

(Unofficial Translation)

Ministry of Public Health Notification

No. 387 B.E. 2560 (2017)

Re: Food Containing Pesticide Residues (*Pesticide Residues in Food*)

It is deemed appropriate to revise the notification the Ministry of Public Health Notification entitled “Food Containing Pesticide Residues” to provide a clear standard for food use and to optimize protection of consumer safety

By virtue of the provision of Section 5 in the first phase, and Section 6 (2) (3) and (9) of the Food Act B.E. 2522 (1979), in which contain provisions in relation to the restriction of Rights and Liberties of the Persons, in respect of which Section 26 and in conjunction with Section 33, Section 34, Section 37 and Section 40 of the Constitution of the Kingdom of Thailand so permit by virtue of provisions of law; the Minister of Public Health hereby issues the notification as follows:

Clause 1 The following Notifications shall be repealed:

(1) The Notification of the Ministry of Public Health Re: Food Containing Pesticide Residues, dated 14th April B.E. 2554 (2011),

(2) The Notification of the Ministry of Public Health (No. 361) B.E. 2556 (2013) Re: Food Containing Pesticide Residues (No.2), dated 6st August B.E. 2556 (2013).

Clause 2 Food Containing Pesticide Residues are prescribed food to have standard.

Clause 3 In this notification,

“**Pesticide Residue**” means any specified substance in food resulting from the use of a pesticide. The term includes any derivatives of a pesticide, such as conversion products, metabolites, reaction products, and impurities considered to be of toxicological significance.

“**Maximum Residue Limit (MRL)**” means the maximum concentration of a pesticide residue in food arising from use of a pesticide. It is expressed in milligrams of pesticide residue per kilogram of the food.

“**Extraneous Maximum Residue Limit (EMRL)**” means the maximum concentration of a pesticide residue in food arising from the residues that contaminate in the environment including from the pesticides that have been used before and then their uses have been nationally banned but, because of their persistent properties, the residues still exist in the environment. It is expressed in milligrams of pesticide residue per kilogram of the food.

“**Pesticide**” means any substance intended for preventing, destroying, attracting, repelling, or controlling any pest including unwanted species of plants or animals during the production, storage, transport, distribution, or processing of food, or which may be administered to animals for the control of ectoparasites. The term includes substances intended for use as a plant-growth regulator, defoliant, desiccant, fruit thinning agent, or sprouting inhibitor and substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport. The term normally excludes fertilizers, plant and animal nutrients, food additives, feed additives and veterinary drug.

“**Default Limit**” means the maximum concentration of a pesticide residue in food for those pesticides which specific MRL is not set out. It is expressed in milligrams of pesticide residue per kilogram of the food.

“**Definition of Residues**” means pesticide residue identified to analyse for compliance with MRLs established in this notification. This may be one or several types combined.

“**Type 4 Hazardous Substance**” means the hazardous substance which is not allowed to be produced, imported, exported or possessed in accordance with the Notification of the Ministry of Industry on The List of Hazardous Substances issued under the Hazardous Substance Act B.E. 2535 (1992) and Hazardous Substance Act, B.E. 2551 (2008).

Clause 4 Food Containing Pesticide Residues shall be complied with standard that shall not contain any pesticide define as Hazardous Substances Type 4 under the Hazardous Substance Act B.E. 2535 (1992) and Hazardous Substance Act, B.E. 2551 (2008) prescribed in Annex 1 of this Notification, except those other pesticides specified as follows:

(1) Detected pesticide residues in food shall not exceed the Maximum Residue Limit (MRL) prescribed in Annex 2 of this Notification,

(2) Detected pesticide residues in food, that does not specified in Annex 2 of this Notification, shall not exceed the limits recommended by Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme,

(3) Where no MRLs specified in (1) and (2), detected pesticide residues in plant or animal shall not exceed 0.01 milligrams of pesticide residue per kilogram of the food (default limit), unless otherwise default limits for plant specified in Annex 3 of this Notification,

(4) Detected pesticide residues in food shall not exceed the Extraneous Maximum Residue Limit (EMRL) prescribed in Annex 4 of this Notification.

Clause 5 The Analytical Methods shall be as prescribed in Annex 5 of this Notification.

Clause 6 This Notification shall come into force as from the day following date of its publication in the Government Gazette onwards.

Notified on 18th August 2017.

Signed Piyasakol Sakolsatayadorn

(Mr.Piyasakol Sakolsatayadorn)

Minister of Public Health

(Published in the Government Gazette Vol.134, Special Part 228 (Ngor), dated 18th September 2017)

This English version of the notification is translated to meet the need of the non-Thai speaking people. In case of any discrepancy between the Thai original and the English translation, the original Thai version shall prevail.

Annex 1

Hazardous Substances Type 4 under the Hazardous Substance Act B.E. 2535 (1992) and Hazardous Substance Act, B.E. 2551 (2008)

Attachment of Notification of the Ministry of Public Health No. 387 B.E.2560 (2017)

Re: Food Containing Pesticide Residues (*Pesticide Residues in Food*)

1.	2,4,5-T or (2,4,5-trichlorophenoxy) acetic acid
2.	2,4,5-TCP or 2,4,5-trichlorophenol
3.	2,4,5-TP or (±)-2-(2,4,5-trichlorophenoxy) propionic acid
4.	4-(4-chloro-o-tolyloxy) butyric acid or MCPB
5.	Chlordimeform
6.	Chlordecone
7.	Chlorthiophos
8.	Chlorobenzilate
9.	Chlorophenol
10.	Copper arsenate hydroxide or Copper (II) arsenate
11.	Carbon tetrachloride or Tetrachloromethane
12.	Captafol
13.	Calcium arsenate
14.	Sulfotep
15.	Safrole
16.	Sodium chlorate
17.	Sodium arsenite
18.	Cycloheximide
19.	Cyhexatin
20.	Daminozide
21.	DBCP or 1,2-dibromo-3-chloropropane
22.	Demeton
23.	Demephion
24.	Dicrotophos
25.	4,6-dinitro-o-cresol or DNOC
26.	Disulfoton
27.	Dinoseb
28.	Dinoterb
29.	Dimefox

