Tomohiro Kondo, Chair of International Section, Japan Seed Trade Association (JASTA), started his presentation with an overview of Japan's seed market dynamics, and respective trade policies. He noted that Japan does not have an import permit system for seeds, though inbound seeds are subject to phytosanitary inspection requirements as stipulated by the country’s Plant Protection Law. These requirements, which vary depending on exporting country / region and the plant species, can be queried via the [Japanese NPPO's website](#).

Kondo-san went on to highlight some seed trade trends, focusing on vegetable and flower seeds, which was primarily the domain of the private sector, which JASTA represents. Graphs showed contrasting import and export trends for these types of seeds. The former has seen strong growth in recent years -- worth $82.2 million in 2000 and up to $195.7mn last year -- which Kondo-san said reflects “how much our industry relies on overseas production”. The value of exports, in contrast, has fluctuated over the same period, worth about $84mn in 2000, before peaking in 2015 at $121.2mn and last year worth $115.2. Next, Kondo-san revealed Japan’s top traded crop seed categories last year by quantity, referencing data reported by plant protection agents, followed by top trading partners in terms of value. Seeds of spinach, carrot and pumpkin were top three categories for both imports and exports, while the list of top partners included Chile, China, USA, Italy, South Korea, Denmark, Hong Kong, the Netherlands and several other countries. See [presentation for full list](#).

**Overall Impact of Covid-19**

Japanese Prime Minister Shinzō Abe initially declared a state of emergency for some areas on April 7, and expanded this to cover the entire country by April 16. Only days before the seminar, however, the declaration was rescinded, and the lockdown thus had officially lifted, Kondo-san noted.

Lockdown in Japan, nonetheless was “soft” and “voluntary”, as Japan’s constitution does not grant the government such powers to force people to close businesses. Even so, most businesses and people complied adapting their behavior: “People stopped travelling, dining out, shopping in crowded areas and visiting seniors in nursing homes … schools were closed from March … the 2020 Summer Olympics was postponed …" Meanwhile, “border enforcement measures” effectively banned foreigners from 111 countries from entering Japan as tens of thousands of cases were confirmed even as testing capacity was limited. 

Though it is difficult to measure the economic impact, Kondo-san affirmed that
Impacts of COVID-19 on Seed Trade: Online Seminar
Session Two: Japan, Australia and Philippines
27 May, 2020

Economists were forecasting a “severe recession” as a direct result of the stay-at-home ‘request’, declines in tourism, food & beverage, entertainment and retail sectors and overall reduced consumption and disruption to international supply chains. “Small and medium sized businesses especially need support,” he said.

Impacts on the Seed Industry

Restrictions on the movement of people has proved a major challenge for Japanese seed companies and personnel. In addition to the cancelation of international business trips, R&D and Sales activities have faced significant obstacles. Breeders had not been able to visit trial sites, and sales personnel could not visit customers, and thus were forced to shift to telephone, internet and virtual telecommunication platforms to exchange and gather information. “We really need physical visits in some cases, especially for seed production,” he said. And since most Japanese seed companies rely on overseas production nowadays, not being able to physically visit production sites could mean “increased quality control workloads and delayed shipment of goods”.

Challenges with international trade extend to communications, document processing, phyto clearance, logistics and distribution in and with partner countries, especially in those under strict lockdowns. Reduced flights and freight options meant increased expense and added delays to delivery, and missing sowing windows. Managing customer expectations has also proved challenging: “Our customers sometimes requested postponed delivery, and other times would pre order ahead of schedule.”

Though there were some delays in domestic seed distribution, Kondo-san affirmed they were not major, and Japanese spring sowing had commenced without incident. “Japanese companies have sufficient inventory for the next season now, though supply issues may become apparent later,” he said, noting that there were some concerns regarding a shortage of foreign labor that would affect harvesting of certain horticulture crops, and in such cases, farmers have begun shifting to less-labor intensive crops. On a positive side, the home gardening segment has benefited from increased demand, and seed companies have capitalized on this with campaigns to further stimulate demand for ornamental flower seeds

Seed companies are widely adopting recommended “work safety” measures, including compliance with social distancing guidelines, which has prompted companies to change office layouts, implement virtual and remote working protocol, added shifts, reducing work days and employee hours, and having employees avoid public transportation.
Looking Ahead

