



# AVA *vision*

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## AVA Promises To Be Always Dependable

*The Agri-Food & Veterinary Authority (AVA) turned 10 years old with a solid history behind it. Looking ahead, AVA revised its vision, mission and values to ensure that AVA is always dependable to take on the challenges ahead.*



*Ms Tan shared the organisational changes at the AVA Staff Conference held on 1 April 2010*

With its sights set on the future, The Agri-Food & Veterinary Authority (AVA) this year reviewed and introduced its new corporate vision—*Safe food, healthy animals and plants for Singapore; trusted and respected globally.*

Through this new vision, AVA's role in safeguarding the well-being of the nation is clearly defined. It also sets the tone for AVA to benchmark itself on an international level.

An updated mission was launched at the same time. It directs AVA to:

- Ensure a resilient supply of safe food;
- Ensure the health and safeguard the welfare of animals;
- Safeguard the health of plants;
- Facilitate agri-trade; and
- Nurture and inspire staff to be the best we can be.

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# Corporate Cuts

continued from cover story

The commitment towards human capital is a new element that recognises the importance of AVA's staff, their growth and contributions.

In this renewal process, AVA's new set of corporate values, Excellence, Care, Integrity and Teamwork, or "ExCITE" in short, exemplifies AVA's dedication to:

- Strive to be the best in all that it does;
- Care for AVA staff, the community and the environment;
- Build up its credibility as a professional agency and treat customers with professionalism, fairness and honesty; and
- Work as a team within AVA and together with the industry.

The organisation was also restructured to better position AVA to meet the demands of the rapidly changing external environment and growing business complexity.

In view of emerging global concerns relating to food security, a stronger focus is placed on ensuring a dependable and diversified supply of safe food, and the Food Supply Resilience Department was set up to build up Singapore's strengths in this area.

To enhance AVA's anticipatory and risk management capabilities, the Regulatory Administration Department (RAD), including its Risk Analysis & Standards Division, was established. With support from other units, more notably the Horizon Scanning & Early Alert Division, RAD is poised to handle the unpredictable future with more dexterity.

In addition, AVA expands its regulatory role to be a facilitator and enabler of the industries as well. A dedicated team for customer relations was formed under the Communications & Corporate Relations Department to enhance service excellence for AVA.



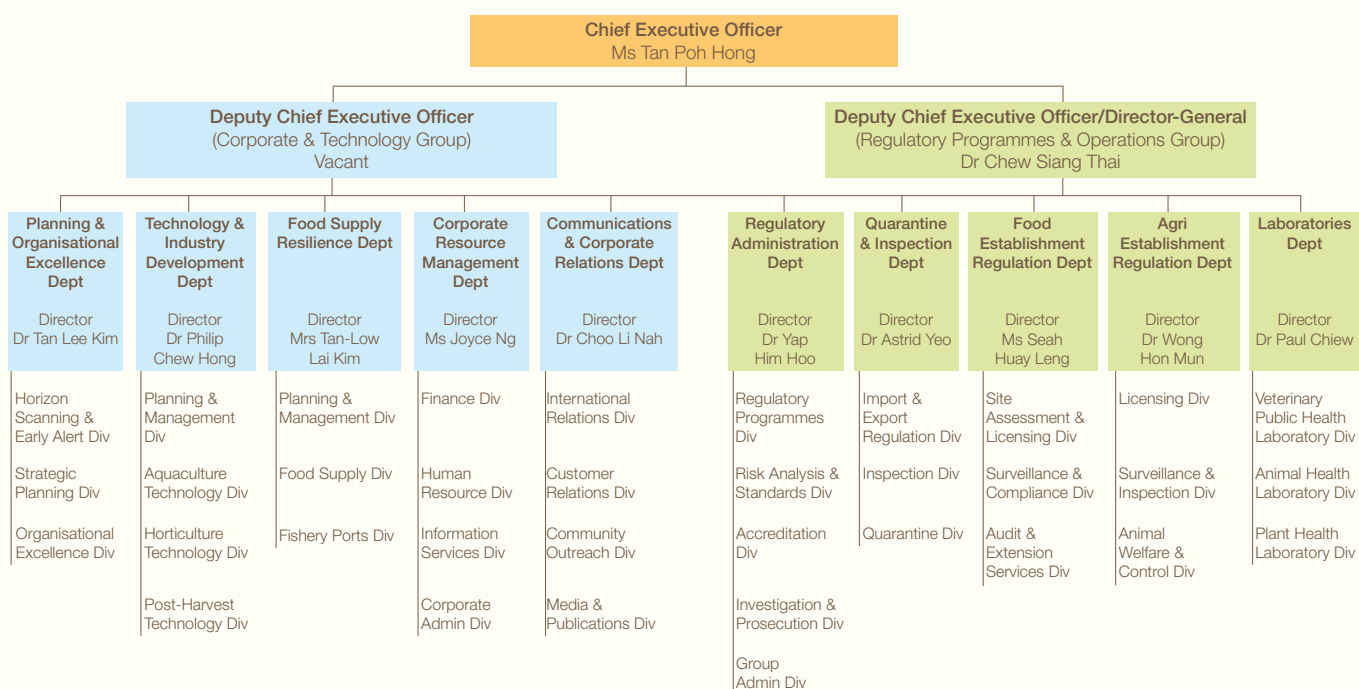
## OUR VISION

Safe food, healthy animals and plants for Singapore: trusted and respected globally.