30.	Toxaphene or Camphechlor
31.	TEPP or Tetraethyl pyrophosphate
32.	Thallium sulfate
33.	Nitrofen
34.	beta-HCH or 1,3,5/2,4,6-hexachlorocyclohexane
35.	BHC (benzene hexachloride) or HCH (hexachlorocyclohexane)
36.	Benzidine
37.	Bromophos
38.	Bromophos-ethyl
39.	Binapacryl
40.	Paris green
41.	Parathion
42.	Parathion-methyl
43.	Pentachlorophenate sodium or Pentachlorophenoxide sodium
44.	Pentachlorophenol
45.	Prothoate
46.	Pyrinuron or Piriminil
47.	Fluoroacetate sodium
48.	Fluoroacetamide
49.	Phosphamidon (E)+(Z)-isomers
50.	Phosphamidon (Z)-isomer
51.	Phosphamidon (E)-isomer
52.	Phenothiol or MCPA-thioethyl or S-ethyl 4-chloro-o-tolyloxythioacetate
53.	Fensulfothion
54.	Fentin
55.	Fonofos (unstated stereochemistry)
56.	Fonofos (racemate)
57.	Fonofos (R)-isomer
58.	Fonofos (S)-isomer
59.	Phorate
60.	Methamidophos
61.	Mecoprop (unstated stereochemistry)
62.	Mecoprop (racemate)
63.	Mephosfolan
64.	Mevinphos
65.	Monocrotophos

66.	Mirex
67.	Lead arsenate
68.	Leptophos
69.	Strobane or Polychloroterpenes
70.	Azinphos-methyl
71.	Azinphos-ethyl
72.	Amitrole
73.	Aminocarb
74.	Aramite
75.	EDB or ethylene dibromide
76.	EPN or O-ethyl O-4-nitrophenyl phenylphosphonothioate or O-ethyl O- <i>p</i> -nitrophenyl phenylphosphorothioate
77.	Ethyl hexaleneglycol or ethyl hexane diol or ethohexadiol
78.	Ethylene dichloride or 1,2-dichloroethane
79.	Ethylene oxide or 1,2-epoxyethane
80.	Endosulfan
81.	MGK repellent-11 or 1,5a,6,9,9a,9b-hexahydro-4a(4H)-dibenzofurancarboxaldehyde)
82.	Hexachlorobenzene

Annex 2

Maximum Residue Limit (MRL)

Attachment of Notification of the Ministry of Public Health No. 387 B.E.2560 (2017)

Re: Pesticide Residues in Food

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
1	Chlorpyrifos	chlorpyrifos (fat soluble)	Okra	0.5
			Banana	2
			Rice, paddy ¹	0.5
			Rice ²	0.1
			Spices, seeds	5
			Spices, fruits or berries	1
			Spices, roots or rhizome	1
			Kale	1
			Rambutan	0.5
			Celery	0.05
			Soya bean (dry)	0.1
			Soya bean (succulent seeds in pods)	1
			Durian	0.4
			Oil Palm	0.05
			Lettuce, head / Crisphead lettuce	0.1
			Peppers, Chili	3
			Peppers, Chili (dried) ³	20
			Peppers, Sweet	2
			Eggplant and eggplant-like commodities	0.2
			Coconut	0.05
			Peanut	0.05
			Sweet potato	0.05
			Longan	0.9
			Litchi	2
			Shallot	0.2
			Onion, Bulb	0.2
Mushrooms	0.05			
Cattle meat	1 (fat)			
Goat and Sheep meat	1 (fat)			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Cattle, Edible offal of	0.01
			Goat and Sheep, Edible offal of	0.01
			Pig meat	0.02 (fat)
			Pig, Edible offal of	0.01
			Poultry meat	0.01 (fat)
			Poultry, Edible offal of	0.01
			Eggs	0.01
			Milks	0.02
2	Chlorothalonil	Plant: chlorothalonil Animal: 2,5,6-trichloro-4-hydroxy isophthalonitrile	Soya bean (dry)	0.2
			Soya bean (succulent seeds in pods)	2
			Chinese cabbage / Napa cabbage	1
			Chinese broccoli / Chinese kale	4
			Tomato	5
			Potato	0.2
			Peanut	0.1
3	Carbaryl	carbaryl	White lead tree / Lead tree / White popinac (young leave buds)	0.02
			Sweet corn (corn-on-the-cob)	0.1
			Baby corn	0.1
			Maize	0.02
			Sorghum	10
			Rice ²	1
			Rambutan	1
			Watermelon	1
			Durian	30
			Oil Palm	0.05
			Brassica vegetables ⁴	1
			Fruiting vegetables, Cucurbits except Watermelon	2
			Peppers, Chili	0.5
			Peppers, Chili (dried) ³	2
			Peppers, Sweet	5
			Coconut	1

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Mango	3
			Mangosteen	1
			Potato	0.2
			Cacao beans	0.02
			Peanut	2
			Cashew nut	1
			Longan	20
			Litchi	1
			Citrus fruits	7
			Grapes	0.5
			Sugar cane	0.05
			Meat (from mammals other than marine mammals)	0.05
			Edible offal (Mammalian)	1
			Poultry meat	0.05
			Eggs	0.05
			Milks	0.05
4	Carbendazim / Benomyl	sum of carbendazim, benomyl, thiophanate-methyl, expressed as carbendazim	Chives	3
			Rice ²	2
			Rambutan	3
			Spring onion	3
			Mung bean (dry)	0.5
			Soya bean (dry)	0.5
			Soya bean (succulent seeds in pods)	3
			Mulberry leaves	0.1
			Peppers, Chili	2
			Peppers, Chili (dried) ³	20
			Tomato	0.5
			Mango	2
			Cotton seed	0.1
			Peanut	0.1
			Asparagus	0.2
			Shallot	3

