves.

REGISTER

Register online now at http://www.petfoodindustry.com/PFFAsia2012.aspx or complete the form on the reverse side.





ADDITIONAL 2012 EVENTS Mark your calendar for these additional events: Renaissance Schaumburg — Schaumburg, Illinois USA



Petfood Forum April 2-4, 2012



Petfood Workshop: New Product Development April 4-5, 2012

For more information, visit www.petfoodindustry.com/petfoodforum.aspx



February 16, 2012

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In conjunction with Victam International 2011

Attendee Registration Form

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Registration fee

Job title

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Registration to attend Victam Asia is separate from Petfood Forum Asia registration. Register for Victam Asia for free online at www.victam.com. For information on hotels and travel packages, visit www.victam.com or www.bitec.net.

NOTE: Registrations will not be processed without payment; rate is determined by date payment is received. Prior to January 20, 2012, attendee registration fees are refundable minus a cancellation fee; contact OutreachRegistration@niu.edu or +1.815.753.7922. Substitution of registered personnel at no charge. Watt Media reserves the right to substitute speakers and change schedule as necessary. If anyone in your party requires special assistance, please contact us.

For Consumers

Herbsmith Smiling Dog treats

Smiling Dog treats from Herbsmith Inc. are dry roasted treats for dogs. Six varieties are offered: beef



heart, beef liver, pork liver, chicken, duck and turkey.

According to the company, the treats contain no fillers, grains or artificial preservatives.

Herbsmith Inc. +1.800.624.6429 www.herbsmithinc.com

Hill's Pet Nutrition age-defying cat food

Hill's Pet Nutrition Inc. Science Diet Senior 11+ Age Defying cat food is



designed to defend the cat's body and brain against aging. The cat food includes fish oil for healthy brain function, L-carnatine for increased lean muscle mass, phosphorus for bladder health and amino acids for healthy organs, Hill's says. The

food is a small, easy-to-chew kibble for cats over age 11.

Hill's Pet Nutrition Inc. +1.905.826.5655 www.hillspet.com

Lincolnbark Treat Smart dog treats

Lincolnbark says its Treat Smart dog treats are made from humangrade ingredients. The company says a key ingredient is the chia seed as a source of fiber and omega-3 fatty acids, but the treats include other ingredients like oats, flaxseed, cod



liver oil and chicken. These soft dog

treats come in roasted peanut, liver, salmon and duck with pea flavors.

Lincolnbark
+1.800.428.4027

www.lincolnbark.com

empyreal75.com



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For Consumers

Wagatha's super premium dog biscuits

Wagatha's Super Premium Dog Biscuits come in two holiday flavors with holiday packaging. The dog biscuits are organic, holistic and all-natural, the company says. They are available in 16-ounce bakery bags in Christmas Cranberry and Holiday Pumpkin Pie flavors.

Wagatha's +1.802.367.1010

www.wagathas.com



More products online!

Find a full database of ingredients, equipment, packaging materials, test kits and other products at www.petfoodindustry.com/products.aspx.

For more new consumer products, visit the database at www.petfoodindustry.com/petfoodandtreats.aspx.

For Manufacturers

BinMaster capacitance probe

BinMaster's Pro Remote capacitance probe can mount the sensor's electronic components up to 75 feet away from the sensing probe. The point level indicator is specifically designed for applications with high temperature or executive vibration. The Prosecutive of executive vibration.

ature or excessive vibration. The Pro Remote can be used for high-, midand low-level detection of solids, liquids or slurries, the company says.

> BinMaster +1.402.434.9102

www.binmaster.com



Star Packaging flexible petfood packaging

Star Packaging Corp. offers flexible packaging for petfood and treats. The packaging options range from stand-

up to lay-flat to single-serve pouches. A variety of sizes and format options are available to seal in freshness.

Star Packaging Corp. +1.800.252.5414

www.starpackagingcorp.com



Charles Ross & Son dispersers

Charles Ross & Son Co. offers high-speed dispersers in standard models for batches as small as 1-2 gallons and production units for vessels up to 500 gallons. The high-speed dispersers are suitable for most straightforward powder wet-out applications up to 50,000 cP, according to the company. The dispersers are supplied with heavy-duty precision bearings and drive assembly, stainless steel wetted parts and shaft guard and an air/oil hydraulic lift with controls. Other

features include a laser-cut stainless steel 10-gauge thick sawtooth blade, adjustable Can Lock System, inverter-duty motor and tankmounted, vacuum-rated and swivel designs supplied upon request.

Charles Ross & Son Co. +1.800.243.7677

www.mixers.com

Denso VS-Series articulated robot

Denso Robotics' VS-Series includes 6-axis articulated robots. The robots, according to Denso,

achieve cycle times from 0.37 to 0.33 seconds and repeatability from +/- 0.03 to +/- 0.02 mm. The robots' reaches are from 500 to 900 mm and payload capacities from 4 kg to 7 kg,



the company says. The robots feature ultraslim arms, an optional bottom-side cable connection and can be mounted on the floor, ceiling or wall.

Denso Robotics +1.310.834.6352

www.densorobotics.com

For Manufacturers



+1.903.498.3363 www.magnalight.com

elevates the light head to 12 feet.

Larson Electronics

DuPont Sealant Value Estimator

DuPont's Sealant Value Estimator tool, SaVE, calculates the total value in use of sealant alternatives, taking into consideration gains from

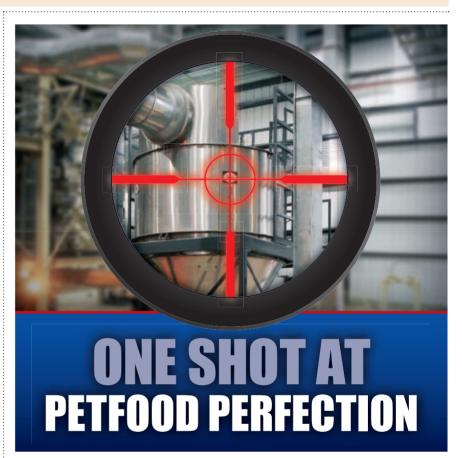
Nordenia International Pactainer robot

Nordenia International's Pactainer robot is a "Big Bag" with four lifting belts that can be automatically removed from the pallet, moved to the filling station, filled and sealed using a robot. The company says the form-stable film inliners fulfill three requirements at once: The pallet format is optimally maintained, the bulk material is protected by the film, and an integrated grid ensures problem-free filling and emptying. Nordenia says its liners are manufactured in Clean-Room Class 8, according to ISO standard 14644-1.

> Nordenia International +49.2571.91.91.40 www.nordenig.com

Larson Electronics Magnalight LED light

Larson Electronics LLC's Magnalight offers an EPL-BS-161M-TP1-100 LED light for hazardous locations. The tripod mounted LED light is UL rated as Class 1, Division 1, Groups C and D, and Class 2, Division 1 - 2, according to the company. The 16-inch LED light head produces 10,000 lumens of light from 150 watts, the company says. An 8-pound collapsible tripod



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productivity and losses due to inefficiencies and waste from packaging failures that result from ineffective sealants. The tool incorporates dynamic modeling capabilities that allow users to calculate break-even points on multiple inputs. The calculator is available online at sealant-value-estimator.dupont.com.

