



HELPING ASIA'S FARMERS FEED THE WORLD

# OUTREACH REPORT

YEAR 2016 - 2017

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## OUTREACH REPORT 2016 - 2017

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## TINA LAWTON

Regional Director, Asia-Pacific, Syngenta  
President, CropLife Asia (2017)

For centuries, agriculture has been woven into the fabric of Asia's many cultures, traditions, and societies. It is part of the rich history and mosaic that makes this part of the world unlike any other. The one common agricultural thread across the borders within Asia is the sector's chief driving force: the smallholder farmer.

Among the 525 million smallholder farmers around the world, 85% reside within Asia. These men and women growers in our region continue to face unique obstacles that make their work particularly challenging. Farmers in Asia are coping with an increasing number of climate and weather-related factors; less access to water and arable land; and more pests, weeds, and diseases with which to contend.

At the same time, global population and hunger are on the rise. According to data from the Food and Agriculture Organization (FAO), the number of people living on the planet will reach close to 10 billion inhabitants by 2050; and those who are undernourished increased from 777 million in 2015 to 815 million in 2016.

***"On behalf of CropLife Asia and the region's plant science industry, we're pleased to share with you our 2016-17 Outreach Report."***

All told, it's projected that growers will need to produce around 50% more food than today to meet the expected needs of our world by 2050. That's a tall order. The smallholder farmers of Asia have a big role to play if we're to reach this goal—as does the plant science industry in supporting them.

An estimated 50% of the world's food production would be lost if not for the use of crop protection products. The value advanced pesticides provide isn't limited to the field. They also help prolong the viable life and prevent post-harvest losses of crops while in storage.

Meanwhile, plant biotechnology is enabling farmers in Asia and around the globe to grow more food on less land. Since biotech crops were first commercially planted in 1996, farmers have saved over 132 million hectares of land from cultivation and increased crop yields by 22%. Biotech crops are also helping slow the advance of climate change by reducing carbon emissions.

Of course, helping farmers meet the demands of a growing world isn't a job we can do alone. That's why CropLife Asia continues to partner with food value chain stakeholders in the region to ensure our growers are enabled and empowered to meet this challenge. It's also why so much of the work undertaken



## TAN SIANG HEE

Executive Director, CropLife Asia

through these partnerships is focused on ensuring responsible use of plant science technology in our region—promoting both sustainability and safety with our food supply.

By partnering with regional governments as well as inter-governmental and non-governmental organizations in this way, we're finding shared solutions that put Asia's farmers first, ensure good stewardship of our industry's technology, and help pave the way for a brighter future for the region's agriculture sector. Together, we're supporting Asia's smallholder farmers, helping write the next chapter in the region's rich agricultural history, and delivering crucial plant science innovations that can aid our pursuit of producing "more from less" now and into the future.

## BIOTECHNOLOGY

CropLife Asia has grown and strengthened its outreach efforts in recent years with plant biotechnology. We believe that through biotechnology, farming communities can directly increase their income and food supply. Our programs focus on capacity building and public education. We implement these programs by forging networks, partnerships, and collaborative working arrangements. We engage stakeholders through conferences, seminars, workshops, training, on-farm projects, and farmer exchanges.

### Promoting plant breeding innovations for sustainable agriculture

Plant breeding innovations bring benefits to the environment, farmers, and consumers. These innovations enable the development of new plant varieties with different and useful traits to enhance yield, nutrition, and resistance or tolerance to biotic and abiotic stresses.

As plant breeding tools evolve and continue to advance, techniques like gene or genome editing, and cisgenesis have produced products that are indistinguishable from those produced through traditional breeding methods.

### Educating stakeholders on these new plant breeding innovations

In cooperation with the International Seed Federation, CropLife provided technical assistance or supported the coordination of scientific seminars and workshops in 2016 in China, Korea, Australia, and Malaysia.

In 2017, CropLife participated in seminars held in Japan, Philippines, and Singapore. Through these scientific outreach activities, CropLife hopes to foster an environment supportive of innovation that promotes science-based decision making.

