



## **Pesticide PLS in Korea**

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## What is the Positive List System(PLS)?

- Positive List System(PLS)
  - Registered pesticides are managed under MRLs (Food Code).
  - Pesticides for which no MRL has been established (not-registered pesticides) are managed under a default MRL (0.01 mg/kg).
  - **※** Current status of management in foreign countries
  - PLS has already been implemented in Japan (2006), EU, and Taiwan (2008).
  - In the USA, Australia, and Canada, zero tolerance will be applied when there is no MRL.





## **Changes in MRL before/after PLS**



I cultivated agricultural products according to the guidelines on use! I cultivated agricultural products using an unregistered pesticide...



**Unsuitable**!

Presence of criteria	Before PLS (~2018)	After PLS (2019~)
Pesticides for which MRL Have been established	MRL applies	MRL applies
Pesticides without established MRL	<ol> <li>CODEX MRL applies</li> <li>MRL for similar agricultural products applies</li> <li>MRL for 'Other agricultural products' applies (if any)</li> <li>Lowest MRL applies</li> </ol>	Default MRL (less than 0.01 mg/kg) applies





## **Changes in MRL before/after PLS**

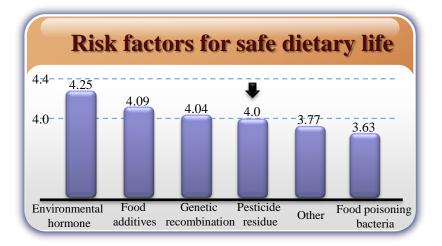
#### Criteria for processed foods

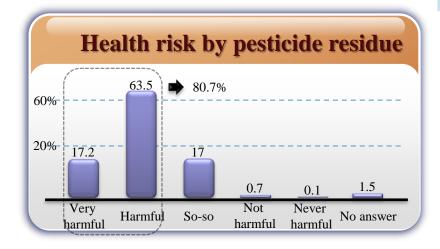
	Present	After PLS
1	CODEX MRL applies first	
2	Residue can be permitted within the range of residues in	() Deleted
	the raw ingredients. In effect, the MRL for raw	1 <deleted></deleted>
	agricultural and livestock products are applied according	② <same as="" left="" on="" the=""></same>
	to the contents of the ingredients and by considering	
	moisture content when it is changed by a process such as	
	drying. (Except, The residual quantity permitted for dried	
	red peppers (including red pepper powder and shredded	
	red pepper) is 7 times that of the MRL for raw red	
	peppers; for green tea extract, 6 times that of the MRL for	
	green tea; for red ginseng, 4 times that of the MRL for	
	fresh ginseng; and for ginseng extracts and red ginseng	
	extracts, 8 times that of the MRL for fresh ginseng.)	

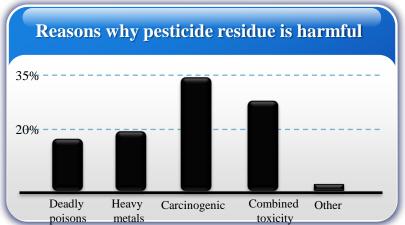


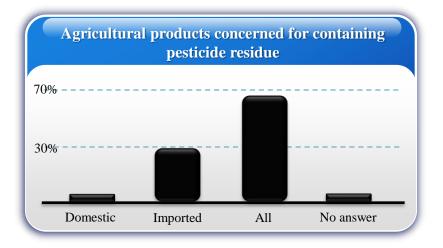


## **Background to the PLS: 1. Public awareness**





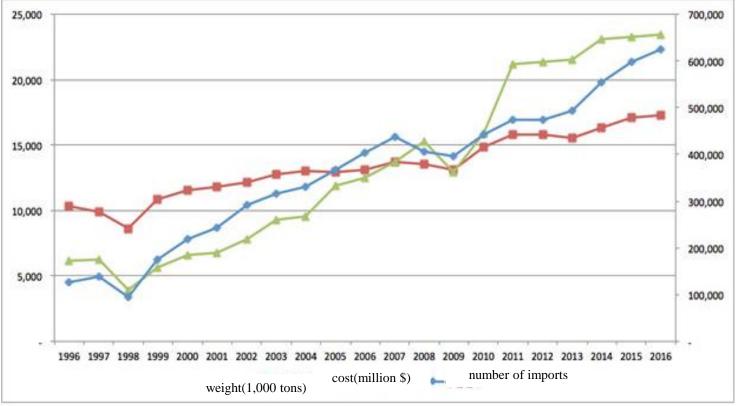








## Background to the PLS: 2. Increase of imported agricultural products



In 2016, there were 625,443 import declarations for goods weighing 17.26 million tons with total value of US\$ 23,437 million from 170 countries (manufacturing countries) including China, USA, and Japan.
 \* (2017 Yearbook of Imported Food Inspection, MFDS)



## Food imports are increasing with diversification

- Existing systems are limited in their ability to secure the safety of imported foods.
- The PLS, which has already been introduced by a number of major countries, should be introduced for the import and distribution of safe agricultural products.