Kondo-san urged for ISF, APSA and NSAs to “strengthen activities”, especially those that incorporate the UN’s Sustainable Development Goals. Aside from continuing to ensure the seed business is recognized as essential, mutual understanding and cooperation between stakeholders is necessary in light of increasing expenses and costs associated with international trade. “As a seed industry, we should encourage authorities to prioritize (streamlining) custom clearance (and reducing or eliminating) duties for seed,” specifically in context to food security challenges. Likewise, “green channels” for agricultural materials, especially seed and R&D activities should be ensured. He urged for the industry to continue to advocate for “smooth domestic seed distribution in target countries where lockdown measures are in place,” while safeguarding from politically-motivated nationalistic policies. To mitigate and manage risks, seed companies should consider diversification of seed production sites and distribution centers, and “to pay attention to concerns about excessive requests for pathology tests … in order to prevent it,” he said. Moreover, countries that depend on imported seeds for food security should take steps to improve self-sufficiency and expand seed inventory and storage capacity, he added.

Kondo-san concluded: “The rise of globalization and the movement of people from country to country is essential to our business. We are only in the middle of the fight, which will not end without the elimination of transmission in all countries around the world. We can’t wait for the end of the fight while doing nothing because the sowing season is coming regularly without change and we need to unite and collaborate in order to produce high quality seeds, and deliver the seeds to the right place at the right time.”

Osman Mewett, General Manager, Australian Seed Federation (ASF)

Osman Mewett, General Manager of the Australian Seed Federation (ASF), opened his presentation with an overview on his country’s regulatory framework for seed imports and exports. On the former, he noted that his country has “very strict” requirements for the import of all agricultural goods, and thus mandates import conditions for seeds to effectively manage associated biosecurity risks. The conditions, which can be queried via Australia’s Biosecurity Import Conditions System (BICON), cover what type of seeds can be imported, the country or countries the seeds are permitted to be imported from, whether an import permit is required, as well as requirements for documentation, treatment, inspection and other stipulations. Seed exporters should refer to the Department of Agriculture, Water and the Environment’s Manual of Importing Country Requirements (MICoR), a resource for exporters of Australian agricultural products that lists import requirements and conditions of target countries. Furthermore, exporters need to comply with the Export Control Act 1982 and associated legislation and other requirements of target countries.

Osman noted that Australia is an agricultural surplus nation that exports more
Impacts of COVID-19 on Seed Trade: Online Seminar
Session Two: Japan, Australia and Philippines
27 May, 2020

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<th>Agricultural products than it imports, with around 65% of the country’s total agricultural output sent overseas. According to recent figures, agriculture products represent about 14% of the total value of goods and services exported. Of these, beef, wheat, wool, wine, sugars and vegetables topped the list, while. China is by far the largest importer of Australian agricultural goods, accounting for about 20% share. Other leading importers include Japan, the US, Korea, Indonesia, India and New Zealand. (See presentation for full list)</th>
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**Averting Crisis**

Moving on to the impacts of Covid-19, Osman pointed out that the outbreak, and subsequent restrictions on gatherings, movements and implementation of strict border controls between Australia’s States and territories coincided with the peak sowing period for winter cereal crops and pastures, including wheat, barley, canola, oats and rye. “This could have been an industry crisis,” he said, adding that to avert such a crisis, the ASF was proactive to advocate with Federal and State governments so as to ensure the entire seed value chain was categorized as ‘essential’ and could continue operating outside the restrictions.

Clear and constant communication with members was crucial, Osman insisted, noting that ASF had issued daily information updates “so that members could be kept informed about what restrictions applied to them and what they could do as a business to continue operating.” In addition, ASF worked closely with other agricultural input supplier industry associations such as CropLife Australia and Fertilizer Australia, as well as farming organisations and commodity groups “to ensure the entire agricultural value chain was able to operate effectively” and thus “make sure our farmers could get their crops into the ground.”

**Getting Use to the New Normal**

To cope and comply with new work health and safety requirements, Australian seed companies implemented a number of workplace changes to minimize or eliminate unnecessary physical interactions between and among staff and customers. These include protocols for physical distancing, split shifts, staggered meal breaks and flexible working arrangements.