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Bemis Clysar polyolefin shrink film

Bemis Clysar's LTCH polyolefin shrink films are ultra-thin films for high-speed static seal applications. Clysar says the films are engineered for performance at speeds of 80 packages per minute. The films typically provide downgauging opportunities in targeted 50- to 60-gauge shrink film applications, depending on packaging requirements, according to the company.

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Zip-Pak Slider Select

Zip-Pak says its Slider Select is the smallest and lightest-weight of its slider offerings. The slider can attain speeds of over 150 closures per minute, according to the company.



The slider also features leak resistance and does not require a small opening or a protruding finger to work properly. The slider is ideal for pre-made pouches and form, fill and seal applications.

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Learn from industry experts about the growing Asian petfood market

PETFOOD SALES IN Asia grew 4% in 2010, about the same growth rate as the global petfood market, according to Euromonitor International. While that rate represents a slowdown from previously robust increases, growth has been steady in Asia, no small feat after several years of a stagnant or declining global economy. In fact, Euromonitor projects three Asian markets—India, Thailand and China—to be among the 10 fastest growing for petfood sales between now and 2015.

You can find out more about this dynamic, growing industry along with other important information about the Asian petfood market at Petfood Forum Asia 2012, February

16 at the Bangkok International Trade & Exhibition Centre in Thailand. Bangkok is open for business, so join your petfood industry colleagues and peers from throughout Asia and the world to hear experts share their latest research and insights on the best ways to make and market petfood.

You can also network with fellow petfood professionals and visit key industry suppliers within the exhibits at Victam Asia (see www.victam.com). Plus, if you register for Petfood Forum Asia by January 5, 2012 (www.petfoodindustry.com/PFFAsia2012.aspx), you will save more than 15%.

As of press time, the following speakers have been confirmed:

David Whye Tye Ng, executive director and CEO of Pet Lovers Centre, a large pet store chain, shares consumer insights from his 16+ years in pet retailing in Singapore and Malaysia and what he has learned about selling petfood in these markets.

Warangkana Anuwong, research analyst with Euromonitor International and based in Singapore, provides an overview of the global petfood market with a focus on the Asian market.

Greg Tilford, CEO of Animals' Apawthecary Co. and Animal Essentials Inc., USA, shares trends in natural and organic ingredients and supplements, including regulatory issues such as import, export, label and health claims, as well as a look at the most popular animal supplements coming soon to Asia.

Dr. K.B. Kore, assistant professor, Department of Animal Nutrition, College of Veterinary Science and Animal Husbandry, Navsari Agricultural University, India, discusses prebiotics, probiotics and synbiotics as functional foods for dogs.

Galen Rokey, process manager for the Pet Food Applications Group, Wenger Manufacturing, USA, shares results of recent studies that may validate extrusion temperature as a critical control point in the perfood process.

Laurence Callejon, dog platform manager, SPF, France, explains a systemic approach to dog palatability with research conducted in Asia on olfaction, coating, moisture and kibble texture.

Robert W. Coppock, DVM, DABVT, president of Toxicologist and Associates Ltd. and adjunct professor at the University of Alberta and Concordia University College-Edmonton, Canada, discusses how to handle some of the challenges in detecting and controlling mycotoxins in the Asian petfood industry.







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How raw fits into the petfood industry

Read Geoff Bowers' opinion on how the rest of the petfood industry has reacted to the growing raw category and why he believes raw feeding is here to stay: www.petfoodindustry.com/8342.html.

Geoff Bowers based his company's philosophy on the gray wolf family and its values, while K9 Natural products are based on the wolf's diet because domestic dogs and wolves share 99.8% of the same DNA, the company says.



Headquarters:

Christchurch, New Zealand

Officers: Geoff Bowers, Chris Stewart, Bruce Mayhew, directors; Calvin Smith, director and CEO

Sales: Actual figures are confidential; sales have grown 300% annually for the past three years

Brands: K9 Natural, Feline Natural

Distribution: New Zealand plus 18 countries in Asia, Europe and North America

Facilities: Also in Christchurch; outsources freeze-drying process

Employees: 22

Website:

www.k9natural.com



By focusing on dogs and cats as its customers, this New Zealand company is growing dramatically and helping the raw category surge

WHEN MOST PETFOOD manufacturers talk about their customers, they're referring to the human buyers—pet owners, retailers or distributors—of their products. "At K9 Natural, we do the opposite," says founder and director Geoff Bowers. "We look at the food from a cat or dog's perspective. If we open our

eyes and minds, we will see what nature provides for our dogs and cats."

By adding this dog- and cat-centric twist to the well-known business philosophy that the customer is always right, K9 Natural has grown 300% per year for the past three years and expects to continue the same growth rate through

at least this year, says Calvin Smith, CEO. Bowers adds that the company's success springs almost solely from its product, a "truly natural, balanced, convenient and affordable raw food diet for dogs," according to its website. In September, the company added a line for cats, Feline Natural.

"Another key to our success is the fact we tell you that the food is not perfect; it cannot be," Bowers explains. "Nature provides perfection, not humans. If our food was warm, covered in fur/feathers and running/ flying past your cat or dog's nose, then K9 Natural would have produced the perfect food for cats and dogs."

BEFORE STARTING K9 Natural, Bowers already had a long history of success working with dogs as a trainer and police dog handler in the UK. In training dogs as well as



K9 Natural raw products, some of which are frozen, use meat from grass-fed animals in New Zealand that receive no antibiotics, hormones or other substances.

other handlers, his philosophy was to observe and learn from the dogs. That led him to take a sabbatical to Alaska to study gray wolves and learn how they trained their pups.

"During my sabbatical with Gordon Haber, PhD, he taught me the



Many of K9 Natural's products are freeze-dried for convenience, also allowing for export to 18 other countries in Asia, Europe and North America. The company recently added a Feline Natural line.

true family values wolves employ to survive," Bowers says. "Being a police dog handler, I had seen the worst side of people. To understand that I was now witnessing the perfect family was life-changing. Wolves work as a superb team; they look after one another; when they mate, they mate for life. How many humans can we say do that today?

"So through that study I began to realize we had so much to learn from nature," he continues. "Nature in my view is perfect and indisputable."

That perfection included the wolves' athletic, healthy bodies fed on a natural, animal-based diet. On his return to the UK, Bowers changed his dogs' diets to raw and immediately saw huge differences in their health, Smith says, and enjoyed lower veterinary bills. Bowers was also motivated to pay tribute to two dogs he had lost to injury; he wanted to pay them back after they had saved his life multiple times, Smith explains.

After moving to New Zealand in early 2003—partially because he transferred to that police force but also because he saw the country as an ideal place to source meat for dog food—Bowers and his wife, Diane, met Bruce and Judy Mayhew,

German Shepherd breeders and business owners. They were inspired by Bowers' story and wanted to help improve the well-being of dogs, the K9 Natural website says, so they contributed their business expertise and resources to form the company.

THE K9 NATURAL line currently includes lamb, beef, venison and green tripe. The dog products are comprised of 85% meat, bone and blood, plus 15% fresh fruit and

Another key to our success is the fact we tell you that the food is not perfect; it cannot be.

vegetables, whole eggs and garlic. All the animals supplying the meat are grass-fed and receive no antibiotics, hormones or other substances.

At first K9 Natural's raw products were frozen, says Smith, who joined the company in 2010. "Then we realized we needed to add convenience,

K9 NATURAL

so we also started producing freezedried products." That move also allowed K9 Natural to start exporting, which it now does to 18 countries in Asia, Europe and North America. The company just started shipping frozen products to the US this year.