# **History of PLS**

2015

2016

**처**년(

Announcement of the PLS introduction plan (Oct. 2011)

Notification of introduction of the PLS for 'nuts and seeds' and 'tropical fruits' (Oct. 2015)

PLS implementation for 'nuts and seeds' and 'tropical fruits' (Dec. 2016)

> Notification of PLS introduction for all agricultural products

(Feb. 2018)

2018





### Introduction date

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• 1st : Nuts and seeds and tropical fruits (Administrative notice: Jul. 2014, Implementation: Dec. 31st 2016)

Class	Sub-class	Name of agricultural product
	Peanuts or nuts	Peanut, hazelnut, acorn, macadamia, chestnut, almond, ginkgo, pine nut, cashew nut, pistachio, pecan, walnut
Nuts and seeds	Oil seeds	Evening primrose(seed), hemp(seed), drumstick/moringa(seed), perilla, cotton seed, olive(fruit), rapeseed/canola(seed), sesame seed, palm, sunflower(seed), pumpkin(seed), safflower(seed)
	Seeds for beverages and sweets	Cassia seed, guarana, cacao bean, coffee bean, cola nut
Fruits	Tropical fruits	Soursop/graviola(fruit), guava, date palm, durian, lychee, mango, mangosteen, banana, jackfruit, avocado, assai palm, acerola, dragon fruit, longan, coconut, kiwi fruit, pineapple, papaya, passion fruit

• 2nd : Extended to all agricultural products (Administrative notice: Jul. 2017; Implementation: Jan. 1<sup>st</sup> 2019)



Establishment of a comprehensive plan for the safe management of residues (Oct. 2011)

Food Sanitation Act (Jul. 2013) and Enforcement Regulation of Food Sanitation Act (Mar. 2014) revision

PLS implementation for nuts and seeds, tropical fruits (Notification: Oct. 2015; Implementation: Dec. 2016)

PLS information sessions 83 times (Jan. 2012~) and consulting support (Dec. 2016~)

Preparation of countermeasures by inter-government authority cooperation (Aug. 6<sup>th</sup> 2018)

> Introduction of the PLS for all agricultural products (Notification: Feb. 2018; Implementation: Jan. 1<sup>st</sup> 2019)

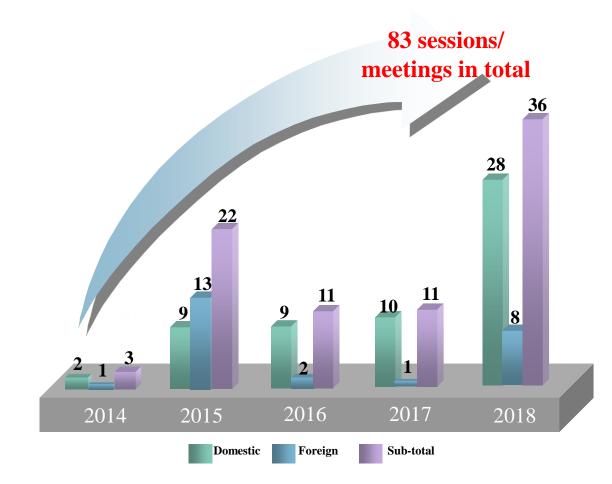
- > Preparation of the grounds for MRL establishment procedures
- ▶ WTO notification (G/SPS/N/KOR/480, Jul. 29th 2014)
- For governments, embassies, food companies, and pesticide companies
   Supports provided through advice and individual consulting
- **•** Establishment of MRLs for long-term pesticide residue in soil
- **Establishment of MRLs for registered pesticides (including <sup>T</sup> MRL)**
- Management of unintentional contamination of pesticides

▶ WTO notification (G/SPS/N/KOR/572, Aug. 18<sup>th</sup> 2017)



