

# ASIAN SEED

THE OFFICIAL PUBLICATION OF THE ASIA & PACIFIC SEED ASSOCIATION

## Plans Set For Maiden ACRT

Speakers, topics confirmed for cucurbits event.

## Korean Seed Report

Trends over 20 months of seed trade in South Korea

## Lady, Leader and Mother

Pamela Chan of Ramgo Seeds is our 'Woman In Seed'

## APSA EC Vacancies

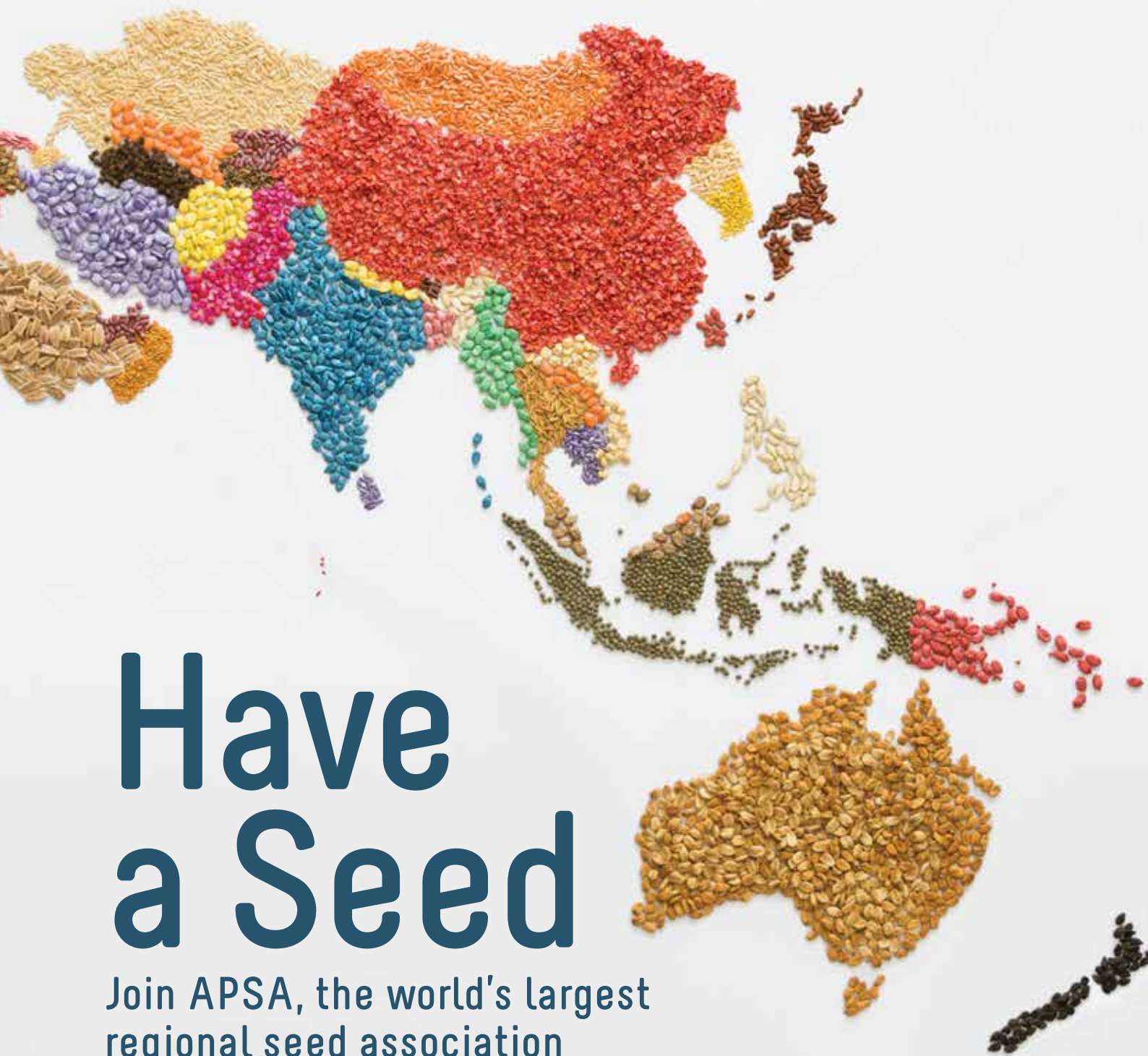
The many benefits of joining APSA's Executive board

VOL.24 NO.2  
MAR/APR 18  
[apsaseed.org](http://apsaseed.org)

## Cucurbits Calling



**APSA plans 1<sup>st</sup> Asian Cucurbit Round Table**



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# ASIAN SEED

THE OFFICIAL PUBLICATION OF THE ASIA & PACIFIC SEED ASSOCIATION

Asian Seed & Planting Material  
Volume 24, No. 2, Mar/Apr 2018

Official Publication  
ISSN 0859-1776

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Asian pumpkin farmers

# APSA

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*Asian Seed & Planting Material* is published bi-monthly as the official publication of the Asia & Pacific Seed Association (APSA). APSA is a provident organisation dedicated to the promotion and improvement of the seed industry in Asia Pacific.

*Asian Seed* has a pass-on readership of 3,500 worldwide. Eighty percent of our subscribers reside in the Asia-Pacific region and include senior executives in seed enterprises, government agencies, universities and national seed associations. Unless denoted otherwise, figures are quoted in US\$.

Subscriptions are available on the APSA website or from the Secretariat.

Editorial contributions and advertising enquiries should be sent to the Secretariat by email to [apsa@apsaseed.org](mailto:apsa@apsaseed.org) or [steven@apsaseed.org](mailto:steven@apsaseed.org). APSA holds

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## In this issue

# 10

### Korean Seed Report

Import, export and market share trends from the land known as Hanguk.



# 15

### First Asian Cucurbit Round Table

APSA joins up with KU to host a new technical event dedicated to cucurbits in Asia and the Pacific.



# 30

### APSA EC Job Description

Heidi Gallant explains the role and duties of an APSA Executive Committee member.



# 32

### Women In Seed

Pamela Chan of Ramgo Seeds talks about what it takes to turn a sad story into one of success.



# APSA Needs You!



Brenda Dossey, APSA President

**Greetings to all APSA members getting ready for the (northeasterly monsoon) rainy season. I wish you all successful planting, and bountiful harvests to follow.**

We are going to have many vacancies on the APSA Executive Committee (EC) coming up at the GAM this year and again at the GAM in 2019.

Reflecting on that, I thought I might share with you some of the reasons I think you might wish to consider serving on the EC or becoming a volunteer in one of our committees or special interest groups.

Becoming An APSA Volunteer is:

1) A Way to Give Back – This is a way for you to contribute to the seed industry in the Asia Pacific region, which is beyond your present role at your company or organization.

2) A Chance to Make a Difference

and Learn New Skills – As an EC member, you work as part of a group to make decisions in accordance with the APSA constitution.

You learn how the association works, its history and help make decisions for its future.

3) An Opportunity to Make New Friends & Get Acquainted with Other Cultures – By constitutional design, the EC is a diverse group with varied backgrounds. There is no better way to learn about a new country or culture than to make a friend who can tell you what it is like first hand.

4) A Point of Pride – It is an opportunity to represent your organisation and your country on the committee and share with others what it is like where you come from.

For me, being involved with APSA and being on the EC has been

all those things.

It certainly has also been challenging, but the best part has been working together as a group to meet the challenges.

During my tenure on the APSA EC, it has been a big responsibility for the EC to implement the new APSA constitution. In doing that, much work has been done to strengthen our management structure with written steps and protocols established.

Those measures have changed the role of the EC from a group of people who get together three times a year to a group that works via email throughout the year between the face-to-face meetings.

The meetings are characterised by much discussion and participation on the part of all the EC members.

If you have not served on the EC before, please consider

nominating yourself to serve. Interested, but not sure if it is for you? Contact an EC member – past or present – and ask them about it. And if you have served on the EC in the past, why not consider returning to the EC again?

Still not sure? If you have strong interest in participating, but are not ready to commit to being on the APSA EC, perhaps you would like to test the waters and become more involved in an APSA Special Interest Group or an APSA Standing Committee and start your involvement that way?

The only way you will ever be sure is to take that first step. Please do. APSA needs you.

Also, be sure to read the article on page 30 of this magazine for even more reason to join our EC.

We are united in APSA's mission: Sustainable agriculture through the production and trade of quality seeds for the world.



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# Midterms, Congress Registration, Phyto Consultation and More



Heidi Gallant, APSA Director

**The first quarter of 2018 has certainly flown by as the APSA Secretariat and I remain busy planning and preparing for all of the wonderful activities we have lined up for members this year.**

The first major agenda on the calendar this year was our first APSA Midterm meeting, which will have just passed by the time most of you read this. Nonetheless, I would like to give you all a little bit of background on this unprecedented benchmark for APSA.

Historically, the APSA Special Interest Groups and Standing Committee have met through conference call, the participants being located in various countries in the Asia Pacific Region and beyond.

This meeting, held on 24–25 April in Bangkok, Thailand was the first time we called our groups to meet in person early in the year. A lot of action plans were discussed and confirmed for APSA's activities for the rest of the year. Please note that minutes and outcomes of this meeting will be posted in the Members section of the APSA website, so be sure to get updated.

Next up, we will be traveling to the city of Tainan this May for the APSA-World Vegetable Centre Consortium Annual Workshop. We have many more consortium

members this year and in addition to finding out the latest breeding innovations from World Veg, it will be high on our priority list to determine a specific project for APSA members to work with WorldVeg on this year.

Also in May, we are delighted to open registration for the 2018 Asian Seed Congress (ASC). With an extra year to prepare (due to the emergency swap in host countries last year), the Philippines Seed Industry Association has all their ducks in row and we are looking forward to one of the biggest and best editions members have seen.

From the business offering to the social events, this will be one ASC you certainly must attend. Booth, Trading Table and delegate registration will all open at the same time, May 2, 2018 on a very similar platform to the system we piloted in 2017.

Please be sure your membership is already renewed so you won't have to wait, and are able to get your registration completed at the early bird rate.

As we head into the summer (or winter for those of you down South), we will be hosting the first ever Asian Cucurbit Round Table. Some preliminary details can be found in our story on pages 14–16, and the official program will be announced shortly. This three-day event, to

be held July 19–21, will feature two days of presentation and break-out sessions followed by a field day to view the latest in cucurbit breeding developments.

The event is in partnership with Thailand's Kasetsart University, and will feature a student poster session and presentation as well. A big thanks to our Research and Development Committee for their work on this important event.

We also look forward to the 4th Expert Consultation on Phytosanitary Measures in the Asia Pacific Region, planned at the end of August.


This successful series of events is making headway with our region's NPPOs as we encourage government-industry collaboration, and stress the need for consideration of whether seed is a pathway for pathogens as opposed to the plant/produce itself. We will also continue to introduce the systems approach to phyto regulation which is gathering steam in other parts of the world.

I will close this update with a reminder to attend the next APSA GAM meeting to be held November 15, 2018 in Manila, the Philippines.

As always, if you have suggestions, questions or feedback for me and the APSA team, please don't hesitate to get in touch. We are at your service.




The APSA Secretariat on 29 March welcomed a team from Winrock International for a Memorandum of Understanding signing ceremony. The MoU, signed by APSA's Mrs. Heidi Gallant, and Winrock's William Sparks, cements ongoing collaboration between the two organizations in improving and developing the seed industry in several Southeast Asian countries. Read more on [apsaseed.org](http://apsaseed.org).



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## IN BRIEF...

**APAARI Front and Center for ASEAN Food Security**

Southeast Asia food security stakeholders met 23–25 January in Bangkok about improving agri-food innovation systems in the region. The conference, held at Chulalongkorn University, facilitated productive discussions around “Agri-Food systems, Rural sustainability and Socioeconomic Transformation in Southeast Asia”. The Asia-Pacific Association of Agricultural Research Institutions (APAARI) led a number of thought provoking presentations and discussions, focusing on capacity building with respect to green agriculture, climate resilience and the establishment of an ASEAN social and sustainable science network. More details on: [apaari.org](http://apaari.org)

**Advanta Awarded for ZEBA Soil Enhancement Technology**

Advanta Seeds, A UPL Group Company, has won the prestigious Gulf Sustainability and CSR Award 2018 for the company's ZEBA technology in the UAE and the Middle East. ZEBA is a soil enhancement, water and nutrient management technology which is already successful in many geographies and has diverse application from turf and grass, to landscaping and agriculture. “We are very committed to the process of not only water conservation, but the management of water systems to avoid wasted water and the costs incurred,” said Kevin Ashford, UPL Global Technology Lead, Water & Soil Technologies.

# ASF Online Database Full of Pasture Seed Substitutes

THE AUSTRALIAN SEED Federation (ASF) first released their Pasture Seed Products Database in 2012, updating annually to remove products no longer commercially available.

Database products are listed by species and grouped based on common traits such as flowering (heading) time, winter activity and ploidy. Intellectual property, marketing and varietal status are identified, including which are “varieties” and which are not varieties (branded seed products).

This independent verification by ASF of variety is an important characteristic of the database. To qualify as a variety, new varieties' genetic stability and uniformity (morphological, physiological, cytological, chemical or other) must be demonstrated and shown to deliver benefits claimed over succeeding generations.

Australian pasture species and pasture seed products



Murray grey cows graze on a NSW pasture. Photo: Cgoodwin

commercially available have been increasing significantly. As a result, livestock producers, their advisors and pasture seed suppliers seek information relating to adaptation and performance, and intellectual property, marketing and varietal status.

To meet increasing demand for such information, the ASF Plant Breeders and Proprietary Marketers Group created this logically structured, easily accessible database.

Products listed include annual and perennial pasture grasses, legumes,

forage and fodder crops and some herbs.

Typical database use might be for livestock producers to find suitable substitutes for unavailable products.

Variety and brand names are listed together with marketer details to assist in seeking further information. The ASF Pasture Seed product database is at [www.asf.asn.au/seeds/pasture-seed-database/](http://www.asf.asn.au/seeds/pasture-seed-database/)

*For further details contact: Bill Fuller, CEO Australian Seed Federation  
Email: [bfuller@asf.asn.au](mailto:bfuller@asf.asn.au)  
Mobile: 0488 400 988*

## HM Clause Tomato Takes Silver at Fruit Logistica

HM Clause's ADORA tomato on 9 February was awarded a silver medal in the Innovation Awards competition of the 2018 Fruit Logistica trade show in Berlin.

The annual trade show attracts over 3,000 exhibitors every year from the entire global produce sector, and over 75,000 attendees.

The accomplishment comes less than six months after the official introduction of ADORA to the produce sector at the Fruit Attraction trade show in Madrid.

The ADORA, a nutrient-rich Marmande variety, was



Fruit Logistica Awards are the most significant in the industry.

developed at HM Clause's Saint-Rémy-de-Provence research centre in France. For the moment, ADORA is available in Switzerland, Germany, United Kingdom and Netherlands.

In related news, HM Clause recently opened a new trop-

ical research station in Khon Kaen Thailand, where focus will be on tomato, hot pepper, cucumber, watermelon, melon and tropical sweet corn. For more details see [apsaseed.org/News/](http://apsaseed.org/News/).