## OUR MISSION

- Ensure the health and safeguard the welfare of animals.
- Ensure a resilient supply of safe food.
- Safeguard the health of plants.
- Facilitate agri-trade.
- Nurture and inspire staff to be the best we can be!

## New Agri-Food & Veterinary Authority (AVA) Organisation Structure





## Review Of Charges For Food (Export) Certificates

*New cost structures implemented based on time taken, regardless of consignment number.*

A new cost structure for Food (Export) Certificates is implemented on 1 November 2010, as a result of the dialogues between AVA and food industry associations.

Previously, the cost structure for food export certificates is on a "per consignment" basis. Each consignment costs \$90.30, inclusive of one certificate generated for it. Individual food products with different composition or ingredients will be considered as separate consignments.

For example, if a shipment contains 10 types of food products, it will be treated as 10 consignments and charged accordingly even though the inspection could be done at the same time. This meant the company had to pay \$903.00.

The updated structure calculates costs based on the time taken and spent on inspection and/or sampling of

the export consignment(s), at \$38 per hour, regardless of the number of export consignments. This does not include the cost of generating the export certificate at \$20 per copy.

By changing the charging basis, exporters can expect a cost savings of up to 55% especially for multiple product shipments.

This is a noteworthy change resulting from AVA's dialogues with the industry. As part of AVA's ongoing efforts to provide a pro-business environment for its stakeholders and to establish closer collaboration with them, AVA CEO, Ms Tan Poh Hong, has initiated dialogues with food associations to better understand their needs.

A Task Force on Export Certification was formed to follow up on various export matters that were raised during AVA's dialogue sessions with the Singapore

Food Manufacturers' Association (SFMA), and F&B Industry Group of the Singapore Manufacturers' Federation.

The task force was instrumental in providing important feedback from the industry. This was how AVA got to understand that it is not uncommon for exporters to dispatch multiple consignments of different food products in the same shipment to the same export country. The encouraging outcome from such partnership with the industry is another evidence of AVA's aim to regulate, and at the same time, facilitate food trade.

### What are Food (Export) Certificates?

In international food trade, it is common for the regulatory authorities of certain countries to require importers of food products to furnish various food export documents issued by the regulatory authorities of the exporting countries.

Food (Export) Certificates, or commonly known as health certificates, are issued by AVA at the request of the local exporters who are exporting food products manufactured in AVA-licensed food establishments. Importing countries may require source countries' competent authorities to include and certify specific attestations on health certificates, such as whether the consignments of food products exported comply with their import requirements. Therefore, inspection of the export consignments and/or collection of samples from the export consignments for laboratory analysis are necessary before AVA can certify that the export consignments meet importers' requirements.



*Group photo of SFMA and AVA after a dialogue session*



## Corporate Cuts

### An Innovative “Touch” At Abattoir

*Wet & blood-stained notes become history with new touch-screen system*

Apple’s iPads and iPhones have become a worldwide phenomenon thanks to the touch-screen feature that allows easier and more efficient navigation of the system’s processes. This feature is now seen beyond consumer products and has made its way into Singapore’s pig abattoir.

The latest Abattoir Condemnation Data Collection System is the brainchild of a cross-functional team of AVA officers. This new system is indeed making waves at the abattoir and is welcomed by not only AVA’s meat inspectors but also our external customers like the pork merchants.

#### What it used to be....

Meat inspectors at the pig abattoir perform visual checks of every pig carcass and visceral organ to detect any abnormality. Whenever the inspector detects or suspects diseased conditions in the organs, he or she would condemn the affected organs and issue a handwritten partial condemnation note to the respective pork merchant; the remaining parts of the carcass would still be good for sale.

As the inspection process includes multiple stages of washing the carcass, it is almost unavoidable that this note would get so soaked that time is often wasted just to decipher the ink-smudged words. Besides water, blood stains are also almost always found on the paper, which would make its way from the inspector, to the pork merchant, then the cashier, and subsequently kept in a records file.

The manual procedures involved in recording the handwritten notes were also less than ideal as they were repetitive and time consuming. Our inspectors were required to key in the data of all the partial condemnation notes into a digital form, to be entered into database later.

#### Today: The Touch-screen System

Implemented on 1 September 2010, the Touch-screen Abattoir Condemnation Data Collection System significantly improves the operational efficiency at the abattoir by streamlining the chain of processes. It consists of a network of touch-screen monitors installed at the inspection platform. While conducting inspections, our officers could enter condemnation data via nine simple touch buttons that have been preconfigured to reflect the various organs to be condemned. The information would then be transmitted to the line printer in the administrative office for real-time printing and retrieval of the condemnation certificates. In addition, this system greatly facilitates and improves the accuracy of data and efficiency of the inspectors working at the abattoir. The detailed data is kept in a database for analysis.



*In the old system, where all entries have to be done manually*



*The new and wide touch-screen for easier data entries*



*Printout of condemnation certificates using new system*

This innovative system has proven to be a hot favourite with the abattoir inspectors and the pork merchants as the remotely printed certificates are cleaner and more hygienic. Mr Koh Chin Kok, a, AVA meat inspector, described so aptly: “It’s absolutely cool!”

“Time that we used to spend on recording condemnation data or date stamping the notes can now be used more efficiently and effectively. It is also more hygienic now,” said Mr Surinderjit Singh, Head, Abattoir.



