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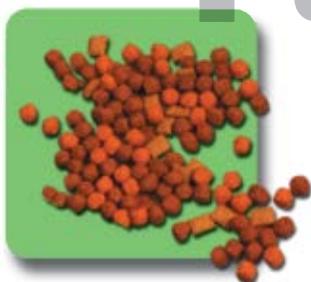
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The future of nutrition

Nestlé Purina meeting focuses on research

It's been a busy season for companion animal nutritionists. Most recently I was able to attend the 2005 Nestlé Purina Nutrition Forum in St. Louis, Missouri, USA. The event featured three days of scientific presentations as well as a poster session. On the first day, Bill Heacock gave a full afternoon session on how to enhance teaching skills. It was interesting how the concepts he presented could be applied to everyone from teachers to supervisors to those giving industry presentations. I learned quite a bit about how to try to keep an audience awake, attentive and interested.

Finding disease genes

On Friday morning, Dr. Michael Zody of the Broad Institute of MIT presented on the current status of the canine genome sequence project and its implications for finding disease genes. The Broad Institute is currently collecting samples from dogs affected with osteosarcoma, hemangiosarcoma, melanoma, mammary carcinoma, lymphoma and mast cell tumors. They are also interested in older unaffected dogs to use as controls. For more information on participating in the research go to www.broad.mit.edu/mammals/dog.

The "omics"

Later in the day, Dr. Martin Kussmann of the Nestlé Research Centre in France discussed applying the various "omic" disciplines to nutrition research. He noted that the major methodological challenge of nutrigenomics (how diet affects gene transcription, protein expression and metabolism) is integrating genomics (gene analysis),

The long-term goal of nutrigenomics is personalized nutrition.

— J. Kvamme



transcriptomics (gene expression analysis), proteomics (global protein analysis) and metabolomics (metabolite profiling) to define a healthy phenotype. The long-term goal of nutrigenomics is personalized nutrition for maintenance and improvement of individual health and prevention of disease.

The subject of omics continued with a discussion by Dr. John Milner of the US National Cancer Institute. He said that expanding the knowledge about the physiological consequences of nutrigenomics should help identify those who will and will not respond to dietary intervention. Adding proteomic measurements should help identify vulnerable populations arising from dietary change. While more research is needed to capitalize on "nutritional preemption" of disease processes such as cancer, the available evidence serves to propel the science of nutrition forward.

Dietary antioxidants and stress

A very interesting presentation by Dr. Arleigh Reynolds from Nestlé Purina PetCare Research in Alaska, USA reviewed the various influences on free radical production, how the body responds to and may be aided in its response to free radicals. His

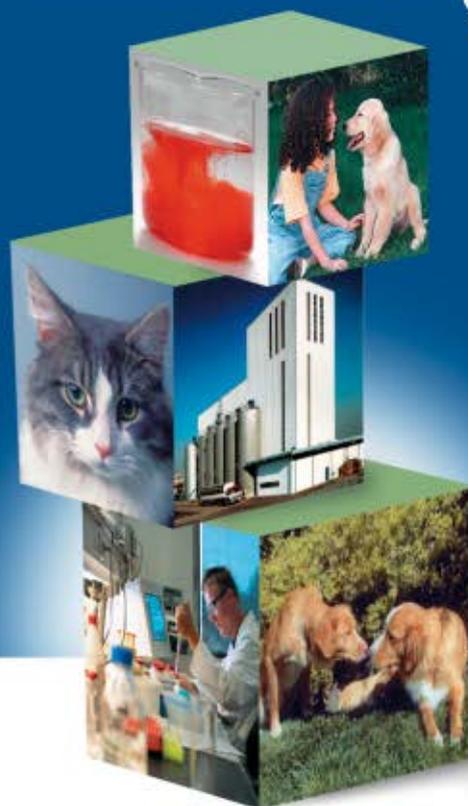
research with Alaskan sled dogs showed that vitamin E supplementation may have some significant benefits to animals at risk from high levels of free radical exposure.

2006 in Switzerland

The 2006 Nutrition Forum is scheduled for October 9-10, 2006 in Lausanne, Switzerland at the Nestlé Research Center. The topic for 2006 will be "Advances in Veterinary Nutrition for Dogs and Cats." Veterinarians, nutritionists and other scientists are invited to submit proposals for consideration for presentation. The deadline for submission of topics and a short description is January 31, 2006. For more information, contact Dr. Dottie Laflamme at E-mail: Dorothy.laflamme@rdmo.nestle.com.

Look for research abstracts from this meeting to appear in future issues of the *Petfood Industry* E-newsletter and magazine in Research notes. ➔

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Top 10

Profiles of petfood leaders

BY JENNIFER KVAMME, DVM

The global petfood and pet care products market reached nearly US\$53 billion in 2004. Growth in this market was not as rapid as 2003, but it did exceed the growth seen in 2001/2002. Value growth was supported by the trend favoring premium and superpremium products, especially in the mature markets of North America and Western Europe. Particularly rapid growth was seen in the healthcare subsector, mainly as a result of consumer awareness of pet health.

According to Euromonitor International's 2005 report on *The World Market for Pet Food and Pet Care Products*, the ongoing humanization trend is proving instrumental in sustaining growth in even the most saturated markets. Humanization was also evident in emerging markets such as China and South Korea during the past year.

Challenges and opportunities

Globally, the sales of petfood and pet care products are forecast to grow by about US\$7 billion over the 2003-2008 period to reach US\$57 billion, according to Euromonitor. A key obstacle to growth is that the market remains highly concentrated. North America and Western Europe accounted for 76% of value sales in 2004. Thus, manufacturers face the struggle to increase penetration of prepared petfood in already saturated developed markets, as well as in emerging markets like Eastern Europe, Latin America and Asia-Pacific.

Manufacturers must also meet rising demand for functional petfood products, the rising population of smaller animals and the increasing popularity of convenience products (i.e., easy-to-open, easy-to-dispose-of). At the same time, potential also exists in the segmentation of the market according to lifestage, age, level of activity, breed, medical condition or gender. On the same level with this segmentation is the trend for human-grade ingredients, the use of natural/wholesome ingredients and concern over food safety.

In the rest of this article, we will highlight each of the top 10 global petfood players. We will include information derived from various sources, as well as the companies themselves—when available.

Mars Inc.

In 2004, the top spot in the global dog and cat food sector was claimed by Mars. The 2004 acquisition of Del Monte's veterinary brands IVD, Medi-Cal and Techni-Cal helped to boost the company's North American potential.

Mars operates its three core businesses—snack food, pet care and main meal food—under the **Masterfoods USA** umbrella in most parts of the world. Masterfoods USA manufactures and markets complete diets for cats and dogs, a variety of pet snacks and treats and a complete line of prescription diets. Masterfoods is the leader in the wet dog food category, wet pouch segment and cat snacks segment. The company also manufactures the top-selling dry dog food item within the petfood industry. Masterfoods USA has national offices in Hackettstown, New Jersey, USA and Vernon, California, USA.

Masterfoods USA focuses on innovation. In June 2005, Masterfoods USA introduced a major packaging innovation in the mainstream dry dog food category. The exclusive Pedigree Slide-Rite® Zipper Bag, featuring a patented slider zipper closure, is available on all of the brand's 15- to 22-pound bags of dry dog food.

For the second consecutive year, Masterfoods USA was recognized for its Functional Focus Category Management study that highlighted how merchandising functional products together in a set can increase the fastest-growing, most profitable segment of the dog treats category. The study proved that by better positioning dog treats in the functional treats section, new and incremental purchases resulted—which grew the category by 9.6%. The new shopping set (plan-ogram) made it easier for shoppers to locate treats and 84% of shoppers polled agreed that the new set would make them more likely to try a new item.

Masterfoods USA expects to see 2-4% overall growth in sales in 2006.

Mars facts:

- **Mission statement** —“We will enhance pet feeding by creating innovative food products to delight every dog, cat and owner every day”
- **World headquarters** —McLean, Virginia, USA
- **Approx. 2004 global pet retail sales** —US\$9.6 billion; 2005 dollar sales were down 2.2% versus 2004 figures (company-supplied data)
- **Key officers**—John Curtiss, president Petfood, Masterfoods USA; Serge Dube, VP, Sales, Petfood, Masterfoods USA; Chris Jones, VP, Marketing, Petfood, Masterfoods USA
- **Top brands**—Pedigree; Waltham; Cesar; Sheba; Whiskas; Kitekat
- **New products**—Scmackos® (launching in January 2006)
- **Website(s)**—www.waltham.com; www.pedigree.com; various brand sites
- **Number of plants/locations**—15 worldwide
- **Employees**—7,000

Top companies worldwide

Table 1. Market shares and value petfood sales (retail US\$) of the top petfood companies worldwide. Source: Euromonitor International.

Company	Market share %		Retail sales (US\$ billions)	
	2003	2004	2003	2004
Mars Inc	24.6	24.6	8.68	9.63
Nestlé SA	24.1	24.1	8.50	9.45
Procter & Gamble	6.8	6.8	2.42	2.68
Colgate-Palmolive Co	6.2	6.2	2.20	2.42
Del Monte Foods Co	3.0	2.8	1.06	1.09
Nutro Products Inc	1.5	1.3	0.52	0.51
Agrolimen SA	1.3	1.3	0.45	0.49
S&M NuTec LLC (treats)	0.5	0.8	0.18	0.31
Meow Mix Co	0.9	0.8	0.31	0.31
Uni-Charm Corp	0.8	0.8	0.27	0.31
Nisshin Flour Milling Co Ltd	0.5	0.5	0.19	0.21
Nippon Pet Food Ltd	0.5	0.5	0.18	0.19
Sunrise Co Ltd	0.4	0.4	0.14	0.16
Maruha Corp	0.4	0.4	0.13	0.15
Kraft Foods Inc	0.4	0.4	0.14	0.14
Nutriara Alimentos Ltda	0.3	0.3	0.10	0.13
Mogiana Alimentos SA	0.3	0.3	0.09	0.13
Vitakraft-Werke Wührmann & Sohn	0.3	0.3	0.09	0.11
Pet Line Corp	0.3	0.3	0.09	0.10
Heinz Co, HJ	0.3	0.2	0.09	0.09
Total Alimentos SA	0.2	0.2	0.07	0.09
Yamahisa Pet Co Ltd	0.2	0.2	0.08	0.09
Doggy AB	0.2	0.2	0.08	0.09
DoggyMan Hayashi KK	0.2	0.2	0.07	0.08
Süd-Chemie AG	0.2	0.2	0.07	0.07
Sunshine Mills Inc	0.2	0.2	0.07	0.07
Inaba Pet Food Co Ltd	0.1	0.1	0.05	0.06
Palmera SpA	0.1	0.1	0.05	0.06
Provimi BV	0.1	0.1	0.05	0.06
Smack Co Ltd	0.1	0.1	0.04	0.05
Yeaster Co Ltd	0.1	0.1	0.04	0.04
Morando SpA	0.1	0.1	0.04	0.04
Monge & C SAS	0.1	0.1	0.04	0.04
Iris Aoyama Co Ltd	0.1	0.1	0.03	0.03
DBF Petfood Co Ltd	0.1	0.1	0.03	0.03
Private label	11.5	11.5	4.06	4.50
Others	13.1	13.3	4.63	5.22
Total	100%	100%	\$35.34	\$39.23

Forecast growth

Table 2. Dog and cat food: Forecast growth indices of major players—value 2004/2009.

Company	Projected growth index
	2004/2009
Agrolimen	136.4
Mars Inc.	128.3
Nestlé SA	122.4
Del Monte Foods Co.	119.0
Procter & Gamble Co.	116.7
Colgate-Palmolive Co.	114.6
Nutro Products Inc.	111.3

Note: Euromonitor's forecast growth index is calculated by taking each company's sales in each subsector in each country, calculating how much that subsector in that country is forecast to grow over the 2004/2009 forecast period, summing this up globally and re-basing it as an index. As such, it is an indicator of growth of markets that the company has already entered, and does not take account of any future strategic moves. Source: Euromonitor.

Nestlé SA

Nestlé, with headquarters in Vevey, Switzerland, was founded in 1866 by Henri Nestlé and is today the world's biggest food and beverage company. Nestlé USA, which includes Nestlé Brands Company, Nestlé Prepared Foods Company, Buitoni North America and **Nestlé Purina PetCare Company** (St. Louis, Missouri, USA), is a part of Nestlé SA. Nestlé's acquisition of Ralston Purina (in 2002) reinforced its position as one of the top two petfood manufacturers in the world. Pet Products International markets Purina® brand petfoods in 75 countries around the world through a network of 11 production facilities.

Nestlé SA facts:

- **World headquarters**—Vevey, Switzerland
- **Approx. 2004 global pet retail sales**—US\$9.5 billion
- **Key officers**—Peter Brabeck-Letmathe, chairman/CEO
- **Top brands**—Dog Chow, Cat Chow, Puppy Chow, Kitten Chow, Pro Plan, Purina ONE, Beneful, Fancy Feast, Friskies, Alpo, Mighty Dog, Felix, Come 'N Get It, Chef's Blend
- **Website(s)**—www.purina.com; www.nestle.com

Procter & Gamble

The **Iams Company** (Dayton, Ohio, USA), a division of Procter & Gamble, describes its keys to growth as exceptional quality, branding and innovation. Iams produces dog and cats foods under the Iams and Eukanuba brand names, along with the Eukanuba veterinary diet line. Iams' strong culture of "pet passion" that permeates the organization enhances dog and cat well-being and drives innovation.

R&D, product development and promotion at Iams are

Procter & Gamble facts:

- **Mission statement**—"To enhance the well-being of dogs and cats by producing world-class quality petfood and pet products that delight the consumer and promote the human-pet bond"
- **World headquarters**—Cincinnati, Ohio, USA
- **Distribution**—Primary markets: USA 75%; International 25%. Key markets include US, Canada, UK, Italy, France, Japan
- **Approx. 2004 global retail sales**—US\$2.7 billion
- **Key officers**—Jeffrey Ansell, president; Dan Rajczak, general manager, NA; Diane Hirakawa, VP, R&D; Bill Toler, general manager, Japan, Asia, Latin America, Australia; Briani de Brutelier, general manager, Europe; Marty Walker, general manager, Influencer
- **New products**—Iams Smart Puppy; Iams Multi-Cat Formula; Iams Savory Sauce; Iams Select Bites; Eukanuba Small Breed
- **Website(s)**—www.iamsco.com; www.iams.com; www.eukanuba.com
- **Number of plants/locations**—6 plants worldwide in North Sioux City, South Dakota, USA; Leipsic, Ohio, USA; Lewisburg, Ohio, USA; Henderson, North Carolina, USA; Coeverden, Holland; Pilar, Argentina
- **Employees**—2,200

driven by a deep understanding of the pet and the pet owner. Advanced consumer understanding allows the company to discover unmet needs and fill them with new and innovative products. A relentless focus on quality sets Iams apart. The company's plant locations routinely receive superior ratings from the American Institute of Baking and its systems and processes are designed to check quality at every turn.

The biggest challenges at Iams are choosing from the literally hundreds of ideas that come from the suggestion pool. Opportunities exist in continuing to anticipate and understand pet owner needs and to continue to create meaningful, new-to-the-world products that enhance pet well-being and the human-animal bond. The future looks great at Iams as pets continue to play a more important role in the family.

Colgate-Palmolive Company

Hill's Pet Nutrition, Inc. (Topeka, Kansas, USA) is a subsidiary of Colgate-Palmolive Company. Hill's was founded over 50 years ago by veterinarian, Dr. Mark L. Morris. Hill's offers many clinically-proven petfood formulas. It is Hill's aim to continually validate its products through Hill's "Evidence-Based Clinical Nutrition™"—the integration of research evidence with clinical expertise. Hill's was also the first petfood company to combine the science of nutrigenomics with the clinical proof of a product in the area of canine joint mobility.

