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Editorial:

Nutriview joins Sight and Life Magazine

This is the final issue of Nutriview as an independent newsletter. Instead of being published by the DSM Nutrition Improvement Program (NIP), it will become part of the SIGHT AND LIFE Magazine. This decision does not mean that NIP has lost interest in improving global nutrition, though. Indeed, it is concentrating even more on ensuring sustainable business models to bring nutritional solutions to the people at the base of the pyramid.

For several years now, Nutriview and SIGHT AND LIFE have followed similar objectives: to contribute towards a better understanding of the importance of micronutrients for good health, and to encourage efforts aimed at improving human nutrition. So it seems a logical step to unite our communication skills and avoid inundating you with redundant information. By joining SIGHT AND LIFE as a consultant, I hope I can continue to play a part towards improving global nutrition. If you do not already receive the

SIGHT AND LIFE Magazine, please register with info@sightandlife.org.

For the past eighteen years, editing Nutriview has been the highlight of my career. In 77 issues the Nutriview Scientific Board and I have communicated relevant aspects of nutrition research to show how the public and private sectors can interact to improve human health. I like to believe that our efforts have helped you to keep up to date with developments around the world, and encouraged you to introduce your own micronutrient supplementation or fortification programs. I look forward to continuing this collaboration.

*Please keep in touch!
As the email address of Nutriview is
no longer active, please write to me
at stopmalnutrition@hispeed.ch.*



A. Bowley

Feature:

Call to action on nutrition and health launched

On March 29, 2011, during the 7th World Life Sciences Forum, in Lyon, France, the patients' network for medical research and health EGAN, the International Genetic Alliance (IGA), the International Osteoporosis Foundation (IOF), Preparing for Life, Kraft Foods, Unilever, Sight and Life, GAIN and DSM joined forces to raise awareness of the importance of nutrition in promoting public health and reducing the risks of chronic or genetic diseases.

All partners co-signed a 'call to action' urging Europe's health ministers to:

- Implement campaigns to raise awareness of the importance of micronutrients in the diet
- Ensure that health professionals fully understand the consequences of micronutrient deficiency
- Promote research in the field of nutrition
- Provide fact-based information on the role of micronutrients in minimizing disease burden and saving on healthcare costs
- Ensure health professionals can offer effective nutrition care programs to patients.

Promoting public-private partnerships, the signatories invite Europe's health ministers, the World Health Organization and the European Commission to work together to increase quality of life for patients and achieve cost-effective disease prevention. It also calls for a 'scaling-up' of fortification or supplementa-

tion programs in high-risk groups to tackle specific population-based health problems.

Dr Manfred Eggersdorfer, Senior Vice-President, Nutrition Science & Advocacy at DSM, commented: "There is significant scientific agreement that nutrition plays a key role in human health, and yet, with changing lifestyles, habits and diets, there is a constant challenge to avoid micronutrient deficiency. In promoting the 'call to action', we want to ensure that healthcare decision makers fully understand the benefits of micronutrients and their role in avoiding the devastating social and economic impacts of ill health."

Professor René Rizzoli, Geneva university hospitals and faculty of medicine spokesperson from the IOF, specifically highlighted the importance of vitamin D: "For older people, especially women, who are at risk of osteoporosis, the simple message to increase vitamin D and calcium intake can make a dramatic difference to their health outcomes and quality of life, as well as potentially reduce a huge disease burden on healthcare systems worldwide. That's why we've signed the 'call to action' on nutrition and health."