## CONTRIBUTION OF BIOTECH CROPS TO FOOD SECURITY, SUSTAINABILITY AND CLIMATE CHANGE

### INCREASING CROP PRODUCTIVITY

**US \$167.8 BILLION**

Farm income gains in **1996 - 2015** generated globally by **BIOTECH CROPS**



### CONSERVING BIODIVERSITY

in **1996 - 2015**, productivity gained through biotechnology saved

**174 MILLION HECTARES**

of land from ploughing & cultivation

### REDUCING CO2 EMISSIONS



**26.7 billion kgs CO2 saved**

**REMOVING ~12 MILLION CARS OFF THE ROAD FOR 1 YEAR**

### HELPING ALLEVIATE POVERTY & HUNGER

**US \$167.8 BILLION**

Farm income gains in **1996 - 2015** generated globally by

**BIOTECH CROPS**



Source: International Service for the Acquisition of Agri-Biotech Applications (ISAAA) Brief 52 – 2016



## PLANT BIOTECHNOLOGY IN ASIA



## PAN-ASIA FARMERS EXCHANGE (FX) PROGRAM 2007 — 2017

The Pan-Asia Farmers Exchange (FX) Program began in 2007 as a platform to promote changes in attitudes, knowledge, adoption, and practice of crop biotechnology. The program initially started with four participating countries and now in its eleventh year, includes 11 participating countries.

The event in 2017 was held March 20–24 in the Philippines. There were 63 participants (farmers, farmer leaders, regulators, government officers, academicians, media, and industry partners) with at least one representative each from Australia, Bangladesh, China, India, Indonesia, Korea, Pakistan, the Philippines, Taiwan, Thailand, and Vietnam.

Participants met GM corn farmers and visited GM corn commercial farms. Ms. Julie Medina, farmer leader of Barangay San Bartolome, and two young farmers, Gerry Basilio and Floyd Torla, also shared how GM corn greatly improved their livelihood. Participants attended seminar briefings, lab and facility visits, a Golden Rice greenhouse visit at the International Rice Research Institute (IRRI), and a visit to Monsanto's Refuge in the Bag (RIB) Plant.

They also visited the Genetic Transformation Laboratory to learn more about iron- and zinc-fortified rice and were able to see Vitamin A fortified rice plants, or Golden Rice.



## SEEDS

Over the past two years, CroLife Asia has participated in several events and advocacy activities for Seeds with the main highlight being Phytosanitary Harmonization in several countries.



**1 With the support of CroLife Asia (CLA), The Asia and Pacific Seed Association (APSA) organized its third expert consultation in Bangkok, Thailand.**

Held in June 2017, the meeting focused on harmonizing phytosanitary measures in the region to ensure safe seed trade. National Plant Protection Officers (NPPOs) and national seed associations from across the region shared resources and information, as well as identified seed trade barriers. The group recognized the need for training to focus on improving safe seed trade including detection techniques and acceptable phytosanitary measures, among other issues. Participants are also committed to developing a priority seed-specific pest list for the region, which will focus on economically impactful crops in the Asia.



**2** The group agreed to identify issues and create a dialogue to help translate into law the International Standards for Phytosanitary Measures (ISPM) No. 38 International Movement of Seeds, which was adopted during the International Plant Protection Convention at a meeting held in South Korea in April 2017. This measure is a significant step toward harmonized phytosanitary measures and is critical to the industry.



**3** The meeting reinforced the path for the industry to follow. It also highlighted the importance of complying with government policies regarding the safe movement of seeds. It was agreed that this consultation should be held regularly, due to the importance of seed safety and movement.

## THAILAND

### Discussion Paper on Phytoharmonization -

In Thailand, we have been working with the Thai National Plant Protection Organization (NPPO) to prepare the discussion paper on phytoharmonization that will be presented at the Asia and Pacific Plant Protection Commission (APPPC) in November 2017. Together with the Thai Seed Trade Association (THASTA) and the Department of Agriculture (DoA), CroLife Thailand has been working on an ad hoc group to finalize the paper prior to its presentation in New Zealand.