#### On-site communication efforts for implementation of the PLS

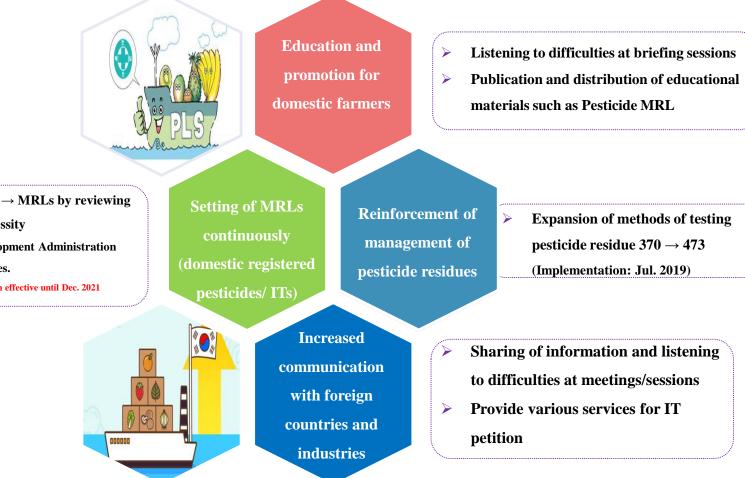
• Listening of on-site difficulties through meetings with the stakeholders.







## **Policy after PLS implementation**



- ➤ Temporary MRLs → MRLs by reviewing the safety and necessity
   \*(Domestic) Rural Development Administration (IT) Petition by industries.
- \*\* Temporary MRLs will remain effective until Dec. 2021





## **Information for Import tolerance(IT)**

**1. No mark** Registered in ROK

2. Marked with 'T' (Temporary MRL) Until Dec. 2021

3. Marked with '†' Import Tolerance

(165) 폔뷰코나졸(Fenbuconazole) ADI : 0.03 mg/kg b.w./day					
◎ 잔류물의 정의(Re	◎ 잔류물의 정의(Residue definition) : Fenbuconazole				
감(Persimmon)	0.3	보리(Barley)	$0.2^{\mathrm{T}}$	오미자(건조)(Schisandraberry(Dried))	3.0
감귤류(Citrus fruits)	0.5*	복숭아(Peach)	2.0	오이(Cucumber)	0.3
고추(Chili pepper)	0.5	블루베리(Blueberry)	$0.5^{\mathrm{T}}$	참외(Korean Melon)	0.2
딸기(Strawberry)	0.5	비름나물(Amaranth leaves)	$3.0^{\mathrm{T}}$	체리(Cherry)	$20^{\mathrm{T}}$
땅콩(Peanut)	$0.1^{\mathrm{T}}$	사과(Apple)	0.7	취나물(Chwinamul)	$30^{\mathrm{T}}$
레몬(Lemon)	$1.0^{+}$	살구(Apricot)	$2.0^{\mathrm{T}}$	크랜베리(Cranberry)	$1.0^{\mathrm{T}}$
매실(Japanese apricot)	2.0	석류(Pomegranate)	$0.3^{\mathrm{T}}$	토마토(Tomato)	0.5
무(잎)(Radish(Leaves))	$3.0^{\mathrm{T}}$	수박(Watermelon)	0.2	포도(Grape)	$1.0^{\mathrm{T}}$
밀(Wheat)	$0.1^{\dagger}$	쌀(Rice)	0.05	피망(Sweet pepper)	0.5
바나나(Banana)	002*	쑥갓(Crown Daisy)	$3.0^{\mathrm{T}}$	피칸(Pecan)	$0.1^{\mathrm{T}}$
배(Pear)	0.5	오미자(Schisandraberry)	3.0		





Application via on-line

http://www.foodsafetykorea.go.kr

Period as working days

Set or revise MRL: 365 / Exemption: 210 working days

#### • Fee

1) Review for Toxicology data

New MRLs: KRW 30,000,000 (about \$25,000)

Exemption of MRL : KRW 10,000,000 (about \$8,500)

2) Review for Residue data

Pesticide: KRW 5,000,000 (per crop) (about \$4,500)

- Veterinary drug: KRW 10,000,000 (per animal) (about \$8,500)





- Summary of data (English and Korean)
- Label(GAP), MRL(applicant), Evaluation report(JMPR, EFSA...)
- Toxicology data
  - ✓ For new compound or not registered in Korea
- Residue data
  - ✓ For new use or revise existing MRL
  - ✓ At least 6 field trials for major crop
    - Minor crop (3 trials), Post harvest (4 trials)
  - ✓ With a reference to FAO Manual, under GLP





