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MORE FOOD MANUFACTURERS CREATING FUNCTIONAL FOODS THAT BOOST HEALTH AND FIGHT DISEASES

The FINEST Food Programme aims to get local food companies develop at least 30 new prototypes over the next three years by helping them transform ideas to market-ready realities.

Singapore, 10 July 2012: A super-sized industry currently worth about \$32 billion, the global functional foods market may soon be seeing the entry of a steady stream of locally-made products that can boost health and fight diseases, from maintaining a healthy weight and blood pressure to preventing diabetes and heart attacks.

2. A functional food is similar in appearance to a conventional food that is consumed as part of a usual diet, with ingredients or compositions that are proven to confer health benefits beyond basic nutrition¹. Examples of such foods include yoghurts containing bacterial cultures and eggs with Omega-3² fat.
3. In order to encourage the development and production of functional foods that are not only healthy but tasty, accessible and affordable, the FINEST Food Programme was launched last October as a one-stop resource hub, to equip industry players venturing into the functional foods market with the necessary knowledge and skills.
4. A multi-agency initiative involving the public, private and knowledge sectors, the FINEST Food Programme is helmed by the Health Promotion Board (HPB), in collaboration with SPRING Singapore; the Agency for Science, Technology and Research (A*STAR); the Singapore Food Manufacturers' Association (SFMA); Temasek Polytechnic; Singapore Polytechnic; Republic Polytechnic; Nanyang Polytechnic and the Food Innovation and Resource Centre housed at Singapore Polytechnic.
5. Working with partners in the food industry, the Programme introduced salt with lower sodium content and wholegrain noodles to the mass market last year. Since then, the overall sales volume of healthier salt has increased by 15 per cent, while the production of wholegrain noodles has jumped fourfold.

¹ Adapted from Food Standards Australia New Zealand
(http://www.foodstandards.gov.au/scienceandeducation/publications/annualreport/fsanzannualreport20052006/ourregulatorymeasure_s2006/foodstandardsdevelop3352.cfm)

² Omega 3 fats are polyunsaturated fats commonly found in fish and some plant oils. They reduce inflammation in the body which helps protect against heart disease.

6. To continue the good work started last year, the FINEST Food Symposium and Exhibition on the 10th and 11th July presents a clear business case for the development of functional foods, by bringing together more than 20 key partners in the functional food value chain such as food technologists, ingredient suppliers, R&D experts and market analysts.

7. The two-day exhibition will feature a diverse range of prototypes, from low Glycemic Index (GI) noodles, buns and muffins to heart-friendly foods and beverages fortified with Omega-3. It will also offer participants a chance to go behind the scenes by scheduling visits to local application laboratories and innovation centres for valuable hands-on experience.

8. The GI is a ranking of foods based on their immediate effect on a person's blood glucose level. Carbohydrates that break down quickly during digestion have a high GI while those that break down slowly have a low GI. Not only can a low GI diet help in diabetes management, it can also assist with weight management by making a person feel fuller longer.

9. Said Dr Amy Khor, Minister of State for Health: "The aim of the FINEST Food Symposium and Exhibition is to stoke the imagination and entrepreneurial spirit of food manufacturers here, and encourage them to start working on new functional food prototypes that can promote the health and well-being of the population. As an additional nudge, HPB is partnering SPRING Singapore to provide grants worth more than \$10,000³, which can be used by food manufacturers to tap the expertise of food scientists and turn ideas into market realities. In a crowded and competitive food industry, functional foods offer prospects for growth. One of the fastest-growing segments in the global food industry, the functional food market is forecast to be worth \$38 billion by 2014, with Asia Pacific accounting for 40 per cent of total market share. These numbers must surely give our food manufacturers some food for thought, and I urge them to make use of the opportunities and support available to build a successful functional food business that is beneficial to health locally and beyond."