Alastair Kent, spokesperson and secretary general for EGAN/IGA, also noted: "Patient groups have an urgent need for reliable information on the role nutrition can play in improving health, and yet they scarcely have the time or resources to keep up with

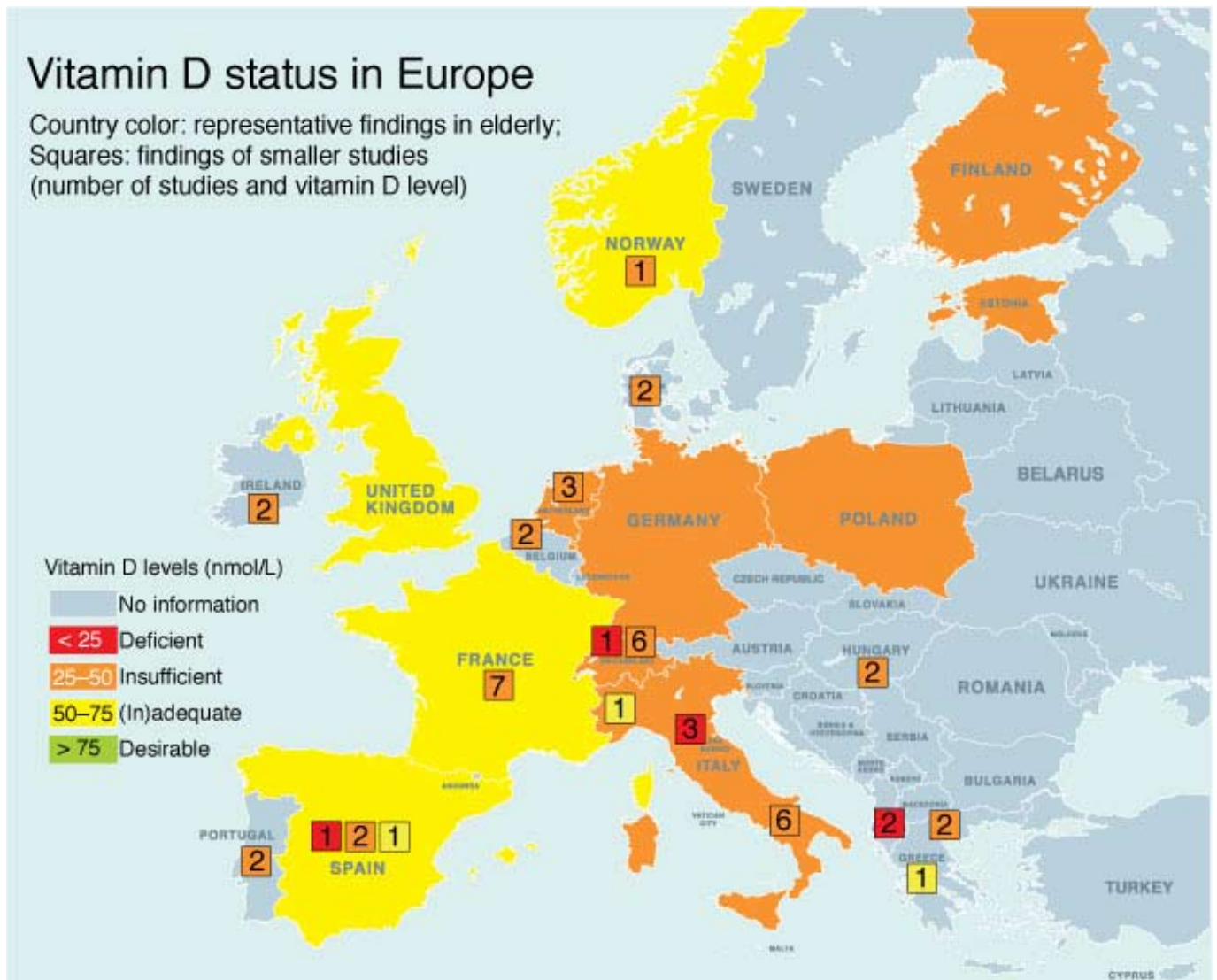


Figure 1: Vitamin D status in Europe. For the purposes of this project, the blood concentrations of vitamin D are categorized as 'desirable' (>75 nmol/L or >30 ng/ml), 'inadequate' (50–75 nmol/L), 'insufficient' (25–50 nmol/L), and 'deficient' (<25 nmol/L).

the latest research developments. We believe international partnerships are vital if we are to deliver on the promise of nutrition in improving public health and patients' lives."