### Seed Production and Movement -

We are coordinating with local seed and farmer associations including THASTA, the Seed Association of Thailand (SAT), and the Thai Chamber of Commerce, to support the Freedom to Operate (FTO) for seed production and movement. There has been a collaboration with THASTA and the DoA to launch an education campaign for farmers and seed dealers. This program is aimed at mitigating the problems of illegal and low-quality seeds sold online.

### PVP Amendment Stakeholder Consultation -

With Thailand considering amendments to its Plant Variety Protection (PVP) law, CropLife conducted a stakeholders consultation on November 24, 2017. The event brought participation by DOA officials (PVP Director Anan Aksonsri and staff), Plant Breeding and Multiplication Association of Thailand (PBMAT), Thailand Seed Trade Association (THASTA), the Thai Federation of Safe Agriculture (FSA), Seed Association of Thailand (SAT), media and a host of other interested parties. The session yielded a unified alliance among a broad array of food value chain stakeholders to support revising the PVP law and encouraging greater seed innovation and investment in Thailand. A position paper reflecting this was signed by these stakeholder supporters and delivered onsite to PVP Director Anan Aksonsri.

CropLife China recently participated in the 10th China International Seed Industry Expo and the 15th National Seed Information Exchange and Product Fair (Seed Fair). Hosted by the National Agricultural Technology Promotion and Service Center and the China National Seed Association, it was successfully held in Jinan, Shandong Province on September 21–22, 2017.

1



Leading officers from the Seed Bureau of the Ministry of Agriculture (MOA), local government and seed administrative stations, and CropLife member companies all attended, with a total of 50,000 attendees and visitors taking part. Thelma Soriano of CropLife Asia represented the CLChina in the opening ceremony. This event aimed to increase transparency of the market, create opportunities for seed exchanges, foster awareness/social interaction among participants, promote innovation, and exchange knowledge and experience in farming.

2



CropLife China Seed committee prepared an indoor exhibition booth and field demo. Of special note was the showcase of corn hybrids by CL member companies. The Director of the Seed Bureau of MOA & Chairman of the China National Seed Association, Yanqiu Zhang, visited CropLife China's booth and discussed new corn variety characteristics and market performance while recognizing the contributions of member companies as part of China's development.

3



The committee also sponsored the Silage Forum with speakers from MOA, CropLife China member companies, universities, and other domestic and foreign companies. Judy Wang as chair of CLC seed committee delivered an opening message and introduced CLC Seed committee and member companies to the audience. The forum provided a new national policy interpretation on supply-side structural reform, an overview of the current situation and the scientific application of the silage corn variety, a discussion on silage production at home and abroad, and agriculture and husbandry case studies.

## INDONESIA



**Working with the seed association of Indonesia (ASBENINDO)** - The seed association of Indonesia, CropLife Indonesia are discussing ways to help the seed industry facilitate seed movement. Together, they have agreed to form a task force to develop a seed forum for all seed associations in Indonesia. This will allow them to strengthen their collective voice to advocate more effectively for sound regulations and policies.

**Plant Quarantine Indonesia (PQ)** - They have also worked together to clarify the plant quarantine guidelines in the country. PQ Indonesia has a list of approximately 700 species of pests, which is now available for viewing in an online database, and is updated annually. CropLife Indonesia is working to ensure that Indonesia has a clear method of testing that is available to companies to fulfill the requirements for importation. The government has 33 PQ accredited laboratories across the region for companies to use for testing when there are issues of pests and disease.

**Regulatory Policy** - CropLife Indonesia and ASBENINDO worked tirelessly for the revision of Kepmentan 355, which regulates the percentage of relative humidity (RH) for storage to ensure quality seeds for farmers.

## STEWARDSHIP

Crop protection stewardship is a fundamental part of our commitment to the region's farmers—improving productivity, incomes, and welfare. Over the past two years, we have overseen a range of stewardship activities that strive to make social progress in smallholder farming communities across the region. Our core aims are transformative, to make an impact on as big of a scale as we can. Impact can be defined as creating environments for farmers to be able make better decisions about their use of crop protection products through control of risks, both self or collective, responsibility of the community of broader social groups, creating awareness and engagement amongst trainers and indeed peers to cement behavioural change that can be maintained.

