

NutraNews

DSM Nutritional Products Customer Magazine

Raising awareness of health benefits

Unlocking the full potential of micronutrients

Our eyes – the windows to the world

Revealing the complexity of skin

Fresh thinking on poultry health

Increasing feed conversion

New research highlights

Farewell to NutraNews, hello to real-time communications

NutraNews has been brought to you in print format for the past decade. We hope you have enjoyed reading our customer newsletter over the years, and that it has kept you up to date with important new product and service innovations at DSM Nutritional Products.

In line with the global shift to digital, real-time communication, we will in future be delivering our news, views and insights to you online. This is therefore the final printed edition of NutraNews.

We would like to thank you for your loyalty, and we look forward to keeping in ever closer touch with you via our new communication initiatives. Should you have any queries, please do not hesitate to email us at info.dnp@dsm.com

At a back to school event in Mexico, DSM had the opportunity to raise awareness of healthy food



www.dsm.com/nutranews

Raising awareness of the health benefits of DSM's HNH portfolio

Throughout 2015, millions of consumer media impressions have been secured in an effort to raise awareness of the health benefits of DSM's HNH portfolio. The third quarter featured successful media campaigns in Asia and Latin America.

In Asia, DSM conducted a survey which revealed the increasing difficulties Japanese mothers face incorporating DHA into their children's daily diet due to changing lifestyle and dietary patterns. DSM leveraged these insights to develop a media campaign involving a consumer media event in which *life'sDHA*® was positioned as a "smart choice" for DHA intake.

In Latin America, meanwhile, DSM leveraged World Breastfeeding Week and World Heart Day to raise awareness of the health benefits of DHA. We also held an event in Mexico focusing on

"Healthy Brain, Eyes and Heart" to raise consumer awareness of the benefits of a variety of micronutrients for children's overall health and school performance.

These regional campaigns help raise consumer awareness. We look forward to continuing this tradition into 2016 and beyond.

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Human Nutrition & Health Events

Opti

January 15–17, Munich, Germany
www.opti.de

GTH

February 17–20, Muenster, Germany
www.gth-online.org/home/jahrestagung/GTH-Tagung-2016.de.php

FIC China

March 23–25, Shanghai, China
<http://en.fi-c.com>

FCE Pharma

May 10–12, Sao Paulo, Brazil
<http://www.fcepharma.com.br>

Vitafoods 2016

May 25–28, Montpellier, France
www.isth.org/page/2016Microsite/

ISTH SCC 2016

May 10–12, Geneva, Switzerland
www.vitafoods.eu.com

IFT 2016

July 16–19, Chicago, IL, USA
www.am-fe.ift.org/cms

Food Technology Summit & Expo

TBC, Mexico
<http://foodtechnologysummit.com>

CPhI Worldwide

October 4–6, Barcelona, Spain
www.cphibarcelona.b-network.com

Food Technology Summit

October 1–3, TBC, Argentina
www.ftsummit.com.ar

Active in your service: DSM's unique nutritional API portfolio

DSM has made a major commitment to the pharmaceutical sector, with an ambition to become the first-choice supplier of vitamins, carotenoids and nutritional lipids for pharma companies worldwide. Our unmatched nutritional Active Pharmaceutical Ingredient (API) portfolio is designed to give our customers powerful

product differentiation, making possible new concepts specifically developed for both over-the-counter (OTC) and medical prescription (Rx) applications.

DSM can help pharma manufacturers get to market faster with innovative, appealing solutions that carry our unique Quality for Life™

promise and are backed by many third-party certification systems and sustainability protocols. DSM is in fact the only company in the world with CEPs for all vitamins. Our unparalleled reach ensures global availability of supply complemented by outstanding regulatory support and technical service, ensuring that we can help our customers deliver solutions that are perfectly tailored for their individual markets. And of course our global R&D organization is guided by a continually fresh understanding of customer and scientific trends, allowing us to collaborate on new concepts that help keep our customers stay well ahead of the curve. Please contact your local representative to find out more.