Vitamin D deficiency maps highlight serious bone health issues

Findings launched by IOF in a series of European maps reveal that older people across Europe are not getting enough vitamin D, an essential nutrient for bone health that helps to prevent falls and fractures linked to osteoporosis. The maps reveal that in every European country analyzed to date, vitamin D levels are 'insufficient' or 'inadequate' amongst older people (Figure 1).

Every thirty seconds, someone in the European Union has a bone fracture as a result of osteoporosis. At the current rate of ageing in the population, the yearly incidence of hip fracture is expected to more than double over the next decade. Global research for seventeen countries in Europe extrapolates potential cost savings to healthcare systems of up to €187

billion if the problem of vitamin D deficiency is addressed [1]

The risk of vitamin D deficiency in old age is increased, because natural production of the vitamin through sunlight is reduced, and only small amounts are provided by the diet. Supplementation or food fortification with vitamin D is therefore desirable to ensure an adequate status and lower the risk of fracture.

The current intake recommendation for vitamin D in the European Union is 200–400 IU daily, but key opinion leaders are calling for much higher intakes. The IOF and its partner DSM support evidence-based proposals of 1000–2000 IU vitamin D per day, especially for risk groups such as the elderly and postmenopausal women. The US Institute of Medicine recently set the EAR for vitamin D at 400 IU daily (see Nutriview 2011/1).

Dr Heike Bischoff-Ferrari, Director of the Centre on Aging and Mobility at the University of Zurich, commented: "Vitamin D supplementation offers an effective, inexpensive and safe public health strategy to reduce 20% of falls and fractures, including those at

the hip, in a growing senior segment of the European population. This is an enormous public-health benefit we could implement now.”

Dr Eggersdorfer agreed that there is clear evidence of a vitamin D deficiency gap in Europe especially amongst older people, and that policymakers should take action to close this gap by recognizing the important role of vitamin D.

Judy Stenmark, COO of the International Osteoporosis Foundation promoted the new maps as a vital tool in helping to understand the scale of vitamin D deficiency. “With Europe’s growing ageing population, the simple message to increase vitamin D intake can make a dramatic difference to people’s health outcomes and quality of life, as well as potentially

reduce a huge disease burden on healthcare systems worldwide,” she said.

Mary Honeyball, MEP, Chair of the European Parliament Osteoporosis group added: “Osteoporosis is a major public health problem, with enormous social and economic impact, and yet it is frequently low on the list of healthcare priorities. As policymakers, we all have to start waking up to the importance of prevention, and look at the important role that good nutrition can play in stopping this problem in its tracks.”

References

1. Grant WB, Cross HS, Garland CF, et al. *Prog Biophys Mol Biol* 2009; 99: 104–113.

Source:
DSM press releases

Feature:

New FFI Director advocates business approach

On March 7, 2011, the Flour Fortification Initiative (FFI), a network of partners working to make the addition of vitamins and minerals to flour standard milling practice worldwide, announced the nomination of Scott J. Montgomery as its new Director. He replaces FFI founder Glen Maberly, who retired from his post as professor at Emory University in Atlanta, Georgia, in 2009 to become Director of the Centre for Health Innovation and Partnership (CHIP) in Western Sydney, Australia.

After receiving a bachelor’s degree in milling science and management from Kansas State University in 1980, Scott Montgomery joined Cargill Incorporated as a trainee at the company’s oilseed processing plant in Washington, Iowa. He quickly moved into the wheat flour milling business, holding several supervisory positions across North America. This was followed by global operations responsibility for Cargill’s wheat and maize milling operations, and ultimately citrus operations, in every region of the world. He retired from Cargill in 2010 as Vice President, Global Procurement Leader.

In 2004, he joined the FFI Executive Management Team (EMT), whose members from multiple-sector partners provide strategic direction to FFI, as Cargill representative, and served as EMT chairman from 2006–2010. After retiring from Cargill, he joined the FFI staff as Industry Liaison. He will continue to serve in this role as well as taking on his new responsibilities as Director. He will also have primary responsibility for FFI fund-raising efforts.