Colgate-Palmolive facts:

- **Mission statement**—"To enrich and lengthen the special relationships between people and their pets"
- **World headquarters**—New York, New York, USA
- **Distribution**—more than 85 countries worldwide
- **Approx. 2004 global retail sales**—US\$2.4 billion
- **Key officers**—Robert Wheeler, Hill's CEO; Neil Thompson, Hill's president International; Justin Skala, Hill's president North America; Karen Padgett, Hill's chief of the Veterinary Business Channel
- **Keys to growth**—"Building and strengthening relationships in the veterinary profession and continuous innovations and improvements in wellness and therapeutic petfood nutrition"
- **New products**—Prescription Diet Canine j/d; Science Diet Indoor Cat; Prescription Diet z/d
- **Website(s)**—www.hillspet.com; www.hillsvet.com
- **Number of plants/locations**—5 facilities and over a dozen offices worldwide
- **Employees**—2,500 people, more than 170 veterinarians

Beyond nutritional management, Hill's is committed to providing the entire veterinary health care team with extensive support. Hill's takes an active role in continuing education in clinics, at conferences and within veterinary schools. Continuing innovations in pet nutrition offer Hill's an exciting future for managing pets with disease, as well as maintaining healthy pets. At Hill's Pet Nutrition Center, a dedicated staff of veterinarians and board-certified specialists work to ensure high standards in research and development.

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areas, such as specialized products to meet the needs of large breed dogs, indoor cats and growing interest in holistic foods.”

Nutro is proud of its people, its products and its dedication to the pet specialty market. The company reports that it is America’s top seller of lamb and rice dog food in pet stores and large breed adult dog food in pet stores. Opportunities are to be found for Nutro in international markets.

Nutro facts:

- **Mission statement**—“Our goal is to make the best petfoods in the world, and to find new and better ways to elevate the quality of the foods available for dogs and cats”
- **World headquarters**—City of Industry, California, USA
- **Approx. 2004 global pet retail sales**—US\$514 million
- **Key officers**—Jerry Sicherman, CEO; David Kravis, president; Ladd Hardy, senior vice president, Marketing; Mike Satterwhite, senior vice president, Sales
- **Top brands**—MAX, Natural Choice and Ultra; MAX Cat Gourmet Classics; Natural Choice Complete
- **Website(s)**—www.nutroproducts.com; www.ultraholistic.com
- **Number of plants/locations**—3

Agrolimen SA

Agrolimen SA was founded by Lluís Carulla Canals in 1937. It now operates 28 production units and is represented in more than 80 countries. It produces consumer goods and employs a total of 10,000 people. **Affinity Petcare** was established in

1963 as a joint venture 50% owned by Ralston Purina Company and 50% by Agrolimen, with the aim of marketing agricultural products. In 1976, it launched its first dog food, and by May 1996 it was 100% dedicated to the petfood business.

In January 2002, Agrolimen agreed to purchase 50% of the Ralston Purina-owned Gallina Blanca Purina, together with Ralston Purina’s shares in Premium in Italy and Greece—the aim being to form a single entity. The acquisition was completed in March 2002. Finally, in July 2002, Agrolimen purchased Boxco following the divestment decision relating to the acquisition of Royal Canin by Masterfoods. Affinity is now the third largest European producer of dry petfood. Key markets for Affinity’s products include the UK, France, Germany, Italy, Denmark and, in particular, its domestic market, Spain. Affinity offers a wide range of products, from special veterinary diets to superpremium foods and high-quality, affordable nutrition. There are six key Affinity brands: Advance, Advance Veterinary Diets, Brekkies, Brekkies Excel, Premium and Special Care.

Agrolimen SA facts:

- **World headquarters**—Barcelona, Spain
- **Approx. 2004 global pet retail sales**—US\$495 million
- **Key officers**—Carlos Argenté, CEO
- **Top brands**—Advance; Advance Veterinary Diets; Brekkies; Brekkies Excel; Premium and Special Care
- **Website(s)**—www.affinity-petcare.com
- **Number of plants/locations**—28

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The Meow Mix Company

The Meow Mix Company is a privately-held company based in Secaucus, NJ. The new company was founded on February 1, 2002 after Nestlé purchased Ralston Purina and was ordered by the FTC to divest the Meow Mix and Alley Cat brands. The Meow Mix Company is owned by the Cypress Group, LLC, a New York-based investment firm and the Meow Mix management team and employees.

Meow Mix is the maker of Meow Mix® brand cat food. The company manufactures dry and wet foods as well as a new line of moist and tartar control treats for cats. Meow Mix manufactures and markets Alley Cat® brand dry cat food. The Meow Mix Company owns a manufacturing facility in Decatur, Alabama, USA. This plant is the only petfood plant in the United States that is 100% dedicated to making dry cat food, according to the company website. The company acquired the 200,000-square-foot facility in August 2002 and invested US\$12 million to renovate and reorganize the plant and equipment. The plant started full production of Meow Mix Original and Meow Mix Seafood Middles brand cat food products in January 2003 and Meow Mix Hairball Control Formula in August 2003. The plant began producing Alley Cat brand cat food products during the first quarter of 2003.

The Meow Mix Company ships to all national and regional grocery chains, specialty stores, mass merchandisers and other retail organizations through a network of five distribution centers strategically located throughout the country. In April 2004, the Company acquired a distribution center in excess of 100,000 square feet in Portland, Oregon, USA.

Meow Mix facts:

- **Mission statement**—"Keeping Cats Happy"
- **World headquarters**—Secaucus, New Jersey, USA
- **2004 fiscal year sales**—US\$249 million
- **Key officers**—Richard Thompson, CEO; Richard Kassar, senior VP/CFO; Michael Larney, senior VP Sales; Scott Morris, VP Marketing; Sam Noto, VP Special Markets; John Phelps, VP Business and International Development; Vir Narula, VP Operations
- **New products**—Indoor Formula (dry); Kitten L'il Nibbles (dry); Marine Attraction (wet); On a Wing and a Prawn (wet); Surf 'n Turf (wet); GoFish (treat); Kitty Catch (treat); On the Range (treat)
- **Website(s)**—www.meowmix.com

Uni-Charm Corporation

Uni-Charm Corporation entered into the petfood and pet care business in 1986 with the launch of the Freshy Aiken dog food line. In 1987, the company launched the Aiken Genki wet dog food and Freshy Neko Genki dry cat food lines. In 1998, petfood operations were acquired from Aijnomoto General Foods, Inc. and Uni-Charm

Seattle, Inc.—a subsidiary producing canned dog food for Uni-Charm Corporation. This led to numerous name changes and identity revisions until the UniCharm Pet Care Company was established in 2002. The pet care business is now operated by a consolidated subsidiary, UniCharm Pet Care Co., Ltd.

In Japan, a demographic shift towards an older population and an increasing pet population represents a promising market in the medium to long term. Thus, the company has focused on two business categories aimed at pet health and longevity, the Food and Toiletry Divisions. Based on the business philosophy of providing pets with a healthy, clean and comfortable life, UniCharm has endeavored to expand operations in the pet care business.

In the Food Division, the company has provided new value to its products and promoted sales, particularly in differentiated category products such as Aiken Genki Gin no Sara dog food and Neko Genki Silver Spoon cat food.

Uni-Charm facts:

- **World headquarters**—Tokyo, Japan
- **Approx. 2004 global pet retail sales**—US\$305 million
- **Key officers**—Toshio Takahara, chairman; Gumpei Futagami, president/CEO
- **Top brands**—Aiken Genki Gin no Sara; Neko Genki Silver Spoon; Oshikko no Atoni Kaoru Suna
- **Website(s)**—www.uc-petcare.co.jp
- **Number of plants/locations**—2 in Japan
- **Employees**—180

Nisshin Seifun Group Inc.

Nisshin Petfood Inc. is owned by Nisshin Seifun Group Inc. of Japan. Headquartered in Tokyo, Japan, the company serves mainly Japanese markets (99%). The company produces cat and dog food under the brand names of Carat (cat food), Run (dog food) and Lovely. According to the company, it holds a 14% market share in the dry cat food category in Japan, a 6% share of the dry dog food category and 10% of the wet cat food category.

Sales of petfood in 2005 were US\$120 million, up US\$7 million from 2004. The company estimates sales in 2006 to increase 4%.

Nisshin Seifun Group facts:

- **World headquarters**—Tokyo, Japan
- **2005 fiscal year sales**—US\$120 million; up from US\$113 million in 2004 (65% cat; 30% dog; 5% other; company-supplied data)
- **Key officers**—Takao Masui, president
- **New products**—Run; Carat; Lovely; Multi Balance
- **Website(s)**—www.nisshin-pet.co.jp
- **Number of plants/locations**—One plant in Kanagawa, Japan
- **Employees**—75

Doane Pet Care Company

Doane Pet Care Company represents the majority of private label petfood sales worldwide. As the largest manufacturer of store brand petfood and the second largest manufacturer of dry petfood overall in the US, the company sells to approximately 650 customers worldwide and serves many of the top petfood retailers in North America and Europe. It offers a full range of petfood products for dogs and cats, including dry, wet, semi-moist, soft dry, treats and biscuits.

Doane Pet Care has been the primary supplier of store brand petfood for Wal-Mart since 1970, manufacturing and distributing a variety of products direct to their stores, including Wal-Mart's store brand Ol'Roy—the largest selling brand of dry petfood by volume in the United States. The company also produces petfood for such nationally-recognized grocery chains as Kroger, Albertson's, Winn-Dixie, Safeway, Food Lion, Bruno's and Bi-Lo, who market the products under their own store brands.

In October, 2005, Teachers' Private Capital, the private investment arm of the Ontario Teachers' Pension Plan Board, completed the acquisition of beneficial ownership of substantially all of the outstanding capital stock of Doane Pet Care Enterprises, Inc., the company's parent corporation. →

Doane Pet Care facts:

- **Company vision** —“Doane Pet Care will be universally recognized as the most trusted name in the petfood business for our customers' brands. DPC will become the partner of choice through our world class team of employees, leading manufacturing and logistics network and expertise in nutrition and quality”
- **World headquarters** —Brentwood, Tennessee, USA
- **Net sales in 4th quarter of fiscal 2004**—US\$271 million; a decrease of 1.7% from 2003 (company release)
- **Key officers**—Doug Cahill, president/CEO; Philip Woodlief, vice president/CFO
- **Top brands**—Trail Blazer dog foods; Kozy Kitten cat foods; G. Whiskers premium cat food; Bonkers cat treats
- **Website(s)**—www.doanepetcare.com
- **Number of plants/locations**—network of 24 manufacturing plants and several distribution centers

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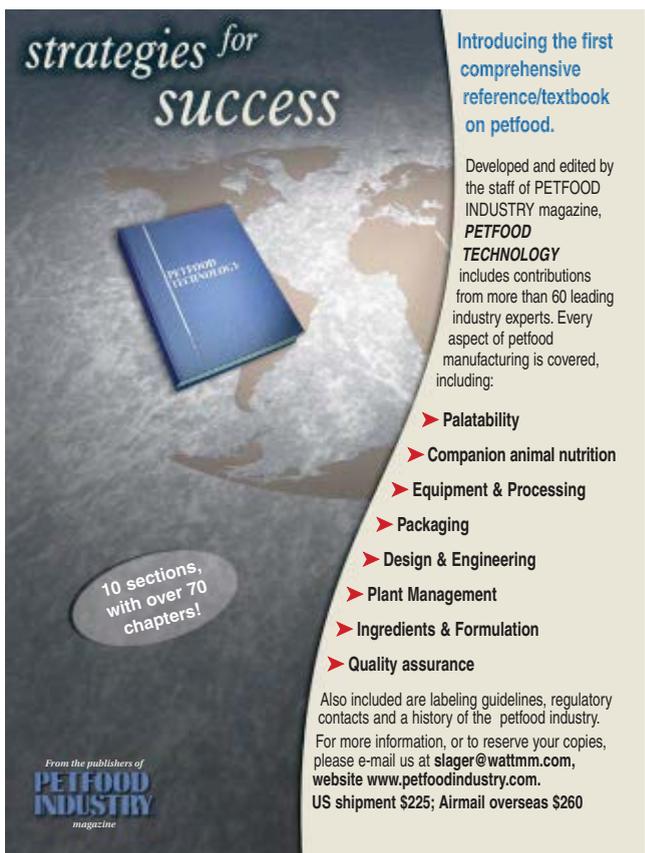
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Glucosamine & chondroitin

Time to fish or cut bait?

Part of my job as a consultant is to explain to companies the regulatory rationale behind the rules, guidelines and policies of the US Food and Drug Administration (FDA) and the Association of American Feed Control Officials (AAFCO). As a former FDA employee, I understand—and can at least appreciate, if not actively support—the reasons behind the bulk of them. However, one issue with which I respectfully can't agree is the current and anticipated future policies regarding the use of glucosamine and chondroitin sulfate in petfoods.

The other day I assisted a client with a notice from a state feed control official flatly informing the company that these ingredients were not allowed in the product, implying the need to remove them from the formulation. Although the product was not reformulated, we prepared a response that hopefully will satisfy the state's concerns. Unfortunately, this is not an isolated incident. I can't count the number of times I've dealt with this matter for various clients and with various regulators. Frankly, I'm tired of it. I know many of my clients don't like it, and I get the impression that most regulators would rather not deal with it, either. So, why are we still haggling over this issue?

Background

Neither glucosamine nor chondroitin sulfate are codified as GRAS (generally recognized as safe); approved as food additives; defined by AAFCO; or otherwise sanctioned by an authoritative body for use in animal feeds, including petfoods. However, they have been widely and routinely added to petfoods for at least the past 10 years, perhaps closer to 15 years. Most states have reached a policy position to allow for their inclusion in

There seems to be little need for concern at their present levels of use in petfoods.

— D. Dzanis



petfoods provided certain conditions are met; namely, that the label does not bear “drug” claims relating to their inclusion, minimum guarantees are declared and a “not an essential nutrient” disclaimer accompanies the guarantees. One state imposes additional restrictions on species, lifestage and inclusion rates and, although I'm unsure of any other states with similar expressed policies, a few informally follow the same restrictions.

Although not perfect, I think most petfood companies are willing to live with these provisions if they're applied fairly and consistently. Unfortunately, there always seem to be some new development that upsets this informal arrangement. Over the past few years, several states have attempted crackdowns on the use of glucosamine and chondroitin. I don't think any of these efforts ever went too far, but the continued precarious nature of the regulatory status of these ingredients still manages to cause a great deal of angst among the industry.

Establishing AAFCO definitions for glucosamine and chondroitin—with submission of data sufficient to demonstrate safety and utility for their intended use—would be the ideal solution to this dilemma. However, efforts to date have proved unsuccessful. In fact, it was FDA's conclusion from the submission of a petition for glucosamine that the

substance was a “drug” with no legitimate animal feed use. I am aware of subsequent correspondence with FDA by another party that in my opinion did offer sufficient evidence of a nutritional role; but as I understand it, such argument did not sway FDA's original opinion on the matter.

While all this has been going on, there do not seem to be any safety issues to have come to the surface regarding use of glucosamine and chondroitin in petfoods. While there's a lot of theoretical safety concerns (e.g., bleeding disorders, insulin resistance, allergic reactions), I haven't seen any reports in the veterinary literature regarding documented cases of adverse effects of these substances over the years. The FDA Adverse Drug Experiences report from 1998 identified two cases of adverse effects associated with glucosamine, at least one of which a fatal bleeding disorder was apparently observed. However, the nature of these reports does not allow for a causal relationship between the substance and the effect to be determined with any reliance—especially with just a case or two. Also, acceptable animal feed ingredients containing inherently high amounts of these substances (e.g., some animal protein products) have been fed for many decades without apparent ill effect.

Admittedly, my familiarity with the

safety of these substances is limited to that information which is publicly available (some of which I may have missed), so there may be significant problems of which I'm not aware. For example, there is a trade organization that is reportedly collecting adverse event data from its members, which includes companies who manufacture products containing glucosamine and/or chondroitin. However, I'm not privy to that information. If there are data on the matter that someone could share with me, I'll report it. However, based on the information at hand, I would opine that considering the very widespread use of these substances for the past decade or more without apparent problems, there seems to be little need for concern at their present levels of use in petfoods.