While successful, the exporting has not been without challenges, particularly complying with the differing regulations of the various markets. "No one had ever made a food that was exportable around the globe in its truly raw state. K9 Natural is the only food on the planet that can travel to any continent, including Europe, without being irradiated, cooked or sterilized," Bowers claims. "Why? Because of the stringent food safety regulations we subscribe to in New Zealand and the products

we use to make the food." He adds that achieving certification took many months and thousands of dollars.

WITH THE CAT food line, human customer demand did play a role.

reviews by the cats (they gulped it down) and their owners."

The company introduced the cat line to the global pet market at SuperZoo 2011 in Las Vegas, Nevada, USA, where it was a "huge hit,"

No one had ever made a food that was exportable around the globe in its truly raw state.

"Feline Natural came about from the pressure of our dog food clients who owned cats; they felt guilty they could not feed the same quality food to their cats as they were to their dogs," Bowers says. "We released Feline Natural first in the New Zealand market to great

Bowers says, along with the green tripe product. The company is planning more line extensions for both dogs and cats, he says. Further growth will also come from continued expansion into other markets, including Japan, which Smith believes offers the



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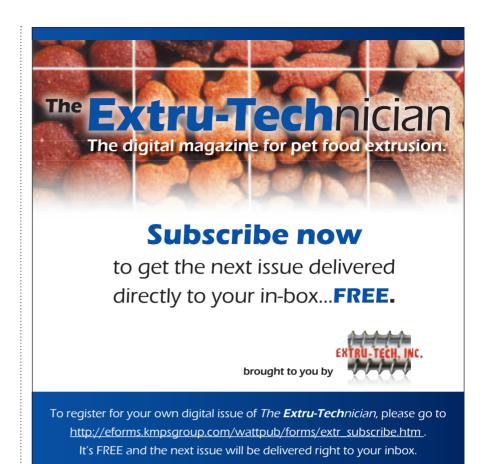
The continuing growth and expansion have not gone unnoticed. "We were ranked the eighth-fastest-growing company in New Zealand in 2010 by Deloitte," Smith says. In November 2011, Deloitte named K9 Natural to its Fast 50 list of New Zealand's fastest-growing companies; the company ranked in the top five.

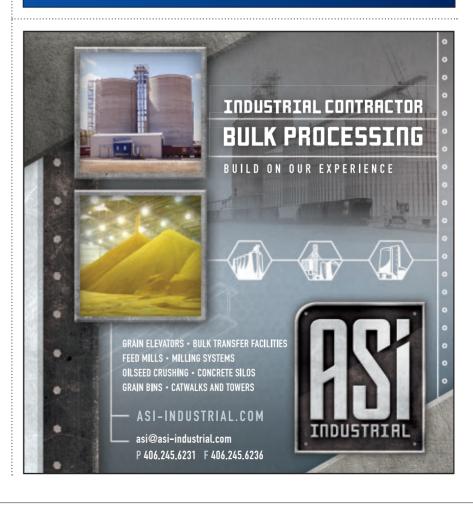
"The overall outlook for K9 and Feline Natural is extremely positive," Bowers adds. "The same goes for any company that makes a food cats and dogs eat, there will never be a problem selling it. People have always known

Wolves work as a superb team; they look after one another; when they mate, they mate for life.

what their cats or dogs should be fed. We are just letting people know it's fine to trust your instincts."

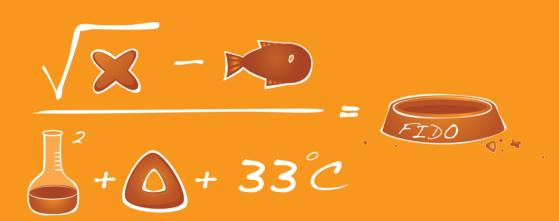
Bowers sees K9 Natural's success closely tied to that of the overall petfood industry, even those members who criticize raw products. "For us all to survive, we need to work together and accept that the consumer needs to be told they have options," he says. "I firmly believe no company set off making a food for companion animals in the belief it would harm them; as an industry we need to work together to make sure that never happens. But we also need to realize that raw feeding is here to stay."





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Raw, fresh and refrigerated petfood pioneers

Hear inspiring stories and get the business basics from companies like Freshpet, My Perfect Pet, Bravo! and Evermore Pet Food who pushed this small but growing segment into the spotlight at www.petfoodindustry.com/ AlternativePetfood.html.

Fresh and frozen/refrigerated food is marketed to consumers as simply better for pets, and pet parents are responding.



Bright future for refrigerated, frozen and raw petfood

By Jessica Taylor

According to Packaged Facts, alternative petfood channels like fresh and frozen have nowhere to go but up!

ALTHOUGH THE GLOBAL economy remains troubling and the petfood industry as a whole has started to feel its prolonged effects, a small segment of petfood producers is experiencing an impressive and remarkable amount of growth.

According to the Packaged Facts report US Pet Market Outlook 2011-2012, the fresh/ frozen/refrigerated petfood category is, and will remain, a strong performer despite the economic downturn.

During 2010, frozen/refrigerated dog

food made an impressive 10% jump in retail sales (see Table 1, p. 32), while frozen/refrigerated sales on the cat food side rose from virtually nothing in 2009 to US\$600,000 in 2010. In both cases, this growth is attributable almost exclusively to the efforts of Freshpet, which gained the backing of Tyson in March



Raw Advantage is certified organic and emphasizes that its product is a "more natural way" to feed pets, pointing to the way wolves and lions eat in the wild.

2009, says Packaged Facts. Although the fresh/refrigerated, raw/frozen and dehydrated petfood segment remains miniscule and slightly segmented within the scheme of the overall petfood market—at under 1% of sales—Packaged Facts expects sales in this segment to grow by 25% on a compound annual basis through 2015.

LIKE THE RAW/FROZEN petfood segment, which is experiencing similar levels of growth, refrigerated petfood has yet to attract a major petfood marketer, according to Cascadia Capitol LLC. However, if the petfood

Join the discussion!

Have an opinion to share or would you like to know more about the raw, fresh and frozen/refrigerated segment of our industry? Why not log in to Petfood-Connection.com and join the Market Trends group at www.petfood-connection.com/group/markettrends?





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market is to experience dynamic grow ence dynamic growth and take the next step and continue the trend of mirroring human foods, it will need to branch out beyond shelf-stable, and frozen and refrigerated are the two broadest and most logical avenues. New food introductions increased 19% and petfood SKUs increased 9% in 2010, according to Cascadia's Pet Industry Overview – Fall 2011 report.

> The Cascadia report goes on to say that market conditions for alternative petfoods such as dehydrated, freeze-dried and raw continue to improve as "kibble brands" proliferate. Marketing messages have also been incredibly successful in increasing acceptance of rota-

tional diets that incorporate multiple types of petfoods (dry/wet/fresh, for example) by emphasizing the health and wellness benefits of such a diet and of the alternative food forms. Fresh and frozen/refrigerated food is marketed to consumers as simply better for pets, and pet parents are responding.

MANUFACTURERS OF THESE

appealing products are offering consumers a plethora of products with simplified ingredient lists, a significantly shorter shelf-life that is touted as a "less-processed" alternative and stories of sick, overweight, elderly or

Table 1: Retail sales of petfood: total and by segment, 2009 vs. 2010

Packaged Facts breaks down dog and cat food sales by category (in millions of US dollars, units and pounds).