10. Said Mr Ang Hak Seng, Chief Executive Officer, HPB: "Nutrition science has moved from the classical concept of 'adequate nutrition' to 'optimal nutrition', with more food products designed to optimise well-being as well as reduce the risk of disease. Our National Nutrition Survey findings indicate that most Singaporeans' daily food intake meets the recommendations for protein, vitamins and minerals. Those who consume Healthier Choice Symbol, or HCS, products fare even better as their diets would likely be rich in nutrients but low in sodium and saturated fat. However, more can be done to help Singaporeans gain optimum nutrition in the fight against chronic diseases. For a start, we will be focusing on foods with low GI or fortified with Omega-3 fat, which can help with diabetes management and active aging. To encourage companies to develop functional foods with these components, such as wholegrain noodles with a low Glycemic Index or soy milk and beancurd fortified with Omega-3, HPB is introducing two new HCS variants to help consumers identify such products."

³ \$10,000 comprises of SPRING's Innovation Capability Voucher (ICV) worth \$5,000 for initial stages of product innovation and development; and HPB Healthier Choice Symbol (HCS) New Product Development Grant worth \$5,000 to meet nutritional standards to qualify for HCS certification. Alternatively, for projects with larger scope, SMEs can tap on SPRING's Technology Innovation Programme that fund up to 70% of qualifying cost.

11. Said Mr Wong Mong Hong, President, SFMA: "Singaporean food manufacturers have already made their mark internationally for maintaining high safety standards. It's now time to let the world know we are adept at producing food that is not just safe but healthy and nutritious as well. Let us leverage our excellent partnership with HPB to build our skills and knowledge in the functional food business by applying for grants and tapping the expertise of key players in the functional food value chain. As part of our commitment to help Singapore companies develop healthier products and sharpen their competitive edge, SFMA aims to provide first-hand experience and in-depth learning by facilitating visits to local and overseas application laboratories."

12. Said the conference's keynote speaker, Professor Jeyakumar Henry, Director, Clinical Nutritional Sciences, Singapore Institute for Clinical Sciences: "In most developed countries with rapidly greying populations, healthcare costs make up 9 to 16 per cent of the Gross National Product. As Singapore grapples with our own 'silver tsunami', the development and consumption of functional foods to boost health and reduce diet-related chronic diseases are timely and even necessary if we do not want health costs to become a national burden. There's no doubt that functional food is becoming a key component of public health in countries around the world, including Singapore. With initiatives like the FINEST Food Programme giving the local functional food industry a helping hand, I am certain that more and more Made-in-Singapore functional foods that are both tasty and affordable will find their way to our dinner tables."

13. Under the FINEST Food Programme, HPB aims to have local companies develop and manufacture at least 30 new functional food prototypes within the next three years.

ANNEX A - Fact Sheet on FINEST Food Symposium and Exhibition 2012

ANNEX B - Healthier Choice Symbol New Product Development Grant Information Sheet

ANNEX C - Innovation & Capability Voucher and Technology Innovation Programme

Issued by Health Promotion Board

Fact sheet on FINEST Food Symposium and Exhibition 2012 **Functional, Innovative, Nutritious, Effective, Science-based and Tasty food**

FINEST Food Symposium and Exhibition 2012 in partnership with SPRING Singapore, Agency for Science, Technology and Research (A*Star) and Singapore Food Manufacturers' Association (SFMA)

About the "FINEST Food" Programme

The FINEST food programme is a step forward in industry partnerships. It is a tripartite initiative among the government sector (Health Promotion Board, SPRING Singapore, Agency for Science, Technology and Research), private sector (Singapore Food Manufacturers' Association), and knowledge sector (Knowledge Institutes (KIs)).

The inter-agency collaboration in partnership with the knowledge institutes, harnesses the food science capabilities to provide one-stop centres for food companies to consult and procure services for product development. This helps to align resource support, like grants from SPRING, and knowledge transfer activities in the development of functional foods that address priority health needs.

What the programme hopes to achieve

The triphasic approach of the programme "Learn, See, Do" aims to connect manufacturers with functional ingredient companies and knowledge institutes to pick up technology know-how to catalyse new product development.

Innovative products like reduced-sodium table salt and fishballs, wholegrain versions of Asian traditional favourites like noodles, steamed buns are some new entrants to the local market. In three years, 30 of such functional foods are projected to be launched.

