การปรับปรุงแก้ไขมาตรฐานสารเคมีตกค้าง ประเทศญี่ปุ่น

The 241st Materials for Promotion of Food Import Facilitation

(๑) กระทรวงสาธารณสุข แรงงาน และสวัสดิการญี่ปุ่นปรับปรุงแก้ไขมาตรฐานสารเคมีทางการเกษตร ๖ รายการ ดังนี้

๑	2,4-D (Pesticides : Herbicide) จะเพิ่มความเข้มงวดต่อผลผลิตส่งออกสำคัญ เช่น หอมหัวใหญ่ หน่อไม้ ขิง กระเจี๊ยบเขียว ถั่วแระ ถั่วลันเตา กล้วย สับปะรด มะม่วง ผลิตภัณฑ์ประมง ฯลฯ	ตารางหน้า ๔ – ๗
๒	Dimethenamid (Pesticides : Herbicide) จะเพิ่มความเข้มงวดต่อข้าวโพด ถั่วเหลือง ถั่วแระ บล็อคโคลี	ตารางหน้า ๘
๓	Spinetoram (Pesticides : Insecticide) จะเพิ่มความเข้มงวดต่อเผือก แครอท แตงโม ลูกท้อ	ตารางหน้า ๙ – ๑๑
๔	Benzovindiflupyr (Pesticides : Fungicide) มิได้เพิ่มความเข้มงวดต่ออาหารรายการใด ๆ	ตารางหน้า ๑๒ – ๑๓
๕	Fosthiazate (Pesticides : Insecticide) จะเพิ่มความเข้มงวดต่อหอมหัวใหญ่ หน่อไม้ฝรั่ง หน่อไม้ กระเจี๊ยบเขียว ขิง เครื่องเทศ ฯลฯ	ตารางหน้า ๑๔ – ๑๕
๖	Metaflumizone (Pesticides : Insecticide) จะเพิ่มความเข้มงวดต่อข้าวโพด หน่อไม้ฝรั่ง ขิง มันหวาน เผือก สตรอเบอรี ฯ	ตารางหน้า ๑๖ – ๑๗

(๒) กำหนดวิธีทดสอบสาร Gentian Violet และ Leucogentian Violet โดย LC-MS/MS, LOQ=0.002 mg/kg กระทรวงสาธารณสุขฯ ญี่ปุ่น อยู่ระหว่างการเตรียมการด้านนิติกรเพื่อกำหนดให้สาร Gentian Violet รวมถึง Leucogentian Viole เป็นสารที่ห้ามการตกค้างในอาหารทุกรายการเนื่องจากมีความเสี่ยงต่อการทำลายพันธุกรรมและเป็นต้นเหตุของมะเร็ง คาดว่าจะประกาศบังคับใช้ในประเทศญี่ปุ่นปลายปี ๒๕๖๔ หรือต้นปี ๒๕๖๕

หน่วยงานที่เกี่ยวข้องในประเทศไทย สามารถติดต่อขอความร่วมมือกระทรวงสาธารณสุขฯ ญี่ปุ่นพิจารณาแก้ไขปรับปรุงมาตรฐานที่บังคับใช้แล้วให้สอดคล้องกับมาตรฐานของประเทศไทยได้ โดยรวบรวมนำเสนอข้อมูลทางวิชาการสนับสนุนประกอบการพิจารณาของกระทรวงสาธารณสุขฯ ญี่ปุ่นได้เสมอ (Based on Application)

หากสามารถนำส่งข้อมูลภายในวันที่ ๒๔ มิถุนายน ๒๕๖๔ กระทรวงสาธารณสุขฯ ญี่ปุ่นอาจพิจารณาปรับปรุงแก้ไขร่างมาตฐานใหม่อีกก่อนรวบรวมแจ้ง WTO/SPS ในโอกาสต่อไป

Establishment of the Maximum Residue Limits for Agricultural and Veterinary Chemicals in Foods

The Food Sanitation Act authorizes the Ministry of Health, Labour and Welfare (MHLW) to establish residue standards (maximum residue limits, "MRLs") for pesticides, feed additives, and veterinary drugs (hereafter referred to as "agricultural and veterinary chemicals") that may remain in foods. Any food for which standards are established pursuant to the provisions in Article 13, Paragraph 1 of the act is not permitted to be marketed in Japan unless it complies with the established standards

On May 29, 2006, Japan introduced the Positive List System[1] for agricultural and veterinary chemicals in food. All foods distributed in the Japanese marketplace are subject to regulation of the system.