#### **1. Simplification of petition procedures for IT**

- ✓ For generic pesticides
- (1) Residue data ↔ Evaluation report from CODEX or EFSA (Apr. 2016~)
- (2) Temporary exemption of Korean-translated-summary (~Dec. 2019)
- 2. Customized consulting
  - ✓ Provide support for the check of the required MRLs for petitioners
- 3. Preliminary review
  - ✓ To save cost and time for petitioners
  - ✓ Summary of residue data, Label, proposed MRL by e-mail
- 4. Checking the other petitions

'Import tolerance application status' of pesticide residue DB

## **Group MRLs**

**'Application principles of Pesticide MRLs for agricultural products' in Food code** 

- **1** Individual MRL in Food code applies
- **②** Group MRL in Food code applies
- **③** If a pesticide with no established MRL is detected, default MRL (0.01) applies

**Current MRL and crop classification in the pesticide residue DB** 

https://www.foodsafetykorea.go.kr/residue/main.do



Type	Group	Commodity
Cereal grains	_	Oats, Proso millet, Buckwheat, Wheat, Barley, Sorghum, Rice, Maize, Job's tear, Foxtail millet, Quinoa, Triticale, Japanese-barnyard millet, Rye <i>etc</i>
Potatoes	_	Potato, Sweet potato, Konjac, Yam, Cassava(tapioca), Taro etc
Pulses	_	Kidney bean, Mung bean, Soybean, Cowpea, Lentils, Lima bean, Pea, Chickpea, Sword bean, Broad bean, Red bean, Pigeon pea <i>etc</i>
	Peanut or Nuts	Peanut, Hazel nut, Acorn, Macadamia, Chestnut, Almond, Gingko nut, Pine nut, Cashew nut, Pistachio, Pecan, Walnut <i>etc</i>
Nuts and Seeds	Oilseed	Evening primrose Seed, Hempseed, Ben Moringa seed, Perilla-Seed, Cotten Seed, Olive, Rape Seed, Sesame, Palm tree, Sunflower Seed, Pumpkin Seed, Safflower <i>etc</i>
	Seed for beverage and sweets	Sicklepod seed, Guarana, Cacao bean, Coffee bean, Cola nut etc





Fruits	Pome fruits	Persimmon, Quince, Pear, Loquat, Apple, Pomegranate etc
	Citrus fruits	Mandarin(including Oval Kunquat), Lemon(including Lime), Citron, Orange, <sup>1)</sup> Korean lemon, Grapefruit, Hardy orange <i>etc</i>
	Stone fruits	Jujube, Japanese apricot, Peach, San-su-yu, Apricot, Nanking cherry, Schisandraberry, Plum, Cherry <i>etc</i>
	Berries and other small fruits	Goji berry, Arguta kiwifruit, Strawberry, Fig, Berries[Blueberry, Bilberry, Korean Black Raspberry(including Raspberry, Black berry, wild berry), Aronia, Elderberry, Mulberry, Currant, Cranberry/Cowberry <i>etc</i> ] Akebia, Grape(including Wild Grape) <i>etc</i>
	Assorted tropical and sub-tropical fruits	Soursop, Guava, Date palm, Durian, Litch, Mango, Mangosteen, Banana, Jackfruit, Avocado, Acai, Acerola, Dragon fruit, Longan, Coconut, Kiwifruit, Pineapple, Papaya, Passion fruit <i>etc</i>





Vegetables	Flowerhead brassicas	Korean Cabbage(Head), Broccoli(including Cauliflower), Cabbage (Head, including Brussels sprouts) <i>etc</i>
	Leafy vegetables	Mustard leaf, Coastal hog fennel, Mustard green, Mizuna, Sonchus-leaf, Gondre, Korean wasabi(leaves), Chili pepper leaves, Narrow-head ragwort, Chard, Shepherd's purse, New green, Tatsoi, Dachungchae, Danggwi, Dolnamul, Polygonatum leaves, Perilla leaves, <sup>20</sup> Butterbur, Radish(Leaves), Dandelion, Amaranth leaves, Beet Leaves, Mulberry Leaves, Alpine leek leaves, Lettuce(leaf), Uleungdo aster, Spinach, <sup>30</sup> Shinsuncho, Korean wormwood, Crown Daisy, Seumbagwi, Chinese mallow, Lettuce(head), Ssam cabbage, Ussuri thistle, Indian lettuce, Burdock leaves, Common day lily, Rape leaves, Plantains, Shiso leaves, Chamnamul, Pak choi, Chunchae, Chwinamul, Chicory(leaves), Kale, East Asian wildparsley, Parsley, Squash leaves <i>etc</i>
	Stalk and stem vegetables	Salt sandspurry, Sweet potato vines, Royal fern, <sup>4)</sup> Bracken, Wild chive, Dureup elater, Allium chinense, Leek, Water dropwort, Chinese chives, Hooker chives, Celery, Asparagus, Bamboo Shoot, Kohlrabi, Taro stem, Welsh onion, Green garlic(including stem of garlic) <i>etc</i>