## ASEAN In Action

*Progression of ASEAN cooperation on food, agriculture, forestry, sanitary and phytosanitary during meetings in Cambodia*



AMAF+3 meeting representatives

ASEAN countries are working to build a regional community that is free of bird flu (Highly Pathogenic Avian Influenza) by 2020.

This is one of the significant outcomes resulting from the Meeting of the ASEAN Ministers on Agriculture and Forestry (AMAF), which Dr Mohamad Maliki Osman, Senior Parliamentary Secretary for National Development, attended with a seven-member Singaporean delegation, in Phnom Penh on 23 October 2010.

It is also worth noting that ASEAN standards are set for the production and trade of jackfruit, cucumber, melon and salacca. In addition, the maximum residue limits for nine types of pesticides is agreed on.

On horticulture and forestry, two sets of guidelines were approved:

1. ASEAN Phytosanitary Guidelines for Importation of Dendrobium Cut Flowers
2. ASEAN Chain of Custody Guidelines for Legal Timber and Sustainable Timber

ASEAN leaders, including Dr Maliki and delegation, also attended the AMAF+3 and Sanitary & Phytosanitary (SPS) Cooperation meetings held on 24–25 October respectively. ASEAN countries, together with China, Japan and Korea, are collectively known as ASEAN plus Three Countries (AMAF+3).

### AMAF+3 Meeting Outcomes

China, Japan and Korea proposed capacity building activities, which were endorsed to be implemented in 2011. They fall in the areas of:

1. Food security;
2. Vegetable production, processing and storage;
3. Plant variety protection;
4. Aquaculture;
5. Biomass energy;
6. Post-harvest technology for agricultural produce;
7. Plant quarantine;
8. Agriculture statistics; and
9. Mangrove conservation.

The AMAF+3 countries share common goals to ensure long-term food security and to improve the livelihoods of their farmers. A Cooperation Strategy was drawn up to provide a comprehensive framework to foster collaboration in the areas of:

1. Strengthening food security;
2. Biomass energy development;
3. Sustainable forest management;
4. Climate change mitigation and adaptation;
5. Animal health and disease control; and
6. Cross-cutting issues.

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## Corporate Cuts

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### Outcomes of ASEAN—China Partnership

The ASEAN—China Ministerial Meeting on SPS Cooperation adopted the Phnom Penh Joint Statement, in which member countries declare that they are committed to:

1. Strengthening animal and plant inspection and quarantine cooperation;
2. Preventing exotic pests from being introduced, from the territory of one contracting party, into the territory of the other;
3. Preventing the availability of exotic pests from spreading;
4. Securing the safety of the agriculture, forestry and fisheries;
5. Protecting ecological environment and human health; and
6. Promoting the development of economic and trade relations.

In addition, the following key initiatives were updated and endorsed:

1. Contact points for implementation of the SPS MOU;
2. Terms of Reference (TOR) of the SPS MOU's contact points;
3. Resolution on Establishment of three Technical Working Groups on:
  - a. Animal inspection and quarantine;
  - b. Plant inspection and quarantine; and
  - c. Food safety.
4. TOR for the Working Groups.

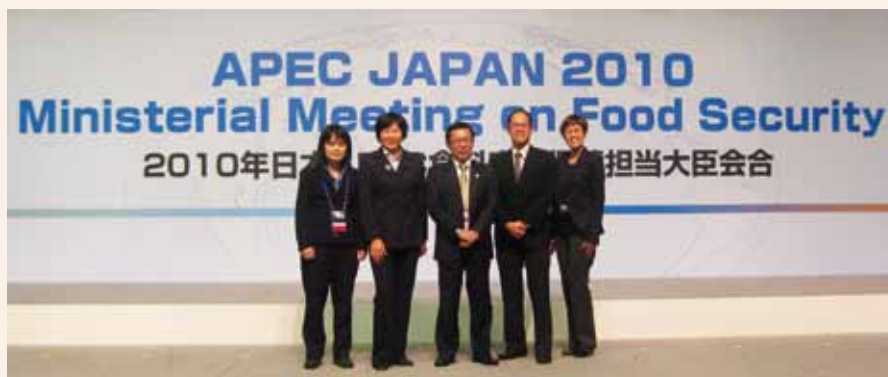
## APEC Apex

*Asia-Pacific Economic Cooperation (APEC) Countries' declaration on food security to have positive impacts to food supply to Singapore.*

APEC countries have agreed to expand food supply capacity through increased agricultural productivity and reducing post-harvest losses; to enhance disaster preparedness; and to confront challenges in climate change and natural resource management. These efforts will help the region to achieve a stable supply of food to meet increasing demand.

This agreement under the "Niigata Declaration on APEC Food Security" was a result of the 1st APEC Ministerial Meeting which Mr Mah Bow Tan, Minister for National Development, attended.

As trade plays a key role in food security, ministers agreed that APEC countries should facilitate trade in food and agricultural products under an open framework that is consistent with World Trade Organisation regulations. In addition, they have committed to promote agricultural investment; to improve the agri-business environment; and to enhance food safety in the region.



AVA CEO Ms Tan Poh Hong (2nd from left) and her team accompanied Minister Mah Bow Tan (centre) on the meeting

These efforts will build a firm, efficient and equitable food distribution system, and stabilise food prices.

### Singapore's Role

Minister Mah pledged Singapore's support for the Niigata Declaration on APEC Food Security. He called on APEC member economies to remain committed to investing and developing technology to raise agricultural productivity to ensure food security for our people. He cited Singapore's Food Fund, as an example. This was established in December 2009 to help local food producers and importers raise productivity through R&D and technology and improve food supply resilience.