The MHLW is going to modify or newly set MRLs in some commodities for the following substances, including modification of MRLs on several Veterinary drugs in some commodities that were provisionally set at the introduction of the Positive List System:

Establishment of Maximum Residue Limits for Agricultural Chemicals in Food

Pesticides : **2,4-D, Dimethenamid, Spinetoram , Benzovindiflupyr , Fosthiazate, Metaflumizone**

Establishment of Analytical Methods for Veterinary Chemicals in Foods

Veterinary drugs : **Gentian violet**

<The manner of submitting comments>

The Ministry of Health, Labour and Welfare (MHLW) will amend the existing standards and specifications for food as shown in this document. Please provide comments in writing by Thursday June 24, 2021. After the given date, comments should be directed to the enquiry point in accordance with the WTO/SPS Agreement.

If you wish to request Japan to adopt the same limits as your country's MRLs, you are requested to submit data supporting your country's MRLs, such as risk assessment and residue data.

<Contact person>

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Pharmaceutical Safety and Environmental Health Bureau,
Ministry of Health, Labour and Welfare
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[1] The aim of the positive list system is to prohibit the distribution of any foods which contain agricultural chemicals at amounts exceeding a certain level (0.01 ppm) in the Japanese marketplace unless specific maximum residue limits (MRLs) have been set.

Summary

Establishment of Maximum Residue Limits for Agricultural Chemicals in Food

2,4-D (Pesticides: Herbicide): Permitted for use in Japan. The MHLW is going to establish MRLs in some commodities in response to a request for setting them by the Ministry of Agriculture, Forestry and Fisheries (MAFF) with the intention to expand its use pattern. The MHLW is also going to establish MRL in some commodities in response to a request for setting import tolerances based on the Guideline for Application for Establishment and Revision of Maximum Residue Limits for Agricultural Chemicals Used outside Japan (Shokuan No. 0205001, 5 February 2004). In addition, certain MRLs are going to be modified in several commodities that were provisionally set at the introduction of the Positive List System.

Dimethenamid (Pesticides: Herbicide): Permitted for use in Japan. The MHLW is going to establish MRLs on several commodities in response to requests for setting MRLs by the MAFF with the intention to expand its use patterns.

Spinetoram (Pesticides: Insecticides): Permitted for use in Japan. The MHLW is going to establish MRLs on several commodities in response to requests for setting MRLs by the MAFF with the intention to expand its use patterns.

Benzovindiflupyr (Pesticides: Fungicides): Not Permitted for use in Japan. The MHLW is going to establish MRLs on several commodities in response to requests for setting import tolerances based on Guideline for Application for Establishment and Revision of Maximum Residue Limits for Agricultural Chemicals used outside Japan (Attachment on Shokuan No. 0205001, 5 February 2004). This action will not strengthen the current regulation for any commodities.

Fosthiazate (Pesticides: Insecticides): Permitted for use in Japan. The MHLW is going to establish MRLs in some commodities in response to a request for setting them by the MAFF with the intention to expand its use pattern. The MHLW is also going to establish MRL in some commodities in response to a request for setting import tolerances based on the Guideline for Application for Establishment and Revision of Maximum Residue Limits for Agricultural Chemicals Used outside Japan (Shokuan No. 0205001, 5 February 2004). In addition, certain MRLs are going to be modified in several commodities that were provisionally set at the introduction of the Positive List System.

Metaflumizone (Pesticides: Insecticide): Permitted for use in Japan. The MHLW is going to establish MRLs on several commodities in response to a request for setting them by the MAFF with the intention to expand its use patterns. The MHLW is also going to establish MRLs on animal products in response to a request from the MAFF.