Future policy changes

It seems every week I receive a query or hear a new rumor regarding the pending changes in the regulatory status of these ingredients. I'm open to be corrected, but as I have been led to believe, the prevailing plan is to regulate glucosamine and chondroitin, along with herbs, botanicals and similar novel ingredients as "unapproved drugs of low regulatory priority." I won't comment on these other substances at this time, but at least with respect to glucosamine and chondroitin, I think it's a bad idea.

Status as a "low priority," unapproved

drug may carry additional burdens not required for a feed, such as a need to follow pharmaceutical Good Manufacturing Practices, to be "drug listed" and to label the product so as to be devoid of any implication that the product has any nutritional value or purpose. While burdensome for all petfood manufacturers, compliance would be totally infeasible for a producer of a petfood in conventional form (e.g., complete and balanced petfood, dog or cat treat product). This causes an unfair discrepancy in the regulation of conventional foods versus those in supplement form. Under this scheme, a glucosamine pill or powder might be able to pass muster, but a complete and balanced food with the same ingredient couldn't. True, the Dietary Supplement Health and Education Act (DSHEA) makes a similar distinction between dietary supplements and conventional foods, for human consumption. However, in my opinion that's one of the biggest problems with DSHEA, and just because Congress made the error with human foods that doesn't justify compounding the problem with animal feeds.

Further, I have been told that even the use of alternative sources of glucosamine and chondroitin, such as some animal protein products, will be indirectly affected by this policy. For example, any attempt to claim the presence of glucosamine or chondroitin in a petfood, even if sourced from an AAFCO-defined ingredient that

contains inherently high concentrations of either of these substances, could indicate intent to offer the product as a drug. In fact, even a guarantee for either substance could be used as evidence of intent. A prohibition of a guarantee would be totally contrary to the current policy of most states, where a guarantee is required.

Space limits further discussion on the reasons I'm concerned. In short, I humbly suggest that in the cases of glucosamine and chondroitin, an effort be made to overlook the reported shortcomings in documented utility and safety and to rely on the notable history of apparent safe use so that AAFCO may define them for use in petfoods. After all, their very longstanding inclusion in petfoods with the tacit sanction by feed control officials may very well constitute *de facto* acceptance as a legitimate feed ingredient already. Attempting to implement stricter control by regulating them as drugs at this juncture seems ill advised. So, unless a realistic safety concern can be documented, I plead for swift resolution so that priority can be given to more important regulatory matters. ➔

Dr. Dzanis is a writer and independent consultant for the petfood and animal feed industries on matters related to veterinary nutrition, labeling and regulation. He can be reached at Tel: +1.661.251.3543, Fax: +1.661.251.3203, E-mail: dzanis@aol.com.



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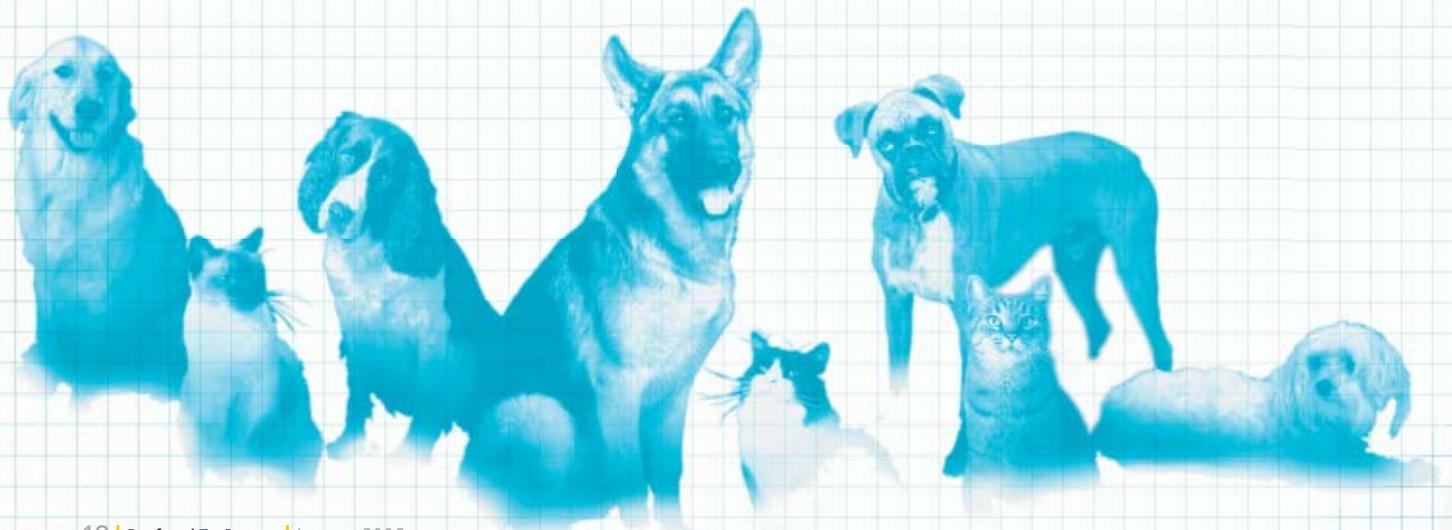
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CORPORATE Profiles

Take this opportunity to learn more about suppliers to the petfood industry

Beginning on the next page is a SPECIAL ADVERTISING SECTION devoted to bringing you information about suppliers of ingredients, equipment and services to the global petfood industry. Each one-page description of the supplier's organization and activities has been submitted by the company itself, to inform you of the products and services they offer. For ease of reference, the company profiles listed here are presented in alphabetical order. See the page number indicated for that company's profile.

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NuPetra LLC

See ad on page 2

For more than 30 years, NuPetra LLC has provided quality, service and scientifically-validated BioFlavor® dog and cat food palatants. NuPetra is committed to keeping up with the changing needs in the petfood industry by providing the best solutions—worldwide—for petfood palatability. NuPetra LLC is headquartered in Fairlawn, Ohio, USA. NuPetra LLC is the developer, manufacturer and worldwide marketer of Bio-Flavor brand petfood palatants.

To meet customer needs on a global scale, NuPetra is involved in a joint venture in Australia, forming NuPetra Pty Ltd with Inghams Enterprises Pty Ltd. NuPetra also works closely with NuPetra Ltd in Ascot, UK to meet European needs.

NuPetra excels in how it supplies its customers. This requires a collaborative relationship, over and above the normal customer/supplier association. Only by understanding our customers' unique and specific needs can we focus our R&D and testing resources on the objective—providing solutions to the customers' explicit requirements. Our products include:

- BioFlavor petfood palatants—liquid and dry flavors that substantially improve the palatability of petfoods and treats. To meet the petfood manufacturer's specific market needs, the Flavors Group of NuPetra offers a wide range of palatants.

- Liquid BioFlavor petfood palatants—produced using controlled processing techniques and proprietary formulas. These are combined to provide optimal organoleptic response by dogs and cats.

- BioFlavor dry palatability enhancers—produced by drying specially-created liquid formulations and blending specific flavor compounds, flavor precursors and/or flavor potentiators at optimal rates to create a synergistic effect to meet the specific customer palatability requirement.

- BioFlavor palatability enhancers—manufactured using food-quality standards within its state-of-the-art processing facilities, using equipment that utilizes

PLC (process logic controls) and reliable manufacturing and quality systems (GMP+, HACCP, Statistical Process, Supplier and Ingredient Evaluation Programs).

A qualified team of PhD chemists, flavor chemists,



food scientists, statisticians, engineers and veterinary care specialists staff the R&D division. R&D develops individually-formulated palatants as requested by the petfood manufacturer.

Performance, consistency and rapid response with scientifically-validated products are important to petfood manufacturers, so NuPetra maintains its own USDA-licensed Palatability Testing Center. This 50,000-square-foot facility on 153 acres is home to literally hundreds of lovingly-cared-for dogs and cats that evaluate BioFlavor products. These animal judges determine performance in a representative microcosm of the actual pet population.

The panels provide valuable data for the R&D Group. A proprietary database system accepts input from the palatability judging panels and quickly calculates the statistical results of animal preference and choice. Statistics and an annual calibration program validate that the testing panels provide results consistent with what pets prefer.

NuPetra LLC operates from its Fairlawn, Ohio, USA headquarters. The US manufacturing plant is in Aurora, Missouri, USA. The research facilities are located in Illinois, USA.

NuPetra LLC: Peggy Farrell-Kidd, Director of Sales & Marketing, 320 Springside Drive, Suite 300, Fairlawn, OH 44333 USA, Tel: +1.330.665.2112, Fax: +1.330.665.2195, E-mail: farrellp@bioinc.com, Website: www.NuPetra.com

DSM Nutritional Products

See ad on page 5

DSM Nutritional Products is the world's leading supplier of vitamins, carotenoids, enzymes and other fine chemicals to the feed, food, pharmaceutical and personal care industries. The company has its strategic focus in the discovery of new products, new formulations and attractive applications for these industry segments.

DSM has annual sales of around €8 billion; is active worldwide in nutritional ingredients, pharmaceutical products, performance materials and industrial chemicals; employs about 24,000 people across the world; and ranks among the global leaders in many of its fields. Having undergone major transition during the last decades, DSM has demonstrated that introducing innovation in an ever-changing business environment is a core competence of the company. Additionally, sustainability and financial solidity are key attributes, making DSM a reliable and professional partner in business.

DSM Nutritional Products (together with DSM Food Specialties) focuses on the development, production, marketing and distribution of nutritional ingredients for the feed, food, pharmaceutical and personal care industries. Six R&D centers aim at identifying novel functional ingredients, manage application and safety trials and develop competitive production technologies. Eleven production sites are operated to produce most of our extended portfolio of high-quality nutritional products. Forty-five blending facilities spread over the entire globe allow DSM to efficiently serve our customers with micro-ingredient nutritional premixes. The distribution of the products is organized by a global network of sales offices, all supported by a regional team of technical, analytical, logistics and regulatory specialists.

DSM Nutritional Products also has a team of professionals specifically serving the petfood industry. This team is dedicated to bringing DSM's products and services to our petfood customers to align our offering to their needs, to provide innovation to the industry and to partner with customers for maximum value creation.

While initially focusing on vitamins and carotenoids,

Unlimited. **DSM**

DSM research has led to a substantial pipeline of novel food and feed ingredients addressing current health issues in humans and animals. This product portfolio includes polyphenols, polyunsaturated fatty acids (PU-FAs), nucleotides, enzymes, probiotics and other functional compounds contributing to health and well-being.



It is a continuing effort of the petfood business team to make these compounds available to the petfood industry, to develop related nutritional concepts,

to demonstrate efficacy in target species and to clear regulatory constraints.

Bringing solutions to our customers is our way to enhance a pet's life.

ROVIMIX® is known as DSM's trusted brand of vitamin products tailored to the petfood industry. This unique brand represents vitamin products meeting the specific requirements of petfood professionals in formulating and manufacturing companion animal diets. However, as a result of the increasing sophistication of pet nutrition products, DSM today can offer a more extended range of product forms. By leveraging our expertise in human food products and dietary supplements, we can be a partner for delivering nutritional value in a broad variety of pet products.

Research by DSM's animal nutritionists and veterinarians has led to establishing supplementation guidelines represented by OVN™ (Optimum Vitamin Nutrition). Based on a partner relationship between DSM and their customers, OVN also stands ingredients of superior quality, documentation assuring full traceability, technical and regulatory support. Additionally, we can provide promotional support in terms of customer surveys and co-marketing the OVN trademark.



DSM Nutritional Products Ltd: Wurmisweg 576, Bldg 241/837, 4303 Kaiseraugst, SWITZERLAND, E-mail: petfood.nbd@dsm.com, Website: www.dsmnutritionalproducts.com

Summit Ridge Farms

See ad on page 68

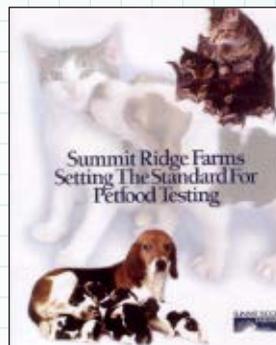
The relationship between a family and their pets has changed dramatically over the past 50 years. Terms like “companion animals” or “superpremium petfood” were not in the mix back then. Making petfood has also changed dramatically. Because pets are more like a part of the family, pet owners are aware of many nutritional issues that affect their dogs and/or cats. Health issues, palatability, stool quality, obesity and lifestages are just some of the concerns pet owners think about when deciding what to feed their pets.

Knowledgeable clients demand the facts; facts about real life situations that impact dogs and cats. Summit Ridge Farms recognizes the importance of reliable answers to questions about product performance and testing. We also realize that those answers will influence the formulation of petfoods, along with the consumer’s perception of that food.

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develop protocols tailored to the individual needs of your business.

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Ridge Farms have access to a large outside playground. These playgrounds are equipped with Astroturf runners, bridges, tunnels, toys, park benches, along with a large group of Environmental Enrichment Technicians (better known as “puppy petters”) to interact with all the dogs. Our cats are supplied with large “cat condos” that allow interaction with other cats and have daily hands-on play times.

At Summit Ridge Farms, we are proud and pleased with the work we do and the environment we provide our animals. Our professionals can be trusted to work closely with clients to

resolve issues that can impact the accuracy of a test. We are a trusted partner who can deliver timely, concise, thorough and accurate data.

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American Dehydrated Foods, Inc.

See ad on page 23

American Dehydrated Foods, Inc. (ADF) was founded in 1978 by William H. (Bill) Darr in Springfield, Missouri, USA. Our success owes much to the philosophy instilled by Bill as he worked with customers to develop value-added ingredients that met their unique needs. His plan has been refined by identifying underutilized agricultural raw materials and, through specialized processing, transforming those materials into high-quality food ingredients of significant nutritional value.

Starting with one plant in Verona, Missouri, USA, ADF now operates nine facilities in six states. ADF has a variety of capabilities to meet our customers' specific product and quality requirements. All of ADF's processing and drying plants are American Institute of Baking (AIB) certified "Superior," and staffed with top professionals in the industry.

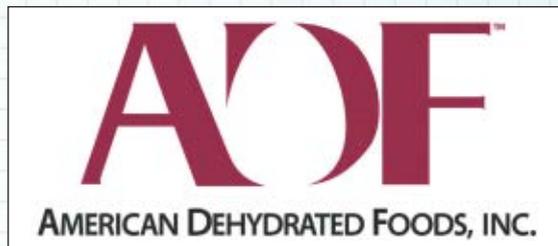
Our products include:

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- Spray-dried "low molecular weight" hydrolysate products;
- Broths;
- Extruded protein complexes and customer extruded base mixes; and
- Chicken fat.

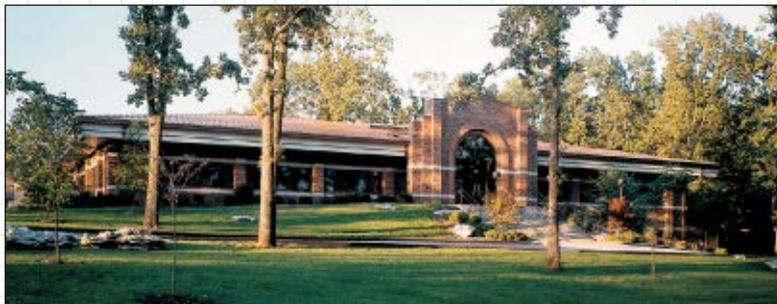
At ADF, we believe the best products begin with higher-quality ingredients. Today, ADF is recognized as a leader in providing high-quality protein and fat ingredients to the petfood and animal industry worldwide, and we are a world leader in the processing of feed-grade egg products.

Now celebrating over 25 years of operation, ADF credits its success to building strong relationships with our associates, our customers and our suppliers. ADF's professional staff works with individual customers in developing products and processes that meet their unique business objectives and applications—helping them to bring new opportunities to market.