### NO. OF PARTICIPANTS AT TRAINING PROGRAM:



#### PROMOTING RESPONSIBLE USE

#### CHINA

Farmers | Retailers | Cooperatives



#### PAKISTAN

51 Farmers Training Sessions

1174 Direct Messaging

5000 Indirect Messaging

"6 Train the Trainers Sessions"

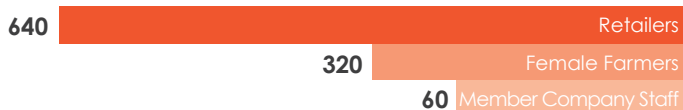
175 Officers Trained

#### BANGLADESH

Received formal training and received quality PPE for their occupational safety from pesticide exposure

2840 Farmers | Spraymen

Received training on responsible use of pesticides and promoting messages therein



Received responsible use messages through video documentary

3800 Laypeople

#### Taiwan



### PPE AWARENESS

300

farmer's meeting delivered and demonstrated PPE to 10,000 farmers

#### Philippines



### CONTAINER MANAGEMENT PROGRAM BENGUET PROVINCE

Approximately

15 MT

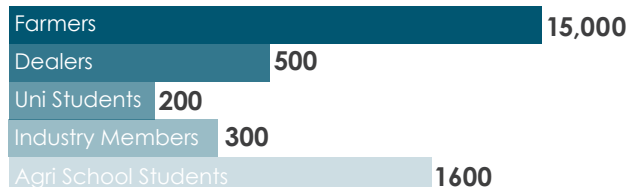
of empty containers collected in 3 key communities. CropLife Philippines established three model sites for CM programs in the province of Benguet.



#### Sri Lanka

### RESPONSIBLE USE, IPM, PHI, AND PESTICIDE RESIDUE AWARENESS

Educated on importance of RU, IPM, PHI & Pesticide residue on produce.



Safe use training program with SOLID/USAID in North & East provinces.

500 INDUSTRY MEMBERS 200 DEPARTMENT OF AGRICULTURE MEMBERS

PPE - Personal Protective Equipment IPM - Integrated Pest Management MT - Metric Ton PHI - Preharvest Interval



## STEWARDSHIP SUCCESS STORY: MADHU SANDHESH POLLINATION PROJECT



One of the success stories CropLife Asia has helped lead in India is the Madhu Sandhesh (or "honeyed messages") project. This effort has promoted both pollination and the responsible

use of crop protection products. CropLife Asia teamed up with the Indian government to provide subsidized rental bee hives to farmers in the state of Maharashtra, India. Funding for the beehives, the project staff based at Krishi Vigya Kendra (Farm Science Centre) in Baramati, as well as training on crop-specific knowledge of input and pesticide use was provided by CropLife Asia. The Indian Council on Agricultural Research (ICAR) trained the project staff on bee health and hive management. As a result, an apiary with 250 beehives and four staff was set up to function as a knowledge hub and act as a bee rental library, with its staff on hand to troubleshoot any issues with first time renters.

### THE RESULTS FROM THE EFFORT HAVE BEEN IMPRESSIVE



**90%** of the 180 program participants reporting better quality crops by the end of the first year.

Apart from improved yields and incomes for farmers, it has also instilled a

### HOLISTIC UNDERSTANDING

of the need to use crop protection products in a manner that protects the environment, ecosystems, and human health.



Pomegranate farmers in particular saw an average of a

**35% INCREASE**

in their yields in concert



**42% INCREASE**

in income while the training they received also helped reduce waste.



Farmers who benefitted from the program have also become

### ADVOCATES

promoting pollination, protecting the environment and using crop protection products responsibly.

The program continues to enroll more participants as it moves forward.



**THE UNIQUE APPROACH OF THE MADHU SANDHESH PROJECT GARNERED 2 AWARDS IN 2017**

- **Asia Pacific Excellence Awards** in the Non-Governmental Organizations & Associations category.
- **Best Stewardship Program** at the Agrow Awards 2017.