Establishment of Analytical Methods for Veterinary Chemicals in Foods

Veterinary drugs: **Gentian violet (Parasiticide)**

It would be designated as a substance used as an ingredient of agricultural chemicals and other chemical substances that is stipulated to be "Not detected" in foods, as notified at 238th FSG meeting.

2,4-D

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
				Codex ppm	Country/Region ppm
Rice (brown rice)	0.1	0.1	§	0.1	
Wheat	○ 2	0.5		2	
Barley	○ 2	0.5			2.0 USA
Rye	○ 2	0.5		2	
Corn (maize, including pop corn and sweet corn)	0.05	0.05		0.05	
Buckwheat	●	0.2			
Other cereal grains	○ 2	0.5		0.01	2.0 USA
Soybeans, dry	● 0.01	0.05		0.01	
Beans, dry	●	0.05			
Peas	●	0.05			
Broad beans	●	0.05			
Peanuts, dry	●	0.05			
Other pulses	●	0.05			
Potato	○ 0.4	0.2		0.2	0.4 USA
Taro	●	0.05			
Sweet potato	●	0.05			
Japanese yam (including Chinese yam)	●	0.05			
Konjac	●	0.05			
Other potatoes	●	0.05			
Sugar beet	●	0.08			
Sugarcane	○ 0.1	0.05	§ ・Request	0.05	
Japanese radish, roots (including radish)	●	0.08			
Japanese radish, leaves (including radish)	●	0.05			
Turnip, roots (including rutabaga)	●	0.08			
Turnip, leaves (including rutabaga)	●	0.05			
Horseradish	●	0.08			
Watercress	●	0.08			
Chinese cabbage	●	0.08			
Cabbage	●	0.08			
Brussels sprouts	●	0.08			
Kale	●	0.08			
Komatsuna (Japanese mustard spinach)	●	0.08			
Kyona	●	0.08			
Qing-geng-cai	●	0.08			
Cauliflower	●	0.08			
Broccoli	●	0.08			
Other cruciferous vegetables	●	0.08			
Burdock	●	0.08			
Salsify	●	0.08			
Artichoke	●	0.05			
Chicory	●	0.08			
Endive	●	0.08			
Shungiku	●	0.08			
Lettuce (including cos lettuce and leaf lettuce)	●	0.08			
Other composite vegetables	●	0.08			
Onion	●	0.05			
Welsh (including leek)	●	0.05			
Garlic	●	0.05			
Nira	●	0.05			
Asparagus	5	5			5.0 USA
Multiplying onion (including shallot)	●	0.05			

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL		
				Codex ppm	Country/Region ppm	
Other liliaceous vegetables	●	0.05				
Carrot	●	0.08				
Parsnip	●	0.08				
Parsley	●	0.08				
Celery	●	0.08				
Mitsuba	●	0.05				
Other umbelliferous vegetables	●	0.08				
Tomato	●	0.2				
Pimiento (sweet pepper)	●	0.08				
Egg plant	●	0.08				
Other solanaceous vegetables	●	0.08				
Cucumber (including gherkin)	●	0.08				
Pumpkin (including squash)	●	0.08				
Oriental pickling melon (vegetable)	●	0.08				
Water melon	●	0.08				
Melons	●	0.08				
Makuwauri melon	●	0.08				
Other cucurbitaceous vegetables	●	0.08				
Spinach	●	0.08				
Bamboo shoots	●	0.05				
Okra	●	0.05				
Ginger	●	0.05				
Peas, immature (with pods)	●	0.05				
Kidney beans, immature (with pods)	●	0.05				
Green soybeans	●	0.05				
Button mushroom	●	0.05				
Shiitake mushroom	●	0.05				
Other mushrooms	●	0.05				
Other vegetables	●	0.07				
Unshu orange, pulp		0.01				
Unshu orange (whole commodity)	3			1	3.0	USA
Citrus natsudaidai, whole	○ 3	2		1	3.0	USA
Lemon	○ 3	2		1	3.0	USA
Orange (including navel orange)	○ 3	2		1	3.0	USA
Grapefruit	○ 3	2		1	3.0	USA
Lime	○ 3	2		1	3.0	USA
Other citrus fruits	○ 3	2		1	3.0	USA
Apple	○ 0.05	0.01		0.01	0.05	USA
Japanese pear	○ 0.05	0.01		0.01	0.05	USA
Pear	○ 0.05	0.01		0.01	0.05	USA
Quince	○ 0.05	0.01		0.01	0.05	USA
Loquat		0.01				
Loquat (whole commodity after removal of stems)	0.05			0.01	0.05	USA
Peach		0.2				
Peach (whole commodity after removal of stems and stones but the residue calculated and expressed on the whole commodity without stems)	0.05			0.05		
Nectarine	● 0.05	0.2		0.05		
Apricot	● 0.05	5		0.05		
Japanese plum (including prune)	● 0.05	0.2		0.05		
Mume plum	● 0.05	0.2		0.05		
Cherry	● 0.05	0.2		0.05		
Strawberry	○ 0.1	0.05		0.1		