What is a functional food?

A functional food is similar in appearance to a conventional food that is consumed as part of a usual diet, with ingredients or compositions that is demonstrated to confer health benefits beyond basic nutrition. An example is the addition of Plant sterols (beneficial chemicals from plants) in milks to help reduce blood cholesterol.

The FINEST Food Exhibition - "The Marketplace of Healthier Foods"

The exhibition will feature 20 exhibitors representing some 11 food manufacturers, 7 ingredient suppliers and 5 food innovation centres showcasing more than 50 new healthier new food products and concepts in total.

The exhibition will adopt an interactive format to allow participants to taste-touch-see these food products, and get the opportunity to ask the experts questions. These international ingredient suppliers will be featuring healthier, functional food products launched globally, while local knowledge institutes will showcase their technology capabilities and collaborations with local food manufacturers.

The FINEST Food Symposium

It will feature more than 30 speakers from the academia and food industry, experts in their respective fields and domains. The symposium will feature dual concurrent tracks:

- **Track A on "New ingredient technologies for new product development"**
It covers the latest ingredients, processing and packaging technologies available in the market to help manufacturers develop healthier food products. Some of the popular topics including better quality carbohydrates, creating lower sugar and salt options without compromising on taste, and adding ingredients that confer beneficial health properties.
- **Track B on "Food, Health and Nutrition"**
It covers the scientific evidence underpinning the nutritional quality of functional foods, and its potential benefits on health. Emerging areas include identifying new components of the diet like Low GI and nutritional fats (Omega-3) that confer health benefits, developing nutritionally-fitting foods for elderly, and the impact of food structure on bioavailability and ways to manipulate it to improve the nutritional value.

To Participate in the FINEST Food Programme

More details on registration, programme outline, can be obtained from the Healthier Choice Symbol Programme website.

Available Assistance Schemes for companies

Companies interested in participating can tap on the following funding sources

1. **HPB Healthier Choice Symbol (HCS) Grant** to support or pay for the cost of reformulation projects of existing products and prototypes to meet the healthier choice symbol nutritional criteria, leading to the certification of healthier choice products. These projects should be conducted at participating appointed Knowledge Institutes (KIs). Interested SMEs can apply for up to \$5,000 per project.

More details can be obtained from the *Healthier Choice Symbol New Product Development Grant Information Sheet (Annex B)*

2. **SPRING Technology Innovation Programme and Innovation and Capability Voucher Scheme**

More details can be obtained from *About Innovation & Capability Voucher and Technology Innovation Programme (Annex C)*



Healthier Choice Symbol New Product Development Grant Information sheet

Grant Objectives and Overview

The Healthier Choice Symbol new product development grant aims to connect local Small and Medium size Enterprise (SME) food manufacturers and public Knowledge Institutes (KI) to innovate healthier products with the intention to address health and nutritional needs of the Singapore population.

The grant of \$5,000 can be used to support projects or a range of services at appointed Knowledge Institutes (KI) within a period of one year. These activities must lead to the development of healthier choice products. It should also facilitate the transfer of technical know-hows from the KI to the SMEs.

Eligibility Criteria

The application is open to all local SMEs, subject to the following criteria. This is in line with the new SME definition adopted by SPRING Singapore with effect from 1 April 2011⁴.

- At least 30% of shareholding is local
- Annual sales turnover of not more than \$100 million or
- Employment size of not more than 200 employees

How to apply?

Interested companies meeting the eligibility criteria can submit a project proposal to the Health Promotion Board after consultation with the prospective KI. To increase the chances of a successful application, proposed projects should preferably be in the grant priority areas.

More details on the grant priority areas, evaluation criteria and project proposal template are available in Annex A and Annex B respectively.

Appointed Knowledge Institutes (KI)

The appointed Knowledge Institutes are listed in Section 3.

List of services and knowledge transfer activities applicable under the HPB grant

The grant of \$5,000 per project can be used to support projects or procure services that lead to the development and certification of a healthier choice product after the proto-type or product has been developed. Applicants who have previously utilized the IVS to develop prototypes are eligible to apply for the HCS Grant.