Limiting physical, face-to-face interactions with customers proved particularly challenging and has prompted consideration for new ways to work and conduct business, including, making deals and processing orders through telephone and teleconferencing, implementing protocol for contactless delivery and managed
entry (complying with reduced building occupancy requirements). Another common aspect of the ‘new normal’ includes the reinforcement of hygiene basics, including distribution of PPE to workers, hand washing and frequent site cleaning and sanitation, especially counters and EFTPOS terminals, and other high-touch surfaces.

“We all need to get used to this ‘new normal’,,” he said, “because this situation is going to continue for some time. And so what we need to do as a seed industry is make sure we’re ahead of the game -- see into the future and anticipate what restrictions the government might put into place, and what we need to do as a business to operate in the face of those restrictions.”

For ASF members, access to affordable freight persists as “their greatest concern,”. With air freight becoming extremely scarce and expensive during the lockdown period, there has been a flow-on effect for sea freight, which has resulted in prices going up. In sum “We’ve found it very difficult to move seed in to and out of Australia.”

On a positive note, the ASF has confirmed more positive dividends from its advocacy work in recent months, having received confirmation from the Department of Agriculture, Water and Environment that “they have taken additional steps to support the priority clearance of imported seed for sowing. Furthermore, Osman adds, “The Department understands the pressures of freight movement at this present time and understands the importance of getting timely inspections and release of imported seed and therefore supporting the priority of seeds being cleared at the border.” Nonetheless, he insists that the ASF will continue to maintain pressure on the Department and other government agencies to ensure the unfettered movement of seed import and export continues, and is optimistic that air freight will become more available in the near term, while the seed industry will continue to “operate and trade in “New World Order’ that we are facing”.

| Mary Ann Sayoc, President, Philippines Seed Industry Association (PSIA) | Dr. Mary Ann Sayoc, President of Philippines Seed Industry Association (PSIA) started her presentation with an overview of her country’s seed industry. She noted that the Philippines in 2018 was a net importer of sowing seed, having imported $119.73 million worth of seed against 12.69 million in exports. Top cropseed imports include rice, corn, mint, potato, onion, pak choi, yard long bean, radish, carrot and water convolvulus, with top suppliers including China, |
Hong Kong, Korea, Myanmar, Vietnam, Thailand, Indonesia, Japan, India, Pakistan, New Zealand, Brazil, Israel, Netherlands, South Africa, Italy, France, Canada, USA, Guatemala. Top exported crop seeds include papaya, chili, corn, pueraria javanica, bitter gourd, rice, calopogonium, ridge gourd, mungbean and okra, with leading markets including Thailand, Myanmar, Malaysia, Bangladesh, Hong Kong, Singapore, Pakistan, India, Japan, Korea, Indonesia, China, Brazil, Guatemala, Colombia, Peru, Sweden, USA, Kenya, Burundi, Mozambique and Tanzania. (See presentation for full list) Mary Ann noted that for import and export policy, the lead agency is the Bureau of Plant Industry's National Plant and Quarantine Services Division. Imported seeds require a Sanitary and Phytosanitary Import Clearance (SPSIC) which can be conducted through an online application process. For seed exports, however, in order to obtain a phytosanitary certificate, an actual commodity inspection has to be conducted, she added.

**Overall Impact**

On March 15, the Enhanced Community Quarantine (ECQ) in Luzon Island from was declared, initially for two weeks, but then it was extended continuously and became two months. On May 15 the ECQ was eased into a General Community Quarantine (GCQ), which enabled selected business establishments to open conditionally, including restaurants (take-out only), barber shops, government and private offices, though schools remain closed and public transportation is limited to taxis and the MRT.

Under the ECQ, residents were ordered to shelter in place, (home quarantine), non-essential businesses and establishments were ordered shut, while public transportation suspended and social distancing, hand sanitation and face masks was mandated for those who did need to go out.

Covid posed and compounded a number of challenges for the Philippines: Aside from having a “weak health care system” and limited bed capacity at hospitals, there was an insufficient supply of PPE for medical workers, and a shortage of Covid test kits, and capable testing laboratories. Furthermore, repatriation of Philippine workers, who were based all over the world, proved problematic, and those who did make it back were subject to a mandatory 14-day quarantine.