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Micronutrients unlock full human potential

Mounting research highlights the crucial role nutrition plays throughout the human lifespan.

The revolutionary triage theory recently proposed by Dr. Bruce Ames and his research team from the Children's Hospital Research Institute in Oakland, California suggests that the body prioritizes the use of scarce micronutrients in favor of short-term survival at the expense of long-term health. When the body requires nutrients for short-term health

and reproduction, it "steals" them from organs that are nutrient-rich and of lesser importance in order to sustain major organs that are nutrient-poor.

The correct provision of micronutrients during the first 1,000 days of life is essential to create the preconditions for future health: children who get the right nutrition are ten times more likely to overcome life-threatening childhood diseases than those who do not. And adults with healthy nutritional intakes are more

productive and have a better chance to escape poverty. As Dr. Ames concludes: "If you want maximum life span, your micronutrient needs must be met throughout life."

DSM has a unique portfolio of nutritional solutions, helping support a healthy diet at all stages of the lifecycle.

Outi Armstrong

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THE FIRST 1,000 DAYS COUNT: HOW MICRONUTRIENTS UNLOCK A FULL HUMAN POTENTIAL



MICRONUTRIENTS ARE...



...VITAMINS AND MINERALS
ESSENTIAL FOR GOOD HEALTH
AND OPTIMAL NUTRITION.



...ONLY NEEDED IN
SMALL AMOUNTS, BUT
MAKE A BIG DIFFERENCE.⁶



...IMPORTANT FOR
FAR-REACHING IMPACTS
ON PUBLIC HEALTH.

THIS IS HOW MICRONUTRIENTS HAVE POSITIVE ECHOES DURING LIFE AND FOR NEXT GENERATIONS

DURING THE FIRST 1,000 DAYS

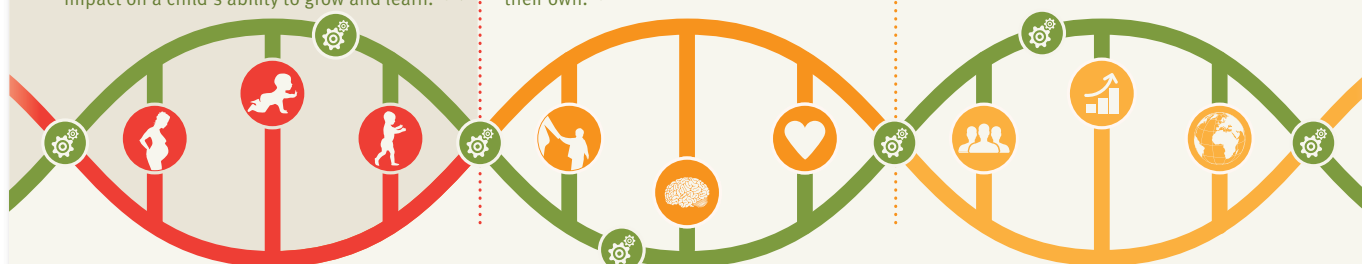
The 1,000 days between a woman's pregnancy and her child's 2nd birthday offer a unique window of opportunity to shape healthier and more prosperous futures. The right nutrition during this 1,000 day window can have a profound impact on a child's ability to grow and learn.^{2,3,4}

CHILDREN

Children who get the right nutrition in their first 1,000 days have stronger physical and mental development, are 10x more likely to overcome life-threatening childhood diseases and have healthier families of their own.^{2,3}

ADULTS AND NEXT GENERATIONS

Adults with healthy nutritional intake are more productive, have a better chance to escape poverty and have lower healthcare costs.¹



THE BODY PRIORITIZES THE USE OF SCARCE MICRONUTRIENTS WHEN DEFICIENT. MICRONUTRIENTS ARE RESERVED FOR SHORT-TERM SURVIVAL AND REPRODUCTION, AT THE EXPENSE OF LONG-TERM HEALTH.⁵



THREE SIMPLE STEPS TO A HEALTHY NUTRITION...