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Onion, Bulb	2
			Grapes	3
			Sugar cane	0.1
			Cattle meat	0.05
			Edible offal (Mammalian)	0.05
			Poultry meat	0.05
			Poultry fats	0.05
			Poultry, Edible offal of	0.1
			Eggs	0.05
			Milks	0.05
5	Carbosulfan	carbosulfan	Okra	0.5
			White lead tree / Lead tree / White popinac (young leave buds)	0.2
			Sweet corn (corn-on-the-cob)	0.05
			Baby corn	0.05
			Maize	0.05
			Sorghum	0.05
			Rice ²	0.2
			Rambutan	0.2
			Fruiting vegetables, Cucurbits except Watermelon	0.5
			Watermelon	0.2
			Mung bean (dry)	0.05
			Yard-long bean (pods)	0.1
			Garden pea (young pods)	0.1
			Soya bean (dry)	0.05
			Soya bean (succulent seeds in pods)	0.5
			Durian	0.2
			Oil Palm	0.05
			Brassica vegetables ⁴	0.5
			Peppers, Chili	0.5
			Peppers, Chili (dried) ³	5

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Eggplant and eggplant-like commodities	0.03
			Tomato	0.5
			Coconut	0.2
			Sweet potato	0.05
			Potato	0.05
			Coffee beans	0.05
			Cacao beans	0.05
			Sesame seed	0.2
			Sunflower seed	0.05
			Peanut	0.05
			Cotton seed	0.05
			Linseed	0.05
			Citrus fruits	0.1
			Asparagus	0.02
			Grapes	0.1
			Meat (from mammals other than marine mammals)	0.05 (Fat)
			Edible offal (Mammalian)	0.05
			Poultry meat	0.05
			Poultry, Edible offal of	0.05
			Eggs	0.05
			Milks	0.05
		sum of carbofuran and 3-hydroxy carbofuran expressed as carbofuran	Okra	0.15
			White lead tree / Lead tree / White popinac (young leave buds)	0.2
			Sweet corn (corn-on-the-cob)	0.01
			Baby corn	0.01
			Maize	0.05
			Sorghum	0.1
			Rice ²	0.1
			Rambutan	0.05
			Mung bean (dry)	0.2
			Yard-long bean (pods)	0.1

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Garden pea (young pods)	0.15
			Soya bean (dry)	0.1
			Soya bean (succulent seeds in pods)	0.02
			Durian	0.02
			Oil Palm	0.1
			Brassica vegetables ⁴	0.03
			Citrus fruits	0.02
			Peppers, Chili	0.5
			Peppers, Chili (dried) ³	2
			Eggplant and eggplant-like commodities	0.1
			Tomato	0.1
			Coconut	0.02
			Coffee beans	1
			Cacao beans	0.05
			Sesame seed	0.1
			Peanut	0.1
			Sunflower seed	0.05
			Cotton seed	0.1
			Linseed	0.1
			Asparagus	0.06
			Grapes	0.02
			Meat (from mammals other than marine mammals)	0.05
			Edible offal (Mammalian)	0.05
			Poultry meat	0.01
			Poultry, Edible offal of	0.01
Eggs	0.01			
Milks	0.01			
6	Captan	captan	Barley	0.02
			Soya bean (dry)	5
			Soya bean (succulent seeds in pods)	5
			Oil Palm	5

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Mango	5
			Cotton seed	5
			Peanut	5
			Grapes	10
7	Quintozene	<p>Plant: Quintozene (fat soluble)</p> <p>Animal: Sum of quintozene, penta-chloroaniline and methyl pentachlorophenyl sulphide, expressed as quintozene (fat soluble)</p>	Spices, seeds	0.1
			Spices, fruits or berries	0.02
			Spices, roots or rhizome	2
8	Clothianidin	clothianidin	Durian	0.9
9	Sulfury fluoride	sulfury fluoride	Rice ²	0.1
10	Cypermethrin	Cypermethrin (sum of isomers) (fat soluble)	Okra	0.5
			Sweet corn (corn-on-the-cob)	0.05
			Baby corn	0.05
			Maize	0.05
			Spices, fruits or berries	0.1
			Spices, roots or rhizome	0.2
			Yard-long bean (pods)	0.7
			Garden pea (young pods)	0.05
			Soya bean (dry)	0.05
			Soya bean (succulent seeds in pods)	5
			Durian	1
			Brassica vegetables ⁴	1
			Peppers, Chili	2
			Peppers, Chili (dried) ³	10
			Tomato	0.2
			Eggplant and eggplant-like commodities	0.03
			Mango	0.7
			Papaya	0.5

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Cotton seed	0.1
			Longan	1
			Litchi	2
			Citrus fruits except Pummelo / Pomelo and Gapefruit	0.3
			Gapefruit	0.5
			Pummelo / Pomelo	0.5
			Asparagus	0.4
			Shallot	0.1
			Onion, Bulb	0.01
			Sugar cane	0.2
			Meat (from mammals other than marine mammals)	2 (fat)
			Edible offal (Mammalian)	0.05
			Poultry meat	0.1 (fat)
			Poultry, Edible offal of	0.05
			Chicken fat	0.1
			Eggs	0.05
			Milks	0.05
11	2, 4-D	sum of 2,4-D and its salts and esters expressed as 2,4-D	Sweet corn (corn-on-the-cob)	0.05
			Baby corn	0.05
			Maize	0.05
			Sorghum	0.01
			Rice ²	0.1
			Spring onion	0.05
			Pineapple	0.05
			Meat (from mammals other than marine mammals)	0.2
			Edible offal (Mammalian)	1
			Poultry meat	0.05
			Poultry, Edible offal of	0.05
			Eggs	0.01
			Milks	0.01