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL		
				Codex ppm	Country/Region ppm	
Raspberry	○ 0.2	0.1		0.1	0.2	USA
Blackberry	○ 0.2	0.1		0.1	0.2	USA
Blueberry	○ 0.2	0.1		0.1	0.2	USA
Cranberry	0.5	0.5		0.1	0.5	USA
Huckleberry	○ 0.2	0.1		0.1	0.2	USA
Other berries	○ 0.2	0.1		0.1	0.2	USA
Grape	● 0.1	0.5		0.1		
Japanese persimmon	● 0.01	0.05		0.01		
Banana	●	0.05				
Kiwifruit	●	0.05				
Papaya	●	0.05				
Avocado	●	0.08				
Pineapple	●	0.05				
Guava	●	0.05				
Mango	●	0.05				
Passion fruit	●	0.05				
Date	●	0.05				
Other fruits	● 0.1	0.2		0.1		
Sunflower seeds	●	0.05				
Sesame seeds	0.05	0.05			0.05	USA
Safflower seeds	●	0.05				
Cotton seeds	○ 0.08	0.05	IT		0.08	USA
Rapeseeds	●	0.05				
Other oil seeds	●	0.05				
Ginkgo nut	0.2	0.2		0.2		
Chestnut	0.2	0.2		0.2		
Pecan	0.2	0.2		0.2		
Almond	0.2	0.2		0.2		
Walnut	0.2	0.2		0.2		
Other nuts	0.2	0.2		0.2		
Hop	○ 0.2	0.08			0.2	USA
Other spices	● 1	2		1		
Other herbs	●	0.08				
Cattle, muscle	0.2	0.2		0.2		
Pig, muscle	0.2	0.2		0.2		
Other terrestrial mammals, muscle	0.2	0.2		0.2		
Cattle, fat	○ 0.4	0.2				
Pig, fat	○ 0.4	0.1				
Other terrestrial mammals, fat	○ 0.4	0.2				
Cattle, liver	5	5		5		
Pig, liver	5	5		5		
Other terrestrial mammals, liver	5	5		5		
Cattle, kidney	5	5		5		
Pig, kidney	5	5		5		
Other terrestrial mammals, kidney	5	5		5		
Cattle, edible offal	5	5		5		
Pig, edible offal	5	5		5		
Other terrestrial mammals, edible offal	5	5		5		
Milk	○ 0.03	0.01		0.01		
Chicken, muscle	0.05	0.05		0.05		
Other poultry, muscle	0.05	0.05		0.05		