In developing new products, our research scientists work alongside each customer to establish the specific "testing design" and timetable for completion. Tests are performed to evaluate product expectations and performance, with the results from those tests implemented into the final product. Knowledge of a customer's need(s), the desired results and the applica-



tion of resources available enable our research scientists to provide recommendations and/or to develop proprietary products. Throughout this process, we maintain constant and open communications with our customers, ensuring that they receive the best product at the "best value." Our bottom line is our commitment to



the value of long-term relationships built on customer satisfaction—before and after the sale.

ADF understands that the quality of people working throughout each organization directly contributes to the overall success of our company. After all: "Success depends on what you are made of."

ADF is a privately-held corporation headquartered in Springfield, Missouri, USA, with US plants located in Hanceville, Alabama; Cummings, Georgia; Social Circle, Georgia; Princess Anne, Maryland; Verona, Missouri (two plants and R&D facility); Lillington, North Carolina; and Texarkana, Texas.

Global distribution of our products is carried out by CIMA Nutrition in Waregem, Belgium; Innovet, Bang-plee, Thailand; Tai Sang Feed Co., Hong Kong; Chori Ltd., Japan; and Bitek, South Africa.

American Dehydrated Foods, Inc. (ADF):
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Alcan Packaging

See ad on page 25

Alcan is a multi-national, market-driven company and a global packaging leader in food flexibles, pharma and cosmetics. Today's Alcan Packaging, with the acquisition of Pechiney Plastic Packaging in 2004, is even better positioned to meet and exceed petfood customers' needs for innovative solutions and service because it has a reinforced technological and global presence. The new combined packaging group will also enable us to improve our ability to serve multi-national customers.

The new Alcan Packaging has more than 34,000 employees and is a global force with 180 facilities in 26



countries—accounting for more than US\$3.5 billion in annual revenues. More than just a supplier of material, Alcan understands what successful customers anywhere in the world need most—a strategic partner providing innovative solutions for increased productivity, competitiveness and profitability.

Food Packaging Americas headquarters are in Chicago, Illinois, USA. In addition to the headquarters, there are 29 plants located throughout the US, Canada and Mexico, as well as the research and technology center located in Neenah, Wisconsin, USA, which has a full-scale pilot plant and packaging lab for development projects.

The technology center is complemented and supplemented by the technical departments in the various plants. Our engineers concentrate on product applications and provide technical development support to customers, drawing extensively on the resources and scientific competencies of the technical center.

Our product portfolio includes a full range of printed and coated plastics and cellulose films, papers

and aluminum foil. We can manufacture petfood packaging at many of our facilities, but the industry is serviced primarily from our Minneapolis, Minnesota, USA complex.



Alcan produces film, paper and foil laminates by both solventless and solvent adhesive, as well as extrusion lamination. We also produce mono- and co-extruded plastic films for special applications and metallized plastic films in-house. Our comprehensive range of special products for pet treats and food includes:

- Retort lidstock and pouches;
- Pillow pouches;
- Mid-size bags;
- Large bags;
- Stand-up recloseable pouches and pouch-stock;
- Quad-seal bags;
- Forming and non-forming webs; and
- Die-cut lidding and lidstock.

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- Shapes;
- Embossing;
- Holographic films;
- Zippers;
- Easy-open and straight-tear laser scoring; and
- Gas flushable.

We also provide customer technical support at the packaging line level. We would be pleased to be able to put our assets to work for you and to be your preferred packaging partner.

Alcan Packaging: Mike Dennis, 8770 West Bryn Mawr Avenue, Chicago, IL 60631 USA, Tel: +1.773.399.3648, Fax: +1.773.399.8099, E-mail: mike.dennis@alcan.com, Website: www.alcanpackaging.com



Still using paper?



Make the Move from Paper to Plastic with Alcan Pet Food Packaging for Superior Graphics, Re-sealability and Reduction of Infestation.

- Alcan's patented LaserTear® scoring technology creates precise scoring lines and custom 2-dimensional tear paths
- 10-color printing creates superior, eye-catching graphics
- Advanced film technology resists denting and creasing for better shipping, stocking and end-use performance
- Alcan's patented films are developed and supported by dedicated pet food R&D teams
- Alcan's gas-flushing and vacuum-packaging technologies improve food safety and increase consumer appeal

Experience Makes a World of Difference! A global supplier for more than 100 years and the leading domestic producer of retort pet food packaging, Alcan takes your packaging into the future. Contact us today for more information!

8770 West Bryn Mawr Avenue • Chicago, IL 60631 • p 773-399-8000 • f 773-399-8099 • www.alcanpackaging.com ©2005 Alcan Packaging



Value-added applications such as unique handles, die-cut designs and zipper-closure capabilities provide unparalleled convenience

ALCAN PACKAGING



bi-pro marketing limited

See ad on page 27

If you are watching what you eat, shouldn't you be doing the same for your pet?

In the past few years we've seen tremendous growth in premium petfood products with added health benefits. Pet owners are becoming increasingly aware of what they feed their companion animals; therefore, bi-pro has focused on providing ingredients with more nutritional value to fulfill a pet's dietary requirements.

Innovative ingredients have been introduced in bi-pro's already extensive product line to fulfill the demand for healthier alternatives. These include products derived from:

- Peas,
- Cranberries,
- Carrots,
- Mushrooms,
- Garlic,
- Flax,
- Herbs and spices, and
- Many more.

bi-pro also markets vegetable proteins and grains, which are widely used in the petfood trade. These products include:

- Canola meal;
- Corn gluten meal;
- Soybean meal;
- Linseed meal; and
- Among others.

To keep pace with changing customer and supplier needs, bi-pro's specialized service areas continuously update available product lines and the range of ingredients. bi-pro's six service areas are:

- Petfood ingredients;
- Proteins, fats and oils;
- Bird food and feed additives;
- Grain and grain by-products;
- Food ingredients; and
- Custom services.

bi-pro offers a wide variety of custom services through its bulk transloading, storage and warehousing facilities, which are located in Guelph, Ontario; Ingersoll, Ontario and Montreal, Quebec, Canada. All three facilities are served by



bi-pro marketing limited

direct rail link and major transportation highways, and are equipped to offer the following services:

- Bulk transloading;
- Bulk storage;
- Warehousing;
- Container loading/unloading;
- Blending; and
- Packaging.

bi-pro's success over the years had been driven by its values and guidelines which represent how the company operates in the marketplace. These include:

- Integrity and ethical conduct;
- Creating dynamic relationships;
- Team unity; and
- Service excellence.

By becoming part of the Sanimax group of companies, which also includes Sanimal Inc. from Montreal and Anamax from Green Bay, Wisconsin, USA, bi-pro has increased its geographic coverage and market share. As a result of this merger, bi-pro's industry knowledge and sales force have strengthened and put

the company in a better position to meet all of its customers' needs.

bi-pro is headquartered in Ontario, Canada, with branch offices located in Quebec, Saskatchewan and Manitoba, Canada; and an additional office located in Wisconsin, USA.

bi-pro marketing limited:

370 Speedvale Avenue, W.,
Guelph, Ontario N1H 7M7 CAN-
ADA, Tel: +1.519.824.2381, Fax:

+1.519.824.9472, E-mail: marketing@bi-pro.com,
Website: www.bi-pro.com



fetch the best ingredients the world has to offer...



bi-pro marketing limited



370 Speedvale Avenue West, Guelph, Ontario
Canada N1H 7M7 toll free: +1.800.263.7430
phone: +1.519.824.2381 fax: +1.519.824.9472
e-mail: marketing@bi-pro.com web: www.bi-pro.com

SPF

See ad on page 29

SPF is the petfood division of the international group Diana-Ingredients, one of the major suppliers of natural ingredients for food and pharmaceutical industries. SPF produces innovative liquid and dry palatability enhancers. Ranges C'SENS for cats and D'TECH for dogs offer solutions for dry petfood, wet petfood and treats in line with petfood market trends.

As the partner of petfood manufacturers for the past 20 years, we have been developing a strong knowledge and a sense of innovation in palatability in order to meet our customers' expectations. Today, SPF is one of the few companies that totally commits itself to cat and dog food palatability with strict control from the aroma conception to its assessment by the animal and its owners.

Palatability is crucial, and must be approached with professionalism and confidentiality. Our expert sales team has developed long-lasting relationships with our customers to work on specific palatability targets and share their expertise. We take into consideration the industrial equipment, the final product specifications and the market environment to provide the most effective and efficient palatability solutions. In other words, we have a "full palatability approach" for the success of our customers' palatability system.

We continually strengthen our R&D to deal with palatability methodically and thoroughly with performance and quality as constant targets. Our Research Center is equipped with application laboratories, as well as pilot plants. Our experts (flavorists, microbiologists, statisticians and veterinarians) work in teams on research themes that cover all aspects of palatability. Specific methods and analytical tools allow them to achieve the best understanding of palatability and to develop innovative products under strict confidentiality from conception to industrial application.

SPF is aware that products must be approved by cats and dogs and accepted by their owners to achieve the best market response. Our developments not only include palatability tests but also rely on aroma assessment by expert and consumer panels. SPF has developed its own expertise to measure palatability performance:

- Panels of cats and dogs trained and individually observed;



- Adapted protocols including studies on animal behavior;
- Qualified teams guaranteeing pets' well-being; and
- Test repeatability and accurate statistical analysis of the results.

Preferences are thus validated by dogs and cats themselves in a reliable way, for all types of petfood (dry, wet, treats).

Proximity and reactivity are essential to be competitive in each market. Thus our sales team and industrial network are international:

- Corporate office and Research Center located in Elven, France.

- Production facilities all over the world—5 plants in Europe, 2 plants in Northern America, 3 plants in Latin America and 1 plant in Pacific Asia.

Aware of our customers' expectations, we are totally committed to quality (HACCP, ISO 9001, 14001, GMP+). Thanks to our experience and our industrial transfer mastery, we are able to offer a worldwide product range with the same consistency produced locally. We pursue our industrial development to always be closer to our customers.

SPF: Za du Gohelis, Elven 56250 FRANCE, Tel: +33.2.97938080, Fax: +33.2.97938474, E-mail: contact@spf-diana.com, Website: www.spf-diana.com

North America: sales@spf-usa.com; Latin America: consultas@spf-argentina.com.ar, infos@spfbrasil.com.br, info@spf-mexico.com, sales@spf-colombia.com; Europe: contact@spf-diana.com, info@spf-uk.co.uk, informacion@spf-espana.com, spf@spf-hungary.com; Pacific Asia: contact@spfaus.com, contact@spf.com.cn



of expertise on Palatability
Take advantage of our 3 areas

Science & Technology



knowledge and expertise dedicated to the mastery of Palatability

Palatability measurement



to ensure a true and accurate assessment of the palatability systems performance

Full Palatability approach



for the success of your palatability system

D'TECH by **SPF** your palatability answer for dogs
C'SENS by **SPF** your palatability answer for cats

**SPF**
The worldwide palatability company

www.spf-diana.com

Trouw Nutrition USA

See ad on page 31

Innovation. For Trouw Nutrition USA, it's more than a 10-letter word. It is a description of the dogged determination Trouw delivers day-in and day-out in creating, manufacturing and supplying the best ingredients in companion animal nutrition.

For more than 25 years, the Highland, Illinois, USA-based company has met the nutritional needs of the companion animal industry by providing innovation in nutrition.

Trouw Nutrition's companion animal team is 100% dedicated to your business. They are constantly searching for new and unique concepts, products and ingredients that help you stand out in a crowd, giving you a competitive edge.

OPTIMIN® chelated minerals—the number one chelated mineral in the USA—and Orafit's RaftiFeed® inulin and oligosaccharides are just a few of the many specialty ingredients available through Trouw. These innovative ingredients will help position your products at a superior level. Because Trouw is a global company, it can meet your needs no matter where you are.

Trouw Nutrition's cutting-edge philosophy extends to production as well. Our Highland plant manufactures exclusively for the companion animal industry. In June 2005, Trouw achieved Organic Certification by Quality Assurance



The Highland, Illinois, USA plant is 100% dedicated to the companion animal industry.

AIB Food Safety premium rating



Trouw's attention to quality has earned numerous ratings and certifications.



From ingredient sourcing to delivery, Trouw Nutrition employees are committed to quality and meeting the customer's needs.

International (QAI). Year after year, the American Institute of Baking (AIB) awards Trouw Nutrition with a Superior rating in its food safety program. No

restricted-use proteins are allowed in our plant, which is assured by the Feed Certification Institute (FCI). These assurances of quality, along with a drug-free and humidity-controlled plant, mean you receive not only the latest, but also the greatest, in nutrition.

Your service is enhanced by the fact that Trouw Nutrition USA has a growing sales, customer service and marketing team dedicated solely to the company's petfood business.

So when your product needs a competitive nutritional edge, consider Trouw Nutrition USA. Innovation. That's how. That's Trouw.

Trouw Nutrition USA:

Chuck Hayden, PO Box 219, 115 Executive Drive, Highland, IL 62249 USA, Tel: +1.618.654.2070, Fax: +1.618.654.1818, E-mail: chuck.hayden@nutreco.com, Website: www.trownutrition.com

Nature has a flair for detail.



So do we.

Few things demonstrate nature's intricate beauty more than the cat's eye. Such detail exemplifies our focus on perfection in petfood blending and ingredients.

Trouw Nutrition's concentration on quality has consistently earned us a Superior rating by the American Institute of Baking (AIB) for meeting food-grade standards.

Our plant is the only AIB-certified and humidity-controlled, fully dedicated petfood

blending facility in North America. The plant is totally antibiotic free, certified for production of "organic" blends, and no restricted-use proteins are allowed in the facility.

Trouw Nutrition's attention to detail is the difference in making petfood products with perfection. Look to the global innovator in companion animal nutrition for your ingredients and manufacturing needs.

For information, contact:

Highland, Illinois • Willmar, Minnesota

800-255-3582 • www.trouwnutritionusa.com

AIB Food Safety premium rating



CERTIFIED ORGANIC



Trouw Nutrition
INTERNATIONAL

Innovation. That's How. That's Trouw.

Aeroglide Corporation

Aeroglide's corporate mission statement is to "remove moisture and heat." It is with this unique focus that Aeroglide serves the needs of the petfood and aquaculture markets—drying extruded products and pet treats—including co-extruded, formed and natural treats.

Aeroglide began the millennium with another introduction of new sanitation features, taking the next step up in operational cleanliness of petfood dryers. With the petfood processors' need for frequent product changeover, Aeroglide offers innovative internal designs for optimum sanitation and enhanced air distribution control in conveyor dryers and coolers.

With Aeroglide's growth, their focus remains on drying and cooling. Beginning in the 1960s, Aeroglide pioneered continuous drying of petfood with the world's first two-pass, dual-plenum conveyor dryer. This dryer became the premier configuration for all leading petfood producers worldwide. In the 1990s, Aeroglide responded to the petfood industry's new challenges of product moisture uniformity with the world's first tri-



ple-pass petfood conveyor dryer, and the first sequentially-zoned dryer to optimize control of each phase of drying using independently-controlled zones.

While several major petfood companies have standardized on the Aeroglide dryer design, Aeroglide continues to innovate in design and in processing to assist their customers and improve dryer efficiency and operation. Aeroglide's latest new product introductions include rapid heat transfer vibratory fluid bed and patented pulsed fluid bed systems.

Aeroglide continued its growth with the acquisition of National Drying Machinery Company in April 2004, making Aeroglide the largest conveyor dryer manufacturer in the world. Combining these two drying companies has produced an impressive depth and breadth

AEROGLIDE[®]
National • FEC • Sargent

of equipment and services to the petfood and feed industries. Aeroglide is unmatched in providing equipment that meets the specific processing requirements at a high operating efficiency.

The Aeroglide Dryer Evaluation Program offers processors an experienced field engineering group to conduct a complete mechanical inspection and a complete process analysis of any make or brand of dryer. A verbal overview and detailed written report are provided, in addition to hands-on customer participation during the evaluation.

Aeroglide's Dryer Seminars are held throughout each year and worldwide to help customers understand the science behind drying, and put the theory into practice. This intensive instruction on drying provides hands-on experiments on laboratory units, in addition to classroom instruction. In addition to this successful drying process-based class, Aeroglide now offers a course focused on day-to-day maintenance of dryers and associated components.