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
12	Deltamethrin	sum of deltamethrin and its α -R- and trans-deltamethrin (fat soluble)	Garlic	0.1
			Banana	0.05
			Baby corn	0.02
			Maize	1
			Sweet corn (corn-on-the-cob)	0.02
			Spring onion	0.5
			Yard-long bean (pods)	0.2
			Oil Palm	0.05
			Pak-choi / Bok choy / Choi Sum / Chinese flowering cabbage	2
			Chinese cabbage / Napa cabbage	2
			Chinese broccoli / Chinese kale	2
			Brassica vegetables ⁴ except cabbages, head; Pak-choi; Chinese cabbage; and Chinese kale	0.1
			Peppers, Chili	0.1
			Peppers, Chili (dried) ³	1
			Tomato	0.3
			Mango	0.2
			Coffee beans	2
			Cacao beans	0.05
			Peanut	0.01
			Cotton seed	0.05
			Cashew nut	0.02
			Pineapple	0.01
			Asparagus	0.1
			Shallot	0.1
			Onion, Bulb	0.05
Sugar cane	0.05			
Cattle meat	0.5 (fat)			
Goat and Sheep meat	0.5 (fat)			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Cattle, Edible offal of	0.03
			Goat and Sheep, Edible offal of	0.03
			Pig meat	0.5 (fat)
			Pig, Edible offal of	0.03
			Poultry meat	0.1 (fat)
			Poultry, Edible offal of	0.02
			Poultry fats	0.1 (fat)
			Eggs	0.02
			Milks	0.05 F
13	Dichlorvos	dichlorvos	Spices, entire group	0.1
			Citrus fruits	0.2
			Cereal grains	0.2
			Meat (from mammals other than marine mammals)	0.05
			Poultry meat	0.05
			Milks	0.02
14	Dicofol	Plant: dicofol (sum of o,p' & p,p' - isomers) (fat soluble) Animal: Sum of dicofol and 2,2- dichloro-1, 1- bis (4- chlorophenyl) ethanol (p,p' – FW 152), expressed as dicofol (fat soluble)	Spices, seeds	0.05
			Spices, fruits or berries	0.1
			Spices, roots or rhizome	0.1
			Cucumber	0.5
			Mung bean (dry)	0.1
			Soya bean (dry)	0.05
			Tomato	1
			Cattle meat	3 (fat)
			Cattle, Edible offal of	1
			Poultry meat	0.1 (fat)
			Poultry, Edible offal of	0.05
			Eggs	0.05
			Milks	0.1 F
15	Groups of dithiocarbamates: zineb, ziram, thiram, propineb,	Total dithiocarbamates, determined and expresses as CS ₂	Okra	0.2
			Garlic	0.5
			Rice ²	0.05
			Rambutan	2

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
	maneb, and mancozeb		Spring onion	10
			Cucumber	2
			Muskmelon	0.5
			Watermelon	1
			Fruiting vegetables, Cucurbits except Cucumber and Watermelon	0.5
			Soya bean (dry)	0.1
			Soya bean (succulent seeds in pods)	0.2
			Durian	2
			Oil Palm	0.1
			Chinese cabbage / Napa cabbage	5
			Chinese broccoli, Chinese kale	15
			Water spinach / Chinese morning glory	0.3
			Taro	0.1
			Peppers, Chili	3
			Peppers, Sweet	1
			Peppers, Chili (dried) ³	20
			Pumpkins	0.2
			Tomato	2
			Mango	2
			Potato	0.2
			Peanut	0.1
			Citrus fruits	2
			Asparagus	0.1
			Shallot	0.5
			Onion, Bulb	0.5
			Grapes	2
Meat (from mammals other than marine mammals)	0.05			
Edible offal (Mammalian)	0.1			
Poultry meat	0.1			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Poultry, Edible offal of	0.1
			Eggs	0.05
			Milks	0.05
16	Difenoconazole	<u>Plant:</u> difenoconazole (fat soluble) <u>Animal:</u> sum of difenoconazole and metabolite CGA 205375, expressed as difenoconazole (fat soluble)	Mango	0.6
17	Dimethoate	dimethoate	Sorghum	0.01
			Spices, seeds	5
			Spices, fruits or berries	0.5
			Spices, roots or rhizome	0.1
			Cucumber	1
			Muskmelon	1
			Yard-long bean (pods)	0.05
			Soya bean (dry)	0.1
			Tomato	2
			Cotton seed	0.05
			Citrus fruits	5
			Shallot	0.05
			Onion, Bulb	0.05
			Meat (from mammals other than marine mammals)	0.05
			Mammalian fats (except milk fats)	0.05
			Edible offal (Mammalian)	0.05
			Poultry meat	0.05
Poultry fats	0.05			
Poultry, Edible offal of	0.05			
Eggs	0.05			
Milks	0.05			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
18	Diazinon	Diazinon (fat soluble)	Sweet corn (corn-on-the-cob)	0.02
			Baby corn	0.02
			Maize	0.02
			Sorghum	0.02
			Spices, seeds	5
			Spices, fruits or berries	0.1
			Spices, roots or rhizome	0.5
			Tea leaves (dried)	0.1
			Chinese cabbage / Napa cabbage	0.05
			Chinese broccoli / Chinese kale	0.05
			Brassica Vegetables ⁴ except Chinese cabbage and Chinese broccoli	0.5
			Coffee beans	0.2
			Cotton seed	0.1
			Meat (from mammals other than marine mammals)	2 (fat)
			Edible offal (Mammalian)	0.03
			Poultry meat	0.02
			Poultry, Edible offal of	0.02
			Eggs	0.02
Milks	0.02 F			
19	Triazophos	triazophos	Garlic	0.05
			Sorghum	0.05
			Spices, fruits or berries	0.07
			Spices, roots or rhizome	0.1
			Mung bean (dried)	0.2
			Yard-long bean (pods)	0.4
			Soya bean (dry)	0.05
			Soya bean (succulent seeds)	0.5
			Soya bean (succulent seeds in pods)	1
			Jujube, Indian	0.03