Minister Mah also urged APEC economies to maintain open, free and fair trade at all times to ensure that food is available to everyone. He stressed the importance of ensuring the efficient functioning of the market mechanism, reducing market distortions, and promoting greater transparency by improving information flows on levels of food inventory, production and consumption.

Singapore sees this meeting and its outcome (in the form of the declaration) as a step forward to help in enhancing the supply of food to Singapore. Singapore imports 90% of its food. Therefore, APEC's commitment will help ensure that food is available and accessible to Singapore.

## Go For Gold

*Food safety excellence awards presents gold accolades for the first time*



*Winners of the 1st Gold Awards at the Food Safety Awards Night 2010*

Food products made in Singapore are trusted locally and internationally for being safe. In fact, 'Made-in-Singapore' has become a brand name that is synonymous with quality and safety.

This would not have been possible without the commendable efforts of responsible manufacturers who have maintained food safety excellence in their production facilities here. The Awards' gold accolade was given out for the first time this year to recognise these food factories' sustained achievements in this area.

A total of 25 food factories sustained a grade 'A' annually for 15 years since the launch of the Awards.

In order to emphasise the importance of being consistent and reliable, the 'A' grading must be attained annually without interruption, for five, 10 or 15 years, to qualify for the Awards in accordance to the following categories:

- **Certificates of Commendation:**  
'A' grading for at least two consecutive years.
- **Bronze Award:**  
'A' grading for at least five consecutive years.
- **Silver Award:**  
'A' grading for at least 10 consecutive years.
- **Gold Award:**  
'A' grading for at least 15 consecutive years.

AVA conducts both regular and random checks on food factories in Singapore. Those who steadfastly adopt good hygiene practices will be given a grade 'A' under AVA's Food Factory Grading Scheme.

### The Food Safety Awards Night

At the annual AVA Food Safety Awards Night held on 23 July 2010, Guest of Honour, Senior Parliamentary Secretary for Ministry of National Development, Dr Mohamad Maliki Osman, said in his opening speech for the Night: "Maintaining 15 consecutive years of 'A' grading is no easy feat. I salute these companies which have made the effort to continually maintain and even improve on the food safety standards at their various factory premises".

He also hopes to "see even more companies in the Gold Award list".

AVA CEO, Ms Tan Poh Hong, echoed similar sentiments and said that the achievements by these 25 gold award winners are "certainly no mean feat". That night, six others took home the Silver Award, and 11 got the Bronze Award. In addition, 10 new Certificates of Commendation were presented.

### The Food Safety Excellence Logo

In addition to the Awards presentation ceremony, the AVA Food Safety Excellence Logo was launched. Food factories who have maintained 'A' grading for at least five consecutive years can apply to use the logo on their product packaging.

All winners of the Food Safety Excellence Award are eligible to use the logo. Applications for the use of the logo will commence in early 2011.

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## Food Safety Excellence Awards 2010

### Gold Award Recipients

1. ADM Cocoa Pte Ltd
2. Adeka (Singapore) Pte Ltd
3. Asia Pacific Breweries Singapore Pte Ltd
4. Cadbury Enterprises Pte Ltd
5. Changi International Airport Services Pte Ltd
6. Chinatown Food Corporation Pte Ltd
7. Coca-Cola Singapore Beverages Pte Ltd
8. Fuji Oil (Singapore) Pte Ltd
9. Gardenia Foods (S) Pte Ltd
10. International Flavors & Fragrances (Singapore) Pte Ltd
11. Kikkoman (Singapore) Pte Ltd
12. N.P. Foods (S) Pte Ltd
13. Nestle R&D Center (Pte) Ltd
14. Nestle Singapore (Pte) Ltd
15. Pokka Corporation (Singapore) Pte. Ltd.
16. Sarika Manufacturing Singapore Pte Ltd
17. Singapore Airport Terminal Services Catering Pte Ltd  
In-flight Catering Centre 1
18. Singapore Airport Terminal Services Catering Pte Ltd  
In-flight Catering Centre 2
19. Super Coffee Corporation Pte Ltd
20. Symrise Asia Pacific Pte. Ltd.
21. Tai Hua Food Industries Pte Ltd
22. Takasago International (Singapore) Pte Ltd
23. Tee Yih Jia Food Manufacturing Pte Ltd
24. Yakult (Singapore) Pte Ltd
25. Yeo Hiap Seng Ltd

## Wok The Talk

*AVA & People's Association work together to raise public awareness on the use of liquid eggs, powder eggs and frozen meat as alternatives to shell eggs and chilled meat.*



*Chef Pung Lu Tin from Seafood International restaurant demonstrates how to whip up some tasty favourites using liquid eggs and egg powder*

As part of AVA's continual drive towards educating the public on the use of liquid eggs, powder eggs and frozen meat, we collaborated with People's Association (PA) in their "Wok-the-Talk" (WTT) programme to further strengthen our reach to community.

The WTT programme is driven by informal groups run by Community Clubs (CC) and Resident Committees (RC) to promote healthy food and healthy eating.

Addressing a group of PA volunteer leaders during the WTT Introductory Seminar held on 31 July 2010, Dr Choo Li Nah, Director for Communications and Corporate Relations, said AVA is tapping onto this community network to further communicate our message on food supply resilience to the public.