The Aeroglide technology center not only accommodates the Dryer Seminars, but is home to an excellent combination of drying technology for processors to test their products and explore new options in drying. The technology center includes all of the latest in drying technology, as well as Aeroglide's research and development programs to keep on top of petfood processors' future requirements.

The reason for the petfood industry's preference for Aeroglide dryers worldwide is simple: Aeroglide is unmatched in focusing on the unique drying and cooling needs of its customers. Corporate management, engineering, manufacturing and sales offices for Aeroglide are located in Raleigh, North Carolina, USA. Aeroglide has sales, parts and service regional offices located in Philadelphia, Pennsylvania, USA; Stamford, England and Kuala Lumpur, Malaysia.

Aeroglide Corporation: Paul McKeithan, PO Box 29505, Raleigh, NC 27626-0505 USA, Tel: +1.919.851.2000, Fax: +1.919.851.6029, E-mail: sales@aeroglide.com, Website: www.aeroglide.com

Automated Process Equipment Corp—APEC

Drawing on their previous experiences in the petfood and animal feed industries, a core group of employees founded APEC in 1992. APEC has steadily grown into what is now one of the industry leaders in providing material handling equipment for petfood and animal feed production facilities. First occupying a medium-sized pole barn, APEC is now housed in a 66,000-square-foot production facility. Located in Lake Odessa, Michigan, USA, APEC is in the heart of the industrial Midwest.

The goal of APEC is to be the world leader in the design and manufacturing of integrated process and control systems in a way that will be mutually beneficial for their customers and themselves. APEC will continually strive to provide superior-quality products and services to their clients.

APEC easily serves a global marketplace. Current equipment and control installations include the United States, Canada, Central and South America, France, Spain, The Netherlands, Greece, Russia and Australia. Some of our major accounts include Iams, Hill's, Purina, Cargill, Doane's Pet Care and Agribrands.

APEC is primarily known throughout the petfood industry for the Mistcoater liquid applicator. This unit provides an attractive alternative to the open-ended drum and spray nozzle arrangements typically associated with coating systems. The Mistcoater is a totally enclosed machine that utilizes spinning disks to atomize the liquid(s) and apply it to a cascading dry product. The product to be coated enters the machine and falls onto a rotating "dry disk."

The material falls off the dry disk in a cascading helical pattern. Simultaneously, the liquid is pumped onto spinning disks located in the center of the cascading product. This liquid is atomized and flung out into the falling dry material. Internal scrapers prevent product build-up on the walls of the coating chamber. An optional twin screw ribbon and paddle con-



APEC Automated Process Equipment Corporation

veyor gently mix and allow the product to rub against one another which further increases the quality of the coating. APEC compliments the Mistcoater with a complete package designed especially for the application of microliquids such as enzymes and mold inhibitors.

An optional loss-in-weight or volumetric powder feeder allows for the tack application of powders such as digest, whey, gravy or flavorings. The simplicity and versatility of the machine make it a logical choice for liquid application. APEC also offers micro-ingredient scales with the standard rollover-type scale or optional indexing scale vessel for those applications that require no cross contamination. Available in 4- to 24-bin clusters, the APEC micro-scale consumes less floor space than their competitors. The optional TSS feeder drive system achieves accuracy of 0.01 pounds.

Ribbon mixers come fabricated in mild or stainless steel with sizes ranging from 150 kg to five tons. Other peripheral components include screw feeders, drag conveyors, belt conveyors, diverters, slide gates and bulk bag unloaders. Dry flow sens-

ing equipment includes weigh screw and weighbelt conveyors plus the CentriFlow mass flowmeter. A full range of liquid handling equipment completes any system package. This includes pumps, filters, day tanks and coreolis-type flowmeters.

Well established in the petfood industry, APEC continues to improve and expand its product line in order to best serve their customer base, while branching out into other industries.

Automated Process Equipment Corporation (APEC): Kendall Wilcox/Terry Stemler, 1201 N. Fourth Avenue, Lake Odessa, MI 48849 USA, Tel: +1.616.374.1000, Fax: +1.616.374.1010, E-mail: sales@apecusa.com, Website: www.apecusa.com



MAN'S BEST FRIEND

DOG



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rgrimm@afbinternational.com

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alusa@afbinternational.com.br

europa 31.73.5325777
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asia/pacific 949.494.5917
db.afb@cox.net

YOUR BEST FRIEND

AFB

Your customers become your friends when you share compatible interests in palatant technology and have the R&D capability to create superior solutions. Raising the palatability bar requires teamwork and a dedication to the flavoring process. AFB believes the right team will improve your performance and with it the opportunity to build market share.

So look to AFB for technical research coupled with the industry's finest field support and gain a competitive edge anywhere in the world your marketing takes you.

Optimizing Health and Taste

Clextral Incorporated

The food industry changed forever in 1969 when Clextral SA created the first commercially-successful food by twin screw extrusion. Flat bread (also called crisp bread) was a major success in Europe, and interest in twin screw extrusion multiplied. In the early 1980s, Clextral joined Simon Food Engineers, specialists in RTE cereals, to explore opportunities in breakfast cereal, snack food and petfood production in the United States.

The popularity of twin screw extrusion grew as an alternative to traditional processing, and in 1985, Clextral opened offices near Tampa, Florida, USA to serve this growing market. Today, Clextral supplies extrusion systems for dry dog and cat food and treats, moist and meaty petfoods produced by proprietary protein fibration processes, veterinary products, animal feed, fish and shrimp feed. Clextral extruders process breakfast cereals, snack foods, caseinate, baby food, instant drinks, meat analogs, TVP, modified starch, flavors and many other proprietary food products. In 2001, Clextral completed a buy-out by top managers with secured financial backing, becoming an independent corporation with a bright vision of the future.

Clextral twin screw extruders are on the forefront of innovation, from benchtop R&D units to production systems surpassing 35,000 pounds per hour throughput. Clextral extruders have modular designs, with specific L/D ratios for virtually any product configuration. Clextral was first, and is still the only, manufacturer to offer automatic slide-open barrels, saving countless man-hours during product change, sanitation and reconfiguration. Clextral extruders employ quick-clamp barrel segments, easy-remove dies and swing-open cutter assemblies that give feed processors the opportunity to produce multiple products on the same equipment.

In 1999, Clextral introduced a line of ultra high-performance twin screw extruders destined to help food processors achieve exceptional results from extrusion processing lines. Evolum® extruders have an innovative design that delivers dramatically-increased throughput (compared to extruders of similar size)



while maintaining a superior product quality. More powerful motors, new gearbox designs, increased screw speeds and new temperature control systems that provide pinpoint accuracy in heating and cooling are performance enhancements of this new breed of extruder. Advanced technology made easy to use is the hallmark of the Evolum line—which boasts five models so far.

The Evolum LT 145 was specifically designed for animal feed manufacture and ensures higher throughputs while processing high-energy, easily-digestible feed. Operation is automatic, with computerized control to ensure precise metering of dry and liquid ingredients, maintain optimum screw speeds and ensure accurate temperature regulation. Complete extrusion processing lines including engineering, fabrication, installation and training are also provided by Clextral.

Clextral operates two pilot plants—in Firminy, France and Tampa, Florida, USA—dedicated to assisting our customers in creating, refining and reformulating extruded products. Our fully-equipped technical centers are where we meld creativity and technical expertise. Customers

are encouraged to say “what if” and explore new product and production concepts. When Clextral’s experts search for processing solutions, they draw from knowledge in extrusion processing for food, plastic and paper pulp. It’s this insight and vision that generate new profit centers for our customers. The pilot plants offer eight extruders plus a full complement of ancillary equipment for complete production.

Clextral serves customers worldwide with an extensive network of representatives, with full sales and service, parts and engineering support from offices in France, United States, Chile, Singapore and China.

Clextral Incorporated: Laurent Garcia, VP sales, 14450 Carlson Circle, Tampa, FL 33626 USA, Tel: +1.813.854.4434, Ext. 107, Fax: +1.813.855.2269, E-mail: clextralusa@clextralusa.com, Website: www.clextralgroup.com or www.clextrusion.com



Extru-Tech, Inc.

See ad on page 59

Extru-Tech, Inc. is a diversified corporation committed to the technological development of extrusion processing equipment. Through continuous research, development, sound engineering and superior manufacturing, Extru-Tech provides a worldwide customer base with cost-effective answers to extrusion production needs.

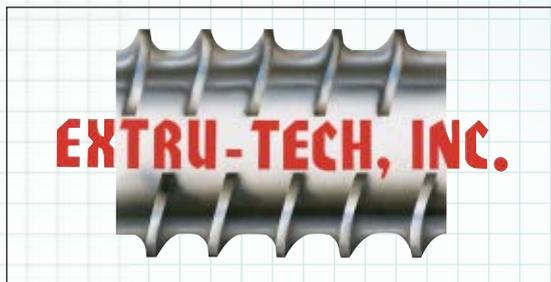
Founded in 1985, Extru-Tech, Inc. first entered the extrusion industry by supplying rebuilt extrusion equipment and providing innovative extrusion technology to the human food, aquatic feed and petfood industries. The company has quickly grown to become one of the industry's leading suppliers of new and remanufactured extrusion processing systems and related equipment.

Extru-Tech is involved in a continual research and development effort that is driven by an experienced engineering staff. Research and development are focused on both improving existing equipment design for better performance, and new equipment design to improve operational characteristics and cost.

Extru-Tech offers an exclusive line of single screw cooking extruders with capacity rates that vary from 300 lbs. to 36,000 lbs. per hour. From the massive capacity 600 horsepower Maxxim™ Extrusion System, to the exacting finished product quality of the E525 System, Extru-Tech has established the industry standards for performance and value. All extrusion cooking systems are engineered to properly distribute starch gelatinization levels between the dual-shaft conditioning cylinder and extruder barrel to optimize both barrel component performance and energy efficiency while maintaining the nutritive integrity and palatability of the products being produced.

A majority of the extruders Extru-Tech produces feature dual-shaft conditioning cylinders that provide continuous blending of water, steam, dyes, fats or meat slurries into the dry material flow prior to extrusion. The two counter-rotating shafts turn at equivalent speeds, enabling the intermeshing beaters to provide maximum uniform blending. The unique design enables retention times from 1 to 5 minutes depending on the model of conditioning cylinder used.

A complete line of ancillary equipment designed to work in conjunction with cooking extruders is also available. These include: Live bottom bins; variable-



speed feeder screws; dual-shaft conditioning cylinders; and variable-speed knife assemblies.

Extru-Tech also manufactures and distributes the AirFlow II Dual and Triple Pass dryer/cooler systems. The exclusive design enables customers to improve finished product quality while improving drying efficiency. Airflow II technology provides the industry's most advanced airflow control system for maximum finished product control.

Other major components supplied by Extru-Tech include:

- Vertical and horizontal coolers;
- Batch and continuous enrobing systems;
- Pneumatic conveying systems;
- Product densification units;
- Dust control equipment; and
- Remanufactured extruders.

At Extru-Tech you will find people who are knowledgeable, highly service oriented and experienced. The sales, service and research and development staffs provide expertise in a variety of backgrounds, including extrusion technology, production management, plant design, engineering and marketing. All are committed to providing customers with the best service possible.

Contact Extru-Tech today. You will find an energetic sales staff that can assist you in defining your specific needs and put together an extrusion system precisely compatible with those needs. Extru-Tech's sales people will work with you right through the installation process—and stay in touch after the equipment is up and running—to ensure complete customer satisfaction.

Extru-Tech, Inc.: 100 Airport Road, Sabetha, KS 66534 USA, Tel: +1.785.284.2153, Fax: +1.785.284.3143, E-mail: extru-techinc@extru-techinc.com, Website: www.extru-techinc.com



Griffin Industries, Inc.

Since 1943, Griffin Industries is a recognized agribusiness leader in the production and distribution of the highest-quality fats, proteins and bakery byproducts for the petfood industry. Steady acquisitions have translated into over 30 locations throughout the Midwest, southeast and southwest United States with headquarters in Cold Spring, Kentucky, USA. Innovative products and unparalleled customer service continue to propel the company as one of the largest rendering companies in the country.

The highest-quality and most consistent poultry fat, chicken fat, turkey meal, chicken meal, chicken byproduct meal and Cookie Meal® are manufactured by Griffin Industries specifically for the petfood industry. Consistent raw material, selective processing and



our uniquely-patented manufacturing processes allow Griffin to provide customers with quality products that enhance palatability and digestibility while maximizing nutritional value. Griffin also provides the flexibility to custom blend and manufacture products to a broad customer base.

Griffin's commitment to customer service extends from our quality products to our team of logistics professionals. Products are shipped in bags, trucks, barges, rail cars or overseas to customers throughout North America, Central and South America, Asia, Europe



and Africa. Griffin's vast fleet includes our ship, The Rosellen, with a 5,000-metric-ton capacity that can handle the exportation of liquids, bulk cargo and containers. Griffin Industries' logistics expertise ensures prompt, reliable delivery at a cost customers appreciate. The end result is an integrated system that gives customers the peace of mind that their orders will be delivered when and where needed.

The foundation that supports the company's success in producing consistent, high-quality products is a commitment to biosecurity and quality assurance. The cornerstone is the implementation of prevention-based programs defined by the Hazard Analysis Critical Control Points food safety model. All production facilities maintain strict guidelines on process control, ensuring the most stringent quality standards are met. A world-class centralized laboratory, along with satellite labs at each plant location, further validate products will meet or exceed any and all industry standards.

Finally, as a charter member of AFIA's Safe Feed/Safe Food program, Griffin is proud to be the first rendering company to certify all plants through this revolutionary quality assurance and safety program. In addition, Griffin has certified its production facilities and corporate operations through Audubon International's Cooperative Sanctuary System. As the only supplier to the petfood industry to achieve this designation, Griffin's products and processes are routinely recognized as models for environmental stewardship excellence and total quality assurance.

Griffin Industries, Inc.: Rick Geise, Director of Marketing, 4221 Alexandria Pike, Cold Spring, KY 41076 USA, Tel: +1.859.781.2010, Fax: +1.859.572.2575, E-mail: sales@griffinind.com, Website: www.griffinind.com

Hood Packaging Corporation

Visit any of our plants and you will see the Hood Packaging difference. A unique combination of people, quality and technology, all of our Hood Packaging associates are dedicated to exceeding your expectations. We pride ourselves on our ability—and responsibility—to meet any demand you have with any resource within our company. Hood Packaging is built around our customers.

The world's third largest producer of paper packaging and one of the top 50 US suppliers of consumer plastic packaging, Hood Packaging Corporation can meet all your paper and plastic petfood packaging needs. With paper and plastic plants throughout North America, we can furnish your packaging from a location that best serves you.

Hood Packaging is constantly looking for new trends in the petfood market. We are committed to bringing the best and newest innovations to our customers. We continue to test ways to make our customers' package better and help them control costs. Some of our most recent improvements include:

- A state-of-the-art W&H co-extruder, capable of manufacturing up to a three-layer film. This addition allows us to offer innovative barrier films which support the down-gauging of sheets, providing you with a more efficient film for your petfood packaging.
- The addition of a 10-color PCMC quick-changeover printing press for super high-impact graphics on plastic film. Improved graphics quality translates to better shelf appeal and potentially higher sales.
- The expansion of our plastic film converting capabilities with the addition of a Ro-An Pouch machine for manufacturing side-gusset, rolled bottom pouches; a Hudson-Sharp Inno-Lok® machine for resealable film rollstock; and a Dri-Tec laminator for additional film laminating capacity.
- The addition of a W&H pinch bottomer with state-of-the-art mitered bottom/ultrasonic seal capability for increased stability, sift-resistance and protection from contamination, oxygen, moisture and grease. The flat-bottom bag shape also allows for additional graphics area on the bottom of the bag, as well as improved stability on a pallet.