## CROP PROTECTION AND REGULATORY

Crop protection products, commonly referred to as pesticides or agrochemical products, play a vital role in controlling the pests, weeds and diseases that threaten our food supply. Food crops must compete with thousands of species of weeds, nematodes and plant-eating insects.

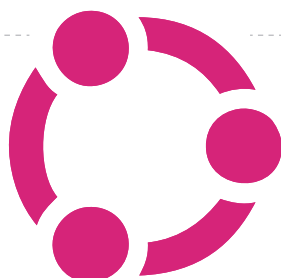
Regulation of crop protection products require a framework that closely examines all phases of the product lifecycle – a framework that CropLife Asia is involved in. Safety, quality control based on the registration data and manufacture, proper handling, transport, and precautions during use – including labelling, and the setting of allowable residue levels in food (also known as Maximum Residue Limits or MRLs) are all part of the regulatory framework. This ensures that the safe use of pesticides can contribute toward sustainable food production through appropriate understanding and active management of any risks. Key highlights in Asia between 2016 and 2017 for regulatory advocacy including capacity enhancement dialogue are on the following page.

### BENEFITS OF EFFECTIVE REGULATION



**PROMOTES  
INVESTMENT IN  
NEW SOLUTIONS**

**ASSURES  
SAFETY  
AND  
SUSTAINABILITY**



**ENABLES  
SHARED  
RESPONSIBILITY AND  
COMPLIANCE**

**ALLOWS  
TIMELY  
ACCESS  
TO TECHNOLOGY**



## HIGHLIGHTS OF REGULATORY WORK IN ASIA 2016-2017



### INDIA

**ERA Training** - In April 2016, regulators, researchers, and academics in India attended a CropLife International (CLI)-sponsored International Union of Pure and Applied Chemistry (IUPAC) training. This was the first attempt by the IUPAC committee to introduce the basic tiered step approach to the overall Ecotox Risk Assessment (ERA) principles. This workshop enabled participants to review ecotox data submitted in support of registration in line with established global

best practices. Participants were also able to look at Ecotox Risk Assessment in a holistic way by interpreting the available data in local context scenarios.

### Crop Grouping & Minor Uses Concepts Adoption

- In October 2017, a workshop was hosted by the Indian Council of Agricultural Research (ICAR) with support from CropLife India on "Crop Grouping & Minor Uses Concepts Adoption in India" with help of experts from Agriculture Canada and the United States IR-4 program. The workshop came out with recommendations for adoption leveraging the global best practices to develop minor uses.

**Data Bridging Workshop** - With the help of CLI experts in Specifications and Toxicology, a Data Bridging workshop was held in November 2016 to develop concepts for data bridging to facilitate minor changes in registration including change of source (from source A to B) for registered molecules.

### VIETNAM

In Vietnam, CropLife Asia leveraged USDA FAS and IR-4 experts for dialogue and advocacy on cut-off criteria (GHS & PHI). We collaborated with the Plant Protection Department (PPD) in Vietnam in providing support on risk assessment, covering dietary, operator exposure, and ERA.

Together with CropLife Vietnam, CropLife Asia also led and facilitated the visit of Raj Bhula, Head of Australian Gene Regulation, in May 2017, with key officials from the Ministry of Agriculture (MoA) in Hanoi for both pesticides regulation and biotech policy advocacy.

In November 2017, the regulatory team hosted a workshop in Ho Chi Minh City with PPD Hanoi officials on export facilitation for Vietnam agricultural products with the involvement of exporters, grower organizations, and other government officials by inviting food safety experts from the US FAS and a former regulator from India.

### CHINA

In China, all stakeholders including CropLife Asia have been involved in technical level dialogues with the Institute for the Control of Agrochemicals, Ministry of Agriculture (ICAMA) since early 2015 on a new regulation for pesticides. Key topics discussed included environmental risk assessment (ERA), chemical specifications, and operator exposure risk assessment (RA).

The impact of a policy of "zero growth in pesticides by 2020" by the Ministry of Agriculture (MoA) has also led us to focus on 1) replacing high dose rate per hectare and old chemistries with more bioactive environmentally friendly chemistries; and 2) training and educating farmers in responsible use.