A HEALTHY DIET



FORTIFIED FOODS



VITAMIN SUPPLEMENTS

For more information
please visit
www.dsm.com

REFERENCES: ¹ Hoddinott J, et al 'Adult consequences of growth failure in early childhood'; American Society for Nutrition, 2013. ² Bhutta ZA, Das JK, Rizvi A, et al 'Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost?'; Lancet, 2013. ³ Christian P, Lee SE, Donahue Angel M, et al 'Risk of childhood undernutrition related to small-for-gestational age and preterm birth in low- and middle-income countries'; Int J Epidemiol., 2013. ⁴ www.thousanddays.org ⁵ Triage theory published by Bruce Ames, 2006, 2009. ⁶ http://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx.

Lineless looking eyes within 7 days

It has been said the eyes are the windows to the outside world. That is why they attract so much attention and require so much care.

With extensive experience in skin care, DSM has created SYN®-EYE – a new multifunctional, patented eye care complex. Recently launched in all major countries, SYN®-EYE fulfills

consumers' expectations for high- & fast-performing eye care products.

A multifunctional solution

The skin around the eye ages faster than the rest of the skin, as it is the thinnest and most fragile part. Collagen production slows down with advancing age, and muscle contraction

leads to the formation of lines and wrinkles. The delicate area around the eyes needs special care, with particular attention required for specific aspects such as collagen reduction, microcirculation and skin thinning.

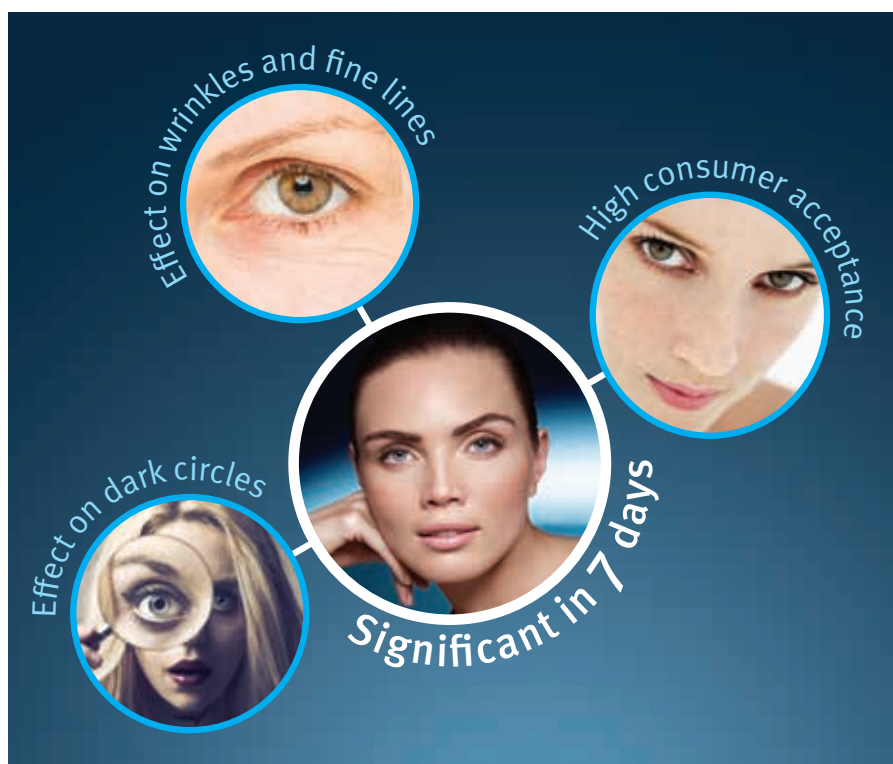
Most existing eye care products only address one of these aspects. SYN®-EYE, by contrast, offers the opportunity to treat this sensitive area of the body in a comprehensive and at the same time gentle way.

The new patented 4-in-1 blend SYN®-EYE combines four bioactive ingredients in a multifunctional eye care formulation. It offers a science-based approach to combat skin ageing in the eye region, improving skin texture and smoothening the look of the delicate skin around the eye. After just seven days, SYN®-EYE visibly reduces the appearance of lines and wrinkles in the eye area. After only 14, a visibly brighter skin color is noticeable in the dark circle area below the eye.