Additionally, Hood Packaging is excited to offer cus-



tomers the latest in packaging innovations, including the paper to polyester laminated hybrid bag, surface-printed electron beam lacquer application and alternative woven poly packaging, outsourced through our offspring company, Hood Global.



All of Hood Packaging's facilities are certified to the ISO 9001:2000 standard. A quality manager at each location keeps our quality the best in the industry. Packaging engineers are provided at no cost to our customers. Not only do our engineers know bags, they know your packing equipment

and have a great track record of improving productivity and waste control in our customers' facilities. We are proud of our reputation in the industry of having the best sources of help for our customers' needs.

There comes a time when you want a packaging supplier who provides more for your money. That's the time to consider Hood Packaging. Since opening our first plant in 1959, we have grown to become one of the largest manufacturers in the industry. Our mission isn't necessarily to become the largest packaging manufacturer, it is to be your packaging manufacturer. For all your packaging needs from one to 100-lb. paper and plastic:



"Consider it done at Hood Packaging Corporation."

Hood Packaging Corporation: Billie McBride, 390 E. Henry Street, Suite 202, Spartanburg, SC 29302 USA, Tel: +1.864.577.0422, Fax: +1.864.577.0283, E-mail: bmcbride@hoodpackaging.com, Website: www.hoodpackaging.com

Industrial Food Ingredients/ International Proteins Corporation

See ad on page 57

IFI and IPC provide key services to meet the needs of today's petfood industry, with "solutions as unique as the pets they're made for™." Count on it.

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Kemin manufactures and markets a complete line of antioxidant formulations for the global petfood industry and provides a range of customer laboratory services to support them. These products include Naturox™ brand natural antioxidants; PET-OX® brand antioxidants; RENDOX™ brand antioxidants; and TERMOX™ brand antioxidants. Kemin recently introduced PARAMEGA™ brand antioxidants for ingredients containing high levels of omega-3 fatty acids. The com-



pany also markets Palasurance™ brand palatants in Europe.

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Kemin Nutrinsurance, Inc. was initially launched in 1996 as the Petfood Nutrinsurance Division of Kemin Industries and became a separate operating unit of Kemin in 2001. The establishment of this Kemin subsidiary allowed the division to focus its resources exclusively on the petfood industry and the industry's ingredient suppliers. Kemin is headquartered in Des Moines, Iowa, USA and has global research, manufacturing and commercial operations.

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Tapco Inc.

Tapco Inc. was conceived in the early 1970s by Paul D. Taylor, president, and Ted W. Beaty, executive vice president, to fill a void in the elevator bucket industry. At that time, there were only a small number of non-metallic buckets manufactured in the world. All the other buckets were made from fabricated or pressed steel. With the inherent problems of steel buckets, and the limited range of the existing polyethylene styles, the time was right for Tapco.

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7,000-square meter corporate headquarters located in St. Louis, Missouri, USA.

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No. 1 Norway, No. 3 Eclipse, Fanged and Pointed Fanged elevator bolts are available in 38 sizes and three materials.

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D. Baldwin

Wenger engineering, manufacturing, research and administrative facilities are in the company's Sabetha, Kansas, USA headquarters. Wenger extension research sites are available at a number of universities and research centers around the world. Sales and service personnel operate from offices in Sabetha; Kansas City, Missouri, USA; the UK; Taiwan; Brazil; Belgium; and China. Additionally, Wenger is represented by independent agents in



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Wenger serves producers of hundreds of different agri-food products in more than 90 countries. This in-



cludes marketers of petfood, aquatic feeds and specialty feed products, as well as ready-to-eat cereals, pastas, snack foods, breadings, industrial starch products and meat extenders. Wenger production systems are sold and serviced in every industrialized country in the world.

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Wenger is unique in that it has given a small US town (Sabetha, Kansas) a worldwide presence. Over 24,000 square meters of plant space are now devoted to manufacturing Wenger equipment. More than 60% of Wenger's production is exported from the United States.

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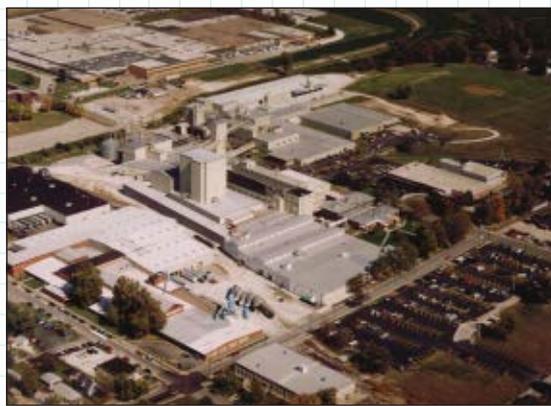
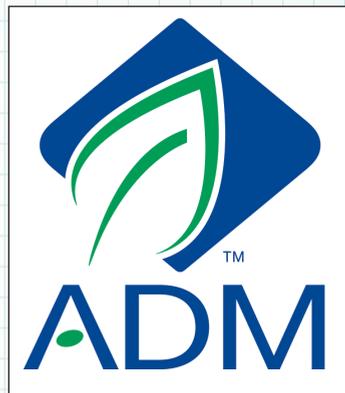
Benefiting from Archer Daniels Midland Company's worldwide network, ADM Animal Health & Nutrition excels in customer service and distribution on an international scale. Integrated logistics services and strategic investment in facility and systems upgrades support our extensive North American manufacturing and distribution network. ADM Animal Health & Nutrition provides custom manufacturing to meet individual customer needs. State-of-the-art petfood ingredient manufacturing facilities—which are all HACCP certified—allow the company to produce and ship high-quality products.

ADM Animal Health & Nutrition is headquartered in Quincy, Illinois, USA, and currently operates six premix plants in the following locations: Des Moines, Iowa, USA; Effingham, Illinois, USA; Woodstock, Ontario, Canada; Lethbridge, Alberta, Canada; Ciales, Puerto Rico; and Dalian, China. In addition, ADM Animal Health & Nutrition's premix plants (operated as joint ventures) serve markets in Mexico and Asia. ADM

Animal Health & Nutrition also has 12 distribution centers throughout the world, which includes a premix sales office in Tokyo, Japan.

ADM Animal Health & Nutrition has made a long-term commitment to the companion animal industry.

This commitment shows not only in research and product quality, but also in the level of service we provide. To ensure the success of the partnership between customer and company, we assign each ADM Animal Health & Nutrition customer a team of skilled professionals. In addition, we offer value-added services such as supply chain management to provide real solutions. One aspect of these services includes inventory management to



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ADM Animal Health & Nutrition's mission is clear: "To manufacture, market and support solution-based ingredients, which are derived from natural sources, that promote the health and stability of the pet diet for the companion animal industry." ADM Animal Health & Nutrition is not only a source of quality product and services, but also a source of ideas bringing "Resourceful by Nature™" to life.

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Cat Food Trouble

Study indicates some cat foods are seriously low in omega-3 fatty acids

BY ANTON BEYNEN, PHD

EPA and DHA omega-3 fatty acids must be present in feline diets. A deficiency of either nutrient will eventually lead to clinical signs. In spite of this, we found 14 out of 15 commercially-available senior cat foods to be much lower in EPA and DHA than what is considered ideal.

In certain products, marketed as complete diets, there was no EPA detectable. These diets are nutritionally inadequate and, depending where they are sold, violate regulations and laws.

Unlike other mammals, felines require the omega-3 polyunsaturated fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) in their diets. In addition, there is evidence that the ideal intake of EPA is higher than that necessary to prevent deficiency symptoms. High intakes of EPA may have beneficial effects on kidney function and on inflammatory skin disorders. In

this article, a range is proposed for the ideal levels of EPA and DHA in cat foods.

Vital polyunsaturated fatty acids

Polyunsaturated fatty acids (PUFAs), in particular linoleic acid (LA), alpha-linolenic acid (ALA) and DHA, are incorporated into membranes. DHA is abundant in nervous tissue. LA, ALA and DHA are required for the physical properties of membranes such as fluidity and barrier characteristics. Furthermore, LA and ALA may be converted into arachidonic acid (AA) and EPA, which

in turn are substrates for the formation of eicosanoids—a wide range of biologically active compounds.

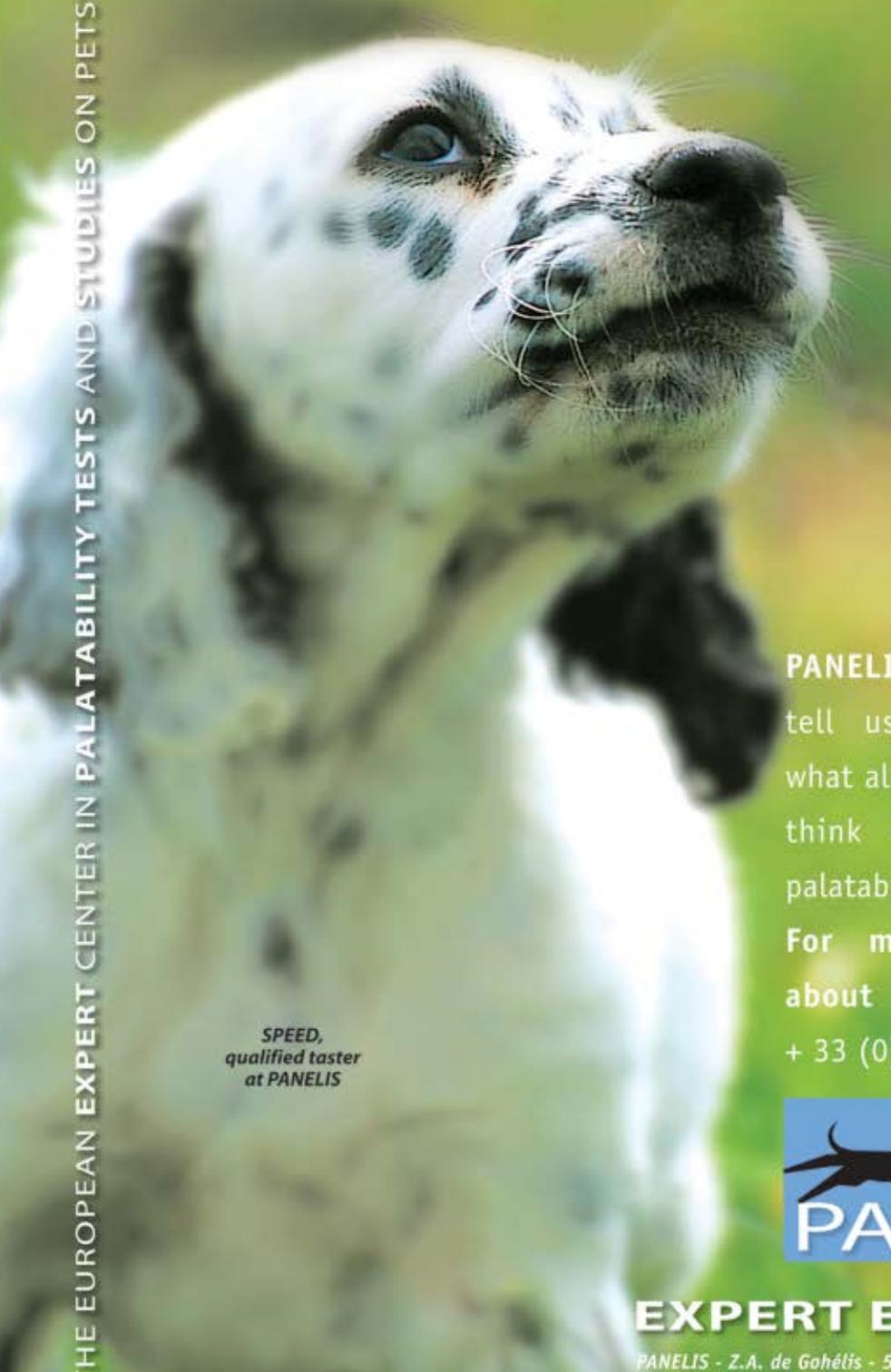
The initial steps in LA and ALA conversion towards eicosanoids involve enzymes that desaturate and elongate PUFA. As to PUFA metabolism in relation to eicosanoid synthesis, the cat differs from other mammals. The cat lacks desaturase enzymes so that it also requires AA and EPA rather than the parent fatty acids only. As a consequence, the cat is unique in that the fatty acids AA, EPA and DHA are essential nutrients in addition to LA and ALA. A dietary deficiency of EPA and/or DHA leads to abnormalities in cats.

Requirements or allowances?

Table 1. Physiological requirements and recommended allowances of AA, EPA and DHA for adult cats. The values are expressed per MJ of metabolizable energy or as weight % for a dry, reference diet containing 1.5 MJ/100 g.

	AA, g/MJ	AA, %	EPA, g/MJ	EPA, %	DHA, g/MJ	DHA, %
Requirement	0.02	0.03	0.01	0.02	0.02	0.03
Allowance	0.02-0.04	0.03-0.06	0.01-0.5	0.15-0.75	0.1-0.7	0.2-1.0

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Eicosanoids: A new frontier

The parent PUFAs of the omega-6 and omega-3 series are LA and ALA,

respectively. Unlike plants, mammals cannot synthesize LA and ALA. However, they can, except for cats, desaturate and elongate these fatty

acids as indicated in Figure 1. AA can be synthesized from LA and EPA and DHA from ALA. Cats, and possibly other felines as well, lack delta (D)-6, D-5 and D-4 desaturase enzymes, and thus must obtain not only LA and ALA with their diet, but also AA, EPA and DHA. AA only occurs in foodstuffs of animal origin, rendering the cat an obligate carnivore.

AA and EPA are precursors for the eicosanoids, which include the prostaglandins, thromboxanes and leukotrienes. More than 250 eicosanoids have been described and they have been shown to be biologically active in different test systems.

As a rule of thumb, the eicosanoids derived from AA and EPA are considered to have opposite effects. For example, eicosanoids produced from AA tend to have an inflammatory activity; eicosanoids derived from EPA tend to have an anti-inflammatory activity. The ratio of AA to EPA may determine the net biological effect. The production of the two types of eicosanoids appears to be determined by the intake of their precursors. Consequently, it is possible to influence processes such as platelet aggregation and inflammation by the intake of PUFA.

Sources of AA, EPA and DHA

LA is abundant in various plant oils, including soybean, sunflower and corn oil. ALA also is present in those oils, but at much lower concentrations. LA and ALA occur in animal products, but only after their ingestion and incorporation into the animal fat. Only small amounts of AA, EPA and DHA usually occur in products of animal origin. Fish oils are particularly rich in EPA and DHA. It should be stressed that fish oils vary widely in their composition. By feeding fish oil instead of other oils to cats, the levels of EPA and DHA in their adipose tissue will increase markedly (Van Niel and Beynen, 1997), indicating that the EPA and DHA status of cats can be modulated.

Inflammation control

Dietary PUFA precursors determine if eicosanoids are pro- or anti-inflammatory. This diagram shows the metabolic pathways of desaturation and elongation of the parent fatty acids, LA and ALA. In cats, unlike other mammals, the activities of desaturase enzymes are negligible. Therefore, cats cannot produce AA, EPA and DHA—so they are essential dietary nutrients for felines. AA only occurs in foodstuffs of animal origin, rendering the cat an obligate carnivore.

Notable fatty acids

- PUFAs, polyunsaturated fatty acids, are incorporated into cell membranes.
- Eicosanoids are a wide range of biologically-active compounds.
- LA, linoleic acid, is incorporated into cell membranes.
- ALA, alpha-linolenic acid, is incorporated into cell membranes.
- AA, arachidonic acid, is a precursor for eicosanoids. It only occurs in foods of animal origin.
- EPA, eicosapentaenoic acid, is a precursor for eicosanoids.
- DHA, docosahexaenoic acid, is abundant in nerve tissue.