As a guide, these projects or services should focus on the items listed below that results in or leads to the development and certification of healthier choice products. These activities should also facilitate the transfer of know-how from KI to the SMEs.

- Reformulation to meet prevailing Healthier Choice Symbol (HCS) guidelines
- Recommendations to improve manufacturing practices or processing parameters to meet HCS guidelines
- Recommendations on packaging to extend shelf life of products
- Conduct shelf life studies
- Conduct chemical analysis limited to the 10 core nutrients*
- Conduct sensory and customer studies
- Conduct analysis for Glycaemic Index testing at an accredited laboratory

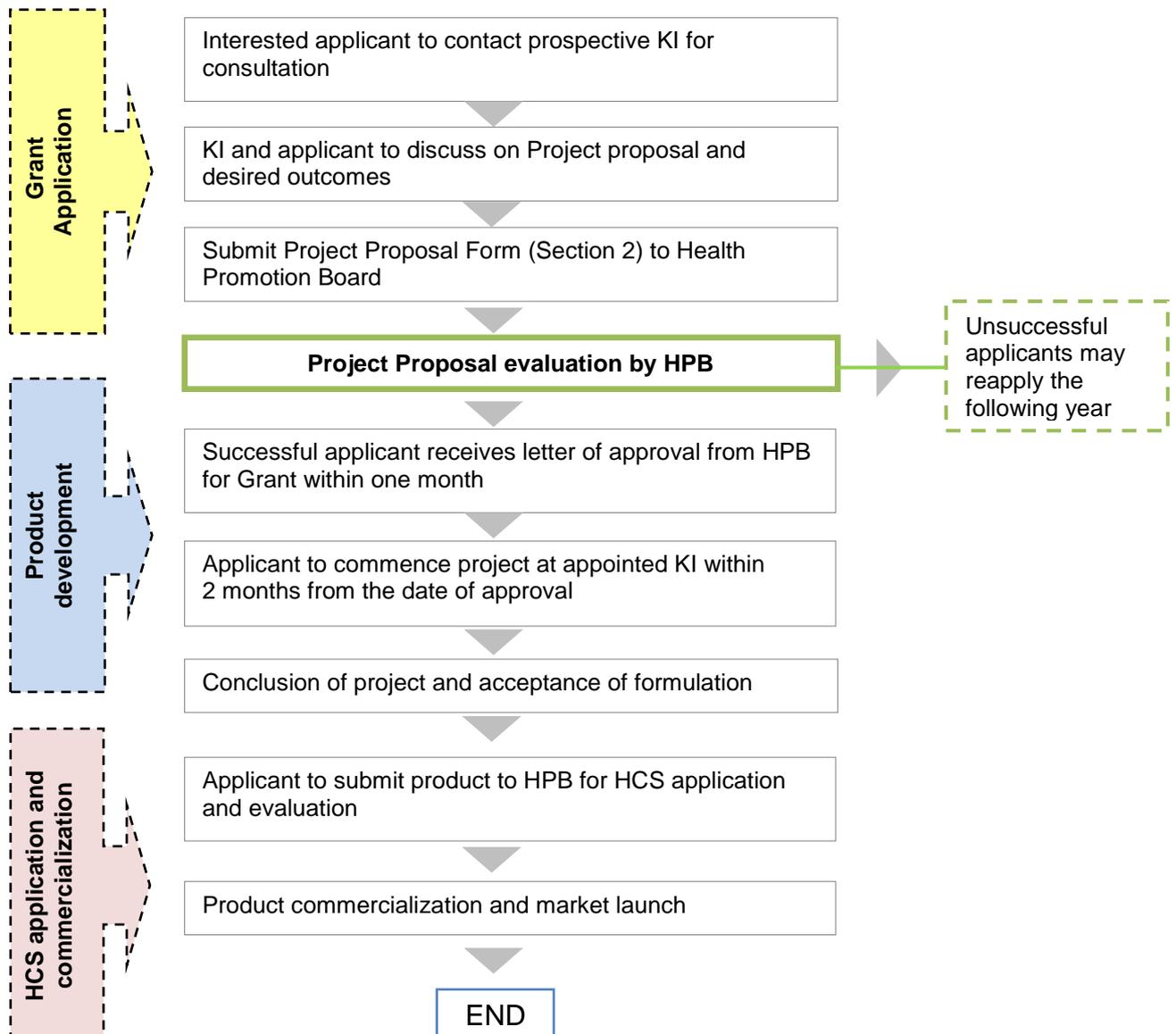
*The 10 core nutrients can be referred to under Section 1, Part B.