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Coffee beans	0.05
			Peanut	0.05
			Cacao beans	0.05
			Sesame seed	0.05
			Sunflower seed	0.05
			Shallot	0.05
			Onion, Bulb	0.05
			Grapes	0.02
			Cattle meat	0.01
			Poultry meat	0.01
			Milks	0.01
20	Tebuconazole	tebuconazole (fat soluble)	Onion, Bulb	0.1
21	Thiamethoxam	thiamethoxam	Mango	0.2
		clothianidin	Mango	0.04
22	Buprofezin	buprofezin	Cotton seed	0.35
23	Paraquat	paraquat cation	Sweet corn (corn-on-the-cob)	0.05
			Baby corn	0.05
			Maize	0.03
			Sorghum	0.03
			Rice, paddy ¹	0.05
			Rice ²	0.05
			Pulses except Soya bean (dry)	0.5
			Soya bean (dry)	0.1
			Fruits (inedible peel), except Citrus fruits	0.01
			Citrus fruits	0.02
			Leafy vegetables	0.07
			Fruiting vegetables, cucurbits	0.02
			Root and tuber vegetables	0.05
			Tomato	0.05
Potato	0.05			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Cotton seed	2
			Strawberries	0.01
			Grapes	0.01
			Meat (from mammals other than marine mammals)	0.005
			Edible offal (Mammalian)	0.05
			Poultry meat	0.005
			Poultry, Edible offal of	0.005
			Eggs	0.005
			Milks	0.005
24	Pirimiphos-methyl	pirimiphos-methyl (fat soluble)	Sweet corn (corn-on-the-cob)	1
			Baby corn	1
			Maize	1
			Rice, paddy ¹	7
			Rice ²	5
			Spices, seeds	3
			Spices, fruits or berries	0.5
			Oil Palm	0.1
			Cacao beans	0.05
			Kapok seed	0.1
			Cashew nut	0.1
			Meat (from mammals other than marine mammals)	0.01
			Edible offal (Mammalian)	0.01
			Poultry meat	0.01
			Poultry, Edible offal of	0.01
			Eggs	0.01
			Milks	0.01
25	Permethrin	permethrin (sum of isomers) (fat-soluble)	Spices, entire group	0.05
26	Prochloraz	sum of prochloraz and its metabolites containing the 2,4,6-trichlorophenol moiety,	Mango	7

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
		expressed as prochloraz (fat soluble)		
27	Prothiofos	prothiofos	Mung bean (dry)	0.05
			Peppers, Chili	3
			Peppers, Chili (dried) ³	20
			Potato	0.05
			Peanut	0.05
28	Profenofos	profenofos (fat soluble)	Cabbages, Head	1
			Java apple / Wax jambu / Wax apple / Rose apple	0.05
			Spring onion	0.05
			Soya bean (dry)	0.05
			Durian	0.05
			Cotton seed oil	0.05
			Citrus fruits except Pummelo / Pomelo and Lime	0.1
			Brassica vegetables ⁴ except Cabbages, Head	0.5
			Peppers, Chili	3
			Peppers, Sweet	0.5
			Peppers, Chili (dried) ³	20
			Tomato	10
			Lime	0.05
			Mango	0.2
			Mangosteen	10
			Potato	0.05
			Cotton seed	3
			Pummelo / Pomelo	2
			Shallot	0.05
			Onion, Bulb	0.05
Grapes	0.05			
Meat (from mammals other than marine mammals)	0.05			
Edible offal (Mammalian)	0.05			
Poultry meat	0.05			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Poultry, Edible offal of	0.05
			Eggs	0.02
			Milks	0.01
29	Fipronil	<u>Plant:</u> fipronil (fat soluble) <u>Animal:</u> sum of fipronil and fipronil sulfone, expressed as fipronil (fat soluble)	Basil (holy basil)	0.2
			Rice, paddy ¹	0.01
			Rice ²	0.01
			Yard-long bean (pods)	0.04
			Cotton seed	0.01
			Basil (sweet basil)	0.2
30	Famoxadone	famoxadone (fat soluble)	Potato	0.02
31	Fenvalerate	fenvalerate (sum of fenvalerate isomers) (fat soluble)	Cabbages, Head	3
			Sweet corn (corn-on-the-cob)	0.1
			Baby corn	0.1
			Yard-long bean (pods)	1
			Soya bean (dry)	0.1
			Oil Palm	0.5
			Chinese cabbage / Napa cabbage	1
			Chinese broccoli / Chinese kale	3
			Brassica vegetables ⁴ except Chinese cabbage and Chinese kale	2
			Tomato	1
			Mango	1.5
			Potato	0.05
			Cotton seed	0.2
			Peanut	0.1
			Longan	1
			Litchi	1
Meat (from mammals other than marine mammals)	1 (fat)			
Edible offal (Mammalian)	0.02			
Milks	0.1 F			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
32	Fenitrothion	fenitrothion	Sweet corn (corn-on-the-cob)	1
			Baby corn	1
			Maize	1
			Rice, paddy ¹	6
			Rice ²	1
			Spices, seeds	7
			Spices, fruits or berries	1
			Spices, roots or rhizome	0.1
			Tea (dried leaves)	0.5
			Soya bean (dry)	0.5
			Soya bean (succulent seeds in pods)	0.5
			Coffee beans	0.05
			Meat (from mammals other than marine mammals)	0.05
			Poultry meat	0.05
			Eggs	0.05
Milks	0.01			
33	Phosalone	phosalone (fat soluble)	Spices, seeds	2
			Spices, fruits or berries	2
			Spices, roots or rhizome	3
			Spring onion	0.5
			Yard-long bean (pods)	0.5
			Garden pea (young pods)	0.5
			Soya bean (dry)	0.05
			Soya bean (succulent seeds in pods)	0.5
			Durian	1
			Mulberry leaves	0.1
			Brassica vegetables ⁴	0.5
			Peppers, Chili	0.5
			Peppers, Sweet	0.5
			Peppers, Chili (dried) ³	4
Tomato	0.5			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Eggplant and eggplant-like commodities	0.5
			Citrus fruits	1
			Mangosteen	1
			Cotton seed	1
			Asparagus	0.5
			Shallot	0.5
			Onion, Bulb	0.5
34	Folpet	folpet	Rambutan	0.1
35	Phenthoate	Phenthoate (fat soluble)	Spices, seeds	7
36	Malathion	malathion (fat soluble)	Cauliflower	0.5
			Cabbages, Head	8
			Sweet corn (corn-on-the-cob)	0.02
			Baby corn	0.02
			Maize	0.05
			Sorghum	3
			Spices, seeds	2
			Spices, fruits or berries	1
			Spices, roots or rhizome	0.5
			Spring onion	5
			Broccoli	5
			Citrus fruits except Pummelo / Pomelo	7
			Chinese cabbage / Napa cabbage	8
			Chinese broccoli / Chinese kale	3
			Peppers, Chili	0.1
			Peppers, Chili (dried) ³	1
			Tomato	0.5
			Cassava	0.5
			Pummelo / Pomelo	0.2
			Shallot	1