Category/Segment	\$ Sales 2010	% Chg vs. 2009	Units Sales 2010	% Chg vs. 2009	Volume Sales 2010	% Chg vs. 2009
Total Pet Food/Non-Food	\$8,269.5	0.4%	3,083.7	1.8%	NA	NA
Pet Food	\$6,393.5	0.5%	2,750.9	2.4%	5,350.8	-0.9%
Dog Food	\$3,742.2	1.5%	1,041.3	1.4%	3,681.2	-1.0%
Dry	\$2,11 <i>7</i> .0	-0.5%	189.3	-0.3%	2,879.1	-0.9%
Biscuits/Treats/ Beverages	845.4	7.5	231.5	4.6	231.8	3.6
Wet	694.7	0.8	603.8	0.8	516.8	-3.3
Semimoist	46.0	-1.6	7.8	-1.2	40.8	-0.3
Frozen/Refrigerated	39.1	10.1	9.0	7.2	12.6	12.1
Cat Food	\$2,411.7	-0.2%	1,660.7	3.2%	1,620.7	-0.8%
Dry	\$1,141. <i>7</i>	-2.6%	185.3	-1.9%	1,046.4	-1.9%
Wet	1,069.5	1.0	1,361.5	3.4	552.0	
Snacks/Beverages	199.1	8.4	113.2	9.5	21.6	7.6
Frozen/Refrigerated	0.9	648.5	0.6	702.3	0.2	572.2
Semimoist	0.5	14.2	0.2	-3.7	0.5	11.6
Non Dog/Cat Food	\$239.6	-7.4%	48.9	-5.2%	NA	NA
Non-Food Pet Supplies	\$1,875.9	0.1%	332.8	-2.8%	NA	NA

Note: Figures are based on SymphonyIRI sales tracking through U.S. supermarkets and grocery stores, drugstores, and mass merchandisers (including Target and Kmart, but excluding Walmart) with annual sales of \$2 million or more. "NA" indicates that volume sales figures are not available.

Source: Compiled by Packaged Facts based on data from SymphonyIRI Group. The information supplied by SymphonyIRI is based on data believed to be reliable, but is neither all-inclusive nor guaranteed by SymphonyIRI. Without limiting the generality of the foregoing, specific data points may vary considerably from other information sources. Any opinions expressed herein reflect the judgment of Packaged Facts at this date and are subject to change. Reproduction, resale or other distribution of this document is expressly prohibited without the written permission of Packaged Facts or SymphonyIRI. This material is reprinted with permission.

> simply finicky dogs and cats benefiting from their formulas. Raw Advantage, for example, not only has raw petfood diets like duck, chicken and lamb for both dogs and cats, but it is also certified organic and emphasizes that its product is a "more natural way" to feed pets, pointing to the way wolves and lions eat in the wild.

More established brands like Nature's Variety reintroduced its Instinct line, which encourages the introduction of several feeding forms into an animal's diet, including dry, refrigerated and raw/frozen.

Although this segment is currently



Marketing messages have also been incredibly successful in increasing acceptance of rotational diets that incorporate multiple types of petfoods (dry/wet/fresh, for example) by emphasizing the health and wellness benefits of such a diet and of the alternative food forms.

being flooded and segregated further into various cooked and uncooked forms, the variety of ways for pets to eat will only continue to diversify.

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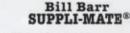
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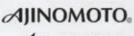


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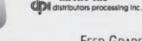














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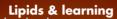
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More online: research and references

To read Dr. Brittany Vester Boler's entire article, including an in-depth look at her references and other published research on nutrition and its effects on behavior, go to www.petfoodindustry.com/ NutritionBehavior.html.



A study evaluated puppies receiving either adequate- or enhanced-DHA diets fed throughout gestation, lactation and after weaning. Puppies fed the enhanced-DHA diet made fewer errors during training and had a higher training performance index as outlined by researchers. It is not yet established if a similar increase in trainability is possible in adult dogs fed enhanced-DHA diets.

Nutrition and canine behavior By Brittany Vester Boler, PhD

How do proteins, lipids, carbohydrates and antioxidants in a dog's diet affect aggression, stress and cognition?

Dog breeds were developed to accen-

tuate behaviors that serve a specific purpose, which influenced the size and physical characteristics of the breed. Today, however, most dogs no longer serve a job in a home, and some behaviors become disruptive. Millions of dollars are spent every year on pet services, including obedience training. To date, very little research exists evaluating the interactions of nutrition with behavior in dogs and other species.

Amino acids tryptophan and

tyrosine are the most studied with regard to influence on behavior. Many amino acids act as precursors to neurotransmitters (e.g., tryptophan is a precursor for serotonin). Tryptophan and other large neutral amino acids (LNAA) are able to cross the blood-brain barrier. but the amount that crosses depends on the amount of free tryptophan and the amount of other LNAA available.

Increasing tryptophan:LNAA can increase the amount of serotonin affecting the brain. Animals consuming high-tryptophan diets had reduced aggression (Gibbons et al., 1979; Kantak et al., 1980) and enhanced recovery after

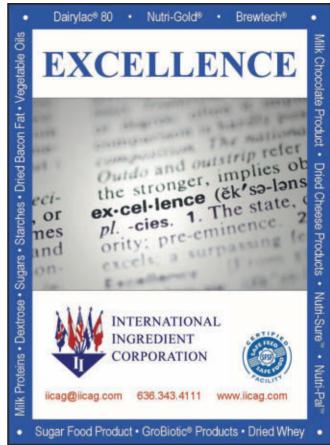
Polyunsaturated fatty acids, and specifically DHA, have received widespread attention in human nutrition due to benefits on inflammation and cognition. Recent PROVEN studies show DHA may have the same effect in puppies, which has led some manufacturers to include it in puppy foods. Healthy Development



stress (Koopsman *et al.*, 2005), but other researchers noted increased territorial behavior (Lasley and Thurmond, 1985).

Limited research is available in dogs, and much of the research was not conducted in controlled environments. Lower protein diets appear to decrease territorial aggression in some but not all dogs (Mugford, 1987; Dodman and Shuster, 1998) and higher tryptophan-to-LNAA ratio diets may be beneficial in reducing aggressive behavior (DeNapoli *et al.*, 2000). More work is needed to determine the mechanism, but work in other animals and limited research in dogs indicates a link.

POLYUNSATURATED FATTY ACIDS (PUFA), and specifically dexahexanoic acid (DHA), have received widespread attention in human nutrition due to benefits on inflammation and cognition. Lipids serve as integral components of cellular membranes, are precursors to chemical messengers and are





Incorporating n the cellular membra creates a more fluid allowing neurotrary Incorporating more PUFA into the cellular membranes in the brain creates a more fluid membrane, allowing neurotransmitters to flow between cells. In rodents, enriched-DHA diets improved learning ability (Lim and Suzuki, 2001), and DHAdeficient diets reduced learning capabilities (Bourre et al., 1989; Moriguchi et al., 2000).

A large-scale study evaluated 28 litters of puppies receiving either adequate- or enhanced-DHA diets throughout gestation, lactation and after weaning (Hoffman et al., 2005). Puppies fed the enhanced-DHA diet made fewer errors during training and had a higher training performance index as outlined by researchers. It is not yet established if a similar

increase in trainability is possible in adult dogs fed enhanced-DHA diets.