⁴ <http://www.spring.gov.sg/NewsEvents/PR/Pages/New-SME-Definition-and-Launch-of-New-Online-Tools-and-E-Services-20110322.aspx>

Grant Application and Procedures

Interested applicants may after consultation with any of the above appointed Knowledge Institutes submit the project proposal (Section 2) to Health Promotion Board, Nutrition Department.

A schematic grant application procedure is described below:



Section 1

A. Grant priority areas for new product development

Priority areas are evaluated on a year by year basis, in response to the health and nutritional needs of the population and address gaps in the supply of healthier foods. Projects focusing on these key areas will be given priority.

For projects commencing in FY 2012-2013, the priority areas are:

- i. **Elderly and Aging**
 - a. Fortification with Omega 3, Calcium, Vitamin B6, B12, Vitamin D
 - b. Protein
- ii. **Obesity and Diabetes management**
 - a. Low GI Whole-grain products
 - b. Reduced calorie products
 - c. Sugar replacers and alternatives (excluding intense sweeteners)
- iii. **Chronic Disease management**
 - a. **Hypertension (e.g. Sodium reduction)**

Food categories

 - i. Sauces, paste, bullions, soups, recipe mixes, convenience meals
 - ii. Canned and processed foods
 - iii. Noodles
 - iv. Surimi based products
 - b. **Heart health**
 - i. Replacement of saturated fatty acids with unsaturated fatty acids,
 - ii. Cholesterol-lowering active ingredients

Functional Foods

Definition of “Functional Foods”

There is no universally agreed definition of ‘functional foods’. However, the generally accepted working definition can be taken as

“A functional food is similar in appearance to a conventional food that is consumed as part of a usual diet, with ingredients or compositions that is demonstrated to confer health benefits beyond basic nutrition⁵”

For clarity, the health benefits should translate to address key public health issues listed above e.g. Obesity, chronic disease management, aging population. These may include incorporating bioactive ingredients into mainstream food products, improving current processing technologies and platforms to achieve the functionality. Some categories are listed below. These may include incorporating bioactive ingredients into mainstream food products. Manufacturers may refer to the Singapore Food Regulations, Sale of Food Act for a list of approved ingredients. Some categories are listed below

- a. **Phytochemical and Botanical extracts**

e.g natural pigments, phenolics, polyphenols, thio compounds, phytosterols etc.
- b. **Zoochemicals** (dietary components found in animal sources)

e.g. Omega 3 Fatty acids, bioactive proteins and peptides
- c. **Probiotics** (live organisms which can confer a specific health benefit when administered in adequate amount to a host (FAO, WHO 2001)

e.g *Bifidobacterium*, *Lactobacillus* species

⁵ Adapted from Food Standards Australia New Zealand
(<http://www.foodstandards.gov.au/scienceandeducation/publications/annualreport/fsanzannualreport20052006/ourregulatorymeasures2006/foodstandardsdevelop3352.cfm>)

B. Selection criteria for new product developments

In addition to the priority areas, applications will be evaluated on

- i. Public health impact**
 - a. Product aligned within key public health concerns mentioned above
 - b. Widely consumed by population
- ii. Cost effectiveness and value**
 - a. Affordable by general population for the value-added benefit
- iii. Market potential of product**
 - a. High potential to be exported
 - b. Commonly found and consumed across Asia
- iv. Innovativeness and novelty**
 - a. Unique, first of its kind, demonstrates a significant technological breakthrough

C. List of services and knowledge transfer activities applicable under the HPB grant

The grant can be used to support projects or procure services that lead to the development and certification of a healthier choice product **after the proto-type or product has been developed.**

As a guide, these projects or services should focus on the following:

- Reformulation to meet HCS guidelines
- Recommendation to improve manufacturing practices or operations to meet HCS guidelines
- Recommendation of packaging to extend shelf life of products
- Conduct shelf life studies
- Conduct chemical analysis limited to the 10 core nutrients*
- Conduct sensory and customer studies
- Conduct analysis for Glycaemic Index testing at accredited laboratories

that results in or leads to the development and certification of healthier choice products. These activities should facilitate the transfer of know-how from the KI to the SMEs.

*The 10 core nutrients are Energy, Carbohydrates, Protein, Total Fat, Saturated Fat, Trans fat, Dietary Fibre, Total Sugar, Sodium, Cholesterol

Section 2

Healthier Choice New Product Development Application and Project Proposal

Application Details

Project title	:	
Name of company	:	
Address	:	
Contact Person	:	

Project Proposal

1. Name and description of product :

Please include a picture of the product or proto-type if possible, with the ingredient list

2. Unique aspects of product :

e.g. Lower in sodium / fat / sugar / GI ; Higher in Wholegrains, Calcium, Vitamins and Minerals. What are the functionalities? How does the product address any of the priority issues outlined?

3. Intended target audience and market distribution channels :

*e.g. Elderly (50 years above), in major local and overseas supermarkets.
Plans include exporting to other countries, if any.*

4. Intended Knowledge institute and estimated project cost (include breakdown of items / services)

Section 3

Appointed Knowledge Institutes (KI)

Contact details of the appointed Knowledge Institutes are listed below. Interested applicants may contact them for consultation on a prospective project proposal.

Food Innovation and Resource Center at Singapore Polytechnic (FIRC@SP)	Mr Terence Tan Business Development Executive Contact Information: Email address: <u>Terence_tan@sp.edu.sg</u> DID: 6879 0634
Temasek Polytechnic	Mrs Tay-Chan Su Chin Contact Information: Email address: <u>suchin@tp.edu.sg</u>
Republic Polytechnic	Dr Ritu Bhalla Contact Information: Email address : <u>ritu_bhalla@rp.edu.sg</u> DID: 3100 1597
Nanyang Polytechnic	Ms TAY Mia Eng Assistant Manager, Food Science & Nutrition School of Chemical & Life Sciences (Life Sciences) Contact Information Email address : <u>TAY_Mia_Eng@nyp.gov.sg</u> DID : 65501543
Singapore Polytechnic	Dr Jasmine Leong Senior Lecturer Contact Information Email address: <u>JLeongWY@sp.edu.sg</u> DID : 68706164

Innovation & Capability Voucher and Technology Innovation Programme

INNOVATION AND CAPABILITY VOUCHER (ICV)

Since 1 June 2012, SPRING has expanded the scope of the Innovation Voucher Scheme (IVS), which is now used for technology innovation projects, to cover three more areas namely, productivity, human resources development and financial management. The IVS has been renamed as the Innovation & Capability Voucher (ICV) to reflect its expanded scope and purpose.

The ICV aims to encourage SMEs to take the first step towards capability upgrading. In so doing, SMEs can better strengthen their core business operations and enhance efficiency in the four key areas supported.

Similar to the IVS, the ICV is worth \$5,000 and can be used for diagnoses, feasibility studies, process upgrading, customised training, product or services development, and the adoption of quality and standards. As ICV aims to encourage SMEs to take the first step towards capability upgrading, the services generally cover the initial assessment, training and upgrading of the SME's capability needs.

For more information, visit www.spring.gov.sg/icv

TECHNOLOGY INNOVATION PROGRAMME (TIP)

This programme aims to strengthen the technological innovation capabilities of SMEs to help them to become more competitive. This is done by setting up Centres of Innovation (COI), enhancing capabilities with expert help and catalysing technology innovation projects. Companies embarking on technology projects, such as developing and improving products, process and business models, can receive funding to defray the qualifying development costs.

Eligible companies will receive funding support of up to 70% of qualifying costs.

For more information, visit www.spring.gov.sg/tip