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
				Codex ppm	Country/Region ppm
Chicken, fat	0.05	0.05			
Other poultry, fat	0.05	0.05			
Chicken, liver	○ 0.7	0.05		0.05	
Other poultry, liver	○ 0.7	0.05		0.05	
Chicken, kidney	○ 0.7	0.05		0.05	
Other poultry, kidney	○ 0.7	0.05		0.05	
Chicken, edible offal	○ 0.7	0.05		0.05	
Other poultry, edible offal	○ 0.7	0.05		0.05	
Chicken eggs	0.01	0.01		0.01	
Other poultry, eggs	0.01	0.01		0.01	
Salmoniformes (such as salmon and trout)	●	1			
Anguilliformes (such as eel)	●	1			
Perciformes (such as bonito, horse mackerel, mackerel, sea bass, sea bream and tuna)	●	1			
Other fish	●	1			
Shelled molluscs	●	1			
Crustaceans	●	1			
Other aquatic animals	●	1			
Mineral waters ※	0.03	0.03		0.03	

The residue definition is sum of 2,4-D and its salts and esters, expressed as 2,4-D.

* The uniform limit 0.01 ppm will be applied to commodities not listed above.
* Shaded figures indicate provisional MRLs.
* Diagonal line means a food category to which MRL applies is not set.
* In the Commodity column, for the food categories to which the word other is added, refer to the Notes given in the last two pages of the Attachment.

●：Commodities for which MRLs are to be lowered.

○：Commodities for which MRLs are to be raised.

§： Permitted for use in Japan.

Request：Request for setting/revising MRL was made by the MAFF.

IT：Import tolerance application

※）The MRL is set by the Guideline Value of the WHO Drinking-water Quality Guidelines (In the WHO Guideline of Drinking-water Quality for the purpose of maintaining and improving the quality of water by national regulatory agencies and drinking-water suppliers, Guideline Values are provided as the scientific rationale for drinking-water quality assessment, and the numerical values represent the concentration of a constituent that does not results in any significant risk to health over a lifetime of consumption.

Dimethenamid

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
				Codex ppm	Country/Region ppm
Corn (maize, including pop corn and sweet corn)	● 0.01	0.03	§	0.01	
Other cereal grains	0.01	0.01		0.01	
Soybeans, dry	● 0.01	0.03	§	0.01	
Beans, dry	○ 0.05	0.01	Request	0.01	
Peanuts, dry	0.01	0.01		0.01	
Other pulses	0.01	0.01		0.01	
Potato	0.01	0.01	§	0.01	
Sweet potato	0.01	0.01		0.01	
Sugar beet	0.05	0.05	§	0.01	
Turnip, roots (including rutabaga)	0.01	0.01			0.01 USA
Turnip, leaves (including rutabaga)	0.1	0.1			0.1 USA
Cabbage	0.05	0.05	§		
Cauliflower	0.01		Request		
Broccoli	● 0.01	0.05	§		
Onion	0.01	0.01	§	0.01	
Garlic	0.01	0.01		0.01	
Green soybeans	● 0.01	0.02	§		
Other vegetables	0.01	0.01		0.01	
Hop	0.05	0.05			0.05 USA
Other herbs	0.01	0.01		0.01	
Cattle, muscle	0.01	0.01		0.01	
Pig, muscle	0.01	0.01		0.01	
Other terrestrial mammals, muscle	0.01	0.01		0.01	
Cattle, fat	0.01	0.01			
Pig, fat	0.01	0.01			
Other terrestrial mammals, fat	0.01	0.01			
Milk	0.01	0.01		0.01	
Chicken, muscle	0.01	0.01		0.01	
Other poultry, muscle	0.01	0.01		0.01	
Chicken, fat	0.01	0.01			
Other poultry, fat	0.01	0.01			
Chicken, liver	0.01	0.01		0.01	
Other poultry, liver	0.01	0.01		0.01	
Chicken, kidney	0.01	0.01		0.01	
Other poultry, kidney	0.01	0.01		0.01	
Chicken, edible offal	0.01	0.01		0.01	
Other poultry, edible offal	0.01	0.01		0.01	
Chicken eggs	0.01	0.01		0.01	
Other poultry, eggs	0.01	0.01		0.01	

The residue definition is sum of S and R isomers of dimethenamid.

* The uniform limit 0.01 ppm will be applied to commodities not listed above.

* In the Commodity column, for the food categories to which the word other is added, refer to the Notes given in the last two pages of the Attachment.

●: Commodities for which MRLs are to be lowered.