These outstanding anti-ageing results are complemented by very high consumer acceptance of SYN®-EYE compared with competitor products, as shown by a recent clinical study.

Mathias Gempeler

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Unique multiethnic study reveals complexity of facial skin hydration and moisturization

It has recently become obvious that single-point skin hydration measurements are inadequate to describe the facial moisturization needs of consumers. DSM therefore recently developed and evaluated a novel approach to this issue, working in partnership with Sefako Makgatho University (Pretoria, South Africa); Newtone Technologies (Lyon, France); Canfield Scientific (Fairfield, USA); and AVR Consulting (Northwich, UK).

Female subjects of various skin ethnicities were assessed for their facial skin hydration characteristics. Corneometer measurements

on 30 pre-defined sites and three-dimensional (3D) facial images were taken before and after four weeks of use of a moisturizing cream

containing niacinamide (vitamin B₃) and DSM Pentavitin®. An algorithm was developed which created full, continuous 3D color maps of skin hydration on the face.

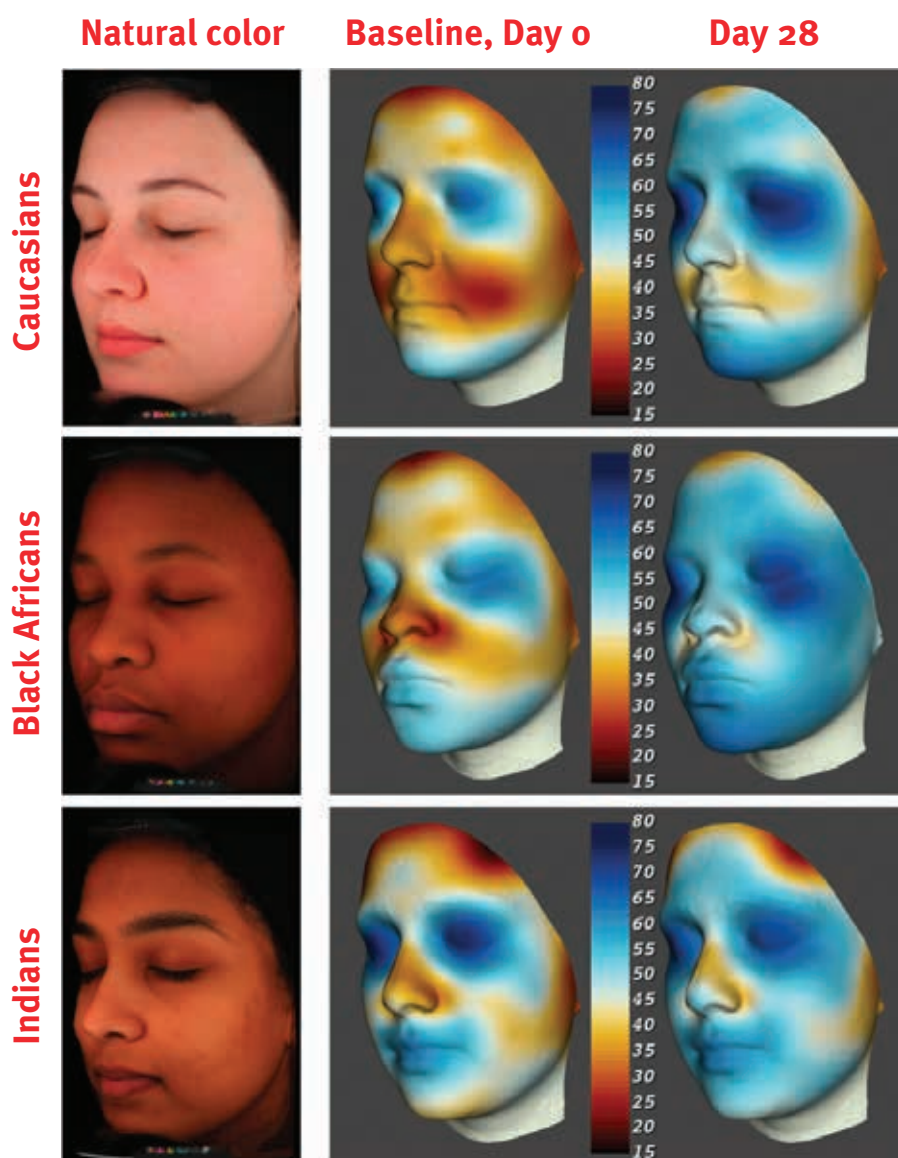
The complexity of facial skin hydration in all ethnic groups and the effect of a moisturizing cream are clearly visible in these unique images. The baseline images on day zero revealed subtle differences in different areas of the face, but in others there were individual steep gradients within short distances. All subject groups showed a significant improvement after four weeks of treatment, although the Indian cohort showed the weakest moisturizing effect. Relative to other facial sites, the moisturization of the nasolabial folds and middle cheek areas appear to be inadequate in all ethnicities.