Referring to his service on the EMT, he confesses: “My early involvement in this work while still at Cargill was extremely gratifying, (but) I often felt guilty that I did not have more time to support the team we



FFI Director Scott Montgomery.

have deployed across the world, because I was fully employed with my day job. I am anxious and excited to apply all I've learned in thirty years of private sector experience to this effort."

Scott sees improving health around the world as similar to a private-sector company managing its business for prosperity and growth. "Our success in FFI is measured by the increase in fortified staple foods available to the population in each country; our prosperity and growth translate into making a significant contribution to reducing the burden of micronutrient deficiency. We have a great team of extremely dedicated individuals; my hope is to bring

a real business approach to this team of heroes with clear strategies, work plans, accountabilities and a spirit of urgency. FFI has accomplished a lot in the last seven years, and I hope to lead the team to the next plateau."

In the words of Greg Harvey, Chairman of the FFI EMT and Chief Executive of Interflour Group, one of Southeast Asia's largest flour milling companies: "Scott has demonstrated his leadership skills, his ability to plan strategically, and his passion for improving people's health by fortifying flour. We look forward to strengthening our network of partners under his direction."

Feature:

SUNRAY initiative to tackle malnutrition in Africa

The European Commission has given the green light to an ambitious research project called SUNRAY (Sustainable Nutrition Research for Africa in the Years to come). A consortium of four African and five European institutions, coordinated by the Institute of Tropical Medicine in Antwerp, Belgium, is implementing the project. Over a period of two years, beginning in January 2011, about one million Euros will be invested to rethink the research agenda for nutrition in Africa.

This is an opportune moment for investing in nutrition research. Malnutrition rates remain high, particularly in sub-Saharan Africa, where only nine out of 46 countries are on track to achieve the first Millennium Development Goal (50% reduction in underweight among children less than five years old). Undernutrition is only part of the problem; obesity and other diet-related chronic diseases are increasing as lifestyles change, so there is a double burden of malnutrition.

Despite the huge cost of malnutrition in terms of early death, reduced quality of life and lower gross national product, investment in nutrition has been inadequate. In addition, new nutritional challenges are emerging due to changes in climate, demography and international markets. The SUNRAY project aims to identify new and innovative ways to address the problem of malnutrition. African researchers will primarily define the research agenda and priorities, and other institutions and individuals with an interest in nutrition and related fields in Africa will also be consulted.

Other African partners will take ownership of the research agenda to ensure that it is sustainable. To address the root causes of malnutrition and avoid 'technical fixes', the research will be integrated with initiatives in other sectors such as agriculture, health, education,

social protection and rural development. The project links research with policy and action, and involves a broad range of stakeholders, including politicians, government staff, health professionals, nutritionists, consumer and public-health organizations, agro and food industry, policy makers, non-governmental organizations, civil society, United Nations organizations and donors.

Setting the research agenda

The researchers will map the current nutrition research in sub-Saharan Africa (and its funders), and identify the barriers, constraints, opportunities and unmet needs. Up to now, high-income countries have dominated nutrition research, which has led to a concentration on nutrition problems such as obesity and much less emphasis on undernutrition and the nutritional problems faced by Africans.

The scientists will identify not only the current needs, but also emerging research challenges for the nutrition community due to future changes in climate, biodiversity, demography, urbanization, water availability, economy, politics, agriculture, international markets, socioeconomic dynamics and conflict.

In three international workshops the project partners are aiming to build a consensus on common research and policy priorities among stakeholders. The project will produce a roadmap for future research that will outline a strategy to be taken forward in the years to come.

Policy makers at the highest level need to be persuaded that investment in nutrition is essential. The image of the starving child is no longer enough to provoke action. The SUNRAY project therefore intends to replace that appeal to emotions by facts and figures, and to promote research that produces clear findings so that action becomes imperative.

Feature:

Uganda achieves ‘universal’ oil fortification

Uganda has voluntarily fortified cooking oil with vitamin A since 2005, and nearly 90% of the cooking oil currently on the market is fortified. This has acted as a catalyst for fortifying other food vehicles in the country, and provides an inspirational model for neighboring countries in East Africa. This is an achievement thanks to the voluntary participation of the top three oil manufacturers of the country. To ensure that the progress reached so far is not put in jeopardy by risks associated with importation of unfortified oil on the market, the country is now planning to make fortification mandatory.