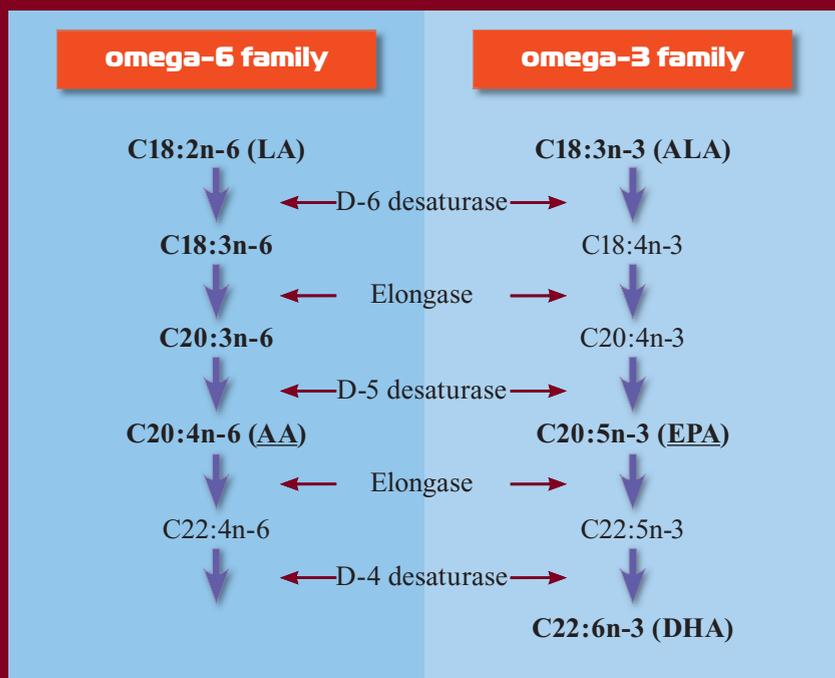


Figure 1. Except for felines, these are the metabolic pathways of desaturation and elongation of the parent fatty acids, LA and ALA. These pathways produce eicosanoids—a wide range of biologically-active compounds, including the prostaglandins, thromboxanes and leukotrienes. More than 250 eicosanoids have been described and they have been shown to be biologically active in different test systems. Eicosanoids produced from AA tend to have an inflammatory activity; eicosanoids derived from EPA tend to have an anti-inflammatory activity. The ratio of AA to EPA may determine the net biological effect.

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AA, EPA and DHA requirements

The requirements of AA, EPA and DHA by cats are not well defined. The National Research Council 2003 draft of the *Nutrient Requirements for Dogs and Cats* lumps EPA and DHA together, but mentions that the DHA requirement may be higher than that of EPA.

LA is an indispensable membrane component. LA deficiency in cats produces low growth rates, poor skin and coat condition, fatty liver and high rates of transepidermal water loss (Frankel and Rivers, 1978). For the cat AA also is an essential nutrient because the animal cannot convert LA into AA. Cats require AA in their diet for normal platelet aggregation (MacDonald, *et al.*, 1984a). In female cats, sufficient AA is necessary for adequate reproduction (MacDonald, *et al.*, 1984b). The intake of omega-3 PUFA is essential for normal development of nervous tissue and the retina. A deficiency of omega-3 PUFA has been shown to reduce visual acuity in monkeys and to diminish learning behavior in rats. It is reasonable to suggest that in cats ALA, EPA and/

or DHA deficiency will produce similar abnormalities.

Beneficial effects

Apart from preventing signs of deficiency, omega-3 PUFAs have beneficial effects when ingested at high doses. In cats with allergic skin disease, the associated inflammation, pruritis and dermatitis are ameliorated after the administration of fish oil (Harvey, 1993). The eicosanoids resulting from EPA metabolism have anti-inflammatory activity, which explains the positive effect of fish oil on inflammatory skin disease.

A recent retrospective study indicates that a high intake of EPA is necessary for enhanced survival of cats with chronic renal failure (Plantinga *et al.*, 2005). Although there is no direct evidence, it is reasonable to suggest that a high intake of EPA may contribute to the prevention of renal failure in cats (Beynen, 2004). This would be relevant as chronic renal failure is a common clinical condition in cats,

the prevalence reaching 30% in animals over 15 years old. The protective effect of EPA, if any, could be mediated by the production of eicosanoids with anti-inflammatory, anti-aggregatory and/or hypotensive activity. In dogs, supplemental fish oil has been shown to reduce the signs of osteoarthritis (Schoenherr, 2005) and to increase survival in patients with cancer (Ogilvie *et al.*, 2000) or chronic heart failure (Freeman *et al.*, 1998).

Cats must not only ingest sufficient EPA to prevent signs of deficiency. It is also evident that high intakes of EPA have additional, beneficial effects on

AA only occurs in foodstuffs of animal origin, rendering the cat an obligate carnivore.

EPA and DHA contents of diets for adult cats is given in Table 1. In order to attain an EPA level of 0.1 g/MJ, a dry cat diet should contain about 1% of a type of fish oil containing 15% of EPA.

EPA and DHA in commercial petfoods

In a recent study, 15 commercially-available, complete senior foods for cats were analyzed (Plantinga and Beynen, 2003). Table 2 shows that, except for diet 15, all diets contained less EPA and DHA than is considered optimal by this author. Even more striking is the observation that five diets did not contain EPA, one of these diets also lacking DHA. When an EPA-or DHA-free diet is given to adult cats as sole source of nutrition, EPA and DHA may be released from storage sources, but in the long run an EPA or DHA deficiency will occur. As indicated above, abnormalities of the retina and nervous tissue may develop. ➔

References

Available upon request. Contact Dorothy Randecker at E-mail: randecker@wattmm.com or Tel: +1.815.734.5645.

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More omega-3 please

Table 2. Analyzed composition of commercially available feline senior diets. The amounts expressed were calculated on the basis of chemical analysis. When a cat food is marketed as a complete food, but it does not contain EPA and/or DHA, the manufacturer is breaching the law because a complete food must provide all essential nutrients.

Diet	AA, g/MJ	EPA, g/MJ	DHA, g/MJ
1	0.03	0.02	0.04
2	0.08	0.02	0.09
3	0.02	n.d.	0.01
4	0.15	0.03	0.04
5	0.03	n.d.	0.02
6	0.29	n.d.	0.02
7	0.06	0.02	0.05
8	0.03	0.05	0.06
9	0.04	n.d.	0.01
10	0.05	0.06	0.06
11	0.06	0.05	0.06
12	0.04	0.02	0.05
13	0.06	0.01	0.03
14	0.02	n.d.	n.d.
15	0.16	0.24	0.38

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Yeast

Why and which one?

Yeast is included in almost every petfood brand in the market. For an industry that spends a great deal of effort differentiating products from competitors along “good” ingredient “bad” ingredient lines, a consensus on a particular ingredient is quite rare; even the vegan and raw feeders seem to agree. Why are most in agreement that yeast needs to be part of the equation?

Why a consensus?

Most pet nutritionists, if pressed, would say they add yeast for palatability. The effect yeast has on palatability apparently transcends the topical flavors. It may be due to some more primordial appetite that yeast addresses. So, while on the surface, palatability sounds like a nice reason, there may be something deeper to the yeast story that makes it such a unanimous ingredient choice.

Nutritionists may also claim that incorporating yeast into the diet is necessary for fortification of naturally occurring B-vitamins. Yeast is a very rich source of B-vitamins, with anywhere from 5-100 times the amount of individual B-vitamins of rice or corn. However, from an economics perspective, this doesn't quite wash: The synthetic and intentionally fermented B-vitamins are a more cost effective vitamin source.

Much of the research in the past several years has gone beyond these reasons and begun to focus on yeast as a rich source of digestive enzymes, nucleotides, nucleosides, beta-1,3 glucans, trehalose, mannans, oligosaccharides, glutathione and yet “unidentified nutritional factors.” Further, yeast has also been attributed with the ability to improve nutrient utilization, support gut health, enhance immunity and improve skin and coat condition. While the rationale for adding yeast likely lies somewhere in this mix, for now, the more practical question is, which yeast to choose?

Yeast options: Which one?

There is a staggering array of yeast products, co-products and components available; at least nine, by definition, in the 2005 AAFCO *Official Publication*. The options include primary dried yeast, dried yeast, active dried yeast, Torula dried yeast, Candida dried yeast and yeast extract. There are also mineralized yeast products, enriched with selenium, zinc and other trace elements, and a number of yeast co-products such as yeast cell wall materials enriched with mannanoligosaccharides.

As might be predicted, the yeast species, subspecies, growth medium and processing conditions can make a big difference. While each of these options may have a specific place in the health and nutrition of dogs and cats, brewers dried yeast and yeast culture are the primary yeast products used in petfoods.

Brewers dried yeast

Brewers dried yeast is the most commonly found yeast on petfood labels. It is defined as “the dried, non-fermentative, non-extracted yeast of the botanical classification *Saccharomyces* resulting as a by-product from the brewing of beer and ale and must contain at least 35% crude protein” (AAFCO *Official Publication*, 2005). The residue remaining after beer and ale fermentation is spray or drum dried to make handling easier. This yeast is “spent” or inactive. Since it has participated in the conversion of sugars to ethanol, the amount of starch is low. Corresponding nutrients like protein and fat are more concentrated than in the active baker's yeast used to leaven bread. Most brewers dried yeast products are about 45% protein, less than 10% fat



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and about 25% carbohydrate, mostly in the form of starch and simple sugars. The B-vitamins are at a level comparable to active baker's yeast.

Since brewers dried yeast is a by-product of the brewing industry, the supply is dependent upon the practices of the individual brewery. This may be the reason for the variation found in the composition of the yeast. The challenge is knowing what the yeast is being

purchased for (palatability, B-vitamins or other), so that this variation can be monitored. While brewers dried yeast is the "gold standard" as a palatability enhancer, there can be substantial variation among suppliers.

Yeast culture

By definition, yeast culture is "the dried product composed of yeast and the media on which it was grown, dried

in such a manner as to preserve the fermenting activity of the yeast" (AAFCO *Official Publication*, 2005). According to AAFCO rules, yeast culture suppliers must identify, on their labels, the media the yeast are grown. However, this is not required on the petfood label itself. The growth media may contain corn, wheat, rice and by-products. For an elimination diet, the yeast culture should not be used if the growth medium contains an excluded ingredient.

Yeast culture differs from brewers dried yeast in that it is not a by-product, but rather, intentionally produced from fermentation of *Saccharomyces cerevisiae*, and other yeast species, on defined media. The entire fermentation broth, yeast and all, is dried at low temperature to preserve its activity. Yeast culture has a lower nutrient density than brewers dried yeast (12-15% protein and about 1% fat), due to dilution of the yeast with the growth media. Yeast culture has a high level of B-vitamins, enzymes, and cell wall constituents, although in a lower concentration than brewers dried yeast. Yeast culture is promoted to improve digestibility and increase palatability. While supporting evidence is limited, there are a few supplier technical bulletins showing that, when compared to standard brewers dried yeast, dog and cat diets supplemented with yeast culture were fractionally more palatable, and that fat digestibility was improved in the dog.

Other benefits

While brewers dried yeast is the more common yeast found in petfood, a few companies have begun to use yeast culture in their foods. Typical inclusion levels for both are around 1% of the diet. Beyond palatability and the B-vitamins, research findings may continue to show that yeast has other benefits that support its inclusion in the diet. ➔

Dr. Aldrich is president of Pet Food & Ingredient Technology, Inc., whose focus is to facilitate innovations in foods and ingredients for companion animals. He can be reached at Tel: +1.785.271.0238, Fax: +1.785.271.6238, E-mail: aldrich4@cox.net.







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Global Pet Expo, March 23-25, 2006, San Diego, California USA. Contact: APPMA, 255 Glenville Road, Greenwich, Connecticut 06831 USA, Tel: +1.203.532.3601, Fax: +1.203.532.0551, E-mail: gpe@appma.org, Website: www.globalpetexpo.org.

Annual British Society of Animal Science (BSAS) Meeting, March 27-29, 2006, University of York, United Kingdom. Contact: British Society of Animal Science (BSAS), PO Box 3, Penicuik, Midlothian EH26 0RZ, United Kingdom, Tel: +44.131.445.4508, Fax: +44.131.535.3120, E-mail: BSAS@ed.sac.ac.uk, Website: www.bsas.org.uk.

Petfood Forum, April 3-5, 2006, Hyatt Regency O'Hare Hotel, Chicago, Illinois USA. Contact: Marcia Riddle, Watt Publishing Company, 122 S. Wesley Avenue, Mt. Morris, Illinois 61054 USA, Fax: +1.815.734.5631, E-mail: riddle@wattmm.com, Website: www.petfoodindustry.com.

Focus on Palatability, April 5-6, 2006, Hyatt Regency O'Hare Hotel, Chicago, Illinois USA. Contact: Marcia Riddle, Watt Publishing Company, 122 S. Wesley Avenue, Mt. Morris, Illinois 61054 USA, Fax: +1.815.734.5631, E-mail: riddle@wattmm.com, Website: www.petfoodindustry.com.

Pet Industry Spring Trade Show, April 7-9, 2006, Atlantic City, New Jersey USA. Contact: HH Backer Associates, Inc., 200 S. Michigan

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Petfood Forum Asia, September 11-13, 2006, Queen's Park

Imperial Palace Hotel, Bangkok, Thailand. Contact: Marcia Riddle, Watt Publishing Company, 122 S. Wesley Avenue, Mt. Morris, Illinois 61054 USA, Fax: +1.815.734.5631, E-mail: riddle@wattmm.com, Website: www.petfoodindustry.com. ➤

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Hungary grows as an exporter

Are you thinking that there might be a market for your petfood products in Hungary? Hungarian data have characterized households nationally as having 1.9 million cats and 1.8 million dogs, making this one of the few European countries with almost equal dog and cat numbers. The excellent website of the national petfood association illustrates a similar balance. It quotes 2004 survey results from market research institute GfK Hungária, citing cats are kept in 1.6 million of the national total of 3.75 million households while dogs are in 1.5 million households.

Yet national sales of petfoods hardly reflect such equilibrium. According to the statistics, product for dogs still accounts for over 70% of the total volume of petfood sold annually to domestic customers.

Sources put these sales at about 70,000

metric tons per year at present. There is definite room for growth, they declare. Probably no more than 20% of all cats in Hungary receive manufactured food, whereas the average for the former 15-member European Union is nearer to 50%. Surprisingly, the Hungarian purchasing for a cat, is more likely to choose a dry

It declares petfood manufacturing to have become “the driving force of Hungary’s agricultural exports.”

— P. Best



than a wet food. The national federation refers to a TGI Hungary database on this, in which 15% of the population is reckoned to buy dry cat food, and 14% wet cat food. That is said to compare with a 25% dry and 22% wet split for dog foods.

In money terms, expenditure on buying petfoods in Hungary now exceeds €110 million annually. On

valuation this puts

the local market

ahead of that

in Greece,

and not

too far

behind the value

attributed to sales

in Portugal. We are

being advised to watch

out for Hungary moving

up the rankings within

Europe in the coming years,

as the country’s membership

to the European Union will

develop consumer incomes.

Although, it should also be mentioned

that the majority of dog and cat owners

nationwide live in rural areas and do

not compare with the town-dwellers on

petfood purchases.

However, the Hungarian facts and

figures that have the greatest impact

may be those relating to cross-border

trade. To take an example on imports,

dog and cat foods are among the

top five agrifood items exported to Hungary from Canada. The entry of supermarket chains from other parts of Europe has drawn in the EU-25 petfood suppliers. However, an even bigger flow of exports has developed since 2000, anticipating Hungary joining the European Union in 2004.

Its size can be judged by comparing the reported 70,000-tons/year market inside the country with the Hungarian federation’s estimate that its members today produce over 250,000 tons of petfoods per year. It declares petfood manufacturing to have become “the driving force of Hungary’s agricultural exports,” noting that the national petfood industry quadrupled the value of its annual exports in five years to 2003, even before EU membership took effect.

Moves by international companies testify to Hungary’s emergence as a regional production center. It is a manufacturing base in the center-Europe region for Masterfoods subsidiary Effem Hungary Corporation at Bokros and for Nestlé. Provimi has expanded similar interests through its acquisition of private-label company Pet Hungária. Meanwhile, exporting ambitions have grown for local manufacturers such as Agro-Alfa and Pamax.