Our novel approach highlights the complexity of facial skin hydration and pinpoints areas of facial skin that need special attention.

Rainer Voegeli

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Left column: standard portraits. Middle and right columns: continuous 3D color maps before and after treatment. Color code for Corneometer values shown on the scale (blue = good skin condition, red = impaired skin condition). For each ethnicity a mean face was generated.

Personal Care Events

Cosmetagora

January 12–13, Paris, France

www.cosmetagora.com

In-Cosmetics

April 12–14, Paris, France

www.in-cosmetics.com

WPC 2016

June 12–13, Miami, USA

www.wpc.perfumerflavorist.com

SEPAWA

October 14–16, Fulda, Germany

www.sepawa.com/index/sepawa-en/sepawa-en-events.html

Fresh thinking on poultry health at ESPN 2015

Confirming its commitment to innovative research into poultry gut health, DSM Animal Nutrition & Health attended the recent European Symposium on Poultry Nutrition (ESPN) and hosted several further events to encourage the exchange of ideas between participants.

DSM sponsored the opening ceremony of the symposium and greeted guests with a photo opportunity with our very own Charlie Chicken.

On 24 August, DSM held a Satellite Symposium entitled "Gut health in poultry: Lessons from human and animal physiology", in which over 150 delegates from around the world learned what new research findings from the field of human and animal nutrition and health can offer scientists working in poultry gut health.

The speakers – Arie Kies, manager applied R&D for the EMEA region at DSM; Jan Sikkema, Director of the Center for Development and Innovation at the University Medical Center Groningen in the Netherlands; and Michel

Jacques Duclos, the Director of the Unité de Recherches Avicoles at INRA, France – discussed various aspects of the topic, ranging from the relevance of human gut research in this context through the role of nutrigenomics and nutrigenetics to a holistic approach to poultry gut health. The presentation material from this very well received symposium is available for download from our website: bit.ly/ESPN2015.

A very big thank-you to everyone who came along to the invitation dinner, and to all who visited us in our booth. We learnt a great deal from the many interesting conversations we had, and we look forward to speaking again with those who requested more information from us.

Thanks again to everyone who helped make this event such a success!

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Charlie Chicken takes a well-earned break with (from left to right) Francois Nell (Poultry Specialist DSM ANH, EMEA); Jaco Hattingh (Senior Account Manager, DSM ANH, South Africa); Leni Kuterna (Manager Aveve Biochem at Aveve, Belgium); and Natasha Snyman (Technical Manager, Novus, South Africa).

Fosbovi Confinamento CRINA® RumiStar™ delivers radically increased feed conversion in finishing cattle



Carlos Roberto Ferreira da Silva, VP Marketing and Sales – Ruminants Brazil, profiles Fosbovi Confinamento CRINA® RumiStar™ at its launch in São Paulo.

DSM gathered more than 150 Brazilian beef cattle producers, veterinarians and consultants in São Paulo for a scientific meeting and to launch Fosbovi Confinamento CRINA® RumiStar™.