○: Commodities for which MRLs are to be raised.

§ : Permitted for use in Japan.

Request: Request for setting/revising MRL was made by the MAFF.

Spinetoram

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL		
				Codex ppm	Country/Region ppm	
Rice (brown rice)	0.1	0.1	§			
Corn (maize, including pop corn and sweet corn)	○ 0.02		Request	0.01		
Soybeans, dry	0.1	0.1	§	0.01		
Beans, dry	0.1	0.1	§			
Peas	0.1	0.1	§			
Broad beans	0.1	0.1	§			
Other pulses	0.1	0.1	§			
Potato	0.1	0.1	§	0.01	0.10	USA
Taro	● 0.02	0.1	§			
Sweet potato	0.1	0.1	§			
Sugar beet	0.1	0.1	§	0.01	0.10	USA
Japanese radish, roots (including radish)	0.1	0.1	§			
Japanese radish, leaves (including radish)	10	10	§			
Turnip, roots (including rutabaga)	0.2	0.2	§			
Turnip, leaves (including rutabaga)	3	3	§			
Watercress	8	8			8.0	USA
Chinese cabbage	1	1	§	0.3		
Cabbage	2	2	§	0.3	2.0	USA
Brussels sprouts	2	2		0.3	2.0	USA
Kale	5	5	§			
Komatsuna (Japanese mustard spinach)	10	10	§		10	USA
Kyona	10	10	§		10	USA
Qing-geng-cai	10	10	§		10	USA
Cauliflower	2	2	§	0.3	2.0	USA
Broccoli	2	2	§	0.3		
Other cruciferous vegetables	10	10	§	0.3	10	USA
Endive	8	8			8.0	USA
Shungiku	15	15	§			
Lettuce (including cos lettuce and leaf lettuce)	10	10	§	10		
Other composite vegetables	○ 20	15	§ ・ Request			
Onion	0.1	0.1	§	0.01		
Welsh (including leek)	2	2	§	0.8	2.0	USA
Garlic	0.1	0.1	§			
Nira	2	2	§			
Asparagus	0.3	0.3	§			
Other liliaceous vegetables	○ 2	0.8	§ ・ Request	0.8		
Carrot	● 0.02	0.05	§			
Parsley	8	8			8.0	USA
Celery	8	8	§	6	8.0	USA
Other umbelliferous vegetables	8	8			8.0	USA
Tomato	0.7	0.7	§	0.06		
Pimiento (sweet pepper)	0.7	0.7	§	0.4		
Egg plant	0.2	0.2	§			
Other solanaceous vegetables	○ 2	0.1	§ ・ Request	0.4		
Cucumber (including gherkin)	0.3	0.3	§	0.04		
Pumpkin (including squash)	0.3	0.3	§	0.04	0.30	USA
Oriental pickling melon (vegetable)	0.3	0.3		0.01	0.30	USA
Water melon (whole commodity after removal of stems)	● 0.08	0.2	§			
Melons	0.1	0.1	§			
Makuwauri melon (whole commodity after removal of stems)	0.01			0.01		
Other cucurbitaceous vegetables	0.3	0.3		0.04	0.30	USA