It is no wonder, therefore, that Hungary’s claim to fame in the pet sector has changed fundamentally over recent years. It used to be the



place where every second family had a dog or a cat. Now it is the country that can claim its domestic purchases of prepared petfoods are growing at 10% per year, whereas its petfood exports in several recent years have grown by more than 40%.

Allergies join the British agenda

A war of words broke out in the UK towards the end of last year, between the Pet Food Manufacturers Association and a British insurance company. It started after the insurer surveyed 1,700 pet owners and 350 veterinarians by mail in June 2005. Setting out the results in October, the company claimed that almost one in 10 cats and dogs now suffered from food intolerances.

What is more, it proclaimed, 55% of veterinary practitioners were seeing

The company claimed that almost one in 10 cats and dogs now suffered from food intolerances.

a growth in pet illnesses relating to diet. Another finding was reported to be that 87% of UK veterinarians were recommending more specialist diets for pets than five years ago.

However, the battle with the association was initiated mainly by a call for petfood manufacturers to use "better, more accurate labeling," to assist in the diagnosis and prevention of food intolerances. Unlike with human food, the insurer complained, petfood producers in the UK are not obliged to name actual ingredients on the label. Some petfood labels use loose terms such as "meat by-products" and "cereal or animal derivatives." A quote from a veterinary nurse was included in the statement, alleging that "normal petfood is often poorly labeled." However, the nurse added that

"there is also an ever-growing range of hypoallergenic diets which do state all ingredients clearly to the benefit of pet owners and vets."

The response from the PFMA was short and to the point. Foods to address any dietary sensitivity are clearly marked for easy identification and the legislation on labeling is comprehensive. As for those comments about pets' food intolerances, the

association obviously believed they were less than scientific. It told newspaper *pbwnews* that the evidence was just anecdotal. ➔

Peter Best is the European editor for Petfood Industry magazine. He invites comments and suggestions from all readers about future topics for his column. He can be contacted at best@watt-4.demon.co.uk.

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Industry News

Doane reviews third quarter

In recent 10-Q reporting, Doane Pet Care Company reported that it has entered into certain initiatives to reduce its cost structure and to increase operating efficiencies, beginning with the closure of its Cartersville, Georgia, USA manufacturing facility in the second quarter of fiscal 2005. In addition, in the third quarter of fiscal 2005, the Company announced the closure of its Hillburn, New York, USA and Delavan, Wisconsin, USA manufacturing facilities; the permanent shutdown of the dry petfood production lines at its Portland, Indiana, USA manufacturing facility and a 7% reduction of its US corporate salaried workforce.

In the third quarter of fiscal 2005, Doane's net sales decreased 7.8% to US\$231.4 million from US\$251.0 million in the third quarter of fiscal 2004. This decrease was primarily due to domestic cost-sharing arrangements, and the related impact of passing through a portion of lower commodity costs, and lower domestic sales volume, partially offset by higher European sales volume. The company's gross profit increased 13.1%, or US\$4.3 million, from the third quarter of fiscal 2004 primarily as a result of lower global commodity costs, partially offset by the above factors affecting net sales. Net loss for the third quarter of

fiscal 2005 was further affected by the restructuring activities and related asset impairments.

New Canadian pet industry trade show

PIJAC Canada announces the addition of a new pet industry trade show for 2006. The Calgary Pet Industry Trade Show will be on Sunday, April 23, 2006. Held near downtown Calgary at Stampede Park in the Big Four Building, the format of the exhibition will be similar to the three other PIJAC Canada trade shows. Open to trade only, the show hours will be from 9 am to 5 pm with PIJAC Canada certification seminars taking place on the previous day at the nearby Carriage House Inn.



Del Monte sales in second quarter announced

Del Monte Foods Company recently reported sales results for the second quarter ended October 30, 2005. Pet Products net sales were US\$208.8 million—a decrease of 4.0% versus the prior year period. The decline in Pet Products net sales was driven primarily by an expected decrease in volume from existing products as compared to the prior year period, which included the positive volume impact of the fiscal 2005 9 Lives restage and Kibbles 'n Bits wet new product

introduction. Positively impacting sales was increased volume from new products in the pet snacks and dry dog businesses, including Kibbles 'n Bits Homestyle Beef and Meaty Bone Denta Delicious. Pet Products operating income increased 5.7% from US\$31.5 million in second quarter fiscal 2005 to US\$33.3 million in second quarter fiscal 2006.

Greenies top dog treat in US again

Greenies® is the No. 1 dog treat in the United States for the second straight year. S&M NuTec, LLC, the creator of Greenies, listed 2004 domestic retail sales of the product at US\$315 million dollars. S&M NuTec is a small independent business headquartered in North Kansas City, Missouri, USA, employing fewer than 100 people. Both Greenies and new Feline Greenies are multi-functional dental treats that reduce plaque and tartar, freshen breath and clean teeth.



Burns Pet Nutrition fined

UK petfood producer Burns Pet Nutrition Ltd, and its company secretary John Burns, have been fined for making medical claims about two of their petfoods. According to European Law, any product intended for animals making medical claims is considered to be a veterinary medicine. All veterinary medicines placed on the market in the UK are required to be authorized by the Veterinary Medicines Directorate (VMD).

The case was brought after Burns failed to comply with advice given by the VMD on the appropriate marketing of the petfoods. Upon being found guilty, Burns Pet Nutrition Ltd was fined a total of £2,000 and ordered to pay costs of £5,181. Mr. Burns was fined a total of £1,000 and ordered to pay costs of £5,181.



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Nutro adds foods to line for indoor cats

Nutro Products, Inc. has broadened its line of indoor cat foods with the introduction of two new formulas—Natural Choice® Complete Care® Indoor Kitten and Indoor Weight Management. According to Nutro, the new Natural Choice Complete Care Indoor Weight Management provides a formula with 30% less fat content while retaining all of the excellent taste and natural ingredients with essential vitamins and minerals contained in its other Indoor foods.

New address for Delta Society

The Delta Society has a new address. The organization, led by Lawrence J. Norvell, president/CEO, can be reached at: Delta Society (includes Pet Partners® Program, National Service Dog Center), 875 124th Avenue, NE, Suite 101, Bellevue, WA 98005-2531 USA, Tel: +1.425.226.7357, Fax: +1.425.235.1076, E-mail: info@deltasociety.org, Website: www.deltasociety.org.

Consumers rank HJ Heinz Company number one

HJ Heinz Company scored the highest of any company on the American Consumer Satisfaction Index (ACSI), issued November 15 by the University of Michigan. Heinz has been the index's top-rated food company for six consecutive years. And, in this latest survey, it scored the index's highest-ever rating of 91 (out of 100), which was up three points from the company's score of 88 in 2004.

The index is produced by the University's Ross School of Business in partnership with the American Society for Quality and CFI Group, a consulting firm. The contents of the annual survey are based on data obtained from consumer telephone interviews regarding various products and services. The survey model is designed so customer satisfaction levels about various companies can be

compared from year to year and across different categories and industries.

AFIA issues bioterrorism Compliance Guide

The American Feed Industry Association (AFIA) has issued a Compliance Guide for the feed industry on four FDA regulations issued on the Public Health Security and Bioterrorism Preparedness and Response Act of 2002,

commonly known as the "Bioterrorism Act." Following two AFIA webcasts on these rules, the Compliance Guide was prepared by AFIA's legal counsel and covers all four regulations.

The Compliance Guide is available on AFIA's website at www.afia.org/Bioterrorism_Act.html, as well as an order form for a CD of the bioterrorism webcasts. A Question and Answer document from FDA on the regulations

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is available at www.cfsan.fda.gov/~dms/recguid.html.

The Guide focuses on the recordkeeping rule effective December 9, 2005 for firms with over 500 employees. For firms with 10-500 employees, the compliance date is June 9, 2006, and for firms with fewer than 10, the compliance date is December 9, 2006.

For more information, contact AFIA's Richard Sellers at rsellers@afia.org.

Performance Foods, Inc. forms alliance

Performance Foods, Inc. and Bosch Tiernahrung GmbH & Co., Blaufelden, Germany, have entered into an agreement on license and partnership of Totally Ferret® for the European market effective December 2005. Performance Foods, Inc. is a privately-held corporation, based in Broomfield, Colorado, USA and has been in business

since 1991 developing, manufacturing and distributing superpremium ferret foods worldwide.

Totally Ferret will be sold and produced by Bosch for Europe according to standards set by Performance Foods, Inc., USA under the brand name Totally Ferret-bosch™ in all of the European market. The introduction of Totally Ferret-bosch on the European market will be made at the Interzoo 2006 in Nürnberg/Germany.

International Ingredient Corporation relocates

International Ingredient Corporation has announced its corporate office relocation, effective December 5, 2005. New contact information: International Ingredient Corporation, PO Box 26377, 150 Larkin Williams Industrial Court, St. Louis, MO 63026-0377 USA, Tel: +1.636.343.4111, Fax: +1.636.349.4845, E-mail: Personal E-mails remain unchanged.

Aflatoxin prompts petfood recall

Diamond Pet Food recently discovered aflatoxin contamination in a product manufactured at its facility in Gaston, South Carolina, USA. As a result, the company recalled Diamond Pet Food cat and dog food products formulated with corn that were produced out of the Gaston facility.

“Our highest priority right now is the health and well-being of our customers’ pets,” general manager Mark Brinkmann of Diamond Pet Foods said. “We are committed to keeping our customers informed and are taking aggressive steps to resolve this issue. We’re proud of our long history of producing high-quality and safe products and deeply regret that this situation has occurred.”

Diamond Pet Foods opened a toll-free Customer Information Center to provide up-to-date information for pet owners that may be affected by the

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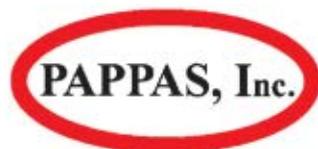


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recall in the eastern US. According to Brinkmann, the Information Center is a vital link to answering customer questions and providing them with the assistance they need to protect the health of their pets.

“We want to make sure our customers receive complete assistance and get all their questions answered as quickly as possible,” Brinkmann said. “The Customer Information Center allows customers to speak directly to a veterinarian who can answer health-related questions and provide complete information about the products included in the recall. We’re committed to providing the most up-to-date information we receive, and will take aggressive steps to help our customers, retailers and distributors.” Diamond’s quantitative analysis records substantiated that Diamond’s corn shipments were definitively clear of aflatoxin after December 10, 2005. As such, “Best By 11-June-07” date codes or later were not affected by this recall notice. A complete list of products included in the recall is posted on the company’s website at www.diamondpet.com.

The Food and Drug Administration (FDA) issued a statement on December 30, 2005 indicating that it is conducting an investigation into the deaths and illnesses of dogs that consumed petfood contaminated with aflatoxin. As of the release date, FDA stated it was aware of 23 dogs that had died and another 18 dogs that had become ill.

Nutro buyout announced

Nutro Products, Inc. recently announced that it has signed a definitive agreement for a management-led buyout by Bain Capital Partners LLC, a global private investment firm. Terms of the agreement were not disclosed.

David Kravis, who has been with Nutro Products since 1998 and is currently serving as president and chief operating officer, will be named CEO upon closing of the transaction. Kravis and members of the current management team will have significant equity interests in the business.

Nutro Products and Bain Capital

emphasized that they intend to maintain Nutro’s exclusive commitment to the pet specialty store channel.

WS Packaging Group announces acquisition

WS Packaging Group, Inc., headquartered in Algoma, Wisconsin, USA, recently purchased the Renaissance Mark Narrow Web division, which includes facilities in

Fullerton, California; Skokie, Illinois; Scranton, Pennsylvania, USA; and Monterrey, Mexico.

All of these Narrow Web locations have been under the leadership of Bill Harper who will remain with ES Packaging in that same capacity. In operation for over 30 years, the Fullerton facility is the largest supplier in the country of printed labels for the fresh berry market. ➔

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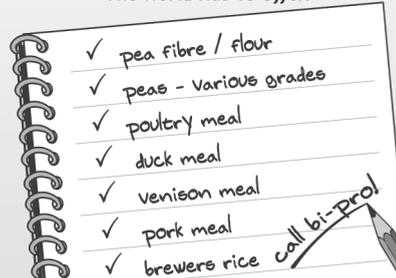
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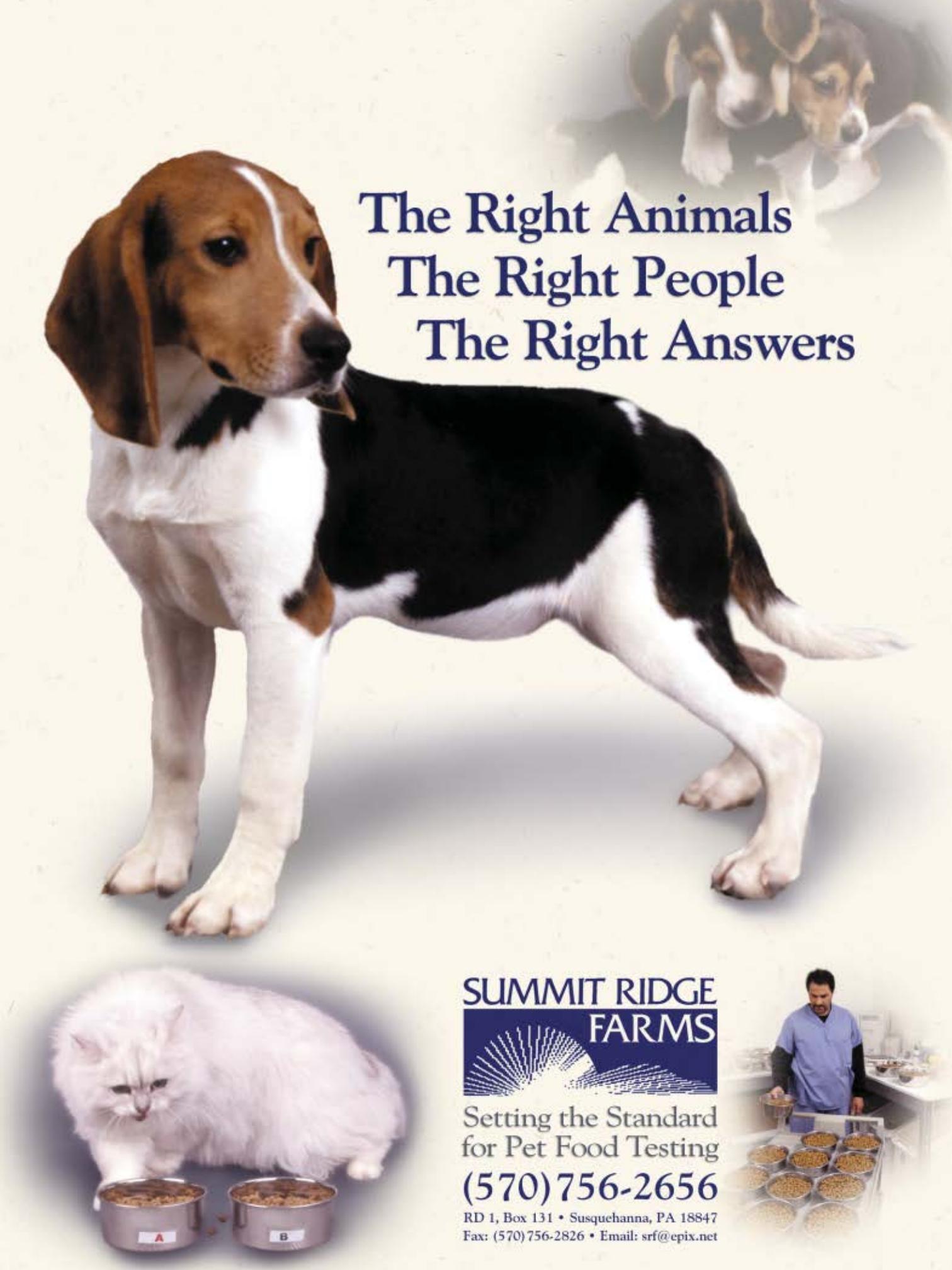
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