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Onion, Bulb	1
			Sugar cane	0.02
37	Metalaxyl or Metalaxyl-M	metalaxyl	Sweet corn (corn-on-the-cob)	0.05
			Baby corn	0.05
			Maize	0.05
			Spices, seeds	5
			Cucumber	0.5
			Muskmelon	0.2
			Watermelon	0.2
			Durian	0.5
			Loofah, angled	0.2
			Citrus fruits	5
			Chinese broccoli / Chinese kale	2
			Water spinach / Chinese morning glory	2
			Taro	0.5
			Pepper, Black; White	0.05
			Betel leaves	0.05
			Pumpkins	0.2
			White gourd	0.2
			Tomato	0.2
			Potato	0.05
			Pineapple	0.1
Onion, Bulb	2			
Grapes	1			
38	Methidathion	methidathion	Rambutan	0.2
			Durian	0.2
			Custard apple / Sugar apple	0.2
			Citrus fruits	0.5
			Pear or Oriental pear / Chinese pear / Nashi pear / Sand pear / Snow pear	0.1
			Grapes	0.1
			Apple	0.1

No.	Pesticides	Residue Definition	Commodities [*]	Maximum Residue Limit (mg/kg)
			Meat (from mammals other than marine mammals)	0.02
			Edible offal (Mammalian)	0.02
			Poultry meat	0.02
			Poultry, Edible offal of	0.02
			Eggs	0.02
			Milks	0.001
39	Methyl bromide	bromide ion from use of methyl bromide and from all sources but not including covalently bound bromine	Rice ²	50
		methyl bromide	Rice ² (To apply at point of entry into a country or at the fumigated area, when the product has been freely exposed to air for a period of at least 24 h after fumigation)	1
			Rice ² (To apply to commodity at point of retail sale)	0.01
40	Lambda-cyhalothrin	cyhalothrin (sum of all isomers) (fat soluble)	Okra	0.03
			Basil (holy basil)	0.7
			Sorghum	0.2
			Rambutan	0.5
			Mung bean (dry)	0.2
			Soya bean (dry)	0.2
			Soya bean (succulent seeds in pods)	0.2
			Durian	0.5
			Oil Palm	0.2
			Brassica vegetables ⁴ except Broccoli and Cauliflower	0.3
			Broccoli and Cauliflower	0.5

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Peppers, Chili	0.3
			Peppers, Sweet	0.3
			Peppers, Chili (dried) ³	3
			Mango	0.2
			Eggplant and eggplant-like commodities	0.3
			Tomato	0.3
			Cacao beans	0.02
			Sesame seed	0.2
			Kapok seed	0.02
			Cotton seed	0.02
			Basil (lemon basil)	0.7
			Basil (tree Basil)	0.7
			Longan	0.2
			Litchi	0.5
			Asparagus	0.02
			Basil (sweet basil)	0.7
41	Azoxystrobin	azoxystrobin (fat soluble)	Mango	0.7
42	Acephate	acephate	Rice, Paddy ¹	1
			Rice ²	1
			Spices, entire group	0.2
			Mung bean (dry)	0.3
			Soya bean (dry)	0.3
			Potato	0.5
			Coffee beans	0.05
			Cacao beans	0.05
			Cotton seed	2
			Peanut	0.2
			Meat (from mammals other than marine mammals)	0.05
			Edible offal (Mammalian)	0.05
			Poultry meat	0.01