CropLife China, at the request of ICAMA, organized a half-day on International Agency for Research on Cancer (IARC) primarily based on the concern raised by the State Council. CropLife experts provided an update on IARC report and how other key regulators across the world concluded their review.

### INDONESIA



A meeting in Bogor, Indonesia was held in Indonesia with regulators, and policy makers on science-based pesticides management in Oct, 2017. This includes a review of hazard based cut-off criteria to modify Permentan 39 provisions.

## ANTI COUNTERFEITING AND INTELLECTUAL PROPERTY (IP)



**Over the past five years CroLife Asia has been at the forefront of anti-counterfeiting advocacy for the plant science industry in Asia Pacific.**

We have worked in collaboration with governments across the region and have launched joint anti-counterfeiting programs with those governments as well as with the Association of Southeast Asian Nations-United States Patent and Trademark Office (ASEAN-USPTO) and other anti-counterfeiting groups.



**In the area of policy advocacy, we have monitored and advocated policy changes in agriculture across governments that led to better intellectual property (IP) protection and enforcement against counterfeit crop protection products.**

Our efforts in the region, particularly in Taiwan, China, Vietnam, Malaysia, Thailand, Indonesia, India, and Australia, have led to several positive outcomes including: the creation of governmental joint task forces against counterfeit agricultural inputs; joint policy reviews between the private and public sectors; policy changes; increased dealer requirements; joint programs; and enforcement actions across the region.



**For the past three years, CroLife Asia has also been actively advocating the use of Fourier-Transform Infrared Spectroscopy (FTIR) Technology.** This is an effective tool used by governments in detecting counterfeit agricultural chemicals.



**With government and stakeholder engagement, CroLife Asia and its member associations have led public awareness and capacity-building efforts toward a better understanding of counterfeiting and its consequences to farmers and the economy.**

We have partnered with governments and the ASEAN-USPTO in capacity-building workshops and trainings for regulators and law enforcement officials, including judges and prosecutors, across the region.



### INVESTMENT MADE FOR CROP PROTECTION

■ YEAR 2010  
■ YEAR 2014

↑ **55%**

Investment to bring one crop production product to **market**



↑ **69%**

Investment to meet **toxicology safety standards** for one crop production product



↑ **118%**

Investment to meet **environmental safety standards** for one crop production product