"We hope that our participation in this programme will allow more people from the community to learn more about liquid eggs, powder eggs and frozen meat and how these foods serve as viable alternatives in times of food supply disruptions and price increase," said Dr Choo.

This collaboration will see AVA-appointed chefs sharing cooking recipes with volunteer leaders from PA using liquid eggs, powder eggs and frozen meat as main ingredients. These volunteer leaders are required to subsequently conduct their own cooking classes to share the knowledge with their CC or RC members.

So far, these volunteer leaders have conducted more than 20 sharing sessions amongst their community and this programme is slated to run through to early 2011. AVA and PA are also looking towards jointly organising a cooking competition for these participants that will serve as the finale to the programme.

## Strengthening Food Supply Resilience

*AVA helps farmers at home to increase productivity and facilitates overseas partnerships to strengthen Singapore's supply of safe food. To do these, initiatives such as the Food Fund, Disease-Free Zones, and contract farming are put in place.*

In land scarce Singapore, our urban landscape leaves us with limited space for food and agriculture farming.

Ninety percent of what we eat is imported. Local harvests for fish, eggs and leafy vegetables now only account, respectively, for 4%, 23% and 7% of the total consumed here annually.

This puts us in a position that is susceptible to volatile price fluctuations, given the unpredictable weather changes and potential food shortages in exporting countries.

To ensure a steady supply of safe food, Singapore must continue to beef up its supply resilience in the long run—by increasing local supply, diversifying overseas sources and expanding contract farming initiatives—to give us an adequate and safe supply of food.

### Food Fund

In local farming, Singapore aims to raise its domestic production of eggs to 30%, fish production to 15%, and leafy vegetables to 10%.

To achieve this goal, the Food Fund was set up in December 2009 to help local food and agriculture industries defray up to 70% of the costs they incur in upgrading production and R&D capabilities, as well as in expanding food sources from abroad.

A total of 48 applications for the Food Fund were received this year, of which half were approved by the AVA. Among these granted the Food Fund, 15 have accepted AVA's offer. Of these, 11 seek to upgrade farming capability. Another two projects were awarded for R&D in aquaculture farming and poultry farming.

The two remaining ones will engage in food diversification programmes. One of them, Aquaproduce LLP, will explore the possibility of seafood contract farming

in Vietnam, and introducing HACCP food safety management system in the seafood handling and distribution process there. The other, Sri Vinayaka Pte Ltd, will look into cultivation of Ponni rice in Cambodia. These help to open more sources of food supply thereby enhancing the diversification of food sources.

With so much interest in AVA's Food Fund, the amount was doubled to \$10 million this year. The list of successful Food Fund applications for 2010 was announced during Minister of National Development, Mr Mah Bow Tan's visit to the new and upgraded Seng Choon Farm on 11 October.

Seng Choon Farm's newest facilities capitalise on automation to increase production capability while reducing manpower.

Seng Choon Farm is working closely with United Engineers (Singapore) Pte Ltd, one of the Food Fund recipients this year, to develop a technology that could reduce odour emissions from poultry farms so higher productivity can be achieved.

Mr Mah commented on these Food Fund awardees: "I am heartened by the industry's enthusiastic response to the Fund. AVA has carefully selected good quality projects which are deserving of funding, as they contribute to our food supply resilience strategy for key food products".

### Securing Food At Source: Jilin City Disease-Free Zone

Beyond the Food Fund, AVA also implemented several initiatives to facilitate source diversification. This includes the signing of an agreement with Jilin City on 21 May 2010 to establish and maintain a Foot and Mouth Disease Free Zone (DFZ) in Yongji County, Jilin City of Jilin Province, China. With the establishment of this

disease-free zone, Jilin will potentially become a source of key food items such as pork. AVA and Jilin City has formed a technical working group to provide technical advice and to monitor and review the progress of the DFZ development.

### Working across the Value Chain: Enhancing Vegetable Supply from Indonesia

AVA's "matchmaking" efforts have also resulted in the successful signing of an MOU between the Singapore Food Industries Pte Ltd and Indonesia's fruit and vegetables association. Apart from this, AVA has been assisting NTUC FairPrice to expand its contract farming initiative. NTUC FairPrice recently established a new contract-farm in Medan, Indonesia, to supply leafy vegetables in Singapore.

Indonesia's close proximity to Singapore and its rich agriculture land provides ample opportunities for Indonesia to supply vegetables to Singapore. AVA formed a Working Committee in April 2010 to link Indonesian exporters and Singaporean importers so that they can better understand each other's needs. AVA also provided training on cold chain management of vegetables, to growers, packers and distributors.



*Minister Mah observes Seng Choon Farm's new machinery, which uses hi-tech methods to pick out dirty, cracked or inconsistent eggs automatically at the packing stage*



## Plant Picks

### The Uninvited Green Invaders

*Imported international plant species are selected for their vigour, adaptability, hardiness, and fast growth. The same qualities can be found in plant pest invaders that could come together with the imports. Awareness should be raised on both local and industry levels, in order to protect our plant and floral landscape.*



*Yellow sticky traps used in surveillance in nurseries with high imports*

Singapore's flora is unique. Huge efforts are put into weaving greenery into its urban landscape, to create a "City in a Garden". This and the new Gardens-by-the-Bay initiative have greatly increased the need to import aesthetic but exotic plants that could be potential hosts to invasive plant pests. Sometimes, the plants themselves could be potential invasive species too. In fact, ornamental horticulture has long been regarded the main pathway of plant and pest invasions worldwide. These aesthetic plants are chosen for their vigorous, adaptable, hardy, and fast growing qualities. Plant pest invaders happen to share the same traits too.