*For more on ADORA, visit [tomato-adora.com](http://tomato-adora.com).*



# ISTA eyes Asia for Annual Meetings

**By Dr. Andreas Wais**  
**ISTA Secretary General**

**T**he International Seed Testing Association (ISTA) will be hosting its next two annual events in Asia. Namely, ISTA 2018 Meeting, the 31<sup>st</sup> edition, will be held 11-14 June in Sapporo, Japan, and the 32<sup>nd</sup> ISTA Congress, is planned 26 June-3 July, 2019 in Hyderabad, India.

The program of the events includes the technical workshops, a scientific symposium discussing the latest results in applied seed science, a detailed insight into the work of the ISTA Technical Committees, including their achievements and future plans.

Uniformity in seed testing is the mission of ISTA. Founded in 1924, with the aim to develop and publish standard procedures in the field of seed testing, ISTA is inextricably linked with the history of seed testing.

With 225 member laboratories in over 70 countries/distinct economies worldwide, ISTA membership is truly a global network. In Asia, ISTA counts 66 member laboratories and 14 personal or associate members, making Asia one of the key member areas of ISTA.

Internationally, ISTA engages with a number of organisations like being a founding member of the World Seed Partnership as well as operating via a Memorandum of Understanding with The Food and Agriculture Organization of the United Nations.

The ISTA membership consists of two main categories: Corporative, which include Member Laboratories and Industry Members; and Individual, which include Personal and Associate Members. Member Laboratories may receive ISTA accredited

itation, which would allow them to issue their test results in a standardized and internationally accepted manner using ISTA International Certificates. These Certificates facilitate international trade and function as a kind of Seed Quality Passport.



In related news, ISTA recently announced new enhanced security protection measures for our Orange and Blue International Seed Analysis Certificates.

Effective immediately, the new ISTA Certificates will possess an ISTA water mark, a unique registration number, bar-code system corresponding to the unique registration number and an ISTA holographic sticker on the bottom right portion of the certificate.

Previous certificates may still be used and costs of the new certificates – which can be ordered via ISTA's website (url at end)

or from ISTA Accredited Laboratories – will not increase.

The ISTA Certificates assure that the test results are reproducible, true and represent the quality of the seed. ISTA International Certificates exist in two versions – the so-called Orange International Certificate and the Blue International Certificate.

An Orange International Certificate is issued when both sampling from a seed lot and testing of this sample are performed under the responsibility of ISTA accredited laboratories. The results reported on an Orange International Certificate refer strictly to the lot as a whole at the time of sampling.

A Blue International Certificate is issued when sampling from the lot is not under the responsibility of an accredited laboratory or if seed mixtures are tested.

*Interested parties may find more details under [seedtest.org](http://seedtest.org).*

## 'Sow to Grow' Seed Museum in Enkhuizen Showcases Dutch Breeding Benchmarks

A new museum, Sow to Grow, is open in Enkhuizen, the Netherlands, featuring an interactive introduction to plant breeding that reveals its immense impact on food supplies, climate and the environment. An initiative of the national museum Saet & Cruyt, in collaboration with Kranendonk Experience, Sow to Grow is supported by people and companies in plant breeding, seed cultivation and seed trading. The Netherlands is a leading center of plant breeding. Topics include seed cultivation, trading, collecting, breeding, multiplication, improvement, marketing and Netherlands companies active in the trade. Sow to Grow opens Tues-Sun, 10am to 5pm.

## Thai-Dutch Ag, Seed Research Cooperation

The agriculture ministries from Thailand and the Netherlands joined with the respective country's leading agriculture universities in a meeting to promote bilateral research in seed and agriculture.

Held 28-29 March at the Golden Jubilee Building, Kasetsart University, the "Thai-The Netherlands Agriculture &



APSA staff (center) with exhibitors.

Food Forum 2018" was presided over by reps from Thailand's Department of Agriculture, Ministry of Agriculture and Cooperatives and the Netherlands' Ministry of Agriculture, Nature and Food Quality, as well as, Kasetsart

University, Wageningen University and other key stakeholders.

The focus was on four themes: Precision Agriculture, Seed Innovation, Green House Horticulture/Agriculture and Post-Harvest Technology. The meeting, which included dozens of presentations, coincided with the signing of an MoU between the two countries.

# Heaps Hauled in Hanguk

**US\$362mn worth of sowing seed traded to/from South Korea in 20 months**

NO LESS THAN 251,638 TONNES of sowing seed moved across South Korean borders during a recent five-quarter, or 20-month period. Combined, these import and export consignments were valued at US\$362.2 million. That equates to an average of 12,582 tonnes of seed traded per month, or 150,983 t /year, making the Korean sowing seed market worth no less than US\$217 mn/year.

A few things are clear from the data analyzed: Korea remains heavily dependent on its trading partners for most categories of sowing seed, with few exceptions; likewise, foreign seed suppliers across the globe continue to depend on the Korean market.

Indeed, during the 20 months analyzed, Korea had a 159.21-million-dollar sowing seed trade deficit, calculated from \$101.53 mn in exports against \$260.74 mn in imports. Exports accounted for 2,951.66 t of seed, while imports mounted to a staggering, 248,687.242

tonnes. The average value of imported seed was \$1,048 / t, while exported seed averaged \$34 398/t.

## OUTBOUND

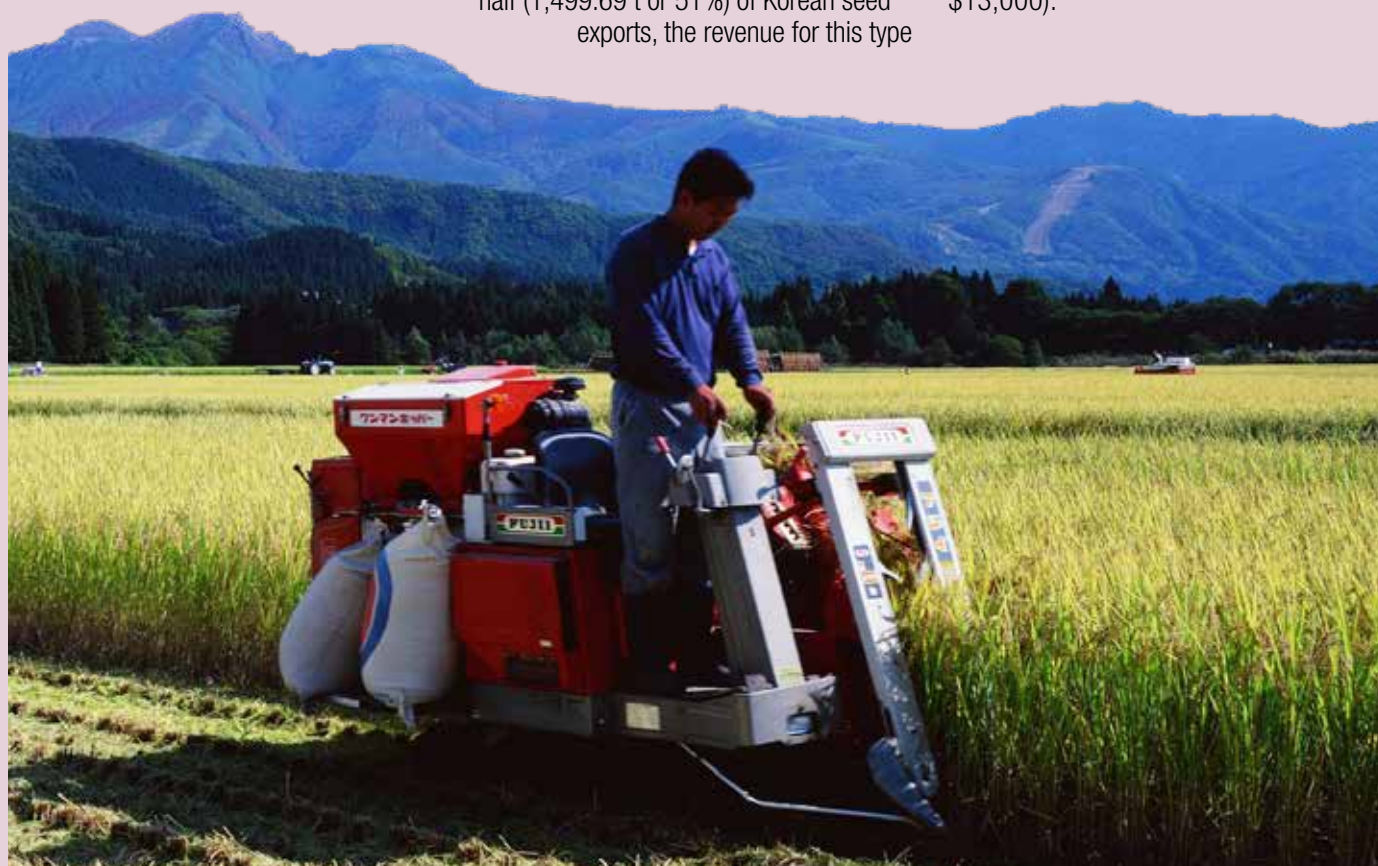
An overwhelming majority of the revenue from Korean sowing seed exports during the focus period derived from vegetable seed; even though this type of seed (see Veg section below for detailed country analysis) made up only 38.5% (1,138.6 t) of the total volume of outbound consignments, it generated an impressive \$99.26mn, or just under 98% of the total value of exports.

Even so, the country had a significant trade deficit for vegetable seeds – 4,580 tonnes at \$38.2 million, equal to 229 tonnes, and \$1.9 million deficit per month. Deficits (more imports than exports) were common across nearly all categories of seed analyzed. Husked paddy and seed potato were among the few categories that yielded an export surplus for Korea, in terms of both volume and value. Though seed potato made up more than half (1,499.69 t or 51%) of Korean seed exports, the revenue for this type

of seed was negligible, with outbound consignments worth about \$770,000, just over three-quarters of a percent of the export market; Likewise, a nearly-100-tonne surplus of husked paddy (3% of volume) yielded a meager \$170,000 surplus for the Korean economy.

Most types of Korean field crop seed were exported at values well below the mean of \$34 398/t; namely, Korean maize traded at an average tonnage rate of \$15,779; paddy \$1,705; millet \$1,420; oats \$2,747 and seed potato \$513. Vegetable sowing seed varieties in contrast were exported well above the mean, at \$87,177/t.

Melon seed remains a lucrative category for Korean seed traders. Notably, this category of seed was exported at an average rate of \$3,500/kg, which would equate to \$3.5 mn/t. The total volume of this type of seed export, however, was only 177 kg. These seeds, worth a total of \$621,000, were imported by Japan (84 kg worth \$585,000); Algeria (41 kg worth \$12,000) and Spain (45 kg worth \$13,000).



South Korea, which is referred to by South Koreans as 'Hanguk', depends on seed imports to supplement locally-grown crop seed.



## INBOUND

A majority of the 248,687 tonnes of sowing seed imported into Korea during the focus period were forage seeds, representing 93% (238,815 tonnes) of inbound volume, but only 38% (\$99.3 million) of the total import market value.

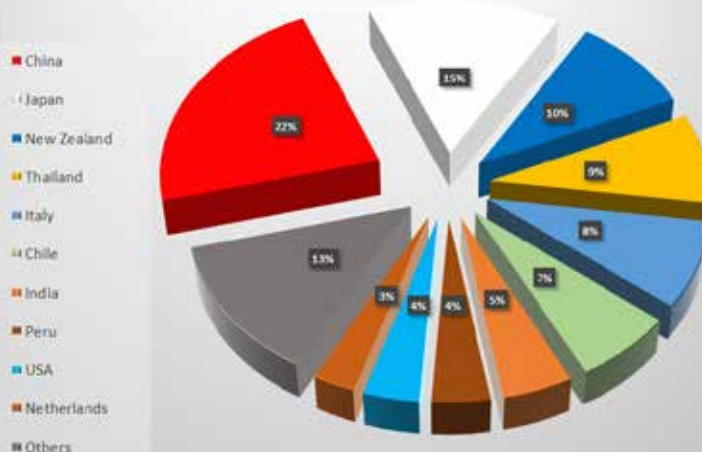
These forage seeds mostly came from Australia (214,410 t worth \$63.7 mn or \$297/t); as well as the USA (9,779 t worth \$23.2mn, \$2,375/t). Other suppliers of forage seed to Korea were China (799 t @ \$3,344/t); South Africa (191 t @ \$4,549/t); India (125 t @ \$2,565/t); Denmark (14 t @ \$7,985/t); Canada (4.5 t @ \$2,666/t) and Israel (810kg @ \$4.9/kg).

Field crops made up just 4.2% (10,349 t) of the imports, but commanded 6.3% (\$16.4mn) of the market. And though vegetable seeds made up just 1.5% of inbound consignments, they contributed to nearly half or 48% of total value.

Melon seed was a relatively lucrative category for seed importers in Korea, who generated \$432,000 by importing 2.3 tonnes of this popular type of fruit seed, equating to an average price of \$185 per kg, or \$187,826 per tonne.

These seeds came from China (1,531kg worth \$204,000); Thailand (449kg, \$57,000); India (250kg, \$49,000); Japan (51kg, \$98,000); Myanmar (17kg, \$2,000); Chinese Tapei (10kg, \$12,000); Chile (5kg, \$3,000); Peru (2kg, \$4,000); Indonesia (2kg, \$1,000) and the USA (1kg, \$1,000).

## Korea's Top Veg Seed Suppliers



The pie graph highlights Korea's top seed suppliers, as measured by a percentage of the total value of veg seed imports, worth \$124.2 million.

## VALUABLE VEGGIES

Korean veg seeds were exported to 94 countries, with the top three importing countries accounting for 64% of total demand; namely, Japan (287.8 t, 25%); Indonesia (262.8 t, 23%) and Pakistan (168.6 t, 15%).

Other leading importers were India (4.3%); USA (3.4%); Italy (3.3%); China (3%); Singapore (2.5%), Malaysia (2.2%) and Syria (1.8%), while the 83 other countries accounted for the remaining 15%.

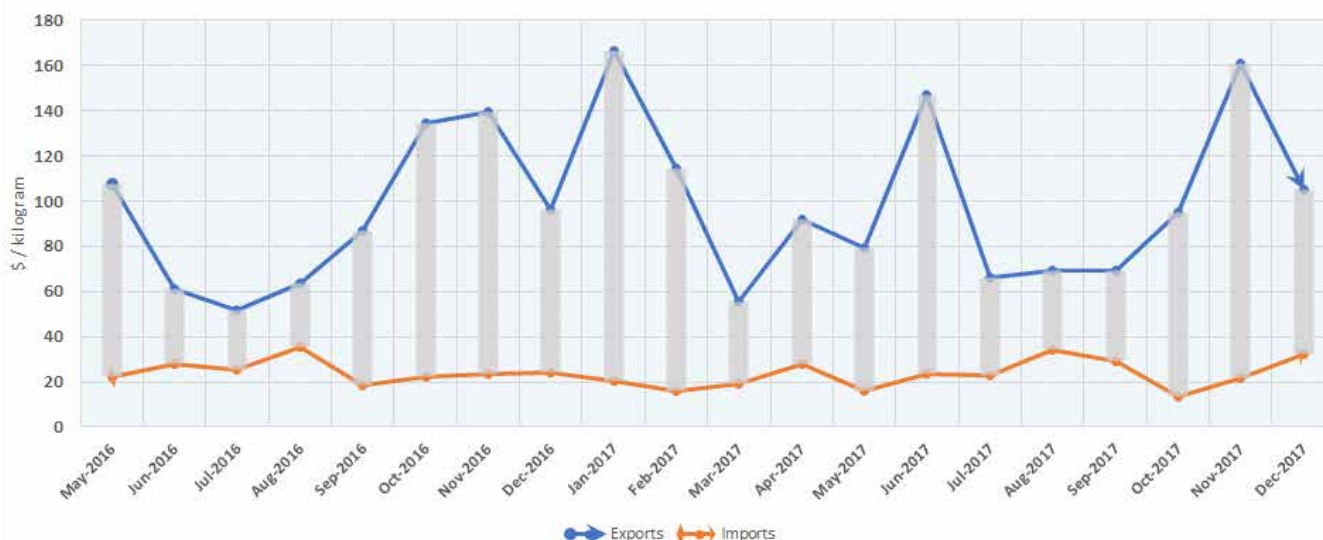
Korean veg seeds were exported at an average price of \$87.2/kg; Korea's top export market in terms of value was the Chinese, which imported 287,797 t worth \$26.018mn, just over a quarter

of the market, equating to an average price of \$90.4/kg.