THERE IS CURRENTLY no published literature evaluating the influence of digestible carbohydrates on behavior extra food and not out of hunger, some of these may be curbed by providing a diet that is more satiating.

Simple carbohydrates are digested and absorbed quickly, leading to only short-term fullness and a sharp

Many companion animals exhibit food intake behaviors that can be a nuisance to owners.

in dogs, but limited research with regard to fiber and negative behaviors is available. Many companion animals exhibit food intake behaviors that can be a nuisance to owners due to feelings of hunger, such as whining and begging. While many of these behaviors are more likely learned to obtain

peak and decrease of blood glucose concentrations. Complex carbohydrates take longer for the body to break down and absorb, thereby blunting glucose spikes. It is thought that fiber, or indigestible carbohydrates, decrease hunger or increase satiety, due to influences on stretch



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It is clear that more is needed regarding how nutrition affects behavior, but it is a growing area of research with direct implications to pets kept in homes.

receptors in the stomach (gut fill), satiety hormones and transit time. It is possible behaviors associated with hunger may be reduced when feeding a more satiating diet.

High-fiber diets have reduced overall voluntary daily energy intake

in dogs (Jackson *et al.*, 1997; Jewell and Toll, 1996), but only one study evaluated any behaviors associated with feeding higher fiber diets. Butterwick and Markwell (1997) noted no differences in time spent at the feeding bowl or number of visits to the bowl 30 minutes after feeding high-insoluble fiber (up to 7% cellulose) or soluble fiber (up to 4% gum blends) diets.

THE LIFESPAN OF dogs has been increasing in recent years, leading to more senior and geriatric dogs. With age comes the risk of dogs developing cognitive dysfunction disorder, which is often diagnosed after an animal starts acting disoriented, has decreased social interactions, soils in the house, has sleep disturbances

and/or altered activity. A combination of an antioxidant cocktail and environmental enrichment improved learning (Nippak *et al.*, 2007), discrimination learning and longterm retention (Milgram *et al.*, 2002) in aged Beagle dogs.

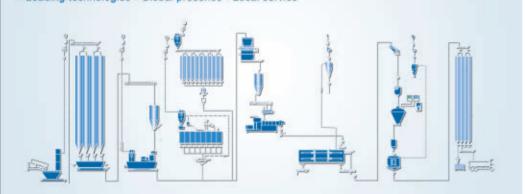
It is clear that more is needed regarding how nutrition affects behavior, but it is a growing area of research with direct implications to pets kept in homes. Evaluating nutritional interventions on aged animals or dogs with severe behavioral problems may provide insight into managing an array of behavior issues.

Brittany Vester Boler, PhD, is an animal nutrition technical services consultant at Land O'Lakes Purina.



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ANDRITZ FEED & BIOFUEL designed and supplied the fully automated process lines at Wagg Petfoods, England. Continuous business growth has led to further plant expansion, and Wagg is now installing the third extruder, after which the capacity will reach in excess of 130,000 t/a.

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Find extruders, dryers, coolers and dehydration systems in our online product database from companies eager to help with your dry petfood and treat production needs. Go to www.petfoodindustry.com/products.aspx and then search under the 'Equipment' section for a wealth of information. You can also find the products listed in this article and leave a review, as well as a 1-5 star rating.

Technology update: advances in dry petfood production

By Jessica Taylor

Our annual list of the latest extrusion, drying and cooling technologies for petfood and treats

MANUFACTURING THE BEST-**QUALITY** dry petfoods for dogs and cats not only relies on a nutritionally sound formula, a solid marketing campaign and eye-catching packaging, but it must be produced in a cost-efficient, time-saving and sanitary way. That's why choosing the right extrusion, drying and cooling equipment is so vital. Whether you are a company on its puppy legs, looking to start out with small batches and simple formulas, or an industry player who needs to update its current manufacturing line, new and innovative products are available to help meet your specific needs.

BAKER-RULLMAN MFG. INC. IS

A maker of rotary drum dryers and dehydration systems. The company points to its triplepass technology used in its dryer systems as an optimizer of operating costs, efficiency and end-product consistency and a reducer of VOC emissions. The three full-length

interlocked concentric cylinders in this technology rotate together for the highest velocity in the inner-pass. As lighter particles quickly lose 60% of their moisture and move out of the cylinder, heavier, denser particles are retained until they lose 60% of their moisture. Because of the earlier retention time in the first two passes, material is relatively uniform by the time it

makes it into the gentle third pass. This means the product is guarded against overdrying or underdrying and ensures the optimum use of heat while producing a consistently high-quality end product, according to the company.



Baker-Rullman offers rotary dryer systems featuring the company's triple-pass technology. The mobile rotary dryer system can be mounted on a standard 53-foot trailer to accommodate transportation and ease of setup.

Buhler Aero-

petfood and treat manufacturing equipment, including dual plenum roasters and dryers and single/multi-pass conveyor dryers. Benefits of a plenum roaster include sanitation features with full welds, complete interior access and elimination



The online educational portal for industry professionals.

Building Blocks of Companion Animal Nutrition Now RACE-approved for continuing veterinary education credits

Veterinary professionals may now enroll in this interactive online course to earn continuing education (CE) credits from the American Association of Veterinary State Boards. Course participants receive an introduction to the science of companion animal nutrition and the nutrient needs of dogs and cats; and gain a basic scientific understanding of nutrients and their functions.

Building Blocks of Companion Animal Nutrition includes:

- ✓ Six interactive modules of 35 45 minutes each
- ✓ Accompanying textbook Canine and Feline Nutrition: A Resource for Companion Animal Professionals
- ✓ Certificate of completion

Designed for petfood professionals who work in:

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



About RACE

The American Association of Veterinary State Boards' Registry of Approved Continuing Education (RACE) program was developed to apply uniform standards related to providers and programs of continuing education in veterinary medicine. Many states require continuing veterinary education credits for license renewal.

Log on to



www.wattelearning.com to learn more, sign up and gain immediate access to this course. Check back often for newly added sessions and updated offerings. of debris collection points. The roaster's uniform heat and airflow distribution eliminate the need for diffuser plates, according to the company. With the multi-pass dryers, conveyor beds are stacked one above the other in a single

Buhler Aeroglide offers a wide range of dry petfood and treat manufacturing equipment, including dual plenum roasters and dryers and single/multi-pass conveyor dryers.

insulated enclosure. The systems provide multiple product turnovers for uniform thermal processing. They can

also be configured to run at the same temperature throughout or with

sequential heat zones allowing precise control of temperature, process air humidity and airflow throughout the process.

throughout or with sequential heat zones all

CLEXTRAL INC. IS A MAKER OF

dryers and extruders, including the Rotante dryer and Evolum line of extruders. The Rotante dryer features product changeover in less than three minutes, real-time recycling of fines generated in the drying process, simplified cleaning and reduced maintenance, according to the company. The Evolum 145 (EV145) extruder

incorporates advanced temperature control for managing complex recipes in the processing of premium dry and semi-moist petfoods.



The Evolum line of extruders from Clextral can help produce dry petfood, semi-moist nuggets, treats and premium petfood with a wide array of densities, textures, shapes and colors.