**Economic Impacts**

Mary Ann revealed that as a result of ECQ, two-thirds of businesses ceased to operate, which resulted in 20% of the work-force being laid off, while as much as 45% of non-government workers and self-employed persons lost their incomes.
The IMF, she said, has projected stagnant growth of the GDP this year, forecast to be only 0.65% which is compared to 5.9% growth last year. Furthermore, it is estimated that household consumption slowed down by 0.2% and agriculture contracted by 0.4%.

**Impacts on Seed industry**

During the first week of lockdown (ECQ), PSIA was proactive, engaging in advocacy work with the government to ensure the seed business was “recognized as part of critical infrastructure” and thus exempted from restrictions. Aside from directly engaging the government, PSIA tapped the services of a media partner to draw press coverage on outstanding challenges. As a result, agriculture and seeds were swiftly recognized by the government as essential. However, some issues persisted, mostly stemming from the broad restrictions on the movement of people, and inconsistent implementation regionally and locally, which resulted in interruptions for distribution, production and R&D activities.

Breeders could not visit breeding trials to conduct evaluations, while capacity of production and processing plants was greatly reduced or stretched due to skeletal workforce mandates. The situation was further exacerbated by a number of logistical challenges: inter-island transport and shipping halted, ports closed and checkpoints and roadblocks were set up -- on both major thoroughfares as well as in rural areas. Protective restrictions were implemented at many villages, where non-residents were barred from entry. Moreover, agriculture supply stores were ordered closed in a number of provinces.

International trade suffered major setbacks, likewise, similar as in other countries. There were delays in processing of import and export permits, and congestion of goods at ports due to a lack of vehicles for transport. With airplanes grounded and at least one international airport closed (due to a worker testing positive for Covid), cargo flights were limited and seeds were “often not considered priority cargo.” Nonetheless, regarding the wet season sowing period for the north part of the country -- which is around May to June -- the supply of seeds for staple crops -- including rice, corn and vegetables -- is thought to be sufficient.

**Relief on the way**

Mary Ann revealed that the government has earmarked PhP1.3 trillion (US $25.7 billion) as part of the Philippine Economic Stimulus Act of 2020. Noting that
this amount represents about 7% of the country's total GDP, she explained that
funds will focus on bolstering infrastructure, focusing on healthcare, education,
and food security. Aside from wage subsidies and interest-free loans for MSMEs,
several agriculture programs have been allocated a total PhP66 billion (US$1.3
billion) in funds. These include the Plant, Plant, Plant Program (PhP31 billion or
$614mn), Rice Resiliency Program (PHP8.5bn or $168mn); vegetable gardening
and urban agriculture program (PhP1.5bn or $30mn); Food Logistics: PhP20bn
or $396mn) and the Cash for Work Program PhP15bn ($297mn). Some of the
programs include provisions for free or subsidized inputs, including seeds. On
this note, Mary Ann noted there has been heightened interest in home gardening,
and thus increased demand for vegetable seeds, especially for value packs and
starter kits. In cooperation with the Ministry of Agriculture, PSIA member
representatives have donated seeds and will volunteer in a concerted effort to set
up community vegetable gardens in four cities in Metro Manila.

Ebracing the New Normal

In addition to common work safety measures as part of the ‘New Normal’ --
distribution of PPE, protocol for thorough hygiene, disinfection and sanitation, as
well as adjusting work shifts and site floor layouts to be ‘social distance’
compliant -- many Philippines seed processing and packaging plants now have
plastic screens to isolate workstations. Likewise, more and more staff are
working from home and conducting virtual meetings and utilizing
telecommunications more frequently. On the efficiencies of electronic and digital
platforms, she echoed others in urging governments to adopt online systems,
especially the ePhyto for harmonized customs clearance processes. Looking
ahead, Mary Ann said as a prime duty of the national seed association, PSIA will
continue to do its part and aggressively push and pressure government agencies
through advocacy work to ensure seed business activities are prioritized, in all
areas and at all levels, domestically and internationally.