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL		
				Codex ppm	Country/Region ppm	
Spinach	10	10	§	8		
Peas, immature (with pods)	2	2	§			
Kidney beans, immature (with pods)	1	1	§	0.05		
Green soybeans	0.5	0.5	§			
Other vegetables	8	8			8.0	USA
Unshu orange (whole commodity)	0.5	0.5	§	0.15		
Citrus natsudaidai, whole	0.3	0.3	§			
Lemon	0.7	0.7	§			
Orange (including navel orange)	0.7	0.7	§	0.07		
Grapefruit	0.7	0.7	§			
Lime	0.7	0.7	§			
Other citrus fruits	0.7	0.7	§	0.15		
Apple	0.5	0.5	§	0.05		
Japanese pear	0.5	0.5	§	0.05		
Pear	0.5	0.5	§	0.05		
Quince	0.2	0.2		0.05	0.20	USA
Loquat (whole commodity after removal of stems)	0.05	0.05		0.05		
Peach (whole commodity after removal of stems and stones but the residue calculated and expressed on the whole commodity without stems)	● 0.7	1	§	0.3		
Nectarine	0.5	0.5	§	0.3		
Apricot	○ 0.8	0.2	Request	0.15		
Japanese plum (including prune)	0.2	0.2	§	0.09		
Mume plum	○ 0.8	0.7	§			
Cherry	0.5	0.5	§	0.09		
Strawberry	2	2	§	0.15		
Raspberry	0.8	0.8		0.8		
Blackberry	0.7	0.7			**0.70	USA
Blueberry	0.5	0.5	§	0.2		
Cranberry	0.01	0.01			0.01	USA※1
Huckleberry	0.2	0.2		0.2		
Other berries	0.7	0.7	§	0.5	**0.70	USA
Grape	○ 2	0.5	§ ・ Request	0.3		
Japanese persimmon	0.3	0.3	§	0.05		
Banana	0.3	0.3			0.25	USA
Papaya	0.3	0.3			0.30	USA
Avocado	0.3	0.3		0.3		
Pineapple	0.02	0.02			0.02	USA※1
Guava	0.3	0.3			0.30	USA
Mango	0.3	0.3	§	0.01		
Passion fruit	○ 0.4	0.3		0.4		
Other fruits	0.5	0.5	§	0.09		
Cotton seeds	0.01			0.01		
Ginkgo nut	0.01	0.01		0.01		
Chestnut	0.1	0.1	§	0.01	0.10	USA
Pecan	0.1	0.1		0.01	0.10	USA
Almond	0.1	0.1		0.01	0.10	USA
Walnut	0.1	0.1		0.01	0.10	USA
Other nuts	0.1	0.1		0.01	0.10	USA
Tea	70	70	§			
Other spices	3	3	§			
Other herbs	8	8		0.3	8.0	USA
Cattle, muscle	○ 1	0.2				

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
				Codex ppm	Country/Region ppm
Pig, muscle	○ 1	0.2			
Other terrestrial mammals, muscle	○ 1	0.2			
Cattle, fat	○ 1	0.2		1	
Pig, fat	○ 1	0.2		1	
Other terrestrial mammals, fat	○ 1	0.2		1	
Cattle, liver	○ 0.1	0.02		0.1	
Pig, liver	○ 0.1	0.02		0.1	
Other terrestrial mammals, liver	○ 0.1	0.02		0.1	
Cattle, kidney	○ 0.1	0.02		0.1	
Pig, kidney	○ 0.1	0.02		0.1	
Other terrestrial mammals, kidney	○ 0.1	0.02		0.1	
Cattle, edible offal	○ 0.1	0.02		0.1	
Pig, edible offal	○ 0.1	0.02		0.1	
Other terrestrial mammals, edible offal	○ 0.1	0.02		0.1	
Milk	0.02	0.02		0.02	
Chicken, muscle	0.01	0.01		0.01	
Other poultry, muscle	0.01	0.01		0.01	
Chicken, fat	0.01	0.01		0.01	
Other poultry, fat	0.01	0.01		0.01	
Chicken, liver	0.01	0.01		0.01	
Other poultry, liver	0.01	0.01		0.01	
Chicken, kidney	0.01	0.01		0.01	
Other poultry, kidney	0.01	0.01		0.01	
Chicken, edible offal	0.01	0.01		0.01	
Other poultry, edible offal	0.01	0.01		0.01	
Chicken eggs	0.01	0.01		0.01	
Other poultry, eggs	0.01	0.01		0.01	
Pepper,dried ※2				4	

The residue definition is sum of Spinetoram-J and Spinetoram-L.

* The uniform limit 0.01 ppm will be applied to commodities not listed above.

* In the Commodity column, for the food categories to which the word other is added, refer to the Notes given in the last two pages of the Attachment.

** Previous tolerances for residue in the USA, which have been already updated. Current MRLs derived from it are to be retained.

●：Commodities for which MRLs are to be lowered.

○：Commodities for which MRLs are to be raised.