The Evolum 25 (EV25) is an extruder designed for product testing, reliable scale up to production extruders and to assist petfood processors in developing new extruded products. This twin screw extruder is useful for producers looking to develop dry petfood, semimoist nuggets, treats and premium petfood with a wide array of densities, textures, shapes and colors.

EXTRU-TECH INC. HAS installed numerous extrusion systems world-



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Founder of Petfinder.com to kick off 2012 event

Betsy Banks Saul to address elevating pets as family members.

Petfood Forum 2012

April 2 – 4, 2012 Renaissance Schaumburg Convention Center Hotel, Schaumburg, Illinois USA

Join opening keynote speaker Betsy Banks Saul, founder and president of Petfinder.com, at the premier, exclusive event for the global petfood industry. Register before February 1, 2012, and save up to 15% on two intensive days of learning, networking and celebrating the successes of our industry.



As her organization, one of North America's leading humane groups dedicated to improving pet adoption and elevating pets as family members, celebrates its 15th anniversary, Betsy Banks Saul will share what she has learned during that time, including in working with petfood companies as sponsors and partners. Plus, pets from one of Petfinder. com's member shelters in the area will drop by to visit Petfood Forum after Banks Saul's presentation!

Several other exciting speakers have been confirmed for Petfood Forum 2012, and more will be added in the coming weeks. Check www.petfoodindustry.com/PFF2012.aspx frequently as we confirm more speakers!

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, learn from experts on how to successfully bring a new petfood product to market.

Speakers to include:

Petfood

Workshop

- Dr. Greg Aldrich on how to set and manage expectations and timelines in developing new products
- John Adams of Adams Development on idea generation: techniques for innovation and generating new product ideas, plus best practices for evaluating the ideas

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After February 1, 2012	US\$1,150	US\$870	US\$690

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Petfood Forum group discount available to five or more attendees. For more information, e-mail OutreachRegistration@niu.edu or call +1.815.753.7922.

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Rooms are also available at a special rate for Petfood Forum or Workshop participants at the Embassy Suites, just two blocks away. Free transportation will be provided between the two hotels on a regular basis throughout each day and evening. To reserve your room at the Embassy Suites, call +1.847.241.5415 or visit http://embassysuites.hilton.com/en/es/groups/personalized/C/CHISBES-WAT-20120330/index.jhtml?WT.mc_id=POG.



Extru-Tech Inc. has installed numerous extrusion systems worldwide, supplies the industry with quality replacement parts and manufactures extruders, dryers and coolers for the petfood industry.

company also says the design criteria for the new dryer stated that no internal horizontal surface could be larger than 5-by-5 mm unless absolutely necessary. The design also called for a minimum 30-degree slope on all internal ledges and the elimination of cracks and crevices in which fines and material could collect.

wide, supplies the industry with quality replacement parts and manufactures extruders, dryers and coolers for the petfood industry. The company's newest technology is the Maxxim series of extrusion systems. This line of single screw extruders is capable of 20% to 30% production rate increases over previous models with the same barrel diameter, according to the company. Extru-Tech's re-engineered inline drive system can handle up to 600 hp, and the improved screw support assembly eliminates metal-to-metal wear.



Macrowave dryers, according to Radio Frequency, eliminate surface checking and control moisture and color.

RADIO FREQUENCY Co. offers unique, Macrowave post-baking dryers that utilize radio frequency energy to heat and dry moist areas of food. Macrowave dryers, according to the company, eliminate surface checking and control moisture and color. The dryers were developed for high-volume production and are available in band widths up to 64 inches.

WENGER MANUFACTURING HAS

long provided extrusion, drying and cooling systems for the industry. Its newest innovation is the Enhanced Sanitary Dryer. The dryer was designed to reduce the risk of contamination, according to Wenger. The



Petfood Insights

David A. Dzanis, DVM, PhD, DACVN

Read more

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

Petfood petition sent to White House



A petition posted on the 'We the People' site requests that FDA be ordered to strictly enforce a law as it pertains to petfood ingredients. IN LATE OCTOBER, a consumer advocate started a petition on the "We the People" page of the White House website (www.whitehouse. gov). The petition requests that the Obama Administration instruct the US Food and Drug Administration to enforce a strict interpretation of the Federal Food, Drug and Cosmetic Act (FFDCA) as it pertains to suitability of ingredients for use in petfood or, lacking that, require a label disclaimer on all petfoods that do not meet the standards as set forth by the exact verbiage in the law.

AMONG OTHER RIGHTS granted by the First Amendment of the US Constitution, people have the right "to petition the government for a redress of grievances." The Obama Administration started the We the

People page as a new means to file petitions electronically (see https://wwws.whitehouse.gov/petitions).

Any matter can be brought forth by this method, but there are conditions. For example, the petition must receive at least 150 signatures before it will become searchable on the website, and before the administration will consider its merits, the petition must receive at least 25,000 signatures within 30 days of posting.

It is assumed these thresholds are to prevent an individual or small group from potentially posting thousands of nuisance filings. However, if a petition meets these conditions, the White House promises to review it, send it to the appropriate policy experts for consideration and issue an official response.

The breadth of topics on the We the People site is fascinating. Petitions range from broad issues

dealing with taxes, economics, religion, voting and political reform to very specific matters such as requests for pardons of incarcerated individuals and pleas to save the dunes sagebrush lizard under the Endangered Species Act.

An inordinate number of the 135 open petitions appear to deal with repeal or reform of existing marijuana laws. In fact, when a White House response to previous petitions regarding marijuana was not terribly sympathetic to the cause, several new petitions popped up demanding the dismissal of the policy expert who issued the official response.

A PETITION POSTED on the We the People site is limited to a 120-character title and

This petfood petition reflects more extensive comments made by the same person through a citizen petition filed with FDA.

800-character description, so the petitioner must succinctly state its case. This petfood petition (http://wh.gov/b1b) reflects more extensive comments made by the same person through a citizen petition filed with FDA in August 2010.

Briefly, the petition contends that under current FDA enforcement policy, petfoods are allowed to be processed using materials from

Dr. Dzanis is CEO of Regulatory Discretion Inc. and a writer and consultant on nutrition, labeling and regulation.

diseased, downed and euthanized animals, as well as those containing rodent feces and insect infestations, which it sees in violation of FFDCA. "Food" under the law includes petfood, so when FFDCA states that adulteration of food includes any use of materials from animals that die by

policies that dictate provisions for safe use of ingredients in animal feeds that usually would not enter the human food chain, the petition wants enforcement precisely as written in the law. Further, because consumers do not know these materials may be in petfoods, it asks that the labels for

Three days after the petition was posted, it had received approximately 400 signatures.

means other than slaughter, the law should apply regardless of intended species or consideration of whether a deviation from the law constitutes a true safety concern or simply aesthetics.

Notwithstanding (or perhaps more accurately, because of) FDA

Solutions provided.

petfoods that do not meet FFDCA bear a warning statement to that effect. The suggested phraseology for the statement is, "Warning: This pet product could contain illegal ingredients and could put your pet's health at risk."

At the time of this writing, three days after the petition was posted, it had received approximately 400 signatures, or about 135 per day. Reportedly, many people have been having trouble logging on to the site to submit their signatures. I understand that some websites do not make it easy to interact, but considering that tens of thousands of supporters of marijuana law reform have been successful in signing petitions on the site, I find it hard to believe the process is too complicated.