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
			Poultry, Edible offal of	0.01
			Eggs	0.01
			Milks	0.02
43	Atrazine	atrazine	Sweet corn (corn-on-the-cob)	0.1
			Baby corn	0.1
			Maize	0.1
			Pineapple	0.1
			Sugar cane	0.1
44	Abamectin	avermectin B1a (fat soluble)	Watermelon	0.01
			Yard-long bean (pods)	0.01
			Garden pea (young pods)	0.01
			Pak-choi / Bok choy / Choi Sum / Chinese Flowering Cabbage	0.01
			Chinese broccoli / Chinese kale	0.01
			Brassica vegetables ⁴ except Pak-choi and Chinese broccoli	0.01
			Peppers, Chili	0.005
			Peppers, Sweet	0.09
			Peppers, Chili (dried) ³	0.5
			Thai egg plant	0.02
			Cotton seed	0.01
			Citrus fruits	0.01
			Meat (from mammals other than marine mammals)	0.01
			Mammalian fats (except milk fats)	0.1
			Edible offal (Mammalian)	0.1
			Poultry meat	0.01
Poultry, Edible offal of	0.02			
Eggs	0.01			
Milks	0.005			

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
45	Amitraz	sum of amitraz and N-(2,4-dimethylphenyl)-N'-methylformamide calculated as N-(2,4-dimethylphenyl)-N'-methylformamide	Longan	2
46	Ametryn	ametryn	Tea (dried leaves)	0.05
			Coffee beans	0.05
			Pineapple	0.05
			Sugar cane	0.05
47	Imidacloprid	sum of imidacloprid and its metabolites containing the 6-chloropyridinyl moiety, expressed as imidacloprid	Basil (holy basil)	20
			Okra	0.1
			Rice, paddy ¹	0.05
			Rice ²	0.05
			Mango	0.4
			Basil (lemon basil)	20
			Basil (tree Basil)	20
			Longan	0.8
			Mandarins	1
			Basil (sweet basil)	20
48	Ethephon	Plant and Animal: Ethephon (Cereal grains: ethephon and its conjugates, expressed as ethephon)	Banana	2
			Cherries	3
			Durian	2
			Mango	2
			Pineapple	2
			Grapes	1
			Apple	1
			Meat (from mammals other than marine mammals)	0.1
			Edible offal (Mammalian)	0.2
			Poultry meat	0.1
			Poultry, Edible offal of	0.2
			Eggs	0.2
			Milks	0.05

No.	Pesticides	Residue Definition	Commodities *	Maximum Residue Limit (mg/kg)
49	Ethion	ethion (fat soluble)	Spices, seeds	3
			Spices, fruits or berries	5
			Spices, roots or rhizome	0.3
			Pulses	0.1
			Legume vegetables	0.3
			Peppers, Chili	3
			Peppers, Chili (dried) ³	20
			Lime	1
			Mandarins	2
			Pummelo / Pomelo	1
50	Iprodion	iprodion	Spices, seeds	0.05
			Spices, roots or rhizome	0.1
51	Omethoate	omethoate	White lead tree / Lead tree / White popinac (young leave buds)	0.05
			Mung bean (dry)	0.05
			Yard-long bean (pods)	0.05
			Soya bean (dry)	0.05
			Cassava	0.02
			Coffee beans	0.05
			Cotton seed	0.05
52	Hydrogen Phosphide In the form of aluminum phosphide or magnesium phosphide or phosphine	Hydrogen Phosphide	Rice ²	0.1

Note

- Commodities * in case of plant commodities, classified as defined in Thai Agricultural Standard TAS 9045-2016 Classification of agricultural products: Plants and the latest revision.
- Rice, paddy¹ means non-glutinous rice or glutinous rice with husk.
- Rice² means paddy rice from which the husk has been removed into brown rice , or the husk has been removed and polishing bran into white rice.

- Peppers, Chili (dried)³ means dried chili peppers made from chili peppers such as bird chili (*Capsicum frutescens* Linn), chili spur pepper (*Capsicum annuum* Linn. *Var acuminatum* Fingerh), green pepper (*Capsicum annuum* Linn.).
- Brassica vegetables⁴ means vegetables Group 010 Brassica vegetables, except Brassica leafy vegetables (such as cabbages, head; cauliflower; broccoli) and Subgroup 013B brassica Leafy vegetables (such as Chinese broccoli, Pak-choi)
- “F” indicated after the MRL of milk and milk products for fat-soluble pesticide residues means the MRLs for fat-soluble pesticide residues in milk and milk products expressed on a whole product based. In addition, criteria for using the MRL with “F” are as follows:
 - (1) For a “milk product” with a fat content less than 2%, the MRL applied should be as half of those specified for milk.
 - (2) For a “milk product” with a fat content of 2% or more, the MRL applied should be 25 times of the established MRL for milk, expressed on a fat basis.
- (fat) indicated after the MRL of meat for fat-soluble pesticide residues means the MRL applied to the fat of meat.

Annex 3

Default Limits for Plant ^{*}

Attachment of Notification of the Ministry of Public Health No.387 B.E.2560 (2017)

Re: Food Containing Pesticide Residues (*Pesticide Residues in Food*)

No.	Pesticides	Definition of Residues	Default limits (mg/kg)
1	Chlormequat	chlormequat cation	0.1
2	Carbendazim / Benomyl	sum of carbendazime, benomyl, and thiophanate-methyl, expressed as carbendazim	0.1
3	Cypermethrin	cypermethrin	0.02
4	Cyfluthrin	cyfluthrin, sum of isomers (fat soluble)	0.02
5	Deltamethrin	sum of deltamethrin and its α -R- and trans-deltamethrin (fat soluble)	0.05
6	Triadimenol	sum of triadimefon and triadimenol (fat soluble)	0.1
7	Triadimefon	sum of triadimefon and triadimenol (fat soluble)	0.1
8	Thiabendazole	thiabendazole	0.1
9	Bifenthrin	bifenthrin (sum of isomers) (fat soluble)	0.05
10	Permethrin	permethrin (sum of isomers) (fat soluble)	0.1
11	Fipronil	fipronil (fat soluble)	0.005
12	Fenpropathrin	fenpropathrin (fat soluble)	0.05
13	Fenvalerate	fenvalerate (sum of isomers) (fat soluble)	0.02
14	Lambda-cyhalothrin	cyhalothrin (sum of all isomers) (fat soluble)	0.05
15	Acephate	acephate	0.05
16	Emamectin benzoate	Emamectin B1a benzoate	0.005
17	Omethoate	omethoate	Not Detected

Note

- ^{*}
- Plant classified as defined in Thai Agricultural Standard TAS 9045-2016 Classification of agricultural products: Plants and the latest revision.