The Ugandan Ministry of Health has understood the importance of responding to micronutrient deficiencies since the 1990s. It introduced universal mandatory salt iodization in 1994, distributed vitamin A supplements to preschool children, and initiated dietary diversification programs. Nothing seemed adequate, however, to address the degree to which women of reproductive age, pregnant women, and children below five years of age were facing impaired immunity and severe anemia that manifested as chronic disease and disability. In the early 2000s, the Ugandan Ministry of Health, in partnership with USAID, commissioned a study to examine consumption patterns in the search for evidence that would justify the fortification of commonly consumed foods. At first, cooking oil and maize flour were assessed as possible vehicles for fortification with vitamin A. Whereas maize posed limitations due to the lack of large-scale producers within the country, the manufacturing of cooking oil seemed to offer ideal conditions.

“It’s important to realize the private sector’s role in sustainability,” said the food technology specialist Kamal Hyder, who, while working for MOST, the USAID Micronutrient Project from 1998 to 2005, had provided technical support for oil fortification in Uganda during its first stages. “For example, in places such as Uganda with oil and Zambia with sugar cane, fortification is working because industry had an incentive to do something good, and at the same time to be publicly recognized as contributing to public health.” He described how the Ministry of Health in Uganda had been very supportive about food fortification as a public health strategy from the earliest meetings; how suppliers had played an active role by providing free vitamins to the oil industry for a trial period; and how the industry leader, Mukwano Industries Ltd, had introduced a fortified product to the market in 2004.

One year later, when the Bidco Oil Refineries Ltd entered the market, it immediately recognized

the additional value of adding vitamin A, and its managers, on their own initiative, decided to fortify the company’s oil from the very first batches produced. More recently, a third company, Mount Meru, has entered the market in the north of the country. The oil produced in these three companies meets about 90% of the Ugandan market’s needs. A fourth factory is soon to be added thanks to a GAIN grant given to the country for oil, maize and wheat flour fortification. Thus, almost all the cooking oil produced and sold in Uganda is now fortified. Nevertheless, challenges to the process abound, with some small manufacturers trying to compete by offering their non-fortified products at lower prices or by imitating the labels of their competitors’ fortified products in order to confuse consumers.

Despite the challenges, Ugandans have undeniably implemented locally driven solutions that help to reduce the micronutrient deficiencies affecting public health in the population. “Oil fortification in Uganda is an example of how relatively little money used judiciously, in an environment where the public and private sectors have different but mutually supportive objectives, can go a long way toward addressing a public health issue. If there is a success story out there, oil fortification in Uganda is surely one of them,” declared Roy Miller, ex-Director of MOST. And even though public awareness and understanding around food fortification has been weak, this has not hindered consumption of vitamin-A-fortified oil throughout the country. According to Agnes Chandia Baku, Acting Head of the Nutrition Section in the Ministry of Health, because most of the big players in the country are fortifying the oil they produce with vitamin A, the population at large is receiving a nutrition benefit without having to change its consumption behavior.



Poster promoting fortified oil

Conference report:

First biofortification conference charts future

On November 9–11, 2010, HarvestPlus convened the First Global Conference on Biofortification to bring together the many organizations and individuals who conduct biofortification research. Three hundred scientists, researchers, practitioners, decision makers and students attended the conference, which took place in Washington, DC. The main objectives of the conference were to take stock of the research in biofortification, raise the visibility of this new agricultural approach to improve public health, and chart its future. The conference spanned two and half days and was structured with a keynote address and panel discussion each morning, and technical symposia in the afternoons. Dishes featuring biofortified maize and beans were served during meals throughout the conference.

One major theme that emerged was the need to strengthen linkages between agriculture and nutrition. In his opening keynote address, Ambassador William Garvelink, US Government Deputy Coordinator for Development at the Feed the Future Initiative, noted that funding for agriculture has declined in recent decades. He reiterated the US Government's recent commitment to increase funding for agricultural and nutrition interventions and to continuing the advancement of biofortified crops.