The second biggest market for Korean vegetable seed was the USA, which imported 37.4 t worth \$14.6 mn, or nearly 15% of the market, at an average \$392.12/kg; India imported 262.8 t worth \$13.76mn or 14% share, with an average price of \$52.3 per kg.

Of the top ten importers of Korean veg seed, six countries paid higher-than-average rates. Kazakhstan imported Korean veg seeds at the highest premium of \$671/kg; followed by the USA who paid \$392/kg; Russia \$335/kg; Egypt \$107/kg; Thailand \$104/kg and China \$90/kg. Top importers

## Korea Horticulture Seed Trade Price Trends



This line chart show import and export price trends for horticulture crop seed, which include vegetables, herbs and flowers.

# Updates from the Korean Seed Industry

## New board elected at KOSA 2018 General Assembly

At their annual meeting last January, the Korean Seed Association (KOSA) elected a new President, Vice President, 11 Directors and two Auditors, whose tenures are effective 2018–2019. Their positions, organizations and names are listed in the table to the right.



Jong-Woo Lee



Sang-Geun Kim

## Spinach Latent Virus among 28 pests, pathogens on revised Korean Quarantine List

Consignments of spinach seeds imported into South Korea will no longer be screened for Spinach Latent Virus (SpLV). The Korean Seed Association (KOSA) confirmed the news after the Plant and Animal Quarantine Agency, which is the National Plant Protection Office (NPPO) of South Korea, on 9 February published a revised list of 28 “Non-Quarantine Pests” to its website. According to KOSA, SpLV in spinach seeds had been on the NPPO’s radar in recent years; however, after consultation with KOSA and concerned companies, the list was reviewed last year with recent data and scientific evidence, prompting the NPPO to revise the list.

## 2018 Korea Seed Expo

The 2nd Korea Seed Expo is set to be held from 23–26 October at the K-Seed Valley, a state-of-the-art seed and breeding R&D complex in Gimje-si Jeollabuk-do. Organized by the Foundation of Agri. Tech. Commercialization & Transfer (FACT) the event is sponsored by the Ministry of Agriculture, Food and Rural Affairs, Jeollabuk-do Province and Gimje City, and supported by a number of key seed industry organizations including the Korean Seed Association (KOSA) and the Korea Seed & Variety Service (KSVS). It will feature a number of exhibitions and demonstrations aimed at promoting the Korea seed industry development through international seed trade opportunities. Watch this space for more updates and details.

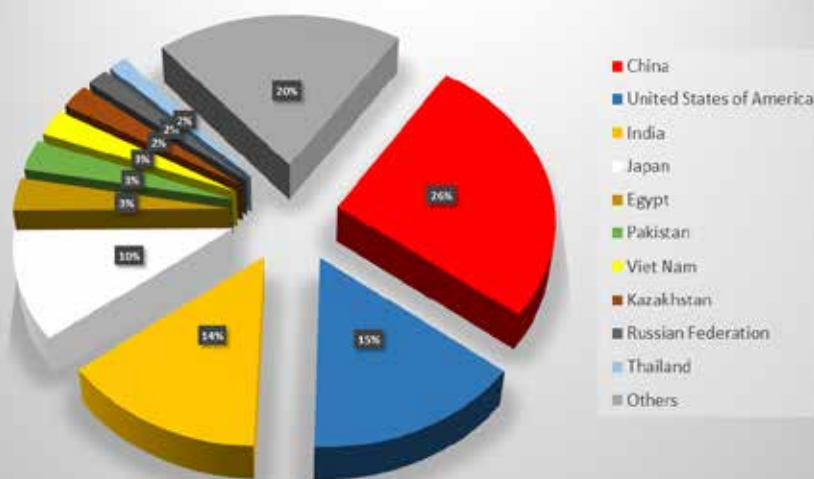
Position	Company/Organization	Name
President	Hyundai Seed Co., Ltd.	Lee, Jong-Woo
Vice President	Korean Seed Association	Kim, Sang-Geun
Director	Koregon Co., Ltd.	Yang, Dong Hyun
Director	Nongwoo Bio Co., Ltd.	Choi, You-Hyun
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Audit	Sun Seed Co., Ltd.	Lee, Ju Sung

obtaining Korean veg seeds at below average rates were Vietnam (\$73/kg); Japan (\$60/kg), Pakistan (\$59/kg) and India (\$52/kg)

The 3,688 t of imported veg seed, which was worth \$125.3mn, had an average price of \$33,973/ tonne. Though these seeds came from 47 nations, 88% of the seeds came from just five countries: namely, New Zealand (1,324 t, 36%); China (903 t, 24.5%); Italy (426 t, 11.5%); USA (319 t, 9%) and Denmark (260 t, 7%).

Korea’s top ten veg seed suppliers were China (\$28.2 mn, 22.5% of total value); Japan (\$18.9mn, 15%); New Zealand (\$12mn, 9.6%), Thailand (\$10.9mn, 8.7%), Italy (\$10.5mn, 8.7%), Chile (\$8.5mn, 7%), India (\$6mn, 4.8%), Peru (\$5mn, 4%), USA (\$4.8mn, 3.8%) and Netherlands (\$3.6mn, 2.9%). The remaining 37 countries that exported veg seed to Korea during the focus period accounted for 21.7% of the total import market. 🌱

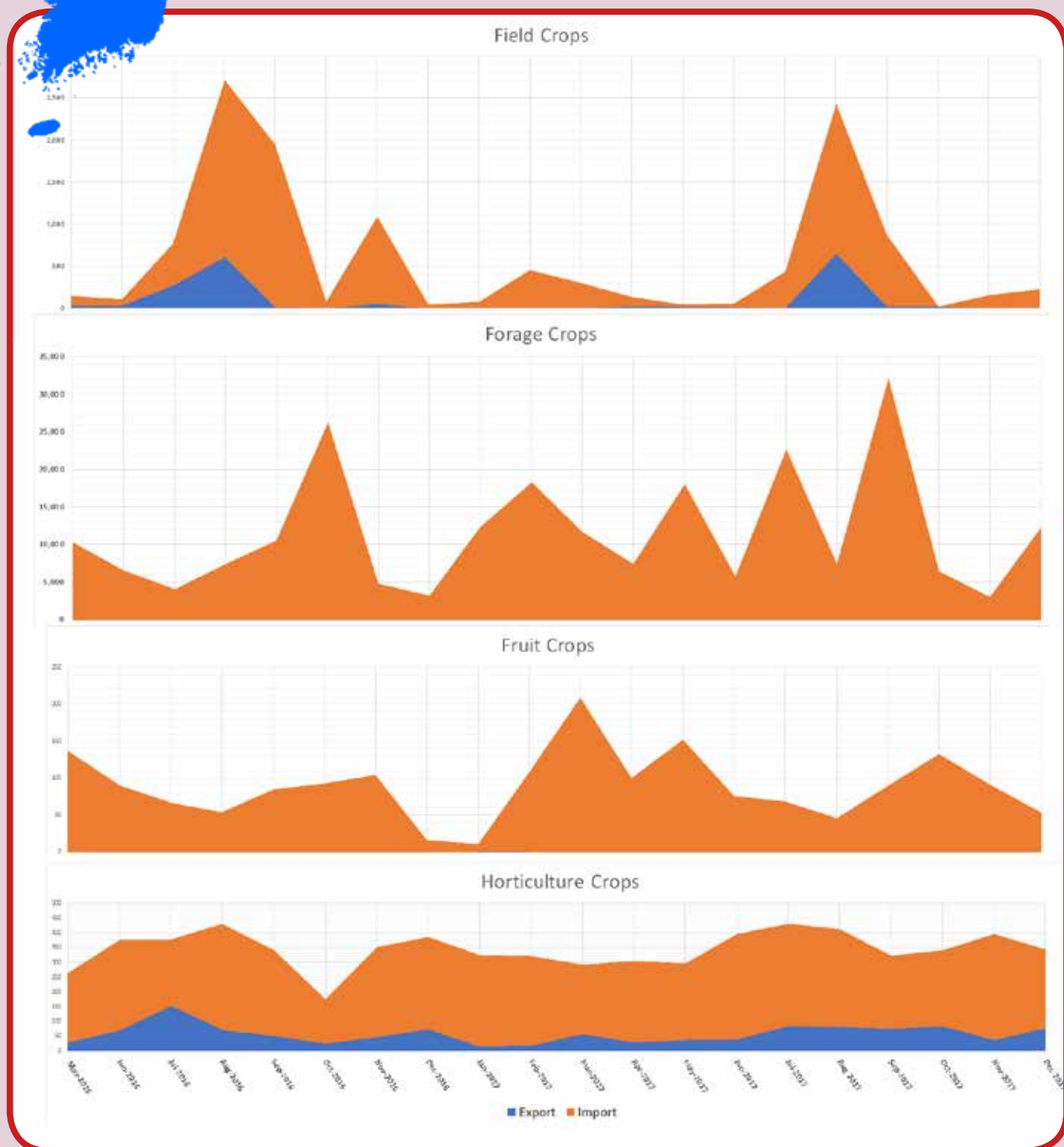
## Top Markets for Korean Veg Seeds



**MARKET SHARE:** The pie graph highlights the top importers of Korean vegetable seeds during a recent 20-month (five-quarter) period, shown as a percentage of the total value of Korean veg seed exports, which were worth US\$99.2 million.



# Seed Movements (tonnes/month)



## ABOUT THIS REPORT

The analysis, observations in this report are based on international trade data reported by the International Trade Commission, which cites Korea Customs and Trade Development Institute (KCTDI). APSA does not provide any guarantees about the validity or accuracy of the data, tables, charts or analysis, which can be corroborated by querying the ITC database directly. The report is intended to highlight general trends but does not represent the full picture of seed trade, particularly in respect to domestic demand and consumption. Specific queries about domestic trends should be addressed to the Korean Seed Association ([kosaseed.or.kr](http://kosaseed.or.kr)), or the Korean Seed and Variety Service ([seed.go.kr](http://seed.go.kr)). Most of the data referenced in this report covers a five-quarter (20-month) period, from May 2016 to December 2017, with the exception of references to Korea's international trading partners for vegetable seed imports and exports, as well as forage seed imports, which was logged from the period starting June, 2016 through to January, 2018. The types of sowing seed analyzed include field crops (maize, rough paddy, soya bean, sugar beet, barley, cotton, groundnut, millet, oats, seed potato, sorghum and wheat); forage (alfalfa, clover, fescue, ryegrass and Kentucky bluegrass); fruits and various types of horticulture crops, including herbaceous flowering plants, spores, herbs and vegetables.






## Asian Cucurbit Round Table 2018

The Asia and Pacific Seed Association (APSA) in collaboration with Kasetsart University (KU), is proud to host the 1<sup>st</sup> Asian Cucurbit Round Table 2018 held from the 19<sup>th</sup> – 21<sup>st</sup> of July 2018 at the Vajiranusorn Building, Kasetsart University (Bangkhen Campus).

APSA is offering corporate sponsorship to companies and organizations looking to show their support for this scientific co-operation to improve the health of cucurbit crops. Your generous support is critical in making this event a success.

We are offering several categories of sponsorship opportunities:

SPONSORSHIP BENEFITS			
	\$ 5,000 USD	\$ 3,000 USD	\$ 1,500 USD
Complimentary Delegates	✓ 5 Delegates	✓ 3 Delegates	✓ 1 Delegate
Advertisement in Program Book	✓ Full-Page	✓ Half-Page	✓ Half-Page
Logo space on Event Back drop	✓	✓	✓
Logo on Event Advertising	✓		
Advertising in APSA Asian Seed Magazine Issue no. 3	✓ Full-Page	✓ Quarter-Page	
Recognition by MC on each program day	✓	✓	✓
Recognition by MC at the Welcome Dinner	✓		
Opportunity to offer company-branded gifts in the delegate kit	✓	✓	✓
Opportunity to offer company-branded gifts at the Welcome Dinner	✓		

For more information, please contact APSA Secretariat at [kuna@apsaseed.org](mailto:kuna@apsaseed.org)





# All About Cucurbits

## Planning in Full Swing for Maiden ACRT this July in Bangkok

**A**PSA, in collaboration with Kasetsart University (KU), looks forward to hosting the maiden Asian Cucurbit Round Table (ACRT), which will take place in Bangkok 19 – 21 July.

To be held at the Vajiranusorn Building, Kasetsart University (Bangkhen Campus) with technical sessions on the first two days, the ACRT will conclude with a field visit to the World Vegetable Centre's Tropical Research Station at KU's Kamphaeng Saen campus on the third and final day.

The focus of the event will be on key commercial cucurbit crops, which include watermelon, melon, bitter gourd and cucumber; though discourse will also apply to other commercially important cucurbits such as pumpkin, squash and zucchini.

ACRT will serve as the ideal research forum, featuring presentations from accomplished, expert keynote speakers, in addition to a panel discussion led by representatives from research institutes, universities and seed companies.

Discussions will focus on topics spanning Cucurbit

diseases, quality management and diagnostic assays, advanced breeding technology, country market updates and challenges in Asia. The meeting will also explore potential collaborations between the private and public sectors.



APSA Secretariat staff confirmed plans with Kasetsart University during a meeting in March.

In anticipation of the event, Asian Seed reached out to the ACRT organizing committee and one of the keynote speakers of the event to find out the significance of cucurbits in Asia, and what we might expect from the maiden ACRT.



***“There is now a real need to manage seed borne pathogens and seed health in cucurbits for the future viability of cucurbit breeding companies.” – Dr. A. Seetharam***

Dr. Annadana Seetharam, Co-chair of APSA's R&D Working Group, and representative from the ACRT Organizing Committee elaborated on why APSA decided to organize this event:

“Asia is one the regions where a variety of cucurbits are bred,

grown and consumed. There are fruits, salad vegetables, Nutraceuticals and cooked vegetables in this range. There is also a specialty market for cucurbit seed consumption in many markets in and outside Asia,” he said.

Dr Seetharam, who is Technology Lead For APAC Veg R&D, Syngenta, and has a PhD in plant molecular Biology From Wageningen University, has been closely associated with DH (double haploid) production for Cucumbers in APAC to support breeding programs, and closely oversees various resistance programs for viral and fungal pathogens.

Asked what he thought should be the main focus

for cucurbit research in the region, Dr. Seertharam identified several priority areas; namely, disease resistance to key pathogens, developing seedless watermelon and working on the flowering biology of cucurbits.

“There is now a real need to manage seed-borne pathogens and seed health in cucurbits for the future viability of cucurbit breeding companies.