Annex 4

Extraneous Maximum Residue Limit (EMRL)

Attachment of Notification of the Ministry of Public Health No. 387 B.E.2560 (2017)

Re: Food Containing Pesticide Residues (*Pesticide Residues in Food*)

Commodities *	Extraneous Maximum Residue Limit (mg/kg)				
	Aldrin and Dieldrin ¹	Chlordane ²	DDT ³	Endrin ⁴	Heptachlor ⁵
Cereal grains	0.02	0.02	0.1	0.01	0.02
Fruits	0.05	0.02	0.01	0.01	0.01
Herbs and Spices	0.05	0.02	0.01	0.01	0.05
Vegetables	-	0.02	-	-	-
Vegetables; except Fruiting vegetables, Cucurbits and Root and tuber vegetables	0.05	-	-	-	-
Vegetables; except Fruiting vegetables, Cucurbits	-	-	-	0.01	-
Vegetables; except Carrot	-	-	0.01	-	-
Vegetables; except Pulses	-	-	-	-	0.05
Fruiting vegetables, Cucurbits	0.1	-	-	0.05	-
Root and tuber vegetables	0.1	-	-	-	-
Carrot	-	-	0.2	-	-
Pulses	-	-	-	-	0.02
Grasses, for sugar or syrup production	0.05	0.02	0.01	0.01	0.01
Plants for beverage	0.2	0.02	0.01	0.01	0.05
Tree nuts	0.05	0.02	0.01	0.01	0.02
Oilseed	0.05	0.02	0.01	0.01	0.02
Vegetable fats and oils	0.2	0.02	0.05	0.05	0.02
Animal fats and oils	0.2	0.05	1	0.05	0.2
Mamalian meat and edible offal	0.2 (fat)	0.05 (fat)	5 (fat)	0.05 (fat)	0.2 (fat)
Poultry meat and edible offal	0.2 (fat)	0.05 (fat)	0.3 (fat)	0.1 (fat)	0.2 (fat)
Meat of aquatic animals, molluscs (including <i>Cephalopods</i>), and invertebrate animals	0.2 (fat)	0.05 (fat)	1 (fat)	0.05 (fat)	0.2 (fat)
Meat of amphibians and reptiles	0.2 (fat)	0.05 (fat)	1 (fat)	0.05 (fat)	0.2 (fat)
Eggs	0.1	0.02	0.1	0.005	0.05
Milks	0.006 F	0.002 F	0.02 F	0.0008 F	0.006 F

Note

- * - Commodities in case of plant commodities, classified as defined in Thai Agricultural Standard TAS 9045-2016 Classification of agricultural products: Plants and the latest revision.

- Mark - means Look for ‘the commodity field’ next down or up that EMRL has been filled
- Specify the analytical procedure to express the amount of pesticide residue as follows :
 - ¹ Aldrin and dieldrin : definition of the residue shall be sum of HHDN and HEOD (fat soluble).
 - ² Chlordane : definition of the residue for plant commodities shall be sum of cis- and trans- chlordane (fat soluble), definition of the residue for animal commodities shall be sum of cis- and trans- chlordane and oxychlordane (fat soluble).
 - ³ DDT : definition of the residue shall be sum of (p, p'-DDT), (o,p'-DDT), (p,p'-DDE) and {p,p'-TDE (DDD)} (fat soluble).
 - ⁴ Endrin: definition of the residue shall be sum of endrin and delta-keto-endrin (fat soluble).
 - ⁵ Heptachlor : definition of the residue shall be sum of heptachlor and heptachlor epoxide (fat soluble).
- “F” indicated after the MRL of milk and milk products for fat-soluble pesticide residues means the MRLs for fat-soluble pesticide residues in milk and milk products expressed on a whole product based. In addition, criteria for using the MRL with “F” are as follows:
 - (1) For a “milk product” with a fat content less than 2 %, the MRL applied should be as half of those specified for milk.
 - (2) For a “milk product” with a fat content of 2 % or more, the MRL applied should be 25 times of the established MRL for milk, expressed on a fat basis.
- (fat) indicated after the MRL of meat for fat-soluble pesticide residues means the MRL applied to the fat of meat.

Annex 5

The analytical methods for pesticide residues in food resulting from the use of pesticides in agriculture

Attachment of Notification of the Ministry of Public Health No. 387 B.E.2560 (2017)

Re: Food Containing Pesticide Residues (*Pesticide Residues in Food*)

The analytical methods for pesticide residues in food resulting from the use of pesticides in agriculture shall be one of the following:

1. Analytical methods issued by National Organizations or International Standards Organizations, or published in the manuals or publications which are internationally recognized.

2. Performance characteristics of pesticide residue analytical methods must be accurate and reliable. Method validation is performed by a collaborative study or single laboratory based on international guidelines. The result shall be in document comply with the latest version of ISO/IEC 17025.

The methods of analysis as stated under items 1 and 2 shall provide the reliable outcome of MRLs/EMRLs.