Panel Intro

1:04:14

Chaired by
Qin Zhou,
Head of
Vegetable Seeds,
Syngenta

● Australia: Michael Leader, Seed Regulatory Lead – Asia & Africa, Bayer Crop Science
● Japan: Takahiro Ando, General Manager, International Sales and Marketing, Takii
● Philippines: Mary Ann Sayoc, Public Affairs Lead, East West Seed (International)
● South Korea: Yoo Sung Jeong, Head of Strategy, Nongwoo Bio Co., Ltd.
● Thailand: Sumitra Kantrong, Assistant Vice President, Chia Tai Co., Ltd.
Impacts of COVID-19 on Seed Trade: Online Seminar
Session Two: Japan, Australia and Philippines
27 May, 2020

<table>
<thead>
<tr>
<th>Question 1: What are the challenges and short term solutions in your company / country?</th>
<th>Michael (1:09:20 -1:15:30)</th>
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<tr>
<td>- Bayer not only works with seeds and crop protection products, but other agricultural, pharmaceutical, consumer and healthcare products. Agriculture includes breeding, R&amp;D and crop production.</td>
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<td>- Majority of production facilities still working according plan, and a lot of this is thanks to Seed Associations for advocacy to ensure ‘essential service’ to enable continue to operate, call out this as significant win to ensure continue to operate.</td>
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<td>- Hasn’t been easy, having to deal with shift work, isolation of colleagues, and with uncertainty of what’s coming next. We’ve set up health care and sanitation facilities and services, all these helpful to continue business</td>
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<td>- Business itself, had to work almost twice as hard to continue as mentioned today, difficulties with border clearances, staff shortages, ships and freight, increased costs, difficulty getting documentation in time, problems within countries, local govs interpreting rules different ways, what documents needed in order to make shipments.</td>
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<td>- Communication has been key...seed associations been helpful for this.</td>
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<td>- Moving fwd, labor will be a big factor, so will innovation and R&amp;D, which has been effected, seed movements, and new pbi and legislation that was to improve has been stalled. Testing and facilities and R&amp;D sites not accessible. Working with seed associations to alleviate concerns.</td>
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<td>- Working with communities has been important: we have been converting production facilities to produce and supply PPEs and sanitizers and farmers and hospitals, set up kiosks for farmers to be able to access money and mobile phones in India, coordinate bulk supplies, and in China, sponsored radiologists so share front line experience, ongoing to maintain close connection with communities, but still long way to go.</td>
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<th>Ando-san (1:16:13 - 1:19:46)</th>
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<td>- Takii include breeding, seed production and commercial sales.</td>
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<td>- Experience is similar to others say, especially with R&amp;D trials, how to secure, how to evaluate and select materials to continue R&amp;D because cannot freely travel.</td>
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<td>- Even in Japan, our company has restricted business trips, even within Japan, as well as internationally.</td>
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<td>- In response, we have engaged farmers to get to the sites where and when specialists can’t make it, and get evaluation data though photos and video. We weren’t sure how this would work as they don’t have evaluation background or experience but we were surprised that they have done a good job.</td>
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| - In the coming months, may have other trials but sending out seeds to
other countries will be difficult. Can send out from Japan, but distribution
destination not certain, including availability of government agencies, so
may not be able to obtain necessary permits in timely manner.

MaryAnn (1:20:00 - 1:24:30)
- To effectively cope, the company, EWS kept communication lines open for
all of its locations, including in Thailand, the Philippines and elsewhere.
We had weekly updates from our CEO and other managers on the
situation, and also to address psychological stress of employees.
- Since mass or large gatherings were not allowed, field days and
(physical) product launching could not be held, so we had to resort to
virtual demonstrations/field days. We also did a lot of webinars including
guides, online plant doctor to engage customers/farmers, and conducted
a lot of ecommerce. Never had we received so many requests for value
packs for home gardening…
- We were fortunate that seed plants were not closed down and could
operate, even with skeletal workforce. For seed production, we were
almost done, but there were some delays in the collection of seeds from
farmers, and delivery to customers, and we had to obtain special
clearances, passes for our personne, issued by the Department of
Agriculture. For this, I would like to express the importance of having
open dialogue with the Department of Agriculture. Reps from PSIA had
an online meeting with the Secretary of Agriculture, where he could hear
all of the challenges and problems we were facing, and thus was aware
and able to act on them.
- Likewise sense of community is important: Seed donations through govt,
and donation of fresh vegetables of client farmers, in addition to donating
PPEs, building community beneficial to recipients and seed companies
alike.

Yoo Sung Jeong (1:24:57 - 1:30:15)
- Since April, the number of patients in Korea has been stable, and this
was due to effective patient management and contact tracing systems.
Thus, domestically, there was no strict lockdown, and thus the domestic
seed market was not significantly affected. Also, duiring the peak of the
pandemic, around mid-February, it was the end of spring sales season, so
most seed already had already been sold to farmers by that time.
- The seed import and export segments were more severely impacted,
however, due to previously mentioned international restrictions. It was
difficult to secure freights, while freight costs skyrocketed (4 x more than
before for some destinations). It was difficult to ensure delivery and
distribution in most other countries, especially in Central Asia, for
example, due to delays in clearance and obtaining necessary permits.
- Re. R&D difficulties, our breeders could not visit other centers and had to
stay at their base, they were unable to evaluate trials directly, including
new combination evaluations, generation development, or local
adaptation trials, for example.
- Though about 90% of our seed is produced in other countries, most of our 2020 seed had been produced since the end of last year, and stock seed was shipped to production areas before the Covid-19 outbreak.
- Only some horticulture crops with March and April season had some (seed shortage) problems.
- Hence our seed production teams are mainly concerned about results for this year, because they have not been able to visit fields, and have had to monitor the status of production remotely. Hence Quality Control will be difficult to manage.
- Looking ahead, we are already adjusting our seed production plans, and arranging for early shipment of stock seed to seed production sites, for next cycle, now preparing seeds for bi-annual crops for Northern Hemisphere sowing sites, and seed of annual crops for Southern Hemisphere seed production sites.

Sumitra (1:30:45-1:41:00)
- We were fortunate that the outbreak in Thailand didn't really start until after APSA and ISTA's workshop in February, with the full lockdown coming by the end of March and April: Department stores were closed, hotels shut down, and restaurants could only serve take-away.
- Companies had to minimize staff numbers at the office, with more than 60% of our staff working from home and there were difficulties for travel to some locations due to the lack of accommodations.
- Fortunately, thanks to government measures, the infection rates have remained low. We've had several phases of lockdown, but inbound international travel has been barred through the three phases.
- As many people returned home, lost their jobs, there was an increase in demand for home garden products, and to keep up with the demand, our production facility had to work at maximum capacity, and with less on site staff, it was, even harder than 'normal times'.
- In response to delays and slowdown of intl business and movements, some customers postponed or cancelled orders.
- On a positive note, the situation has proved a good opportunity and incentive for Thai customs, to start streamlining processes through electronic and accreditation platforms. Previously they required only original paper copy of some documents, but these days will accept a digital image version for some documents. Furthermore, they implement an Authorized Economic Operator gold certificate scheme, which allows for fast track inspection as well as tax benefits. I think that we can convince them to continue to streamline and harmonize processes for (ePhyto and Systems Approach). Re. Thai customs since last year begin to monitor for tomatoe brown rugose fruit virus and five viroids using PCR detection, so I encourage exporters to Thailand to be sure your seed is free of these.
- Even though the government declared an emergency decree, and movements domestically were restricted, logistics of essential items --
including seeds – were permitted 24 hours as long as transporters had accreditation documents. Therefore, domestic distribution has not been affected. But international effects definitely: Cost of air freight could be 3 to 10 x higher than usual, and unreliable, with flights often canceled, and requiring to find new flights, rerouting through many countries to move products to some destinations adding days/weeks delays and more expense.. Likewise see freight created delayed..

- Seed production and quality assurance has been challenging. Not only difficulties of company staff visiting sites due to lack of accommodations (hotels closed), but in obtaining “disiase free” field inspection certificates, which is required by NPPOs of some companies. These inspections are the domain of government department, and government staff were not permitted to travel.

- In Thailand there are three production seasons, so it requires many field inspections which is not possible under the current situation, posing challenges for Quality Control, and requiring technical staff to do more work and checks. Since R&D cannot travel abroad to visit suppliers and vice versa, we will have to depend more on the supplier’s report, and develop stronger trust and communications, while conducting precise inspections (of seed samples) in our own laboratories.