“At the ACRT, some of the most significant topics will be discussed by key people working on important market traits. It is a great opportunity to share, learn, generate ideas for future R&D. This is also a forum where interesting public-private partnerships are developed relevant to the industry. Companies having an interest to further grow the opportunities in cucurbits in Asia, must consider participation in this maiden event.”

Dr. Narinder Dhillon, who leads the Global Cucurbit Breeding Program of the World Vegetable Center in Thailand, has been excitedly preparing trials that will be showcased at the event.

During a recent inspection of the proposed field trials, an APSA delegation sat down with Dr. Dhillon whose passion for cucurbits is contagious.

“Among the cucurbits, cucumber, watermelon,

melon, squash and pumpkin, bitter gourd and Luffa are commercially important crops to the Asian seed industry. Low genetic diversity in elite hybrids of these cucurbit species have rendered the cucurbit crops to biotic and abiotic stresses and limited the long-term yield improvements.

“Characterization and evaluation of unexplored cucurbit landraces and their use in breeding programs will help to address these challenges. Discussion among the participants in ACRT will pave the way to forge collaborative research linkages and exchange of ideas, leading towards solutions to achieve sustainable cucurbit breeding and production targets in Asia,” he said.

At WorldVeg, Dr. Dhillon is currently working on the development of bitter gourd and tropical pumpkin inbred lines and F1 hybrids for the tropics, with focus on improved yield and quality, multiple disease resistance and heat tolerance.

Dhillon plans to expand WorldVeg's cucurbit crop portfolio by including global Luffa breeding initiatives. Prior to joining WorldVeg in 2010, he worked at Punjab Agricultural University (India); University of California, Davis (USA); Plant Breeding International Cambridge (UK); Japan International Research Center for Agricultural Sciences (Japan), The Institute for Food Research and Technology (IRTA), Spain and French National Institute for Agricultural Research (INRA), France.

In addition to the bitter gourd field trial inspection led by Dr. Dhillon, Assist. Prof. Dr. Surapong Dumrongkittikul will introduce the facilities of KU's Tropical Vegetable Research Center (TVRC).

At press-time, confirmed speakers and topics are as listed in the box to the right. 🌱



Dr. Dhillon (right) led an APSA delegation on an inspection tour of WorldVeg's trial plots in Kamphaeng Saen.

## Confirmed ACRT Speakers & Topics

- Dr. Xingping Zhang (Syngenta Company): Advances, Challenges & Future Prospects of Watermelon Breeding in Asia
- Dr. Channarong Seepiban (BIOTEC): Development of Immunodiagnostic Assays for Cucurbits Plant Pathogens in Thailand
- Dr. Saengsoon Charoenvilaisiri (BIOTEC): Diversity of Begomoviruses Infecting Cucurbits and Solanum Plants in Thailand
- Dr. GK Hedge (Noble Seeds Company): Challenges, Future Prospects of Bitter Gourd in India
- Dr. Narendra Dhillon (World Vegetable Center): Update on World Veg Cucurbits Breeding
- Prof. Emeritus Dr. Morakot Tanticharoen (Senior advisor to the President of NSTDA): Collaboration opportunity with Seed Cluster, Thailand (NSTDA)

Moreover, the program will include presentations and break-out sessions from several other renowned experts with focus on the following proposed topics:

- Advanced Breeding & Disease Trends; Challenges & Future Prospects in Cucurbit Breeding
- Cucumber Diseases (CGMMV, BFB and GSB) in Thailand and Management Thereof
- Public-Private Partnerships and Collaboration Opportunities
- Present Status and Future Prospects of Cucurbits Breeding in India and Research Collaboration Opportunities
- Market Trends and Challenges of Cucurbits in Asia and Southeast Asia, Korea and Japan
- Tospo Viruses, CGMMV and Begomoviruses in Cucurbits
- Bacterial Fruit Blotch (BFB) and Gummy Stem Blight in Watermelon and Melon: Root Cause Analysis and Preventive Actions

*For the updated program, and registration details, see [apsaseed.org/events/](https://apsaseed.org/events/); or email [May@apsaseed.org](mailto:May@apsaseed.org) / [kuna@apsaseed.org](mailto:kuna@apsaseed.org)*



# Planting Pakistani Potential

The Pakistan Horticulture Expo 2018, organized by the Punjab agriculture department, was held at the Lahore Expo Center 13 - 14 January.

More than 150 exhibits by agriculture technology and input providers, fruit and vegetable processors, wholesalers, retailers, exporters and various government and non-government organizations characterized the event – the first of its kind in Pakistan – and drew over 15,000 visitors, including foreign delegates and prospective buyers from 40 countries.

The show highlighted Pakistan's potential in the fruit, vegetable and high-value agriculture sector.

Punjab Governor Malik Muhammad Rafiq Rajwana inaugurated the exhibition,

noting that the event opens new doors of opportunity for producers, exporters and others in Pakistani horticulture. He called it "a mega event." Punjab's Agriculture

Department Secretary Muhammad Mahmood said horticulture

was highly profitable while increasing both employment opportunities and commercialization in rural areas. "Lots of investment opportunities are emerging in Pakistan to support sustainability of quality food production," he said, adding that the government is, "committed to facilitating foreign investment by providing technical services."

APSA's team attended the show, and was well-cared for by representatives of APSA Vice

President Tahir Saleemi's company, Haji & Sons, as well as APSA EC Member, Muhammad Asim Butt of Rachna Agri Business.

APSA used the opportunity to survey Lahore as a potential location for the Asian Seed Congress in 2020.

Among the exhibitors was Monsanto. In a statement released by the company after the show, it was noted that:



Staff from Haji & Sons, a key exhibitor and longstanding member of APSA, pose cheerfully with the visiting APSA delegation.

"Agriculture technology providers highlighted the need for farmers to embrace the latest technological innovations to achieve competitiveness in the international marketplace."

Monsanto Pakistan's Country Lead, Aamir Mirza, told delegates at the show: "Advancements in plant breeding, biotechnology and precision agriculture continue to improve crop productivity, yields and produce quality across the world."

"In addition to augmenting farmer profitability and competitiveness, sustainable agriculture technologies are central to ensuring global food security for future generations." By way of agreement, various Pakistani farming organizations

later demanded that: "Concerned authorities in Punjab's Agriculture Department continue holding such events."

The Expo, they said, provided opportunity for farmers to gain access to new markets and introduce Pakistani horticultural products to the world. They felt the event spurs increased production, profits and investment, and that such events should be organized in other provinces as well.

The business-to-business trade show was established with the aim of transforming Punjab into an emporium for world-wide business dealing in fresh and processed fruits and vegetables, to create international linkages, and boost trade. 🌱

## APSA attends VietNam Horti, Floral Tech Expo

The 1st International Exhibition & Conference for Horticultural and Floricultural Production and Processing Technology, organized by The Netherlands' Nova Exhibitions, was held 14–16 March at the Saigon Exhibition and Convention Center in Ho Chi Minh City with support from Vietnam's Ministry of Agriculture and Rural Development, the Netherlands' Embassy, the Vietnam Fruit & Vegetable Association (VinaFruit), and the Dalat Flower Assoc., among others.

APSA attended and presented



Dr. Chodchoey presents on seed production best practices.

a talk on our association, and guidelines for vegetable seed crop production best-practices.

"We received great feedback as both seed company and seed producers see the need

to understand critical control points in managing IP risk, phytosanitary measures and seed-quality production through the seed multiplication process," said APSA Deputy Director, Dr. May Chodchoey.

The event was the first such specialized exhibition and conference in Vietnam. Horticulture and floriculture are among the most promising sectors of the Vietnamese economy, which has been averaging 7.5% growth in recent years, making it one of the world's most dynamic.

Fruit and vegetable exports from Vietnam have enjoyed strong growth recently, averaging 26.5 percent annually; and growing from US\$439 million in 2009 to US\$3.5 billion in 2017.

# Crop Loss Special: Take Two

## Changes in the climate spell sustained crop losses for Asia, the Pacific

In the last issue, we discussed the upcoming Solar Minimum, and what it may mean for weather, climate, agriculture and the seed industry.

That report's maps highlighted crop-loss trends throughout South Asia, Southeast Asia and Oceania, suggesting that, as solar activity diminishes, changes to Earth's climate will follow – putting food security in jeopardy.

A puzzling, contradictory array of natural phenomena characterised previous solar minima: intense flooding, droughts, and cooling, as well as geo-magnetic and convective chaos in the form of cyclones,

wind and hail storms. The seed sector should take note.

In this follow-up report, we share our crop-loss data maps from East and West Asia, pinpointing a number of emerging weather and climate trends affecting agriculture in China, the Korean Peninsula, Japan, Turkey, Jordan and Israel.

Complementing these maps (see pp 20–23) is our report on volcanism, another harbinger of solar minima.

Increased volcanic activity – largely overlooked in the Climate Change dialogue – is nonetheless important.

### **MAGMA & MINIMA**

Numerous studies link volcanism with solar

minima and climate change.

In “Volcanic Eruptions and Solar Activity”, a 1989 study by NASA's Goddard Institute for Space Studies, strong correlation was noted between sun cycles and major volcanic eruptions. Data spanning five centuries (1500–1980) reinforced the hypothesis that, when the sun is less active (solar minima), frequency of large-scale volcanic eruptions increases.

The reason? Solar flares (to which our atmosphere is more vulnerable during solar minima) “cause changes in atmospheric circulation patterns that abruptly alter the earth's spin,” precipitating eruptions. [Stothers, 1989]

Research by the European Space Agency corroborated that study's solar-volcanic link. A 2003 report entitled “Possible correlation between solar and volcanic activity in a long-term scale”, confirmed that “*prolonged maxima of surface air temperature correspond to prolonged maxima of solar activity and minima of volcanic activity. This agrees with the explanation that volcanic dust and gasses cause a decrease of the observed surface air temperature.*”

The report postulates that: “*Because increase of volcanic activity is expected in the next decades, a small decrease in the air temperature should follow.*” [Štřeštík, 2003].



Mount Agung near Bali Indonesia, which erupted late in 2017, is one of dozens of active volcanoes in the region showing increased activity.





REGIONAL TRENDS: Our crop loss data, which spans most APSA territory countries, is logged using Google MyMaps and Google Earth KMZ format. Detailed files and data are available to APSA members.

Reason thus suggests that the sun influences climate systems directly (through geo-magnetism and cosmic ray-induced cloud nucleation, as covered in previous articles) and indirectly (by triggering earthquakes and volcanic eruptions).

As Asia's Ring of Fire comprises most of the world's active volcanoes, this topic commands interest – especially in Japan, Indonesia and the Philippines.

In a 2011 report, "Explosive volcanic eruptions triggered by cosmic rays: Volcano as a bubble chamber", Japanese researchers examined 11 major volcanic eruptions in Japan over the previous three centuries, and found a statistically significant correlation between violent eruptions and increase in galactic cosmic rays during solar minima, when a majority of the eruptions occurred. They postulated that the increase in GCRs triggered the eruptions. [Ebisuzaki T et al, 2011]

## FIRE TO ICE

Volcanoes are fiery while erupting but have a cool-

ing effect on weather. For example, the Philippines' Mount Pinatubo, in June 1991, released an estimated 20 megatons of sulphur dioxide into the atmosphere, causing global mean surface temperatures to cool 0.5 degrees Celsius the following year. Resulting climate effects were observed over the next three years. [Robock, 2002]

Likewise, it is believed eruption of Indonesia's Mount Tambora in 1815 (during the Dalton Solar Minimum) precipitated the infamous "Year without a summer" documented across the globe in 1816. [USGS, 2016].

In addition to medium-term impact on weather and climate, increased volcanism immediately threatens agriculture. Particularly vulnerable are open fields in the vicinity of volcanoes – as many Japanese farmers learned last February when Mount Shinomoedake in Japan's Kagoshima Prefecture erupted. Its thick layer of ash-fall devastated exposed shitake mushrooms, white leeks, white cabbage, broccoli, white onions, rice and wheat. Though fertile

in controlled concentrations, ash can be a farmer's worst enemy.

For these reasons steaming Asian volcanoes are on our radar. At press-time, 30 major volcanoes were in eruption around the world. More than a third lie in APSA-territory countries: four – Sinabung, Dukono, Ibu and Semeru – are in Indonesia; two – Bagana and Kadovar – in Papua New Guinea; three – Yasur, Amblym and Aoba – in Vanuatu; one – Sakurajima – in Japan; one – Heard – in Australia; and one – Barren Island – in India. Dozens more in the aforementioned territories are under yellow and orange warning alerts, with high probability of near-term upgrade to red.

Several online resources track global volcanic activity in real time (e.g. [volcanodiscovery.com](http://volcanodiscovery.com)).

*Also, be sure to subscribe to the Asian Seed news alerts for up-to-date coverage of events affecting the Asian seed industry. To subscribe, click 'Contact' on [apsaseed.org](http://apsaseed.org), or email [Steven@apsaseed.org](mailto:Steven@apsaseed.org).*

## MAPPING TRENDS

To help Asian Seed readers and APSA members start to track and identify emerging climate and weather trends and patterns – whether in respect to the adverse impact on agricultural productivity from flooding, drought, frost, snow, hailstorms, volcanic eruptions or pest and disease infestations – we've started an initiative to track crop loss in an online map and database.

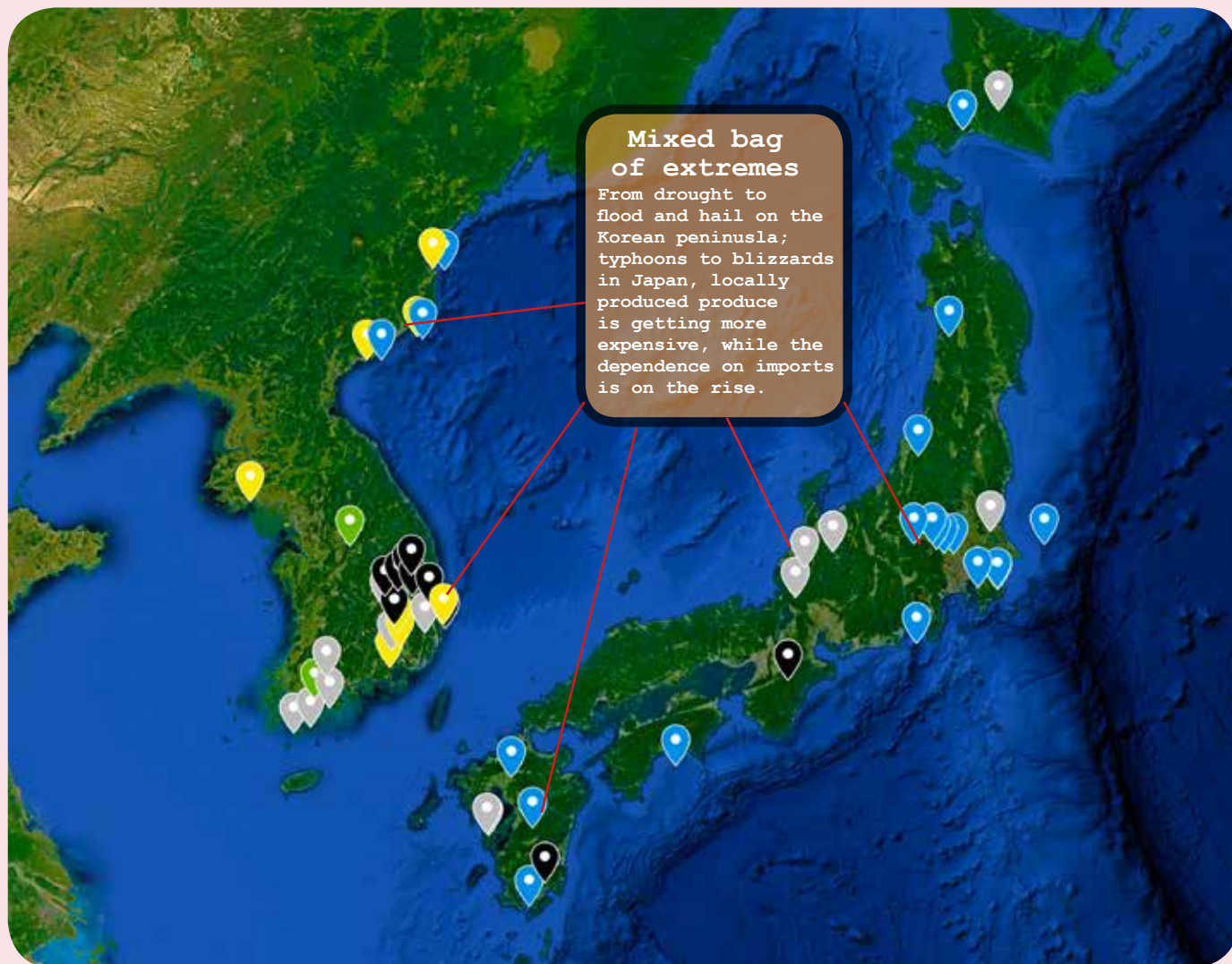
In last issue (Volume 24, Issue 1) we published data and maps from Oceania (Australia & New Zealand); South Asia and Southeast Asia. In this issue, on pp 20–23, we feature East, Central and West Asia.