## TOTAL R&D INTO NEW CROP PROTECTION PRODUCT

<b>2014</b>	<b>2019</b> (Forecast)
<b>\$2,625M</b>	<b>\$3,207M</b>

## TOTAL R&D INTO BIOCONTROL

<b>2014</b>	<b>2019</b> (Forecast)
<b>\$174M</b>	<b>\$268M</b>

## ENFORCEMENT IN THE REGION



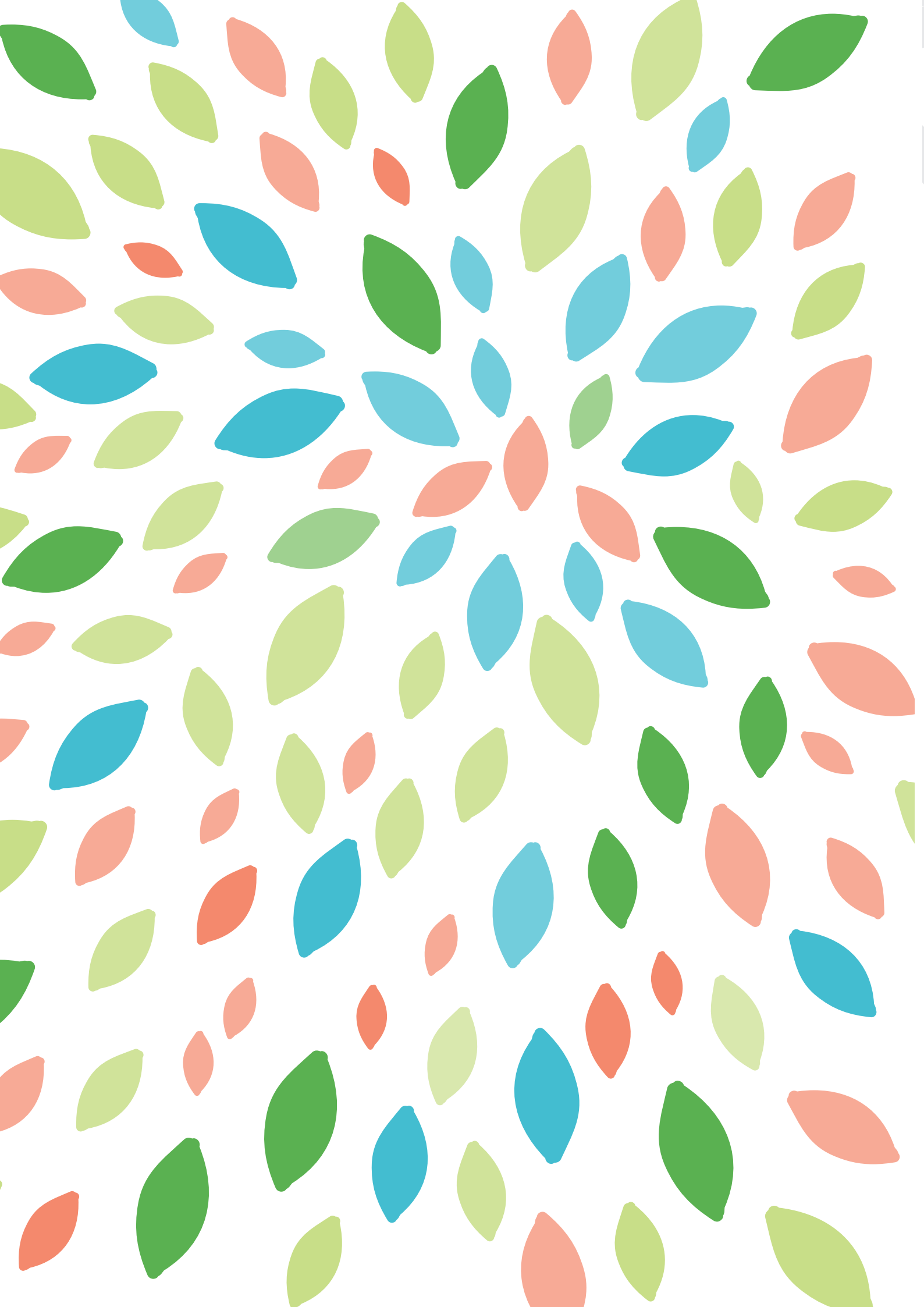
**India** We are in partnership with the central government under the “Grow Safe Food Program.” For the past two years, we have supported the Indian government in its *Warning Letters to Dealers*, which remind dealers across India of their responsibility to ensure that no counterfeit or spurious agricultural chemicals are traded or sold. We sent out around 200,000 letters in 2016. To be licensed, dealers in India need to be or have in their employ Science graduates.