- One other challenge for the industry has been falling prices of fresh produce, including fruits and vegetables, which have dropped by as much as 50%. This is due to reduced demand (and excess supply), a gap that has widened with the absence of tourism during lockdown (as tourists feed the demand during normal times). Cutting their losses, some farmers have donated their produce to those affected by economic disparity.

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<th>Question Two: What suggestions do you have for government, seed associations and the industry to ensure food security and sustainable agriculture in post covid19?</th>
<th>Michael (1:42:04 - 1:47:25)</th>
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<td>The human race is a resilient one, and we will get through this crisis. We should use this experience to ask ourselves what we’ve learned, and how can we be better? Governments following this will be considering how they can secure food security in future pandemics, and they now have more awareness for securing the food chain, and providing sustainability. Furthermore, from this experience, seed associations and the seed industry as a whole have developed a better level of communications, positive interactions and relationships with governments, so moving forward, we should use this opportunity to maintain this dialogue and propose more solutions to ensure food supply and food security is guaranteed. Some examples of solutions include:</td>
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<td>- ePhyto of IPPC, and now govs have tried a little bit during this crisis, and so it’s good opportunity to push this moving fwd as a solution to moving seed and thus food more easier. The seed industry can help by facilitating and being part of case studies, and pilot studies on how this can work, and also by highlighting that the systems are already there, and focus on how to implement them in our countries.</td>
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- Harmonization of PRAs throughout the world, APSA has been helpful in engaging the government sector in this region on trying to get and adopt regional pest lists, and creating consensus on where is seed a pathway (for pests) and thus trying to remove unnecessary barriers for seed movement in the region. Regarding the proposal for an international ‘green channel’ it would be helpful to first establish what the pests are that need to be tested for.

- Re. the closure and shortage of testing labs, and a reliance on government labs, there is an opportunity to use more 3rd party labs, which would require amending legislation and getting the labs accredited to help do phytosanitary testing for governments.

- On R&D material for food security, we should open up access to new germplasm, especially disease resistant varieties. Its time for governments to look at phytosanitary and variety registration systems and processes for how germplasm and new varieties are brought in and trialled in each country.

In sum, we need to communicate more with governments and amongst ourselves when we have issues, and positions, and we need to partner more with our seed associations and government to do pilot studies to communicate how we can successfully and safely move seed. Finally, we need to remember that our customer is the farmer, and we should keep them in mind all the time. Bayer is committed to helping anyway they can. Our vision is ‘Health for All, and Hunger for None.’ and there is an opportunity now to make that vision a reality.

Ando (1:47:43-1:51:20)

We need strong communications amongst seed companies, governments, seed associations and all related partners, specifically in two key areas:

- First, with the farmers, who are our most important partners as they are the backbone of agriculture, and all associated industries. They’ve been impacted by this pandemic the most, an once we get through this, as an association we need to communicate with the government on how we can support the farmers.

- Secondly, for seed companies, logistics is another key area. Prior to Covid-19, no one would have expected -- I certainly didn’t -- for all airlines to stop operations. And when they did, all of a sudden, we could not move, and we could not ship the seed. And as many pointed out, the cost of transport increased a lot, and that means, farmers may need to pay out more -- from an economic perspective. That said, we need to be prepared should a “second wave” happen, and even before this pandemic is through, we need to have good communication with our relevant partners, including the transport industry to ensure and secure transport of essential items such as seeds. Likewise, we need to continue to streamline and make smoother the government processes for import and export permits, quarantine inspections and phyto certificates. While it is understandable that there may be less Human Resources in
Impacts of COVID-19 on Seed Trade: Online Seminar  
Session Two: Japan, Australia and Philippines  
27 May, 2020