The new product is a local solution that delivers improved feed intake and weight gain in finishing cattle in feedlots in Brazil. The new product line contains OVN™ levels of vitamins, Tortuga special minerals for feedlot animals, CRINA® Ruminants, and RONOZYME® RumiStar™ – an innovative pure amylase that improves corn starch digestion in ruminants.

RONOZYME® RumiStar™ and CRINA® Ruminants are a perfect match. CRINA® improves appetite and thus feed intake, while RumiStar™ boosts ruminal starch digestibility. This is especially important in the early phase of the fattening

period, when the animals come in from pasture and have to adapt to an energy-rich new diet.

A 2014 feeding trial at the Escola Superior de Agricultura (ESALQ/USP) demonstrated that cattle fed Fosbovi Confinamento CRINA® RumiStar™ gained 200 g more weight per head per day over the entire fattening period compared to the control animals. Moreover, cattle fed Fosbovi Confinamento CRINA® RumiStar™ adapted much faster to the feedlot conditions and showed higher feed efficiency, improved carcass weight, and no signs of laminitis or acidosis. At the end of the fattening period, these animals had a higher dressing percentage and commanded approximately US\$ 30 more per head than the control animals – delivering a highly attractive increase in profit margins for the producer.

Animal Nutrition & Health Events

LIV Venray

March 1–3, Venray, The Netherlands
www.evenementenhal.nl/venray/keurzen/view/224/liv-venray-2016

SPACE 2016

September 13–16, Rennes, France
www.uk.space.fr

Eurotier

November 15–18, Hannover, Germany
www.eurotier.com

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New research highlights wider health role for vitamin D

Vitamin D has traditionally been closely linked to bone health. It prevents rickets in children, as well as lowering the risk of fracture and osteoporosis in adults and the elderly. Extensive new findings about the positive effects of vitamin D have recently been in the headlines. In a study published by The Journal of Clinical Endocrinology & Metabolism, for example, scientists in Finland suggest that low levels of 25-OH vitamin D in childhood might negatively impact the development of the vascular system.

Eighty-eight per cent of the global population currently has low vitamin D intake due to poor nutrition and lack of sun exposure, and consumers are still insufficiently aware of the long-term effects of vitamin D deficiency. With this in mind, DSM hosted a webinar in

September 2015 in which the acclaimed biochemist and molecular biologist Dr. Bruce Ames discussed the emerging health benefits of vitamin D across various life stages and conditions. He also presented his ground-breaking triage theory, which argues that when micronutrients are scarce, the body uses them to compensate episodic shortages at the expense of long-term survival. This leads to potential DNA damage and negative health consequences. Dr. Ames' findings powerfully underline the importance of adequate nutrition intake.

DSM's commitment to bone health was further underlined by its role as an official Nutrition Supporter of World Osteoporosis Day on 20th October.



WorldOsteoporosisDay
October 20
LOVE YOUR BONES
NUTRITIONAL SUPPORTER

DSM hosts symposium on the role of nutrition in cardiovascular health



DSM hosted a satellite symposium at this year's Congress of the European Society of Cardiology (ESC) in London, UK on 31 August. Entitled "Nutritional ingredients for

Natural, safe and with no side effects, both have regulatory-approved health claims.

The session was chaired by Dr Manfred Eggersdorfer, Professor for Healthy Ageing at Groningen University, and Dr Rob Winwood, Chair of the Scientific Committee of GOEDOmega3. They introduced two globally respected scientists who presented supporting clinical data for both ingredients.

Dr Philip Calder, Professor of Nutritional Immunology at Southampton University, spoke on "Marine fatty acids for primary and secondary CVD risk reduction". Dr Niamh

O'Kennedy, Honorary Research Fellow at the Rowett Institute of Nutrition and Health, University of Aberdeen and member of the Scientific Advisory Board to Proxavis plc, discussed "The potential of tomato extracts in primary prevention of CVD". The symposium, which concluded with a panel discussion, demonstrated that nutrition-related, natural solutions can play a vital role in the primary prevention of cardiovascular health concerns.

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Colophon

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