	Root and tuber vegetables	Korean wasabi(root), Carrot, <sup>5)</sup> Deodeok, Chinese bellflower, Polygonatum root, Garlic, Radish(root), Mulbangki(root), Beet(root), Sugar beet, Ginger, Ginseng (including wood-cultivated ginseng), Turnip root, Onion(Bulb), Lotus root, Burdock, Tiger lily, Chicory(root), Wild parsnip <i>etc</i>
	Fruiting vegetables, Cucurbits	Melon, Watermelon, Cucumber, Korean melon, Squash etc
	Fruiting vegetables other than Cucurbits	Eggplant, Chili pepper, Okra, Tomato(including Cherry tomato), Beans and peas with pods, Sweet pepper(including paprika) <i>etc</i>
Mushrooms	_	Parasol mushroom, Pholiota nameko, Oyster mushroom, Tree ear, Black hoof mushroom, King oyster mushroom, Stone ear mushroom, Pine mushroom, Almond mushroom, Caulifower coral, Cultivated mushroom, Reishi mushroom, Enoke, Oak mushroom, Cantharelluls luteocomus <i>etc</i>





	Herbs	Soursop, Coriander leaves, Five-leaf ginseng leaf(Poor man's ginseng leaf), Ben moringa leaves, Lavender, Lemongrass, Lemon myrtle, Balm leaves, Rosemary, Rooibos, Matari, Maté, Mints(Pepper mint, Spear mint, apple mint <i>etc</i> ), Field sow thistle, Basil, Anise hyssop, Thyme, Dill, Stevia, Edible flowers (Indian chrysanthemum, Marigold, Rose, Chamomile, Hibiscus <i>etc</i> ), Ironwort, Oregano, Olive leaves, Laurel leaves, Jasmine, Japanese pepper leaves, Culantro, Thyme, Honey bush, Fenugreek leaves, Fennel leaves <i>etc</i>
Herbs and Spices	Spices, fruit or berry	Juniper berry, Vanilla orchid, Allspice, Mastic-leaf prickly ash, Cardamom(pods and seeds), Star anise, Caper berries, Pepper etc
	Spices, seeds	Mustard seed, Coriander(seed), Basil(seed), Dill(seed), Celery seed, Anise seed, Nutmeg, Shiso(seed), Caraway seed, Cumin seed, Fenugreek, seed, Fennel(seed) <i>etc</i>
	Spices, root or rhizome	Turmeric root etc
	Other spices	Cassia bark, Myrrha, Saffron, Cloves(buds) etc
Tea leaves	-	Теа
Hops	-	Нор





Algae	_	Seaweed papulosa, Sea lattuce, Seaweed(Gompi), Laver, Sea string, Kelp(Sea tangle), Chondracanthus tenellus, Stone laver, Pelvetia siliquosa, Seaweed fulvescens, Sargassum fulvellum, Sea mustard, Seaweed furcata, Campylaephora hypnaeoides, Spirulina, Ceylon moss, Irish moss carragheen, Sea staghorn, Chlorella, Sea weed fusiforme, Ulva pertusa <i>etc</i>
Other plants	-	Sweet sorghum, Sugar cane <i>etc</i>

\* '/' refers to different names for the agricultural commodity, '( )' refers to a part of the agricultural commodity or another agricultural commodity with the same pesticide MRL.

<sup>1)</sup>Citrus junos
 <sup>2)</sup>Pteridium aquilinum ver. latiusculum
 <sup>3)</sup>Cdonopsis lanceolata
 <sup>4)</sup>Petasites japonicus
 <sup>5)</sup>Agelica keiskei





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