Mapping events in 2016, 2017 and 2018 is only the start, however. Since weather is concerned with short term patterns, and climate the long term, it will thus require continuous tracking to confidently discern between freak anomalies, and emerging long-term patterns. But as the legendary quote by Lao Tzu goes, "A journey of a thousand miles begins with a single step". Come, join the journey with *Asian Seed*.

### CROP LOSS KEY

-  Flood, Storm, Deluge, Cyclone
-  Drought, Moisture Stress
-  Pest, Disease Infestation
-  Volcanic, Hail, Geomagnetic
-  Frost, Snow, Blizzard
-  Heat wave, stress

# Japan and the Korean Peninsula



The agriculture sector in East Asia is under constant threat from extreme weather events. Japanese farmers continue to face the wrath of devastating cyclones year-round, while also suffering from one of the coldest winters in decades. Likewise, South Korean agriculture has not been immune from extreme cold fronts, in addition to intense hailstorms. Meanwhile, North Korea is struggling to adapt to fluctuating rain patterns affecting its already fragile food security.

Period	Location	Climate-Weather Event	Affected Crop(s)
<b>Korean Peninsula</b>			
2017 July	North Korea: North Hamgyong Province (Chongjin and Kimchaek) and Danchon in South Hamgyong Province	drought followed by heavy rains	maize
2017, June	North Korea: South Hwanghae Province	drought conditions	paddy, wheat, barley
2017 August	South Korea, Gyeonggi, South Chuncheong	chemical contamination (fipronil, bifenthrin and other pesticides)	eggs
2018 January	South Korea: Jeollanam-do	heavy snow	farms, greenhouses
2018 January	South Korea: Chilgok County	winter drought	cucumber, tomatoes, flowers
2018 January	South Korea: Daegu, Gyeongbuk and Dalseong goon in Daegu city in Gyeong sang buk	winter drought	onion, garlic and other crops
2018 January	South Korea: Gwangam-dong area of Cheonduk-myeon, Hapcheon-gun, Gyeongnam Province	winter drought	lettuce
2017 April-Sept	South Korea: Gyeongbuk: Andong, Mungyeong, Yecheon, Cheongsong, Bonghwa, Pohang, Gumi and Yeongju	hail storms	apples, omisia, beans, cucumber, vegetables, red pepper, plum, tobacco, pears, grapes, peaches, and agriculture facilities, mushrooms and plant crops.
2018 January	South Korea: Hwangsan-myeon, Yeonggwang-gun, Jeollanam-do	overheated boiler in cold weather	pepper
2018 Jan	South Korea: Naju	H5 avian fluenza	ducks
2017 July	South Korea: Namye District, Pohang City	water shortage	rice
2018 February	South Korea: South Jeolla: Haena, Jindo	cold spell	cabbage, Chinese cabbage, tea
2018 March	South Korea: Yeongcheon si, Sangju Si and Goryeong gun, Gyeonbuk province and Jeju isld and Jeonnam Province	heavy snow	field and horticulture (greenhouse) crops, grapes, root crops, livestock facilities,
<b>Japan</b>			
2017 Oct-Dec	Japan: ( Shizuoka Prefecture) 470 grocery stores in all 47 prefectures	Typhoon Lan in October, landslides, chilly temperature in November and prolonged precipitation	lettuce, cabbage, hakusai (Chinese cabbage) and daikon (radish)
2017 Dec	Japan: Chiba	Storms and Saltwater Intrusion	Dikon
2017 July	Japan: Fukuoka, Akita, Kumamoto prefectures	Typhoon number 3 (Nanmadol, Namadolul)	paddy, vegetables, fruit
2017 April-September	Japan: Hokkaido	Typhoon weather	potatoes
2017 Oct	Japan: Maebashi, Isesaki, Shibukawa, Ota City, Agatsuma region	Typhoon No. 21 & 22	leeks, spinach, onion, cucumber, paddy, greenhouses, livestock facilities.
2017 Dec	Japan: Ministry of Agriculture, Forestry and fisheries	typhoons, heavy rains	lettuce, chinese cabbage and dikon
2018 January	Japan: Motegi district, Nagasaki City	record snow and cold	loquats damaged by snow
2017 Sept	Japan: Okinawa, Hokkaido, Niigata	Typhoon No. 18 (Talim)	cotton, sugar can, fruit, rice
2017 Oct to Dec	Japan: Chiba, Kagoshima, Kochi	Typhoons, No. 21 and 22	vegetables, cabbage, fruit trees, trains, soybeans
2018 Feb	Japan: Hokuriku, Hokkaido	heavy snow	horticulture crops, peppers, greenhouses, livestock, fruit trees
2018	Japan: nationwide	weather-induced market inflation	leafy veg, root veg, fruits
2017-2018	Japan: Kirishima Mountain, Shinomoedake (Shimomodo), Miyazaki and Kagoshima, Makinaon Town	volcano eruption	shitake mushrooms, white leek, white cabbage, broccoli, rice, livestock, Nigauri, white onions, rice, wheat
2018 March	Japan: Kamatsu City, Ishikawa prefecture and Sabae City, Fukui Prefecture	heavy snow	tomatoes and other horticulture crops



Period	Location	Climate-Weather Event	Affected Crop(s)
<b>Middle East &amp; West Asia</b>			
2016 November	Iran: Mazandaran Province	frost	orange, livestock
2018 January	Iran: Fars Province	pest infestation:	Citrus, Fig, Date, Lime
2017 Nov	Iran: Kerman	cold weather	pomegranate, citrus, barley, alfalfa, horticulture crops
2017 June	Iran: Kerman, Semnan and Qom Provinces	pests: pistachio pests	pistachio
2017 May	Iran: Northern provinces	pest infestation: black spots, fungus, flint, fruit flies, peanut cholera	apples, apricots, peanuts, peach, almond, pistachio, olives
2017 Dec	Iran: Qazvin, Tehran, Alborz, East Azarbaijan	H5N8 avian flu	chickens
2017 Dec	Iran: Shahmirzad	pest infestation: leopard moth, walnut worm	walnuts
2018 January	Iran: Yazd, Taft, Meybod, Mehriz Ardakan and Takzar	pest infestation: Fruit flies	pomegranate: plums, peaches, shafflow, apricots and some citrus,
2018 Feb-March	Iran: Dehloran, Mehran, Abadan, the valley of the city,	delay in rainfall for some cities	wheat
2017	Iran: Razavi Khorasan, Ardebil	infestation: Moroccan locust	wheat
2018 March	Iran: Mazandaran	water shortage in rivers	rice
2017 Aug	Turkey: Antalya: Elmah, Korkuteli; Isparta; Kirsehir's Mucur; Corum	heavy rains, flooding	agriculture fields, greenhouses, bees
2017 July	Turkey: Istanbul	hailstorm	tomatoes and other undeclared agriculture
2017 July-Aug	Turkey: Istanbul: Izmir: Gümüldür province, Bayındır province, Muğla, Antalya, Denizli, Erzurum and Ankara	fires	bees, turtles, wildlife
2015	Israel: Emek Hefer	infestation: invasive weed (Ambrosia confertiflora)	agricultural crops, public areas and natural shrubbery
2017 October	Israel: Nahariya, Kafr Manda, Ramat Yishai, Kiryat Bialik and Hadera in Haifa District, Tel Aviv, Holon and Ramat Gan, Nahal Og,	early rains, flashfloods	undisclosed
2017 November	Israel: Agamon Hula	infestation: migratory birds	undisclosed
2018 January	Israel: north	drought	undisclosed
2018 January	Israel: Golan Heights and northern Israel, Negev and Judean deserts and the Dead Sea	storms, floods, mudslides	undisclosed
2018 Jan – Feb	Israel: Nahal Tze'elim, Tel Aviv, Lake Kinneret, Haifa, Tamra, Hadera and Netanya,	flash floods, torrential rain	undisclosed
2018 January	Israel: Golan Heights	snow, cold weather	undisclosed
2018 February	Iraq: Diyala	water crisis averted by rain	undisclosed
2018 February	Lebanon: Beirut	unseasonable rain, cold weather	chickpeas
2015 January	Jordan: Jordan Valley	frost	zucchini, potato
2016 January	Jordan: Jordan Valley: Amman	sub-zero temperatures, subsequent salt treatments	potato, tomato, zucchini, eggplant, bell pepper, beans, potato, citrus
2016 November	Jordan: Jordan Valley	frost	unknown
2018 February	Saudi Arabia: Madinah	hailstorm	

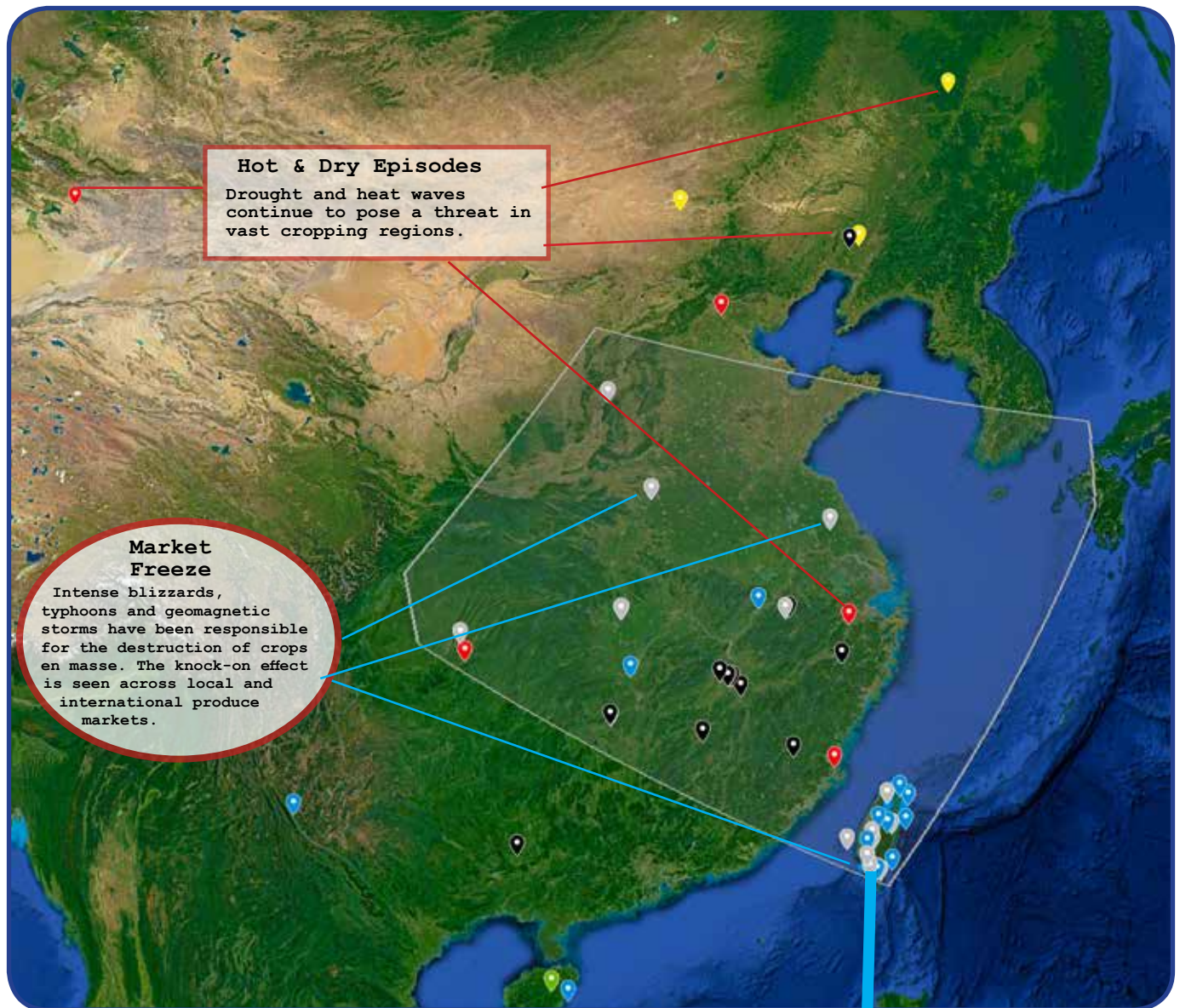


# West Asia, Middle East

Most of the climate change leads we have come across in West Asia and the Middle East were in Turkey, Israel, Jordan and Iran, which included hail, frost, floods and droughts. News reports of pest problems are especially rife in Iran, which continues diligently to protect its valuable wheat and citrus crops.







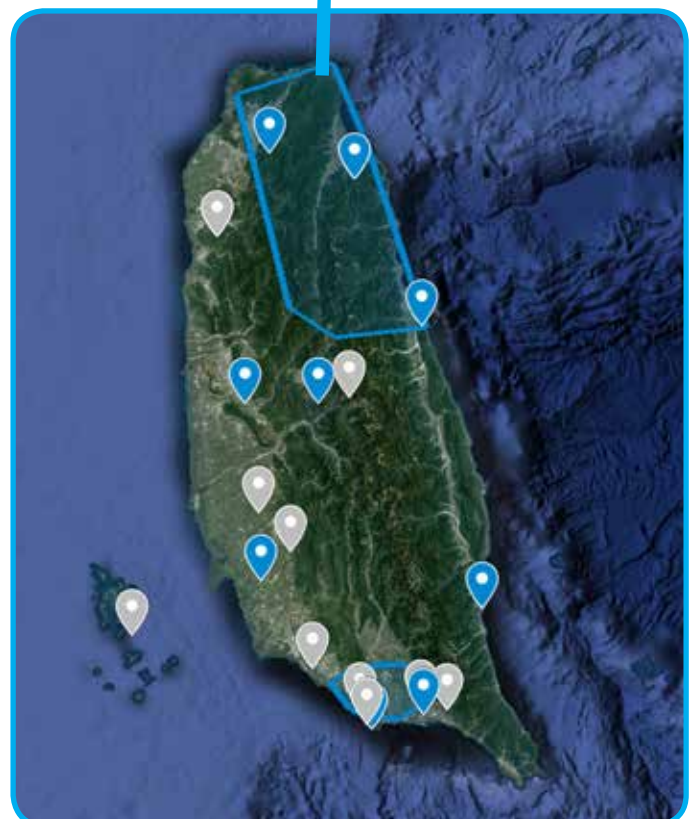
Since China is a leading consumer and producer of agriculture goods, even the smallest disruptions there can be felt around the world.

Though unrelenting blizzards this past winter have been the main culprit for crop loss throughout East Asia, other extreme weather events have only compounded the situation.

Namely, heat waves last summer affected productivity in many parts of China: Hangzhou, Chongqing, Fuzhou and Xinjiang. Also that summer, intense drought was reported in China's Heilongjiang, Liaoning and Inner Mongolia, which also affected North Korea.

The latest climate-induced havoc in the mainland has come in the form of convective lightning and hail forces in south-central regions, which devastated fruit, field and horticulture crops.

Meanwhile, Chinese Taipei agriculture has suffered mostly from cold weather and typhoons.





# China, Chinese Taipei

Period	Location	Climate-Weather Event	Affected Crop(s)
<b>China</b>			
2017 July	China: Anhui and Hunan	heavy rains, flooding	crops and livestock: 7,100 hogs, 215 bulls and 5.14 million fowl
2016 July	China: Anhui, Hunan	flooding	crops: unknown
2017 Sept	China: Hainan	virus: tomato chlorosis virus (ToCV) and Cucurbit chlorotic yellow virus (CCYV)	vegetables
2017 July	China: Hangzhou, Chongqing, Fuzhou and Xinjiang	heat wave up to 40 degrees celsius	cotton, tomatoes
2017 Jun	China: Heilongjiang, Liaoning and Inner Mongolia Autonomous Region	drought conditions	corn, soybeans and other large autumn crops
2017 July	China: Hunan Province and Guangxi Zhuang Autonomous Region	heavy rains, flooding	crops unknown, livestock: hogs and freshwater fish
2017 June	China: Liaoning	Hailstorms and rain	corn
2017 Nov	China: Qionghai City	heavy rain, flooding	crops
2017 June	China: Yunnan	heavy rain, strong winds	banana, rubber, sugarcane
2017 June-July	China: Zhejiang, Jiangxi, Hunan and Guizhou.	heavy rains, flooding	fish, corn
2017 June 29-July 3	China: Beijing	heat wave up to 40 degree Celsius	crops: unknown
2017 June 29-July 3	China: Changsha	heavy rains	crops: unknown
2017-April-Jun-	China: Inner Mongolia	dry pastures, thirsty livestock, little rain since April, May very hot	pastureland, livestock
2017 Dec -- 2018 Jan	China: Jiangsu, Anhui, Hubei, Henan, Shanxi, Hunan and Chongqing Municipality	heavy snow and wind	horticulture crops, vegetables, fruit trees and tea leaves
2017 Dec -- 2018 Jan	China: Jiangsu, Anhui, Hubei, Henan, Shanxi, Hunan and Chongqing Municipality	heavy snow and wind	horticulture crops, vegetables, fruit trees and tea leaves
2018 February	China: Henan	strong wind	onion seedlings, garlic sprouts, wheat
2018 March	China: Nanchang County, Jinxian County, Anyi County, Xinjian District, Qingshanhu District: Nanchang City, Jiangxi Province	sudden lightning, wind, stormy weather	greenhouses destroyed: vegetables, dragon fruit, strawberries, watermelon, grapes
2018-March	China: Jiangxi, Zhejiang, Anhui, Fujian, Hubei, Hunan, and Guangxi	lightning and hailstorms	greenhouse vegetables, nurseries and field crops
<b>Chinese Taipei</b>			
2017-July	Chinese Taipei: Yilan, Pingtung County, Hualien County, New Taipei City	Typhoon Nesart, Haitang	onions
2017-July	Chinese Taipei: Yilan, Pingtung County, Hualien County, New Taipei City	Typhoon Nesart, Haitang	livestock: chickens, ducks, pigs
2017-July	Chinese Taipei: Yilan, Pingtung County, Hualien County, New Taipei City	Typhoon Nesart, Haitang	fisheries & aquatic farms
2017-July	Chinese Taipei: Yilan, Pingtung County, Hualien County, New Taipei City	Typhoon Nesart, Haitang	agriculture produce: bananas, guavas, grapefruit, and mushrooms
2017 June	Chinese Taipei: Greater Taipei	crop damages, domestic shortage	leafy: cabbage
2017 June	Chinese Taipei: Greater Taipei	crop damages, domestic shortage	banana wholesale
2017 June	Chinese Taipei: Kaohsiung City	flood damage	undeclared
2017-July	Chinese Taipei: Taichung City, Taitung County	flood warnings	undeclared
2017 June	Chinese Taipei: Li Shan	crop damages, domestic shortage	leafy: lettuce, sword leaf "A tsai" (A菜)
2017 June	Chinese Taipei: Yilan	crop damages, domestic shortage	leafy: Napa cabbage, bok choy, cucumber
2018 February	Chinese Taipei: Hsinchu County, Kaohsiung City, Penghu County, Pingtung County	cold weather	pears, wax apple, tankan, watermelon, dates, livestock, fisheries

## Access Country Crop Loss Data Online

The full mapping data, complete with summaries, damage assessments and references for pinpointed climate-induced crop loss events, is available via Google MyMaps and KMZ format (Google Earth) Good Standing APSA members, as well as keen researchers, may request access, by emailing [Steven@apsaseed.org](mailto:Steven@apsaseed.org). Members in mainland China, can obtain the raw data spreadsheets, by emailing [Xiaofeng\\_APSA@163.com](mailto:Xiaofeng_APSA@163.com).



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# THASTA Appoints New EC

THE THAI SEED Trade Association (THASTA) held its annual General Assembly Meeting at the Rajpruek Club on 5 March, 2018.

The meeting coincided with a cheerful gala dinner, which followed the association's annual fundraising golf tournament, held earlier in the day at the same venue.

At the GAM, the association reviewed annual finances, projects and plans before formally announcing appointments for its 18-member Executive Committee (EC), including the re-appointment of



Dr. Chairerg Sagwansupyakorn (left) was re-appointed as THASTA President through to 2020.

its president, Dr. Chairerg Sagwansupyakorn. The EC members, whose appointments were confirmed in a meeting last week, will serve as the association's management board through to 2020.

Addressing the GAM at its closing, Dr. Chairerg offered some inspirational words.

"Seed associations need members more than members need associations. We

want and need you as our member.

"As seed traders, it is pertinent that we remain loyal to our work and customers. You can only fool somebody once. If what you sell and tell to them turns out to be something different, this will not only reflect badly on you, but will have consequences for the entire industry. If we can't have reliability and trust in the industry, then we have nothing."



สมาคมการค้าเมล็ดพันธุ์ไทย (ส.ท.บ.ท.)  
THAI SEED TRADE ASSOCIATION (THASTA)

## Executive Committee

Name	Position
1. Dr.Chairerg Sagwansupyakorn	President
2. Mr.Manas Chiaravanond	committee
3. Mr.Pachok Pongpanich	committee
4. Ms.Vanida Angsuphan	committee
5. Mr.Sumeth Pinyosanit	committee
6. Dr.Boonyanath Nathwong	committee
7. Mr.Boonme Okman	committee
8. Mrs.Suvannee Prathuangsit	committee
9. Mr.Wichai Laocharoenpornkul	committee
10. Mr.Chaowalit Tangariyakul	committee
11. Mr.Sathin Kunawasen	committee
12. Mrs.tapanee Attamangkune	committee
13. Mr.Ko Tung-Yuen	committee
14. Mr.Aek Marutaralert	committee
15. ....Form Pioneer	committee
16. Mr.Montri Chunthawoodtiporn	committee
17. Mr.Chakree Klubdee	committee
18. Mr.Pichit Setthakeeretikun	committee
Mr.Vinich Chuanchai	Advisor
Mr.Sakorn Tripetchpaisal	Advisor

## Myanmar Agri Network Holds Maiden GAM

The Myanmar Agriculture Network (MAN) successfully organized its first General Annual Meeting on 16 March, which brought together key stakeholders of the country's budding seed and agriculture sectors.

These included seed producers, traders, and reps from various local and international organizations, including APSA and the Vegetable Sector Acceleration Taskforce (VSAT), which was recently appointed lead partner in MAN's Horticultural Group. The GAM was presided



The GAM was attended by various agriculture, seed stakeholders from local and international organizations.

over by Dr. Tin Htut, Permanent Secretary of the Ministry of Agriculture's Livestock and Irrigation Department. U Hla Maw Oo, Director General of the Ministry of Commerce Consumer Affairs Department, also attended, as did reps from the Netherlands Embassy.

In all, about 180 active participants attended. MAN, an initiative of Grow Asia, is divided into various working groups.

APSA is a key partner of its Seed Group.

MAN aims to become Myanmar's leading agricul-

ture network and marketplace for public-private partnership and value-chain initiatives, thereby "empowering smallholders and boosting farm productivity in an environmentally-sustainable way," according to MAN Country Director Aung Lwin.

# Future Smart Food to the Rescue



Cow Peas are one of the 39 Future Smart Foods that will be promoted in the initiative. Photo: Sengai Podhuvan

The UN's Food and Agriculture Organization (FAO) counts some 30,000 edible species worldwide, but astonishingly, 90 percent of human caloric intake comes from just 103 crops. Meanwhile, an estimated 490 million people in the Asia-Pacific region suffer chronic hunger, accounting for 62 percent of the world's undernourished people.

Addressing this challenge head on, the FAO's Regional Office for Asia and the Pacific (RAP) has pulled out all stops to encourage and promote the cultivation of neglected and under-utilized species (NUS) via its Future Smart Food Initiative (FSF).

Initiated in 2016, the project focuses on 39 crops in Bangladesh, Bhutan, Cambodia, Lao PDR, Myanmar, Nepal, Vietnam, and West Bengal in India (see table).

"These foods are smart because they bolster dietary diversification; improve micro-nutrient intake; enhance soil health; require fewer inputs such as

chemical fertilizers – and often prove resilient to climate change and adverse farming conditions," according to the FAO RAP's Senior Policy Officer and Regional Initiative Zero Hunger Challenge Delivery Manager Xuan Li.

APSA recently visited the FAO RAP office in Bangkok to discuss potential collaboration on the project.

"The objectives of the FSF initiative are very much in line with our own," said Dr. May Chodchoey, APSA Deputy Director. "Owing to the impact of climate change on agriculture, farmers in our region face an increasing number of challenges that require unique solutions. Staple field and horticulture crops will continue

to be important for the seed industry, but we also see urgent need for crop diversification, and the FSF initiative addresses this need by promoting production and trade of other crops with high economic and nutritional potential."

To discover which species to promote as future smart foods, the FAO, in partnership with 30 national and international organizations, set up an international multi-disciplinary expert panel comprising leading experts in agriculture, nutrition and socio-economic disciplines.

The panel participated in a three-stage regional priority-setting exercise, conducted by governments, national and international partners.

First, participating countries prepared a preliminary evaluation of available of NUS crops. Second, technical assistance was offered through multi-disciplinary reviews and validation for each country, with the FAO conducting a Regional Expert Consultation on Scoping, Prioritizing and Mapping of NUS. Finally, each country selected up to six promising NUS candidates for promotion as future smart foods.

The 39 crops already on the FSF list are only a beginning; the list will grow as more crops pass the rigid

methodology set-out for evaluation and selection.

"The FAO has long-standing knowledge and successful experience promoting neglected and under-utilized species as valuable resources for sustainable agriculture and rural development," Xuan observed.

*More about the FSF Initiative will be featured in the upcoming FAO publication, Future Smart Food: Rediscovering Hidden Treasures of Neglected and Underutilized Species for Zero Hunger in Asia. For more information, see [www.fao.org/publications](http://www.fao.org/publications)*

Cereals	Roots & Tubers	Pulses	Fruits & Vegetables	Nuts, Seeds & Spices
Buckwheat	Taro	Grass pea	Drumstick	Linseed
Tartary buckwheat	Swamp taro	Faba bean	Chayote	Walnut
Foxtail millet	Purple yam	Cow pea	Fenugreek	Nepali butter tree
Proso millet	Fancy yam	Mung bean	Snake gourd	Perilla
Finger millet	Elephant's foot yam	Black gram	Pumpkin	Nepali pepper
Sorghum	Sweet potato	Rice bean	Roselle	
Amaranth		Lentil	Indian gooseberry	
Grain amaranth		Horse gram	Jack fruit	
Quinoa		Soybean	Wood apple	
Specialty rice				

The table lists potential Future Smart Food crops shortlisted in eight countries in South and Southeast Asia, including Bangladesh, Bhutan, Cambodia, Lao PDR, Myanmar, Nepal, Vietnam, and West Bengal in India



# Biotech Big at AFSTA

**S**ome 450 delegates from 50 countries world-wide attended the latest African Seed Trade Association (AFSTA) Congress. The event, which was hosted from 27 Feb to 1 March at the El Nile Conrad Hotel in Cairo, was described as "the most successful gathering of seed merchants on the [African] continent."

Emphasis was on biotechnology, and on regional and international issues having scientific and technological implications for seed production and trade.

APSA Executive Director Heidi Gallant, who was among the delegates, praised the importance of the meeting.

"So many important industry stakeholders and organizations attend this event, and it's a great chance to find out what's happening in most countries in the African region," she said. Mrs. Gallant participated in the working groups and plenary sessions.

Among the speakers were Lauren Good, Senior Program Officer of the Bill and Melinda



Photo Credit: African Agricultural Technology Foundation

Gates Foundation, who discussed the African seed industry vis-à-vis plant breeding innovation, and Dr. Hennie Groanewald, Exec Manager, Biosafety South Africa, who dilated on the impact of biotech in Africa over the last 20 years.

Dr Groanewald said Africa has yet to take advantage of biotechnology's benefits and urged the continent's seed companies to explore ways of developing biotech products to meet rising needs attributable to climate change.

The congress was preceded by a half-day workshop on seed treatment centering on management of the fall armyworm (*Spodoptera frugiperda*), a moth that originated in the Americas and invaded Africa in 2016. The pest has caused significant damage to crops -- notably maize -- in 28 African countries. AFSTA Secretary General Justin

Rakotoarisaona described the armyworm's depredations currently as



THREE CONTINENTS IN ONE: APSA Executive Director, Heidi Gallant with Justin Rakotoarisaona (Secretary General of AFSTA) and Garlich von Essen (Secretary General of the European Seed Association).

"devastating".

On a positive note, he spoke admiringly of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and African benefit-sharing within its framework.

Seed companies were challenged by Mohammed Soliman Mohamed, Deputy Chairman of the Agricultural Research Institute of Egypt, in his opening remarks, to ensure excellent crop management and that breeders continually select correct genotypes for production as means of reducing food insecurity in Africa.

Aside from APSA, other international organizations represented

at the Congress included: CropLife International (CLI); the International Seed Federation (ISF); the International Seed Testing Association (ISTA); the Union for Protection of New Plant Varieties (UPOV); and the African Intellectual Property Organization (OAPI).

AFSTA was founded in 2000 in Lilongwe, Malawi and meets annually the first week of March. Membership comprises 114 seed companies; 26 African national seed trade associations; and more than 40 associate members world-wide. Twenty seed companies had exhibits at this year's Congress.

*The next AFSTA Congress will be held in Mombasa, Kenya from 5-7 March, 2019.*



# Eighth ISC Impresses

**T**HE NATIONAL SEED ASSOCIATION of India (NSAI) successfully organized the 8th Indian Seed Congress 2018 5– 6 February at the Hilton Hotel in Colombo, capital of Sri Lanka – the first time the gathering has been held internationally. Congress theme was Seeds Beyond Boundaries.

The annual forum spotlights the latest trends in the seed sector; voices member concerns; deliberates new technology; looks at ways to overcome barriers to technological development and showcases new product ranges and services. In his welcome address, NSAI President M Prabhakar Rao noted that the sub-continent's seed sector is growing apace and observed that India is where "the next green revolution is slated to happen," adding that the Congress provides opportunity for "participants to get updated."

NSAI Vice President Sa-

meer Mulay, meanwhile, stressed that the organization is working to "double farmers' income not only in India but all over the world..." The target date for achieving that goal in India is 2022. To that end, five technical sessions were held covering: Global Seed Industry Trends; International Movement of Seeds; Biotechnological and Molecular Approaches; Progress and Review of Plant-Breeding; and a Seed Association Panel Discussion.

Technical sessions featured an array of key topics that focused on the latest technological trends and advancements a pertinent to the Indian seed industry, spanning everything from CRISPR-CAS, genome editing, GM, transgenic and hybrid breeding, to seed treatments, nanotechnology, Seed Quality Assessment, Advanced Next Generation Sequencing Technology, quarantine and phytosanitary measures, as well as seed regulation.

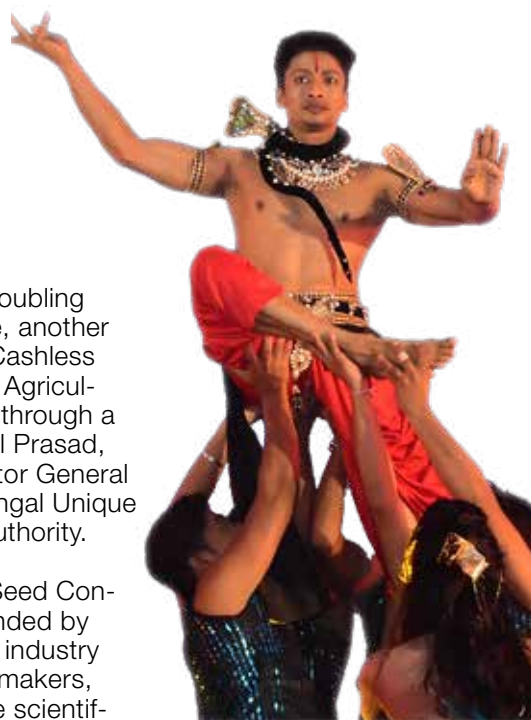
In addition to doubling farmers income, another hot topic was Cashless Transactions in Agriculture, facilitated through a talk led by Sunil Prasad, Assistant Director General of the West Bengal Unique Identification Authority.

The 8<sup>th</sup> Indian Seed Congress was attended by seed and allied industry leaders, policy makers, members of the scientific community and other interested parties.

Prior to the meeting, on 4 February, a CEO Conclave provided a platform for strengthening the indus-

try's voice. It was attended by 37 business leaders.

*The 9<sup>th</sup> Indian Seed Congress will be held 4–5 February, 2019 in Hyderabad.*

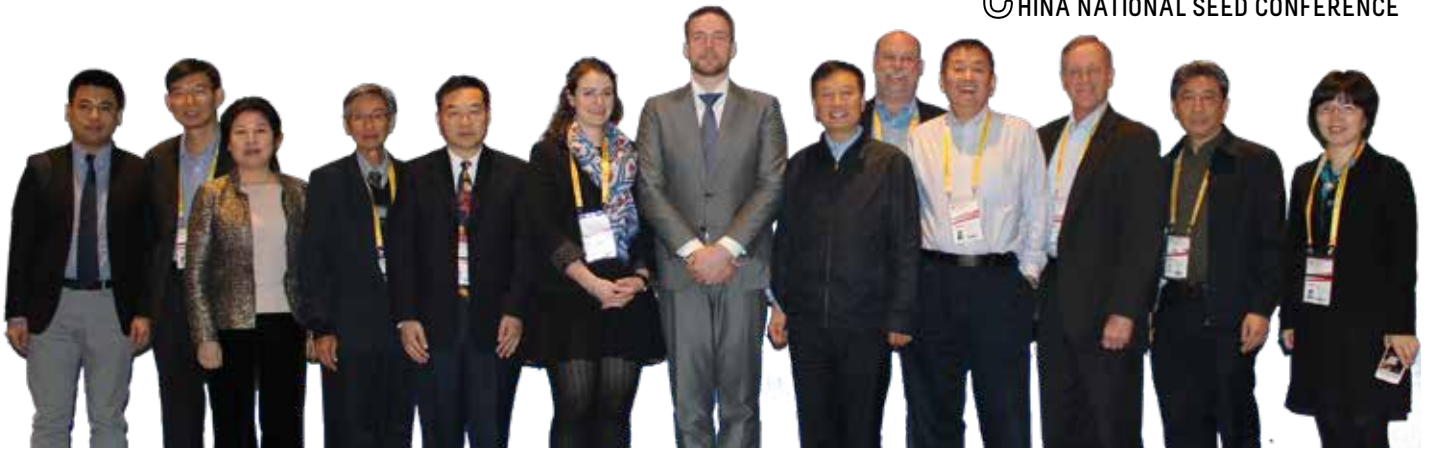


In addition to technical sessions and cultural shows, another draw to the Indian Seed Congress is its trading platform.



**GOLDEN RITES:** Executives conduct a symbolic ritual at the 8<sup>th</sup> Indian Seed Congress Inaugural Ceremony: From left: Vaibhav Kashikar (Convener, ISC 2018); M Prabhakar Rao (President, NSAI); Sameer Mulay (Vice President, NSAI); Manish Patel (Co-Convener, ISC 2018); Pranjivan P Zaveri (General Secretary, NSAI) and Kalyan B Goswami (Director General, NSAI). Photo Credit: NSAI





# First CNSC a Success

**H**ELD 26-27 March at the China National Convention Center, the meeting attracted more than 700 key seed industry stakeholders from around the world.

The conference afforded delegates opportunity to take part in the summit forum and high-end training, and in six sub-forums – Policies and Regulations, Rice Innovation, Maize Innovation, Seed and Seedling Innovation, Service and Support and International Cooperation. The two-day event was organized by the China National Seed Association (CNSA) under the theme: “New era, new mission, new industry, new journey”.

The meetings and formal discussion, with presentations and workshops directed at reinforcing China’s leading role in the global seed trade.

CNSA Secretary General Mr. Jiang Xiexin lauded the success of the maiden national seed conference: “We enjoyed excellent cooperation from our partners and stakeholders, giving

me great confidence to promote the Chinese seed industry. It was also a great opportunity for friends, partners and distinguished guests from international seed institutions to gain a better understanding of the Chinese seed industry. CNSA is committed to promote continuous innovation to ensure the success of future meetings, in service of developing a modern seed industry.”

Weihong Tian, Secretary General of the Chinese National Seed Trade Association, who served as a member of the CNSC organizing committee said, “This was the first event of its kind to be held in China. It definitely exerted a positive impact on the seed industry and achieved practical results. The six major forums, which all focused on current hot topics in the seed industry, effectively reinforced the event’s theme, and we all feel that China has made significant progress in

terms of independent R&D, seed quality, innovation of institution and mechanism and environmental policy and the legal system. In support of future editions, CNSTA will continue to fulfill its roll as a trade association to promote the healthy development of China’s seed industry and its active participation in international

*“Optimizing the seed industry innovation environment and mobilizing enthusiasm for innovation are near-term attainable goals.”*

cooperation.”

In his address at the conference, the Ministry of Agriculture and Rural Affairs Bureau of Seed Management Director Zhang Yanqiu made clear that China is making every effort to promote protection of new varieties while pushing to revise regulations on new plant variety protection.

“Optimizing the

seed industry innovation environment and mobilizing enthusiasm for innovation are near-term attainable goals,” Mr Zhang said.

In other forum business: experts from the Chinese Academy of Agricultural Sciences, the China Agriculture University, the Agricultural Research Center of the Ministry of Agriculture and Rural Affairs, and the Beijing Academy of Agricultural Sciences delivered academic reports on cutting-edge breeding technology for staple crops, seed industry supporting technology and seed production insurance.

Central Agricultural Work Leading Group Office Director Zhu Weidong offered instruction on interpreting the 2018 No. 1 Central Document, which aims to tackle growing inequality between rural and urban areas through a number of initiatives. Among them is encouraging people to live in rural areas rather than migrating to big cities.

In line with this

policy, officials from the Department of International Cooperation, the Department of Crop Production, the Bureau of Seed Management, the Science and Technology Development Center and the National Agricultural Technology Extension and Service Center of the Ministry of Agriculture and Rural Affairs provided training at the conference on “new situations, new policies and new tasks.”

At the International Cooperation Forum, US and Indonesian representatives discussed issues related to breeding technology, quarantine, and protection of intellectual property rights.

Moreover, products and services of 16 key stakeholders were showcased at the conference, including those of nine APSA members: Syngenta, Winall Hi-tech, Longping Hi-tech, Liaoning Dongya Agricultural Development, Wenzhou Shenlu Seeds, Degao Vegetable Seed and Seedling Research Institute and Shanghai Tiangu Biotechnology.

– Xiaofeng Li

Photo Above, from L: Mr. Lin Xinjie (Department of International Cooperation, Ministry of Agriculture and Rural Affairs); Dr. Ma Dehua, (Vegetable branch of CNSA); Mrs. Zhang Qin (International Cooperation Branch, CNSA); Mr. Ayub Darmanto (Indonesian Seed Association); Mr. Jiang Xiexin (Secretary General, CNSA); Ms. Michelle Klieger (ASTA); Mr. Peter Ogg (Bayer); Mr. Zhang Yanqiu (Director of Bureau of Seed Management, Ministry of Agriculture and Rural Affairs / President of CNSA); Mr. Marc Cool (DuPont); Dr. Chu Qiren (Ricetec); Mr. Chet Boruff (AOSCA); Mr. Wang Zhiping (Celestial Seeds / Advisor to CNSA); Mrs. Tian Weihong (Secretary General, CNSTA)

# Executive Excellence

## Dedicated Seed Industry Leaders Ensure APSA Success

**By Heidi Gallant**  
**APSA Executive Director**

I am always astounded by the devotion of Executive Committees or a board of directors who volunteer to serve an organization. In addition to working their full time jobs, taking care of their families and their personal needs, they are willing to give freely of their time and energy to better an association for the common good of their industry.

As announced by APSA President Ms Brenda Dossey (see page four) the tenures for many of APSA's Executive Committee members are up later this year, which will leave a number of vacancies for dedicated seed industry executives.

To complement the reasons to come an EC member that Brenda

outlined, I would also like to take this opportunity to give you some information about what the EC of APSA does for the association. The people who do this job rarely tell you about their contributions, so please allow me to offer you some insight.

Firstly, the EC meets in person three times per year – twice at the venue of the Asian Seed Congress, both before and following the big event. The third meeting takes place in the Spring. APSA covers the travel costs of the EC for the Spring meeting only. We expect that they will attend ASC at their own cost, but we do waive their delegate fee.

In addition to the three annual in-person meetings, the EC is required to respond to regular requests for advice from the Secretariat. For example, all new members are put to the whole EC

for approval before they are welcomed into the association.

The EC represents the members of APSA. The members cannot all be asked for their advice. Therefore, the EC is expected to act and advise on behalf of members to the best of their ability as seed industry professionals representing a certain country or territory.

The EC does a very crucial job on behalf of APSA members. They are responsible for setting the main focus of the APSA strategy; they review proposals for Congress host countries and they approve the budgets and activity of the Special Interest Groups and Standing Committees.

And there may be other important association matters that require their attention. Lately, for example, they have deter-

mined the action plan to see APSA registered as international association in Thailand.

APSA has changed a lot under the present EC management. Thanks to their blessing and direction, APSA has accomplished a great deal in a short amount of time.

We've implemented new standards, developed a new website, created a new membership directory, piloted new events and investigated new partnerships with external stakeholders. All of this progress would not be possible without the determined and dedicated leadership that is a centerpiece of APSA.

If you would like more information on becoming a part of this essential body, please do not hesitate to contact the APSA Director or a current EC member for advice.



APSA's Executive Committee, which meets in-person three times a year, comprises dedicated and respected industry leaders from throughout the region and world who represent both the public and private sectors.



# Nurturing the Seedlings for Public-Private Harmonization

Dr. Jin Young Yoon served as an APSA EC Member from 2012–2013, and is a highly respected seedsman in Korea.

About the time I became director, in 1994, of South Korea's National Horticultural Research Institute (NHRI) Vegetable Breeding Division, the healthy, collaborative tradition that had developed between NHRI and private seed companies was somewhat in danger of collapse.

First, the majority of our higher-rank officers in research-policy formation and budgeting had backgrounds in rice and other field crops. With field crops, every step from variety breeding to seed production and distribution was taken care of by governmental and/or semi-governmental organizations.

They did not understand the differences and kept asking my division to breed cultivars for farmers' immediate use. That would, in effect, be like running a national seed company -- which must live with bureaucratic inefficiency and thus hardly compete against private companies.

Second, my division had been designated to run official performance evaluation of vegetable varieties bred by private companies and quality testing of seed produced by them for distribution to farmers. The field and lab tests were mandated by the Seed and Seedling Control Law. This regulatory control role over the vegetable seed business did not

harmonize with our hope of collaborating with them.

Looking back to its very inception in the early 1950s (when the country was suffering from a serious shortage of vegetable seed), NHRI collected and evaluated vegetable varieties, releasing well-performing selections to private companies. The companies, in turn, began their business by multiplying and then commercially distributing seed to farmers.

NHRI soon began hybrid breeding of important vegetables, including Chinese cabbage, cabbage and onion (applying self-incompatibility in the former two crops, and male sterility in the third). By the early 1960s, NHRI was able to release to private companies for commercial seed production the parental lines of those crops' F1 hybrids, together with technology for breeding and seed production.

In order to restore, and further improve, the collaborative relationship between my division and private vegetable seed businesses, I spent a lot of energy and time persuading people in and around the governmental hierarchy handling organizational structure, personnel administration and budgeting. Colleagues in my division shared the same position with me on



this issue, and I was lucky to find some influential supporters in the Rural Development Administration (to which NHRI belongs) and the Ministry of Agriculture.

We finally were allowed to hand over regulatory duty of seed testing and variety evaluation to the Office of Seed Production and Distribution in 1995, and my division then was able to aim at playing the role of clearing house for both public and private sector groups involved in vegetable breeding and the seed business.

The mandate for government research in the area of vegetable breeding was reset so that most outcomes would return to taxpayers through finished breeding by the private sector: The following three areas were emphasized:

- 1.) Search for – and development of – genetic resources to breed for disease resistance and other biotic/abiotic stresses.
- 2.) Breeding for a long term strategy of labor-saving and farm mechanization
- 3.) Finished-variety breeding of crops private

companies hesitate to invest in because of high risk, including asexually propagated crops such as strawberry and garlic development of tools and techniques for breeding, including that for molecular marker and transformation

In the three decades since, I have observed with delight – and the proud feeling of being a ground-layer – the evolving changes in collaborative interaction between private and public sectors. Now, collaboration is well-realized through projects such as Seed Valley, the Golden Seed Project, Next Generation Biogreen 21, and the Vegetable Breeding Research Center, among others, funded and implemented jointly by the government and private research/business circles.

I still hope to see more leadership from the private sector, more collaboration with Korea-based multinational companies, involvement of world-class research groups outside Korea, and nurturing start-ups – then weaning them from their nurtures – in order to guarantee maximum possible efficiency among joint projects.

# Mother and Manager of Ramgo Seeds Intl

In anticipation of the upcoming Asian Seed Congress in Manila, APSA is interviewing several prominent ladies in the Philippines to feature in “Women In Seed”. For this installment, *Asian Seed* traveled to Ramgo Seeds International Corporation's head office in Pasig City, on the eastern flank of the Philippines' capital to meet their president, Pamela Chan, a longstanding member of APSA who currently serves as treasurer of the Philippine Seed Industry Association (PSIA).



## DESTINED DETERMINATION

Ramgo was founded in 1967 by Pamela's father, Ramon A. Ong, a Chinese immigrant. The company's initial focus was on the budding trade in fresh vegetables.

A strong-minded person with Chinese ancestry, Pamela got straight into her intimate details: “My life completely changed overnight after my father passed away. I was 19 years old then.”

Pamela was in firm control of her emotions as she recalled her father's sudden demise in 1986. Ramon suffered a heart attack. He was only 47.

“At that time, I was still a student, studying Business Administration at the University of the Philippines in Diliman. We were devastated. My mother was a bit distraught and could not continue the business on her own. I wanted my dad's legacy to continue so I took this as my destiny to run the family company from then on.”

And so it was, Pamela kept her head up and took the reins of the family company – and the family itself, as the eldest child with two younger sisters who were still young students when Ramon passed away.

Considering Chinese custom, many were surprised when a young lady took charge of the business and they had their doubts, Pamela recalls. Under her determined leadership, however, and with the support and dedication from family and associates, Ramgo went on to celebrate its 50-year anniversary in 2017.

Ramgo today is the largest family-run seed company in the Philippines, supplying Filipino farmers quality inputs – seeds, fertilizers, plant protection products, garden supplies and organic fertilizers

“I was fortunate to receive support from uncles, mom and other associates in the seed industry to enable

me to continue the business. Success wouldn't have been possible without my two sisters, Candice and Karen, who were mutually determined to keep dad's legacy alive.”

Pamela elaborated further on her dad's legacy and two-tiered business model encompassing both traditional and modern aspects of the seed business; namely, selling core seeds to farmers and developing the value chain to supply the commercial retail sector.

## CHALLENGE TO CATALYST

Even though women are held in high regard in the Philippines, where there are many prominent female leaders in both the public and private sectors, Pamela explained that the seed industry there is still dominated by men, and gaining respect and trust from her colleagues and associates was not automatic.

“You don't have to join this conversation, it is technical in nature and just might bore you,” Pamela said, recalling the harsh sentiment she once faced from a senior male associate in the international seed business. Gender discrimination is common in the business, and women often have to try harder than their male counterparts to gain an equal footing.

“Just because I'm young and I'm a woman, it doesn't mean I can't do it,” Pamela added firmly.

Rather than allow negativity to bring her down, Pamela viewed such discrimination as an advantage – a catalyst that provided her with strong motivation to prove herself in the seed business.

Pamela insists that maintaining a firm foundation is essential to achieve greater heights in one's life, whether with respect to one's career or personal life.

“We cannot deny the fact that there will be challenges along the way in

one's career and one's personal path in life but if we live by a personal philosophy, it can bring us far. Moving forward, being honest at all times is the best policy. Of course we cannot discount technical competence and financial acumen in one's work ethic – these should always go hand in hand together with integrity.” This is why she finds the time to attend technical seminars and financial proficiency training to “sharpen the saw”.

## MULTITASKING MOM

As if running a business were not demanding enough, Pamela is also the proud mother of three – two daughters and a son.

When asked about how she views her role as a mother, Pamela said, “As a working mother, I am setting a bright example for my children, especially my two daughters, that marriages can be made more successful and happy when the woman is financially independent. A career doesn't have to be a hurdle for women to have a happy marriage and family life.”

Pamela explains that making the time to have dinner together is essential to a healthy family, especially in today's fast-paced world in which many parents have limited opportunities to interact with their children.

“Dinner is a great opportunity to have ‘shop talk’ with my children. It's an opportunity to bring an additional facet of education to them, letting them see how resilient and tenacious they can be, seeing that it's possible to be a good parent and have a successful career at the same time.

“I want my daughters and all other working ladies to understand that success comes through hard work, honesty and perseverance. Despite the challenges, and expectations, gender doesn't have to be an issue at all.”





## APSA, PSIA ROOTS

"I remember very well that Ramgo was APSA member number 100, and we were also one of the founding companies of PSIA".

Ramgo has been a staunch supporter of APSA since the beginning. Pamela herself has missed only two out of the 24 editions of APSA's flagship event.

She recalls attending her first Asian Seed Congress, the maiden edition, 1994 in Chiang Mai.

"At that time, USAID provided support, hosting several Filipinos to join the event. It was refreshing to meet and network with other key players from throughout the region."

Pamela strongly believes that the success and growth of the seed industry owes credit to the organization and work from national and regional seed associations.

"Being a member of PSIA and APSA has provided valuable bene-

fits. It has given seed organizations a collective voice to effectively work with the Department of Agriculture's Bureau of Plant Industry, which in turn has been very supportive with respect to policy and regulations.

Pamela is optimistic about the seed industry's bright future.

"There is still room to grow, especially these days as people are more mindful of health, and food consumption. I am confident that the public and private sectors can continue to work together in ensuring sustainable food security in our country, and the region. We have the same goals and it is important that we constantly align and reinforce our efforts."

Pamela ends our discussion by revealing her greatest satisfaction in working in seed industry: "My greatest satisfaction is when I see our farmers do well and prosper with the seeds they bought from Ramgo. To see their smiles when they talk about their abundant harvests, and hear their success stories of how they were able to finance their children's higher education, or make improvements on their abodes, brings me a sense of fulfillment that is unmatched by any other aspect."



# HM•CLAUSE

## PASSION & PRIDE

HM.CLAUSE is proud to be a work environment that fosters respect, and inspires a collective passion for ensuring the ongoing success of our customers, our company and our industry.

To learn more, please visit us only at [www.hmclause.com](http://www.hmclause.com)

HM.CLAUSE proudly sells vegetable seed throughout Asia under our 3 commercial brands:



## Member Announcements

2018 is lining up to be another productive year as APSA becomes a quarter-century young. To make the most of their membership, members are encouraged to log-in to the members area of our website ([apsaseed.org](http://apsaseed.org)) where they can update their organization's directory profiles, and find all the latest updates from our SIGs and SCs, in addition to detailed information about benefits, upcoming programs, events, reports, papers and more.

On that note, if you haven't already, be sure to download the Vegetable Seed Production Good Practice Guide, which was drafted in consultation with the International Seed Federation and is a must-read for seed producers, processors and traders in the Asia Pacific region. Following are some important upcoming dates to look forward to:

- May 16–17: WorldVeg Consortium Workshop in Tainan
- June 3–6: World Seed Congress in Brisbane, Australia
- June 11–14: ISTA Annual Meeting in Sapporo, Japan
- June 20–21: APSA EC Meeting

Finally, a warm welcome to our newest members:

### Enza Zaden Asia Sdn Bhd

Seed Enterprise  
Unit D, 21st Floor, Gurney Tower  
No.18 Persiaran Gurney  
Georgetown, Penang  
Malaysia 10250

### OPTOMACHINES ASIA SDN BHD

Affiliate Member  
Optomachines Asia Sdn Bhd  
1MK Incubator Unit 25-9, 25th floor, Menara 1MK, N°1  
Jalan Kiara  
Montkiara, KUALA LUMPUR  
Malaysia 50480

### Guangzhou Xingtian Seed Co., Ltd

Seed Enterprise  
804, Hengjian Building,  
No.45, Tianhe Road  
Yuexiu, Guangzhou Guangdong  
China 511000

### M/s Roghay Sons

Seed Enterprise  
B-212, Block C North Nazimabad  
Block C North Nazimabad  
Karachi, Sindh  
Pakistan 74700

### AGRONOMIX SOFTWARE, INC.

Affiliate Member  
427 ACADEMY ROAD  
SECOND FLOOR  
WINNIPEG, Manitoba  
Canada R3N 0C2

# ASC 2018 Registration Opens Early



We are pleased to announce that registration for the 25<sup>th</sup> Asian Seed Congress is set to open earlier than usual this year. Mark your calendars folks – registration will open on May 2, at 8:30 am Bangkok time (GMT+7). The Secretariat will be standing by to assist you in securing your early bird bookings through our online platform. An announcement will be sent out to Good Standing Members by Monday, April 30 with instructions and guidelines.

Our venue this year – the Manila Marriott Hotel – can accommodate up to 2,000 delegates, and judging from the full house last year in Bangkok, there's a high probability that we will reach capacity well before the doors open in November. So don't hesitate to secure your booking ASAP. Please be advised that this year **there will not be on-site registration**, nor will registration be open to non-members. This is to ensure APSA can provide optimal service to its members.

Inaugurated in 1994 in Chiang Mai, the Asian Seed Congress is the most important seed trade event in the most populous and lucrative region in the world. Previous editions have been hosted in New Delhi, Hyderabad, Bangalore, Brisbane, Shanghai, Bali, Jakarta, Kuala Lumpur, Chiba, Seoul, Kobe, Macau, Kaohsiung, Manila, Pattaya, Ho Chi Minh City and Bangkok.

The Asian Seed Congress is more than just a meeting of APSA members and industry stakeholders. Featuring technical sessions, host country field and leisure tours, cultural programs and world-class entertainment and accommodations, the Asian Seed Congress facilitates a prime opportunity for delegates to get together in one place for a memorable and energetic week. Delegates can network, grow their businesses and get updated on the latest industry developments and technology to gain an edge. Be there or miss this year's golden opportunity.

*Stand by for updates for the ASC and all other upcoming APSA events, which will be published in Asian Seed magazine, as well as through our media partners – Seed World Magazine and Agropages.com – and through APSA's website via [apsaseed.org/events/](http://apsaseed.org/events/)*



# Access Asia & the Pacific

## Regional, Global Trade Trends

Imports, Exports, Demand & Consumption

## Research & Development

Latest breakthroughs, technologies, threats & opportunities

## Regulatory & Phytosanitary

Latest in legislation, regulation on movement of seed

## Exhibitions & Events

The Asian Seed Congress & other important meetings

## 2018 Advertising Rates

Magazine Formats & Rates (US\$)	A la Carte		Seedsman (six Issues +)			Executive (four Issues +)			Breeder (three Issues +)		
	No. 1-4 & 6	No. 5	Special Rate	Value	Save	Special Rate	Value	Save	Special Rate	Value	Save
Centerfold: 420x297mm (+5mm bleed)	3,400	3,900	18,810	24,840	6,030	14,100	17,990	3,890	10,700	14,490	3,790
Full Spread: 420x297mm (+5mm bleed)	2,900	3,400	16,110	21,290	5,180	12,100	16,963	4,863	9,200	12,440	3,240
Back Cover: 210x297mm (+5mm bleed)	2,900	3,400	16,110	21,290	5,180	12,100	16,963	4,863	9,200	12,440	3,240
Inside Front Cover: 210 x 297mm (+5mm bleed)	2,200	2,900	12,510	16,520	4,010	9,500	13,225	3,725	7,300	9,770	2,470
Inside Front Cover: 210 x 297mm (+5mm bleed)	2,200	2,900	12,510	16,520	4,010	9,500	13,225	3,725	7,300	9,770	2,470
Inside Back Cover: 210x297mm (+5mm bleed)	2,040	2,500	11,430	15,144	3,714	8,620	12,085	3,465	6,580	8,874	2,294
Full page -- right: 210x297mm (+5mm bleed)	1,800	2,125	10,013	13,305	3,293	7,525	10,600	3,075	5,725	7,755	2,030
Full page -- left: 210x297mm (+5mm bleed)	1,600	1,925	8,933	11,885	2,953	6,725	9,475	2,750	5,125	6,935	1,810
Half page -- right: 210x148mm (+5mm bleed)	1,020	1,188	5,659	7,610	1,951	4,248	6,056	1,808	3,228	4,400	1,172
Half page -- left: 210x148mm (+5mm bleed)	920	1,088	5,119	6,900	1,781	3,848	5,493	1,645	2,928	3,990	1,062
Quarter page -- bottom full width left: 210x74mm (+5mm bleed)	650	700	3,555	4,865	1,310	2,650	3,856	1,206	2,000	2,765	765
Quarter page -- bottom full width right: 210x74mm (+5mm bleed)	600	700	3,330	4,560	1,230	2,500	3,625	1,125	1,900	2,610	710
Quarter page -- bottom right: 105x148mm (+5mm bleed)	550	600	3,015	4,155	1,140	2,250	3,294	1,044	1,700	2,355	655
Quarter page -- bottom left: 105x148mm (+5mm bleed)	500	600	2,790	3,850	1,060	2,100	3,063	963	1,600	2,200	600
Value Addition Marketing			Package Extras								
Advertorial*	Above + 10%		Free x 1	*	550-4290	Free x 1	*	550-4290	Free x 1	*	525-4095
Facebook Target Marketing Campaign Basic**	50		Free x 2	**	100	Free x 1	**	50	Free x 1	*	50
Facebook Target Marketing Campaign Premium**	100		Free x 1	**	100	Free x 1	**	100			
APSA 2019 Calendar Promotion (For Package Bookings Only)											
APSA Calendar One Month: 200x190mm + 200x40mm***	1,500		1,000	1,500	500	1,200	1,500	300	1,350	1,500	150

\* Client supplies copy and photos with editorial support. Editor will advise specs, varying on advertorial size. Value of advertorial is advertisement rate plus 10% premium

\*\*Facebook Basic Campaign = 1 week; audience reach 5,000-15,000 depending on desired demographic parameters & type of content; Premium = 2 weeks; audience reach 10,000-50,000 depending on desired demographic parameters

\*\*\* Calendar is booked on first come, first service basis. The special rate quoted in card is in addition to cost of package.

\*\*\*\* Only Good Standing APSA Members are eligible for the above rates; Asian Seed & Planting Material reserves the right to accept or reject content.

**T**imes have changed and will continue to change with the rapid digitization of marketing and communications in 2018 and beyond. As the world changes, so too must the seed industry. Hence, we are stepping up our game to meet the evolving needs of the market.

This year, **Asian Seed & Planting Material** is pleased to offer a number of new digital and dynamic marketing tools that will help you get your message out to a wider and specifically-defined audience – more effectively and efficiently than ever before.

Several new marketing opportunities are available to Good Standing APSA members à la carte, or in one of our value-added packages. See table above, or inquire via email:

**Steven or Suchada @apsaseed.org**





# Asian Seed Congress 2018

MANILA • PHILIPPINES

12-16 November 2018

## Registration Opens on May 2

**APSA**  
THE ASIA & PACIFIC  
SEED ASSOCIATION



[www.apsaseed.org](http://www.apsaseed.org)