On day one, Dr Lawrence Haddad of the Institute of Development Studies at the University of Sussex in Brighton, UK, presented a commissioned paper, *From HarvestPlus to harvest driven: How to realize the elusive potential of agriculture for nutrition*, that explored how agriculture can be used more effectively to improve nutrition. He addressed three questions:

1. What are the pathways between agriculture and nutrition?
2. Is the potential being realized?
3. What can be done to increase the realization of this potential?

His talk concluded with the statement: "We need to move from the era of thinking of improved nutrition as an optional extra for agriculture to one where nutrition is driven by agriculture as its key *raison d'être*."

Dr Howarth Bouis, Director of HarvestPlus, then discussed several major challenges facing biofortification. These include measuring its public health impact, developing a better understanding of how foods impact human nutrition, getting the agricultural sector to prioritize nutrition, and getting the nutrition community to prioritize agriculture.

In day two's keynote, Pulitzer-Prize-winning columnist Nicholas Kristof suggested that one way to overcome some of these challenges is to raise the visibility of



Ambassador William J Garvelink gives the opening keynote address.

micronutrient malnutrition on the global stage by doing a better job of 'selling the story'. On the second day, focus also shifted to the nutrition landscape. Dr Keith West of the Johns Hopkins Bloomberg School of Public Health presented his commissioned paper, *Biofortification as a complementary approach to controlling micronutrient deficiencies in the developing world*. This presentation looked at how biofortification could



HarvestPlus Director Howarth Bouis speaks about the progress and challenges of biofortification.

fit into the already existing nutrition interventions of dietary diversity, food fortification, and supplementation. Dr West concluded that: “biofortification offers a fitting and paced approach to achieve minimum dietary levels of essential micronutrients, especially in populations that lie beyond reach of most current strategies.”

The conference also explored ways to ensure that biofortified crops (once they are ready) will reach the populations who need them most. In her keynote address on day three, Navyn Salem of Edesia Global Nutrition Solutions discussed lessons that they had learned in linking the private and public sectors through their efforts to deliver ready-to-use therapeutic foods for treating acute malnutrition. She provided insights on how biofortification could take advantage of a variety of partners and their expertise to more effectively promote and disseminate biofortified crops and foods.

The afternoon symposia, featuring the work of fifty researchers, focused on the technical aspects of biofortification. Two of them dealt with nutrition research on the biofortification of crops, one with vitamin A, and one with iron and zinc. The presenters reviewed the existing research, identified gaps and constraints, and proposed solutions to mainstream biofortification as a public health intervention. One of the major discussions that took place during these symposia was around the need to establish appropriate indicators for measuring deficiencies, particularly in the case of zinc, which does not have a sensitive biomarker. Participants and presenters agreed that this is a major obstacle in proving the efficacy and effectiveness of biofortified crops. The symposia also highlighted related issues such as protein biofortification, breeding crops to have better nutrient bioavailability, and how climate change might affect the nutritional quality of foods.



New York Times columnist Nicholas Kristof suggests how to overcome some of the challenges facing biofortification.

Videos of keynote addresses, PowerPoint presentations and papers from the conference can be downloaded at <http://biofortconf.ifpri.info>.

Hannah Guedenet and Yassir Islam, HarvestPlus

Note: If you are reading this document on screen, clicking on any URL should take you directly to the corresponding web page.

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Scientific advisers: Dr Ricardo Uauy, Professor of Human Nutrition, Institute of Nutrition and Food Technology, University of Chile, Casilla 138-11, Santiago; Dr Noel W Solomons, Director, Center for Studies of Sensory Impairment, Aging and Metabolism (CeSSIAM), Guatemala City; Dr Omar Dary, Food Fortification Specialist, USAID Micronutrient and Child Blindness Project A2Z, Washington DC.

Coordinator: Hector Cori, Scientific and Technical Director, Nutrition Improvement Program, DSM Nutritional Products Ltd, Switzerland. Internet: <http://www.nutritionimprovement.com/nutriview.html>