It is thus an uphill challenge for Singapore to balance national urban greening and the influx of non-native plants and their pests into the island's ecosystem. Due attention should be paid to the latter, so as not to take the greenery around us for granted.

#### Potential Negative Impacts

The impacts of invasive pests to plant health can be enormous and is now recognised as a growing global threat. They have the potential of inflicting economic or environmental damage and social impacts. Continuing globalisation, increasing trade as well as travel and transport of goods across borders, have also significantly increased the risk of invasive plant pests crossing national borders.

In 1988, it was reported that 136 of the estimated 2,000 introduced plant species in Singapore have become naturalised. This could pose as a problem and should be monitored because when non-native species are naturalised, they are able to reproduce successfully and live alongside native species in the wild. Lately, it was reported that *Jacaranda obtusifolia*, a potentially invasive tree species originating from South America, has been found to have penetrated the forest

#### An Overview of Singapore's Plant Health Traits & Industry

- Rich biodiversity
- Horticulture Industry worth \$1.4 billion and 21,000 workers-strong
- Entrepot trade worth \$4 billion
- Certification revenue worth S\$700,000
- Local horticulture production (orchids, aquarium plants, and vegetables)

#### Impact of invasive Pests

- Unpredictable and possibly large.
- Competition with native taxa of flora.
- Hybridisation with genetically close species.
- Physical & chemical changes to soil characteristics.
- Modify natural and semi-natural habitats.
- Outbreak of plant pests.



at four sites in the Central Catchment Nature Reserves. Jacaranda relatives are known to consume a lot of soil water, thus fighting for resources with other plants in the same area.

### Public & Industry Engagement

Safeguarding plant health is a shared responsibility. The industry and the public at large must work together with national agencies to preserve our natural heritage for future generations.

However, the major challenge in plant health management is raising the public's awareness—of the adverse impact of invasive pests on biodiversity,

the environment and economy. AVA aims to engage and educate the public to protect the greenery. This is because they inadvertently are the ones demanding the potentially invasive plant introductions but will be the first to see the damaging impact on their urban landscape.

As for the industry, AVA recommends that they adopt these practices to safeguard plant health and upkeep our green urban landscape:

- Import and introduce exotics only after an invasiveness risk analysis is carried out.
- Avoid large scale planting of known invasive pests.
- Keep newly imported exotic plant material isolated from locally produced plants and those growing in the wild.
- Use clean imported growing media, (i.e. inorganic media run little risk of carrying zoonotic diseases or treating the media with steam sterilisation or chemical disinfections).
- Safe and proper disposal of growing media packaging and unwanted plants to minimise infestation.
- Monitor and report the presence of unidentified plant pests to AVA to seek advice on their eradication and removal.

## The Singapore Plant Health Guide

### *Know Your Plant Woes And Foes*

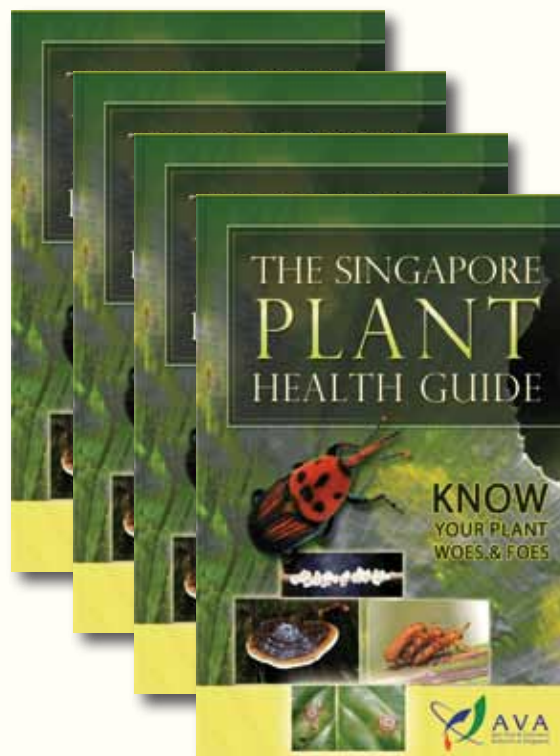
AVA's plant health guide, titled "The Singapore Plant Health Guide—Know your plant woes and foes" was launched at the occasion of the Singapore Garden Festival 2010 in July. The eBook is a pictorial guide published for plant lovers, hobbyists and practitioners to recognise and update themselves on plant health issues.

CEO, Ms Tan Poh Hong, in her foreword wrote: "Singapore is home to a rich and diverse flora of natural and cultivated plants. Healthy, lush and beautiful flora is a sight to behold. However, this enchanting and tranquil greenery can so quickly be blemished or disfigured by intrusions of pests and diseases. Identifying and managing these pests and diseases are crucial in keeping Singapore's flora in its verdant beauty. The Agri-Food & Veterinary Authority has been in the forefront of safeguarding the health of plants in Singapore. Nevertheless, plant health care is a common and shared concern of all who enjoy plants. This guide is AVA's contribution to the community of plant lovers on managing maladies that affect ornamental plants in Singapore".

This eBook offers 10 chapters in all, with details on signs and symptoms of plant diseases; bacterial, viral and fungal diseases; insect pests; nematodes; nutrient requirement and imbalance in plants; and plant pest and disease management.

Already, considerable interest in the eBook was generated. About 750 copies of it were sold during the SGF 2010.

In addition, the Mandarin version of the "Guide to vegetable growing" was released earlier this year. The English version was previously first launched during the SGF 2008.



Copies of these eBooks (priced at S\$5.00 each) are available at AVA's Animal & Plant Health Centre, 6 Perahu Road, Singapore 718827. Those who are interested can contact AVA by telephone at 6316 5148 / 6316 5168.

# Animal Agenda

## Relishing In Responsibility

*The AVA Responsible Pet Ownership (RPO) Roadshow 2010 was a huge edutainment carnival. New activities and innovative features opened the event with a bang.*

More than 5,000 pet owners and enthusiasts, along with their adorable animals who thronged to the AVA Responsible Pet Ownership (RPO) Roadshow this year were treated to a fun, informative and educational experience. The annual Roadshow is a key event in AVA's calendar, held to promote the message that a pet is for life.

This year, the Roadshow was held on 13–14 November at the Singapore Expo Hall 4B. Guest of honour, Dr Mohamad Maliki bin Osman, Senior Parliamentary Secretary for National Development, graced the occasion.

Dr Maliki said in his opening speech for the Roadshow: “The theme for this year’s Roadshow— ‘Care for Your Pet’ —is indeed most apt... Through this Roadshow, we hope to equip more people with a greater knowledge of pet care. This will help us care for our pets better, and enable us to make better decisions when we purchase pets in the future.”

He also announced changes on the rules and controls on potentially dangerous dogs. The revised Dog Licensing and Control Rules will encompass both breed-specific, as well as non-breed-specific measures, to prevent dog attacks.



Crowds at the stage area and information counter

### Changes to Dog Licensing and Control Rules

To enhance public safety, AVA has reviewed the Animals and Birds (Dog Licensing and Control) Rules to tighten existing control measures for the management of potentially dangerous dogs in Singapore.

The review was conducted in consultation with stakeholders such as dog owners, animal welfare groups, veterinarians and the general public. The changes to Dog Licensing and Control Rules came into effect on 15 November 2010.

The first set of changes pertains to Rottweilers, Bull Terriers, Doberman Pinschers, Shepherd Dogs, Mastiffs and their crosses. Owners are required to undertake compulsory obedience training, micro-chipping for traceability, and take out third party insurance

and a banker’s guarantee for newly-licensed dogs. Residences are allowed to keep a maximum of one dog of these breeds.

Dr Mohamad Maliki Bin Osman also announced that the Perro de Presa Canario will no longer be allowed to be imported into Singapore. Any currently kept ones will have to be sterilised and undergo obedience training. The owners will also be required to take up third party insurance and a banker’s guarantee.

Lastly, Dr Mohamad Maliki Bin Osman strongly urged all dog owners to take a more proactive role in preventing possible dog attacks, “as any dog of any breed could be potentially dangerous, some or all the measures mentioned earlier will be imposed on any dog which has initiated an unprovoked attack”, he explained.

For more information, please log on to: <http://www.ava.gov.sg>

# Animal Agenda



Balloons were sculpted in shapes of animals and given out to children



Long queues at the 'Vet Clinic' where free wellness checks for pets are given

## Fun for All

The RPO Roadshow was not just an event for adults. It was also a family activity for many, who came with their parents, grandparents and children. To ensure they all bring home with them important pet care information, AVA set up colourful and appealing booths where participants can pick up easy-to-remember pet care tips on the board walls. Balloon sculpting and a play area for arts and crafts were also set up with young children in mind. At the same time, magic shows, games and awareness talks held on stage provided some much-loved "edutainment", all in line with the Roadshow's aims to educate and engage.

## New Features

In AVA's 7th annual RPO Roadshow, several unprecedented items were included. One of them, the 'Vet Clinic' proved to be extremely popular. Here, professional vets provided free wellness checks for pets. Many owners were also attracted by the pet micro-chipping service at a discounted price of just \$20. Private vets usually charge at least \$40. Equally many queued up to have their new dogs licensed. An endless stream of visitors were seen here throughout the two days.

That was not all. Two pet competitions debuted at the Roadshow. One was the Healthiest Coat competition, held on Saturday, and the other was the Brightest Smile competition held on Sunday. Enthusiastic applicants came both days to register their pets for these contests, and we attended to more who came even after the registration has closed.

Another new programme this year was the Seminar series, in which workshops and talks were conducted all day long. Speakers touched on topics ranging from pet health (skin, ear, terminal disease; vaccinations; obesity, allergies; dentistry; lameness) to acupuncture and common foreign bodies in pets.



Full-house at Dr Simon Quek's seminar on Atopic Dermatitis. Seminars related to dogs and cats attracted excellent turnouts.

*continued on next page*

# Animal Agenda

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Care For Your Pet booklet

Our revamped and updated “Care for Your Pet” booklet was also made available to the public for the very first time. Its attractive cover design and informative guides on potential and current pet owners made it a great hit. Over a thousand books were grabbed at the Information Counter and distributed along with the goodie bags. A digital copy is available for free download in the Publications section on [petsforlife.com.sg](http://petsforlife.com.sg).



Screenshot of Care For Your Pet game

### AVA RPO Microsite – Pet Central

To reach out to the web-savvy public, an interactive flash-based Responsible Pet Ownership microsite was set up in early March 2010.

The aim of the microsite is to promote responsible pet ownership messages in a more lively, light-hearted, and fun way.

Pet Central hosted its first ever online photo contest called “Pet Snap!” Held in the first two weeks of October 2010, the site invited creative and original submissions under the theme—Care for Your Pet.

The inaugural contest attracted over a hundred entries. Of these, 20 winners walked away with a RPO goodie bag. A spike in visitorship was registered by the website during the contest period. In view of the encouraging response, the next round of the Pet Snap! competition will return in January 2011.

Two new interactive games, “Care For Your Pet” and “Pet Man”, were also developed for Pet Central and launched during the RPO Roadshow. Check them out at [www.petsforlife.com.sg](http://www.petsforlife.com.sg).

## Cut To The Chase

### Process for Veterinary Centre Licence Application Streamlined

AVA has streamlined the process for veterinary centre licence application, as part of its pro-enterprise efforts to serve the industry more effectively. This new procedure cuts short the time spent in obtaining consecutive approvals from multiple agencies.

In the past, the standard procedure required applicants to submit approvals from a few other government agencies to the Building and Construction Authority (BCA) before they can obtain a Temporary Occupation Permit (TOP) or Certificate of Statutory Completion (CSC). Prior approvals had to be sought from:

- Urban Redevelopment Authority (URA) for plans and use approval;
- Landlord of the premises (which can be the Housing & Development Board (HDB) or Jurong Town Corporation (JTC);

- Singapore Civil Defence Force (SCDF)’s Fire Safety and Shelter Department (FSSD) for safety of the premises in an event of a fire; and
- Land Transport Authority (LTA) for car parking and regulating traffic at the centre, where applicable.

As of June 2010, veterinary centres to be located in newly constructed buildings can submit the TOP or CSC from BCA, in lieu of approvals from all other government agencies.

This amendment reduces paperwork, provides greater ease of tracking, and expedites the application process. The review was targeted at making the process efficient for both the applicants and AVA.

## New Nutrigenomics Technology To Be Marketed Through Singapore

*SyAqua's R&D programme at AVA Marine Aquaculture Centre aims to raise shrimp growth rates by 20%. This is expected to benefit shrimp supply to Singapore.*



SyAqua Singapore Ltd on August 1, 2010 established a SyAqua Genetic Research Centre at AVA's Marine Aquaculture Centre (MAC). It plans to carry out R&D on Specific Pathogen Free (SPF) grandparent shrimp brood stock by using non-Genetically-Modified-Organism (GMO) technologies, such as nutrigenomics. The aim is to improve performance and quality of shrimp.

Nutrigenomics is the study of the interaction between nutrition and genetics. Shrimp aquaculture relies heavily on commercial formulated diets and feed represents 60% of the cost of production.

By applying specific nutrient formulations onto a selected group of brood stocks that respond well to them, growth rates could increase by 20%. This

translates into positive impacts on shrimp supply for Singapore. Having companies such as SyAqua on board would help position MAC as an ideal aquaculture hub in this region.

The collaboration could also help facilitate development and expansion of marine aquaculture in Singapore and around it. The SyAqua Group has committed to share with AVA its techniques on quantitative genetics and molecular biology in its shrimp breeding programme, which can be directly applied to MAC's sea bass breeding programme. The latter uses marker-assisted selection that allows MAC to identify and pick offspring originating from many different families. This can prevent "genetic depression", or a reduced level of genetic variability due to inbreeding, which eventually results in poor quality offspring.



*By applying specific nutrient formulations onto a selected group of brood stocks that respond well to them, growth rates could increase by 20%.*



*The Nutrigenomic technology on shrimps can be directly applied to MAC's sea bass breeding programme*

# Fishy Business

## Bottled Mussel Sauce Gains Muscle

*Mussel by-product successfully converted into a bottled ready-to-eat sauce prototype*



*Harvested mussels*



*Mussels boiled and broth extracted*



*Broth processed to become bottled ready-to-eat mussel sauce*

The first made-in-Singapore bottled mussel sauce may soon find its way to our kitchens and dining tables.

AVA has innovatively and successfully converted mussel broth into a value-added sauce product prototype, which retains the unique and rich mussel flavour. It also matches the texture and nutritional value of commercial oyster and abalone sauces.

Mussel broth is a by-product that results from processing half-shell Asian Green Lip Mussels (*Perna viridis*). It is usually discarded, until AVA found a commercially viable use for it. This was a

substantial waste as the broth constitutes 40% to 50% of the mussel weight.

AVA has invited Nanyang Polytechnic (NYP) to jointly look into parameters for ensuring consistent quality in this product's pilot and future commercial production. NYP is currently experimenting on various commercial applications of the sauce—such as a dipping sauce for finger foods or ready-to-eat salads or a spicy version of the mussel sauce for deep fried seafood.

This collaboration led to the signing of a Memorandum of Understanding (MOU) between AVA and NYP on 8 July 2010. Moving forward, AVA and NYP hope to

engage commercial stakeholders to mass manufacture this unique condiment.

The mussel sauce prototype was showcased at the Asia Pacific Food Expo organised by the Singapore Food Manufacturer's Association from 19 to 23 November 2010 at the Singapore Expo. Developers of the mussel sauce grabbed this opportunity to gather direct and real-time feedback from the fair's visitors—a group of consumers who have a discerning taste for delicious and value-for-money food.

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