Anyway, if that rate of signature collection continues, the petition will fall far short of the 25,000 required by the end of November. Personally, I'd like to see it reach that threshold if only to see the official response. To the best of my knowledge, FDA has yet to respond to the aforementioned citizen petition, so it would be interesting to see how the government views this matter.







Ingredient Issues

Greg Aldrich, PhD

Find more

Read more columns by Dr. Aldrich at www.petfoodindustry.com/ ingredientissues.aspx.

Plasma: thermoplastic gel with pet health benefits



Plasma is a highquality, natural component that should be considered a valuable part of a dog or cat diet. **TO THE COUCH** potato, the word "plasma" likely conjures up thoughts of a new television; to Trekkies, it's the high-energy gaseous field the USS Enterprise has to traverse periodically. In other words, the term by itself doesn't necessarily conjure up a yuck factor. However, some take exception to the use of plasma, specifically animal plasma, in their pets' food.

OK, maybe the idea is a little yucky—but maybe we've become a bit too squeamish. Plasma is the vital fluid component of blood; it is found throughout the body and the medical community even considers it a tissue.

To feed our carnivore friends food containing plasma should seem quite natural. After all, those are the very first parts our household predators

relish after the kill (or when you open the can). Plasma is a high-quality, natural component that should be considered a valuable part of a dog or cat diet. So, how is it that animal plasma gets into a pet's diet and what role might it play?

As a Function of our livestock agriculture and meat production systems around the world, proper slaughter practices dictate that the animal be exsanguinated (to make bloodless). This blood is collected immediately under sanitary conditions in slaughter facilities under regulatory inspection. In the US, this would be under the purview of a licensed veterinarian employed by the Department of Agriculture.

Beyond the slaughter facility, there is a sophisticated infrastructure to process the blood, lest it putrefy and become a public health concern. Upon collection, the blood is maintained in a liquid state through the addition of anticoagulants such as sodium citrate or sodium

phosphate. It is kept under refrigeration until the red blood cells can be separated from the fluid plasma by centrifugation, whereupon some of the moisture is removed to concentrate the plasma (by reverse osmosis or evaporation under vacuum). It is then spray-dried, resulting in a fine tan to cream-colored powder.

Since liquid animal plasma is a highly perishable and bioactive fluid, precautions regarding handling and stabilization are an everyday concern. Conversely, in a dry state, plasma is relatively stable, though slightly hygroscopic, so it must be stored in a cool, dry place.

SPRAY-DRIED ANIMAL PLASMA is usually sold at around 7-8% moisture and has a high protein content of nearly 80%. It contains very little fat or fiber (trace amounts), and minerals (ash) are low at less than 10% of the total. The protein fraction is rich in lysine and cysteine, contributes a meaningful amount of tryptophan and taurine but is short on methionine. The mineral fraction contains negligible calcium, potassium and magnesium but a fair amount of sodium (>2%) and phosphorus (>1%). Plasma is also known to contain albumin proteins (about 50%) with bioactive peptides and immunoglobulin G (IgG) that reputedly keep the immune system from over-reacting.

In the US, the Association of American Feed Control Officials defines animal plasma as "the product obtained by spray drying plasma which has been separated away from the cellular matter (red and white blood cells) of fresh whole blood by chemical and mechanical processing. The protein portion of this product is primarily albumin, globulin and fibrinogen type proteins. The minimum percent crude protein and the maximum percent ash must be guaranteed on the label. If it bears a name descriptive of its kind, composition or origin, it must correspond thereto." Alternatively, one could also make

the argument that plasma would fall under the definition of meat by-product.

There were concerns when bovine spongiform encephalopathy was first detected that the infective agent could be transmitted via blood and other fluids. However, after extensive testing, no infectivity has been detected in bovine plasma or serum proteins, according to the World Organization for Animal Health and the US Food and Drug Administration. To paraphrase the regulations as they stand currently, there is no prohibition of blood or blood product use in animal feeds (21CFR 589.2001). Further, there is no explicit restriction for bovine plasma use in petfoods. Despite this, today virtually all plasma used in petfoods is derived solely from pigs.

WHILE PLASMA'S HIGH-PROTEIN

and low-ash content make it a great ingredient for use in formulating cat diets and high-protein diets in which minerals are being controlled, it is often too expensive for this purpose alone. Rather, plasma is primarily used in petfoods for its functional food properties—namely, its ability to form a resilient, irreversible, thermoplastic gel in restructured meat products (e.g., the meat pieces in a chunks and gravy wet food).

In this capacity, it binds water, acts as an emulsifier, has anti-foaming properties and forms a stable gel. It works for both chunk formation and in loaf applications at levels from 0.5-5%, with 1.5-2% being most common (Polo et al., 2005; Polo et al.,

IN PETFOOD, ANIMAL plasma has a favorable palatability profile and a neutral to beneficial effect on stool consistency. It has been shown to increase dry matter digestibility in dogs (Quigley et al., 2004) and has been reported to reduce the overstimulation of immune response in pigs and rats. However, this latter

To feed our carnivore friends food containing plasma should seem quite natural.

2007; Polo et al., 2009). It also helps level inconsistency in meats from supply to supply (Polo, 2011).

Animal plasma function is "activated" with increasing temperatures up to 120° C (Polo et al., 2005). This just so happens to correspond with the temperature at which wet foods are sterilized in the retort. It does this without co-factors or restrictions on pH, and it's easy to use, mixing easily with a meat batter. It has a favorable cost benefit when compared to other binders, such as wheat gluten or egg white/albumin, commonly used for this purpose.

function is likely only effective if the plasma has not been subjected to denaturation by thermal processes.

Animal plasma is a staple in restructured meat products for its function as a binder. There have been fewer opportunities to capitalize on the bioactive aspects of plasma in conventional formats, such as extruded or baked products. However, research is under way to capture these features in dry petfoods. When this happens, animal plasma will become more prevalent in petfood as an element to promote health.

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Market Report

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US pet owner buying trends

As 2011 comes to a close, the US economy continues to limp along, and shoppers continue to carefully weigh purchase decisions. Pet owner surveys conducted by Packaged Facts on a quarterly basis throughout the year highlight key trends, including the bright spots and weak spots likely to continue to shape the market in 2012. In the most recent survey, conducted in September 2011, 62% of respondents had a pet, including

43% with dogs, 32% with cats and 11% with other types of animals.

With many pet owners considering a growing number of pet products too expensive, it's no surprise that price shopping is on the ups. Nearly three-quarters (74%) of pet owners look for lower prices, special offers and sales on pet products, and about half (47%) shop for pet products at a variety of stores, according to Packaged Facts' survey. On the other hand, almost one-third (30%) choose to shop

at pet product retailers that offer the best products available regardless of price, while nearly one-quarter (23%) base their choice of retailer on the availability of natural/organic and other specialty brand products.

PRIVATE LABEL PETFOOD remains of strong interest among retailers and contract manufacturers alike. According to Product Launch Analytics, an online service of Datamonitor, 2010 gave rise to a record number of new private-label dog and cat food products. On the dog food side, retailers were behind 23 new product reports covering 109 SKUs, while cat food saw seven new reports yielding 28 SKUs.

At the same time, findings from Packaged Facts' surveys suggest pet owners are becoming more comfortable with private label. In the September survey, 45% of pet owners agree that private-label pet products are as good as national brands, while over one-third (34%) admit to

buying more store brands of late.