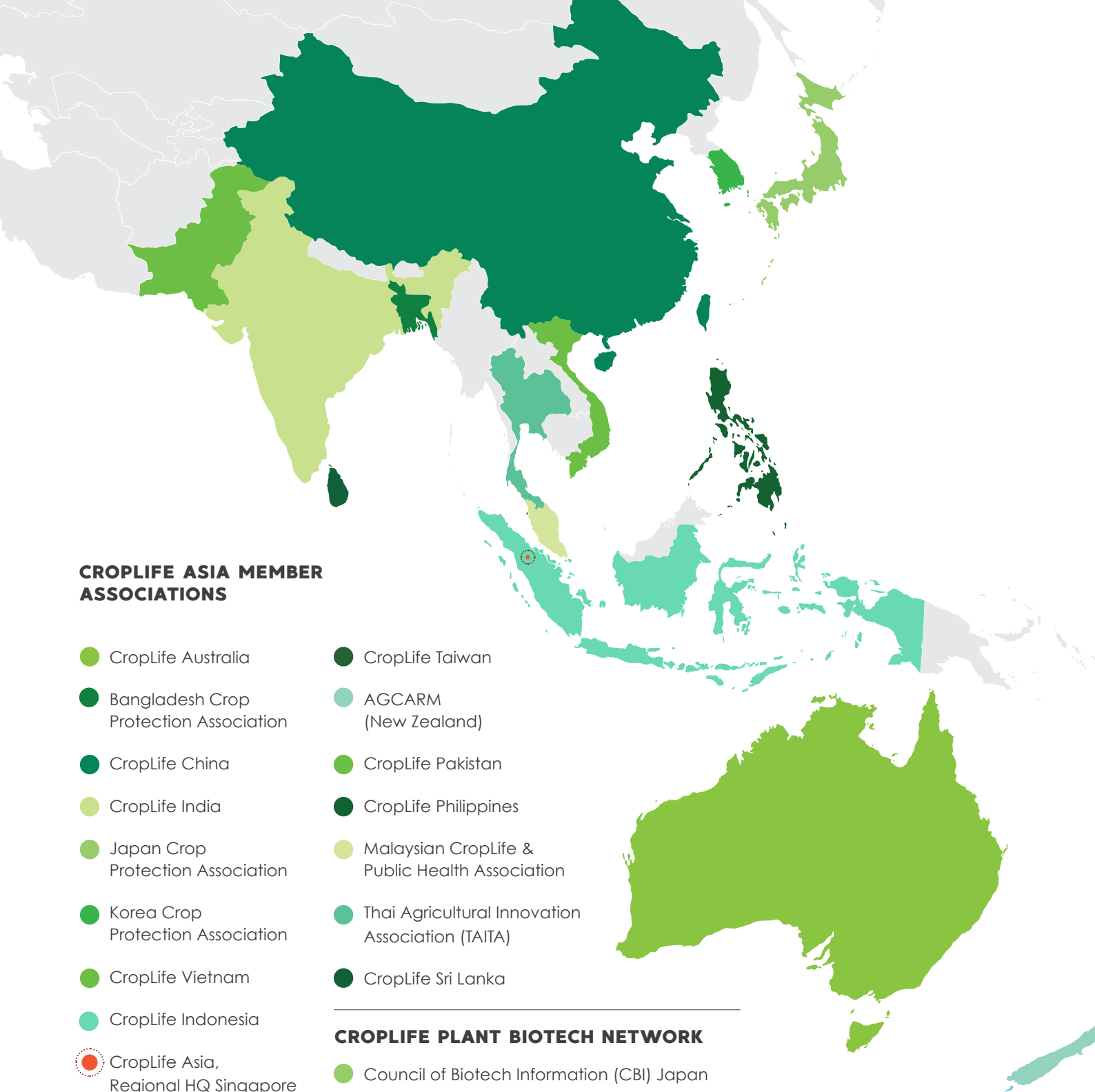
**Vietnam** CropLife Asia has sustained an active partnership with the Ministry of Agriculture and Rural Development-Plant Protection Department (MARD-PPD) and the Management Systems International (MSI) in building the capacity of its enforcement officers over the past three years.

**China** We are actively monitoring the progress of the newly implemented Pesticides Management Regulations; advocating for relevant anti-counterfeiting and intellectual property policy.

**Thailand** CropLife Asia, along with the Thai Crop Protection Association (TCPA), partnered with their Department of Agriculture (DoA), Department of Special Investigation (DSI), and their Consumer Protection Police under a memorandum of agreement toward joint efforts against counterfeit crop protection products in 2014. This agreement was renewed again in February 2017. The partnership has led to increased governmental awareness and understanding of the counterfeiting situation in Thailand and has led to enforcement actions and prosecution.

Across the region, CropLife Asia has sustained efforts toward continued and meaningful dialogue and consultations with governments and their relevant agencies—DoA, Police, Customs, and Trade and Industry ministries. We continue to advocate policy changes and reinforce the principle that the fight against counterfeiting must be a collaborative effort between the industry and governments.





#### CROPLIFE PLANT BIOTECH NETWORK

- Council of Biotech Information (CBI) Japan
- Alliance for Agri-Innovation (AAI)
- CroLife Asia-Beijing Office
- CroLife Korea

Member Companies:



