



AVA *vision*

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AVA's \$5m Food Fund Set to Strengthen Singapore's Food Supply Resilience

Minister Mah releasing BA's inaugural batch of seabass fingerlings into deep-sea netcages. To his right is BA, Managing Director, Mr Joep Kleine Staarman and to his left is AVA, CEO, Ms Tan Poh Hong

Minister for National Development, Mr Mah Bow Tan visited Barramundi Asia (BA) Pte Ltd on 10 December 2009, accompanied by the Chief Executive Officer (CEO), Agri-Food and Veterinary Authority (AVA), Ms Tan Poh Hong and its senior officials.

At BA's large-scale offshore farm located at Pulau Semakau, Minister Mah visited the newly set-up nursery where AVA's hatchery-bred super seabass fry was stocked, and released

the inaugural batch of BA-produced seabass fingerlings into its deep-sea netcages.

During his visit, Minister Mah announced the launch of AVA's \$5m Food Fund to support diversification of food sources overseas and food capability development in local farms. The Food Fund will help to strengthen Singapore's strategies for food diversification and local farming to ensure a resilient supply of food for Singapore.

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Corporate Cuts



Minister for National Development, Mr Mah Bow Tan feeding the super seabass fry

continued from cover story

Food Capability Development

The Food Fund seeks to maximise local farm productivity through food capability development. AVA will co-fund research and development (R&D) in local food farming technology, and the upgrading of the production capability of local farms. With local farming accounting for 23% of eggs, 4% of fish and 7% of leafy vegetables consumed in Singapore, the Food Fund aims to increase self-sufficiency levels to 30% of eggs, 15% of fish and 10% of leafy vegetables in the next five years.

The key focus areas in R&D projects include: breeding and farming systems

for fish, variety selection and development of seed banks for vegetables, farming systems and post-harvest processes for vegetables and waste treatment systems for poultry.

To help farms upgrade their capability, the Food Fund will focus on areas such as automation, mechanisation, application of technology, marketing and branding, acquisition and registration of intellectual property for local foodfish, poultry and vegetable farms.

Food Diversification

Under food diversification, the focus will be on cultivating new overseas food

sources for eggs, leafy vegetables, pork, chicken, fish and rice. AVA will also co-fund studies on investments in overseas food zones and contract farming to explore sources from non-traditional countries or countries which are not major exporters to Singapore.

Since the launch of the Food Fund, AVA has worked closely with the industry to explain the guidelines and assist interested companies in the preparation of their project proposals. AVA is currently evaluating the applications and results are expected to be released in June 2010.



Chef Pung Lu Tin demonstrating how to whip up the delectable Tomato Fried Egg dish using egg powder

Egg-cellent Alternatives: Liquid Egg and Egg Powder

Egg substitutes were the talk of the town on 17 March 2010 as the Agri-Food and Veterinary Authority (AVA) launched its Food Supply Resilience Public Education Programme on Egg Powder and Liquid Egg at the Temasek Culinary Academy. The event was attended by representatives from the retail sector, trade councils, suppliers and local media.

Ready for the Switch During Supply Disruption

In her opening speech, the Guest-of-Honour, Senior Minister of State for National Development and Education, Ms Grace Fu warned that we should not take our constant egg supply for granted. Egg shortages could possibly happen overnight, as was the case when bird flu hit Malaysia in 2004. She stressed the need for greater food supply resilience by diversifying our food sources and having the flexibility to switch to alternatives.

This programme aims to raise awareness and educate consumers on alternatives to shell eggs, such as egg powder and liquid egg so that consumers will be more receptive to alternatives in times of supply disruption.

Corporate Cuts



CEO, AVA, Ms Tan Poh Hong (centre), Deputy CEO, AVA, Dr Chew Siang Thai (left) and Director, Laboratories, Dr Paul Chiew (right) answering queries from the media and industry at the launch event



Members of the public tasted dishes prepared using liquid egg and egg powder and received sample packs during the cooking demonstrations held at supermarkets island-wide

At the event, Director, Laboratories Department, AVA, Dr Paul Chiew shed some light on egg powder and liquid egg through an informative presentation on their origins, production process, benefits and some practical tips on storage and handling.

Palatable Alternatives

Renowned Chef Pung Lu Tin, Director, Food and Beverage, Seafood International Restaurant was also present to whip up two delectable dishes using egg powder and liquid egg for the audience. In keeping with the theme, the chefs at Temasek Culinary Academy also created scrumptious treats made with liquid egg, such as madeleines and choux pastry filled with scrambled eggs for the guests to sample.

Outreach activities to the public included cooking demonstrations held at various supermarkets such as Giant, Prime, Sheng Siong, FairPrice and Cold Storage from March to April 2010. Goody bags containing a free sample of egg powder and liquid egg and an information-cum-recipe booklet were distributed during these sessions. The recipes developed by Chef Pung were showcased by a cohort of professional chefs during the sessions.

In the pipeline are plans to roll out cooking classes at the Community Centres in partnership with People's Association this year. Meanwhile, why not try out the following recipes specially developed by Chef Pung for our public education programme, and which were also featured during the launch event.

Traditional Tomato Fried Egg (using egg powder)

Ingredients:

50g	Egg powder	1 tbsp	Tomato sauce
175g	Water	A dash	Pepper powder
1	Tomato	½ tbsp	Cornstarch
1 stalk	Spring onion	1 tbsp	Water
¼ tsp	Salt	2 tbsp	Cooking oil
½ tsp	Sugar		

Method:

1. Pour 50g of egg powder to 175g of water, mix well for approximately 2-3 minutes until the powder is well dissolved.
2. Cut tomato into small wedges and shred spring onions finely. Keep them separated and set aside. Add ¼ tsp salt and a dash of pepper to the egg powder mixture and mix lightly.
3. Mix ketchup, cornstarch and water into a bowl. Add a pinch of salt and pepper to taste.



4. Heat the cooking oil in a wok over medium high heat. Pour in the egg mixture and stir-fry until it becomes slightly firm and push aside. Add in tomatoes stir fry till fragrant, add in ketchup mixture and stir well with eggs and tomatoes until it thickens. Sprinkle with spring onion and remove to plate and serve.



Corporate Cuts

Trio Egg Slices (using liquid egg)



Ingredients:

150g	Liquid egg
1	Century egg
1	Salted egg

Seasoning :

½ tsp	Salt
½ tsp	Chicken powder
A pinch	Pepper powder
1 tbsp	Sesame oil

Method:

1. Cook salted eggs in boiling water for about 10 minutes until hard-boiled. Remove shell from salted egg and century egg and dice into 1-cm cubes. Add salted egg cubes, century egg cubes and seasoning to liquid egg and mix well.
2. Place cling film in a 12cm x 10cm square mould or container. Pour egg mixture into mould and place in steamer. Steam over medium heat for about 20 minutes until eggs are firm. Remove mould from steamer and let it cool. Invert onto cutting board and slice. Remove sliced eggs to plate and serve.

Do You Know?

Benefits of Using Egg Powder and Liquid Egg

1) Safe to Use

Egg powder and liquid egg are free from the risk of contaminated egg shells, as they are first pasteurised to eliminate salmonella and other micro organisms.

2) Easy Storage

They are packed for convenience and minimal storage space. For example, egg powder and liquid egg will require less space than their equivalent in a tray of 10 shell eggs.

3) Less Wastage

Shell eggs may break accidentally, resulting in mess and wastage. Egg powder and liquid egg are free from this risk of breakage.

Production Process for Egg Powder and Liquid Egg

Egg powder and liquid egg are produced from fresh shell eggs under stringent quality checks and carefully-controlled temperatures in establishments certified by the relevant authorities.

Preparation

First, fresh shell eggs are checked and then properly stored. They are washed just before production begins.

Production of Liquid Egg

- The eggs are broken and then visually checked, filtered and stored in chiller tanks.
- They are then pasteurised to destroy pathogens and viruses.
- The pasteurized liquid egg is packaged and chilled.
- The packaged liquid egg then goes through a series of quality checks and laboratory testing and monitoring for any possible food threats, before they are certified safe for delivery.

Production of Egg Powder

In the case of egg powder, there is an additional step where the pasteurised liquid egg are dried through a special process and made into powder.

Storage and Handling Egg Powder and Liquid Egg

Egg powder and liquid egg should be properly stored and handled. Maintain good hygiene and other food safety practices while handling egg powder and liquid egg to prevent spoilage and contamination.

Egg Powder

- Check the use-by date
- Store in a cool, dry place
- Handle egg powder with clean, dry hands or gloves
- After opening, the packaging or container should be resealed tightly and stored in a cool, dry place at the temperature recommended by the manufacturer
- Egg powder that is reconstituted or have already been mixed with water should be used immediately

Liquid Egg

- Check the 'use-by date and do not store longer than the recommended shelf life
- Liquid egg should be refrigerated at all times at the temperature recommended on the packaging
- As a general rule, use the product immediately after opening and do not store for more than three days after opening
- Do not freeze packs or cartons of liquid egg which are already opened

Exploring New Supply Source and Agriculture Technology in Israel



Participants explored new food sources and made business contacts at the 20th Agro-Mashov exhibition, Israel



Participants learnt about the mechanisation of farming processes during their visit to a machinery supplier company

Officers from the Agri-Food and Veterinary Authority (AVA) and International Enterprise (IE) Singapore participated in a five day agrotechnology business mission to Israel in January 2010. They were accompanied by 15 representatives from the Singapore Fruits and Vegetables Importers and Exporters Association (SFVIEA) and agri-related companies from the fresh produce industry.

Organised by the Embassy of Israel, the intent of this mission was to study Israel's agriculture technology and explore new sources of vegetables and fruits at the "20th Agro-Mashov Exhibition", an agricultural tradeshow. During the exhibition, participants were engaged in business matching sessions and had opportunities to make new contacts as well as reinforce ties with existing partners.

The mission also covered visits to research institutes of the renowned Volcani Center (the research arm of Israel's Ministry of Agriculture and Rural Development) as well as vegetable farms, and farm mechanisation and technology solution providers.

Although Israel is not an agriculture country, it is self-sufficient in the majority of its food commodities. It exports 19% of its vegetables and 43% of its fruits to Europe and US. The country has strong expertise in greenhouse and post-harvest technology as well as mechanisation of farming processes and development of new fruit and vegetable varieties.

The mission had created opportunities for participants to establish new business contacts. The group can also look into leveraging on Israel's agrotechnology to benefit their businesses.

ATP Takes on Food Safety Consultant Role at YOG

The Agri-Food and Veterinary Authority's (AVA's) subsidiary company, Agrifood Technologies Pte Ltd (ATP) has been engaged by Singapore Food Industries (SFI) to be its food safety consultant for the Singapore 2010 Youth Olympic Games (YOG). ATP will support SFI by overseeing food safety in all aspects of the food catering operations at the Youth Olympic Village. The SFI is expected to provide catering for about 7,000 people consisting of athletes, officials, and other YOG support staff.



Food Bites

Expert Group Meets to Harmonise Maximum Residue Limits for ASEAN

Hosted by the Agri-Food and Veterinary Authority (AVA), the 14th Meeting of the Expert Working Group on Harmonisation of Maximum Residue Limits (EWG-MRLs) of Pesticide Residues among ASEAN Countries was held from 13 to 15th January 2010. This was preceded by a workshop held on 12 January.

In her opening speech, CEO, AVA, Ms Tan Poh Hong commended the Expert Working Group's efforts over the past 13 years in harmonising MRLs especially for commodities not found in the Codex listing. This has helped to facilitate trade among ASEAN countries. The Group was also acknowledged for its science-based approach in the harmonisation process which includes conducting and evaluating residue trials as well as dietary risk assessments. Ms Tan stressed on the importance of training personnel to conduct dietary risk assessments of proposed MRLs and building up the capacity to conduct and submit supervised field trial reports that meet Codex requirements.

Delegates from Brunei Darussalam, Cambodia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam as well as representatives from the ASEAN Secretariat attended the Meeting. Following two days of intensive deliberations, the delegates agreed to harmonise 13 MRLs for 13 pesticide/crop



CEO, AVA, Ms Tan Poh Hong (7th from left, seated) and Deputy CEO, AVA, Dr Chew Siang Thai (8th from left, seated) with ASEAN delegates at the 14th Meeting of EWG-MRLs of Pesticide Residues



CEO, AVA, Ms Tan Poh Hong commended the work of the EWG during her opening address

combinations. These will be submitted for endorsement as ASEAN MRLs at the next Senior Officials Meeting - ASEAN Ministers on Agriculture and Forestry Meeting. The Group also reviewed a list of previously endorsed MRLs which were based on

Codex values but was recently amended by Codex. Of these, 133 revised ASEAN MRLs were retained, 23 were deleted owing to dietary intake concerns and 33 withdrawn due to lack of supporting data from manufacturers.

ATP Assists Guangxi to Gear up in Food Safety

The Agri-Food and Veterinary Authority's (AVA's) subsidiary company, Agrifood Technologies Pte Ltd (ATP) was engaged

by the Guangxi Provincial government, China to conduct a two-day food safety workshop for its food safety policy makers. Held in November 2009, the workshop was attended by more than 200 participants. Of these, over 150 were food safety government officials and representatives from food companies and food industry.

China expects its trade with ASEAN in food and agricultural produce to increase significantly with the implementation of the ASEAN-China Free Trade Agreement next year. As Guangxi has been identified as one of the main gateways of trade flow between China and ASEAN, its officers are expected to be all geared up for this.

Continuous Training Keeps Singapore's Ornamental Fish Industry in 'Tip Top' Condition

Supported by the Agri-Food and Veterinary Authority (AVA) and organised in collaboration with the Ornamental Fish Business Cluster (OFBC), the Agrifood Technologies Pte Ltd (ATP) successfully completed its first Advanced Ornamental Fish Culture & Export Training Course in January 2010. This marked another milestone in OFBC's pro-active efforts to establish structured training programmes to upgrade the standards of the ornamental fish industry in Singapore.

CEO, AVA, Ms Tan Poh Hong graced the certificate award ceremony that was held on 14th January 2010. During her speech, Ms Tan stressed that the availability of trained and skilled manpower was a critical success factor to keep ahead of competition from other



CEO, AVA, Ms Tan Poh Hong (5th from left, seated), Chairman, OFBC, Dr Kenny Yap (4th from left, seated) and Deputy CEO, AVA, Dr Chew Siang Thai (3rd from left, seated) with the first cohort of graduates from the Advanced Ornamental Fish course

countries with fast growing ornamental fish industries. Sharing similar views, Dr Kenny Yap, Chairman of OFBC said that companies that wish to stay ahead of the game should not cut back on investment in workers' development, even during lean times.

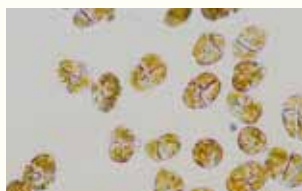
The course received overwhelming response from the industry. It focused on ornamental fish health management;

disease identification and control; farms recirculation systems; ISO certification for fish farms; and fish packing technology.

Between 2006 and 2008, three rounds of basic training course were successfully conducted. Companies can look forward to more courses in future as plans are underway for the Basic and Advanced Ornamental Fish Culture Training Course in 2010.

Understanding the Plankton Bloom

In December 2009, a plankton bloom occurred in the East Johor Straits. The high fish mortality caused the fish farms in the surrounding areas of Pasir Ris and Pulau Ubin to suffer substantial losses.



Phytoplankton viewed under the microscope

Plankton

Plankton are microscopic organisms that inhabit the surface layers of the seas, oceans and freshwater bodies. They form the important foundations of the aquatic food chain. Also known as the "primary producers" in the aquatic food chain, planktons are subdivided into phytoplankton and zooplankton, which consist of microalgae and microscopic animals, respectively.

Plankton Bloom

A plankton bloom usually refers to a sudden increase in the population of phytoplankton in the water. This is often triggered by a combination of factors such as an increase in nutrient

levels, weather conditions and a collapse in food chain dynamics. Plankton blooms are natural and recurring phenomena. They are often referred to as "red tides" or "brown tides" due to the discoloration of the water caused by the plankton.

Effects of Plankton Bloom

The most common impact of a plankton bloom is the depletion of large amounts of oxygen from the water column. This results in the death of fishes in the vicinity by asphyxiation. Farmed fish are especially vulnerable as their movements are highly restricted within the dimensions of the netcages.

Of great concern are plankton blooms involving the less common but toxic species of plankton. These species of plankton produce minute amounts of toxins, which can be accumulated in shellfish such as oysters and mussels. Although harmless to the shellfish, these toxins can be bio-accumulated along the food chain. When shellfish and seafood containing such toxins are consumed, they can cause Diarrhetic Shellfish Poisoning, Amnesic Shellfish Poisoning, Neurotoxic Poisoning and Paralytic Shellfish Poisoning in humans. Symptoms of shellfish poisoning range from vomiting, diarrhea, headache, dizziness, shortness of breath, seizures, irregular heartbeat to death.



Plant Picks

Facilitating Plant Imports through Accreditation of Chinese Nurseries



AVA officers visiting ACSIQ's registered nurseries in China

The Agri-Food and Veterinary's (AVA's) stringent inspection programme for plant imports has helped Singapore remain free from major exotic plant diseases and pests of quarantine importance. AVA works closely with its overseas counterparts to control any plant pests at source (farm) and to ensure that overseas plant establishments maintain proper pest management systems.

Malaysia, China and Thailand are among the top three exporting countries for plants and plant products to Singapore. In November 2008, AVA successfully established a working protocol with Malaysia under the Malaysian Phytosanitary Certification

Assurance (MPCA) Scheme. This protocol has helped to ensure smooth and safe trade in regulated plants from Malaysia to Singapore while applying phytosanitary measures to achieve an appropriate level of protection.

Following the success of the working protocol with Malaysia, AVA sought for a similar arrangement with the General Administration of Quality Supervision, Inspection and Quarantine of the Republic of China (AQSIQ). This led to the study visit made by AVA officers to the Yunnan, Shenzhen and Guangdong provinces in January 2010. Accompanied by an AQSIQ's representative from Beijing, the group visited the Entry-Exit

Inspection & Quarantine Bureaus and AQSIQ's registered nurseries exporting to Singapore.

The visit helped the delegation better understand the quality management system of nurseries registered under AQSIQ. The trip concluded with both parties' discussion on the proposed working protocol which will be finalised at a later date.

Plans are also underway to roll out a similar protocol with Thailand. This will be proposed as an ASEAN initiative in the upcoming Expert Working Group Meeting on Phytosanitary Measures in May 2010.

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