Brick-and-mortar retailers must face off not only against one another but also with a less tangible foe: the Internet. Internet sales of pet products continue to well outpace pet market growth overall, with niche and "info-centric" items often doing especially well online. Pack-

Table 1. Down economy leads to treat indulgence

In a September survey of US adults, Packaged Facts asked respondents' agreement with this statement: "I like to indulge my pets with special food/chew treats."

Strongly disagree	4%
Somewhat disagree	6%
No opinion	14%
Somewhat agree	41%
Strongly agree	35%

Source: Packaged Facts' Pet Retail Channel Trends in the US, 2011-2012 (December 2011), based on Packaged Facts' quarterly pet owner survey for September 2011

aged Facts survey data indicate close to half of pet owners use the Internet to research pet products online, while about one-quarter buy online.

As of September 2011, one in 10 pet owners had made a purchase online in the last 10 days, and 24% had done so in the past month. Because of its bulk, petfood has long been a less likely purchase online, but free shipping and other special promotions are making home delivery of petfood a growing factor. Among Internet shoppers for pet products, 42% made a petfood purchase in the past year.

DURING THE WEAK economy, the strongest arguments for generous spending on pets are founded on pet health. Even while cutting back in other areas, over three-quarters (78%) of dog owners and over half (58%) of cat owners have taken their pets to the veterinarian for a routine visit in the past year.

Petfood remains on the front line of preventive pet health. Although over two-thirds (69%) of pet owners believe many pet products are becoming too expensive, 25% of petfood purchasers report buying higher-priced foods, compared with

Perhaps not coincidentally, 76% of pet owners like to indulge their pets with special food/chew treats (Table 1). During the down economy, treats have benefited from their affordable indulgence appeal to dog and cat owners alike, helped along by

Surveys suggest pet owners are becoming more comfortable with private label.

only 7% of non-food pet product purchasers. Many pet owners view an investment in pet health as an investment in human health as well. Over three-quarters (78%) agree that pets have a positive impact on their physical health.

Stubborn economy notwithstanding, the human-animal bond promises to keep the pet market on solid ground. Over two-thirds (67%) of US pet owners strongly agree that "I consider my pets to be part of the family," and another 23% somewhat agree with this statement. claims including nutraceutical/functional, natural/organic and grain-free. Overall, health appeals are in much stronger play in dog and cat treats than ever before, tipping the value balance in these products' favor among pet owners who, even when economizing in other areas, still want to treat their pets right.

Information provided by Packaged Facts (www.packagedfacts.com) based on *Pet Retail Channel Trends in the US, 2011-2012* (December 2011).



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Effects of rendering on meat and bone meal

This study evaluated the effect of two rendering processes applied to meat and bone meal (MBM) production, associated or not with extrusion, by measuring apparent total tract

digestibility of dogs and cats and true digestibility of amino acids (AA) by cecectomized roosters. Four diets were evaluated: conventional and extruded MBM; high temperature and pressure (HPT) and extruded MBM; conventional non-extruded MBM; and HPT non-extruded MBM.

(JAPAN online September 2011. doi: 10.1111/j.1439-0396.2011. 01232.x) Dogs fed meat and bone meal produced under high pressure and temperature presented a higher urea post-prandial response.

Comparing fiber in diets for dogs (Res. Vet. Sci. online September 2011. doi:10.1016/j.rvsc.2011.07.032) The moderate carbohydrate and fiber diet warrants evaluation in diabetic dogs.

Effects of rendering on meat and

Key concepts

bone meal

Propionate acts as gluconeogenic substrate in cats (JAPAN online September 2011. doi: 10.1111/j.1439-0396.2011.01220.x) Propionate absorbed from the colon is hypothesized to act as a gluconeogenic substrate, regardless of the cat's body condition.

The evaluated MBM had high ash content. HPT processing of MBM increased the digestibility of crude protein of the diets by cats and the true digestibility of several AA by cecectomized roosters. Extrusion did not modify the apparent total tract nutrient digestibility of MBM by dogs and their amino acid digestibility by roosters, but increased the digestibility of the dietary protein by cats. Dogs fed HPT MBM had a higher urea post-prandial response, suggesting reductions in bioavailability and protein synthesis from absorbed AA.

Source: L.D. de-Oliveira et al., 2011. Digestibility for dogs and cats of meat and bone meal processed at two different temperature and pressure levels. JAPAN online September 2011. doi: 10.1111/j.1439-0396.2011.01232.x

Comparing fiber in diets for dogs

The aim of this study was to compare the effects of three diets with varying macronutrient and fiber contents on postprandial plasma glucose, triglyceride, free fatty acid and insulin concentrations over a 12-hour period in 12 healthy, neutered, lean dogs. Each diet was fed to each dog for three weeks. Plasma analyte concentrations were measured prior to and after a meal at the end of each third week.

Post-prandial glucose concentrations for the moderate carbohydrate and fiber diet were 0.4–0.7 mmol/L (8–12 mg/dL) lower than for both higher carbohydrate diets. Post-prandial glucose, insulin and triglyceride concentrations in some dogs did not return to baseline by 12 hours after feeding of each of the three diets.

These results indicate the moderate carbohydrate and fiber diet warrants evaluation in diabetic dogs. Variables should be measured over at least 12 hours after feeding to fully evaluate postprandial dietary effects on these analytes. Source: K.F. Elliott et al., 2011. A diet lower in digestible carbohydrate results in lower post-prandial glucose concentrations compared with a traditional canine diabetes diet and an adult maintenance diet in healthy dogs. Res. Vet. Sci. online September 2011. doi: 10.1016/j.rvsc.2011.07.032

Propionate acts as gluconeogenic substrate in cats

The metabolic effect of propionate absorbed from the colon was assessed in six normalweight and six obese cats. Two colonic infusions were tested: a test with 4 mmol sodium propionate per kg ideal body weight in a 0.2% sodium chloride solution and a control of normal saline. As body condition did not affect evaluated parameters, all data were pooled.

Plasma glucose concentrations showed no differences over time or during or after infusion with propionate or control. Plasma amino acid concentrations rose over time but were similar for both infusions. Plasma propionylcarnitine rose markedly toward the end of the propionate infusion and decreased afterward. Acetylcarnitine tended to fall at the same time points, suggesting inhibition of gluconeogenesis from pyruvate and amino acids but initiation of propionate-induced gluconeogenesis.

Propionate absorbed from the colon is hypothesized to act as a gluconeogenic substrate, regardless of body condition. Source: A. Verbrugghe et al., 2011. Propionate absorbed from the colon acts as gluconeogenic substrate in a strict carnivore, the domestic cat (Felis catus). JAPAN online September 2011. doi: 10.1111/j.1439-0396.2011.01220.x

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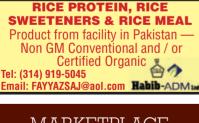
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Ad Index

3D Corp Solutions LLC8-9	Horizon Systems Inc13
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Acadian AgriTech35	Intl Ingredient Corp35
www.acadianagritech.com	www.iicag.com
ADF-Amer Dehydrated Foods3	Kemin Nutrisurance Inc7
www.adf.com	www.kemin.com
AFB International28-29	Lonza Inc31
www.afbinternational.com	www.lonza.com
American Feed Industry Assn20	Martek Biosciences div. of DSM 43
www.afia.org	www.DHAgold.com
Andritz Feed & Biofuel A/S37	Neogen Corp21
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