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<td>this area during a pandemic, in order to ensure sustainable agriculture and maintain seed supply, we need government cooperation in all countries in the region.</td>
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**MaryAnn (1:51:40-1:56:14)**
- It is time for the seed industry to join the ranks of all stakeholders engaged in the food chain. The seed association plays a vital role, and their members should support government programs in place to keep the food chain functioning. This is the time for the seed industry to foster and build goodwill with the government, regulatory agencies, and other stakeholders. Dialogue will be easier if there is trust established among stakeholders. Aside from supporting public programs, engaging in community building initiatives will also help open the doors for this dialogue, especially now. One of the effects of this pandemic is a heightened appreciation by the government on the important role of agriculture. Hence, there's a good opportunity to bring to the government and regulators the importance of having an enabling environment for the seed sector. In other words, now is the time to join the conversation with government policy makers and regulatory agencies on policies and initiatives, including for plant breeding innovation, ePhyto, and Systems Approach, for example. At the same time, we should discourage and guard against nationalistic policies such as closing the door to seeds from other countries and foreign companies, for example. So, we should be aware of this, and continue to stress the message that seeds are global and no country can be independent on its own seed industry. Finally, we should continue to ensure our voice is heard by continuing to work with our national seed associations, ISF, APSA and other multilateral organizations. The louder the voice, the better will be heard. Moreover, we should emphasize information sharing, transparency and trust-building, and together we can find faster solutions.

**Jeong(1:56:22- 2:01:40)**

This kind of pandemic could have happened anywhere, anytime. As there’s no telling when or if there will be a cure, we may have to live with it for a while. Therefore, I think it's necessary to consider how we can do business under a pandemic situation. It is true that governments took stringent measures to contain the outbreak and tried to ease economic concerns with stimulus packages, while ensuring agriculture was considered essential, but this was mostly for the domestic situation, and there were no measures to secure international food supply issues. Therefore I propose two ideas:

- For the first, to ensure sustainable farming and agriculture businesses can run smoothly, individual companies can not solve the problems alone, and so we need to engage our companies through our national seed associations, ISF and APSA to persuade governments of all of our countries to make possible international ‘green channels’ -- not only for
seeds, but for seed people as well. In other words, we need to ensure that movements of seed company personnel are possible during pandemic times. Virtual meetings can only address some of our business needs. For seed production and breeding operations, our office is not in the buildings, but in the fields, and thus we really need face to face meetings and physical visits. For this, I propose special visas be considered seedsman who need to travel, and they could be made to be tested for infection before and after their travel.

- For the second, we need to extend online platforms to cover more aspects of documentation, including for import and export permits, and certificate of origin for example. By doing so, we should be able to reduce or eliminate bottlenecks of seed movements.

**Sumitra (2:02:00 - 2:05:45)**

We don't know when the pandemic will end, but when it does, we should not forget how we coped and solved the problems. We are all working online, and should approach the challenges together with APSA, ISF and NSAs throughout the Asia-Pacific region, which is a large region for food food consumption. Food security will continue to be an issue in all countries, even after Covid, so every country must try to improve self-sufficiency. No matter what the trends on seed movements and consumption may be, this is a good opportunity to come together and make our voice strong with an online approach to promote and adopt more efficient information systems, including harmonized pest lists for each country ... ePhyto would also be nice, though we'll need to convince our governments about the necessity and benefits. We should also bring out all the regulatory issues out now, online, without the need for expensive face to face meetings. Systems Approach is another challenge and opportunity, in convincing everybody to use the same systems. All countries have been impacted by Covid similarly, facing common challenges, and so why don't we come together and implement common solutions.

**Closing Remarks by Dr. Kanokwan Chochoey (2:06:17 -2:10:50)**

Dr. Kanokwan thanked all the speakers and said she had learned a lot. Challenges were similar for all countries -- extending to travel restrictions, and disruptions in international seed seed movements as well as interruptions for R&D activities and new product development et el. In a post-Covid19 world, she echoed panelists suggestions that we would need to work together, and that APSA would serve as an umbrella, as a regional seed association providing platforms for better cooperation with national seed associations and their respective governments. Moreover, APSA would continue to build its relationships, cooperation and collaboration with global stakeholders like ISF, ISTA and other Regional Seed Associations and organizations, which she said would continue to serve as good resources for APSA to pass on to NSAs. Food Security will continue to be priority for APSA which will continue to work with
partners and stakeholders to pursue many of the solutions echoed in the webinar, including fast-track and streamlining mechanisms, whether in the form of 'green channels, electronic clearance platforms, third-party laboratory accreditation and the Systems Approach.