§：Permitted for use in Japan.

Request：Request for setting/revising MRL was made by the MAFF.

※1 Previous tolerances for residue on Spinosad in the USA, which is the basis of current MRLs to be retained.

※2 For “Pepper,dried ”, the MRL of its raw commodity (Other solanaceous vegetables) is applied taking into account each processing factor. JMPR estimated this processing factor as following: 10 for Pepper,dried.

Benzovindiflupyr

Commodity		MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL		
					Codex ppm	Country/Region ppm	
Wheat		0.1	0.1		0.1		
Barley		2	2		1	1.5	Canada
Rye		0.1	0.1		0.1		
Corn (maize, including pop corn and sweet corn)		0.02	0.02		0.01	0.02	Canada
Other cereal grains		2	2		1	1.5	Canada
Soybeans, dry	○	0.08	0.07		0.08		
Beans, dry		0.2	0.2		0.15		
Peas		0.2	0.2		0.2		
Broad beans		0.2	0.2		0.15		
Peanuts, dry	○	0.04	0.02		0.04		
Other pulses		0.2	0.2		0.2		
Potato		0.02	0.02		0.02		
Sweet potato		0.02	0.02			0.02	Canada
Sugarcane	○	0.04	0.02		0.04		
Tomato		2	2		0.9	1.5	Canada
Pimiento (sweet pepper)		2	2		0.9	1.5	Canada
Egg plant		2	2		0.9	1.5	Canada
Other solanaceous vegetables		2	2		0.9	1.5	Canada
Cucumber (including gherkin)		0.3	0.3		0.2	0.3	Canada
Pumpkin (including squash)		0.3	0.3		0.2	0.3	Canada
Oriental pickling melon (vegetable)	○	0.2			0.2		
Water melon (whole commodity after removal of stems)	○	0.2			0.2		
Melons (whole commodity after removal of stems)	○	0.2			0.2		
Makuwauri melon (whole commodity after removal of stems)	○	0.2			0.2		
Other cucurbitaceous vegetables		0.3	0.3		0.2	0.3	Canada
Okra		2	2		0.9	1.5	Canada
Other vegetables	○	0.3	0.2	IT		0.3	USA
Apple		0.2	0.2		0.2		
Japanese pear		0.2	0.2		0.2		
Pear		0.2	0.2		0.2		
Quince		0.2	0.2		0.2		
Loquat (whole commodity after removal of stems)	○	0.2			0.2		
Blueberry	○	2		IT		2	USA
Other berries		1	1			1	Canada
Grape		1	1		1		
Japanese persimmon	○	0.2			0.2		
Passion fruit		1	1			1	Canada
Other fruits		2	2		0.9		
Cotton seeds		0.05	0.05			0.05	Brazil
Rapeseeds		0.2	0.2		0.2		
Other oil seeds		0.2	0.2			0.15	Canada
Coffee beans	○	0.2		IT	0.15		
Other spices		2	2				
Other herbs	○	0.9			0.9		
Cattle, muscle	○	0.03	0.01		0.03		
Pig, muscle	○	0.03	0.01		0.03		
Other terrestrial mammals, muscle	○	0.03	0.01		0.03		
Cattle, fat	○	0.03	0.01		0.03		
Pig, fat	○	0.03	0.01		0.03		
Other terrestrial mammals, fat	○	0.03	0.01		0.03		
Cattle, liver	○	0.1	0.01		0.1		

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
				Codex ppm	Country/Region ppm
Pig, liver	○ 0.1	0.01		0.1	
Other terrestrial mammals, liver	○ 0.1	0.01		0.1	
Cattle, kidney	○ 0.1	0.01		0.1	
Pig, kidney	○ 0.1	0.01		0.1	
Other terrestrial mammals, kidney	○ 0.1	0.01		0.1	
Cattle, edible offal	○ 0.1	0.01		0.1	
Pig, edible offal	○ 0.1	0.01		0.1	
Other terrestrial mammals, edible offal	○ 0.1	0.01		0.1	
Milk	0.01	0.01		0.01	
Chicken, muscle	0.01	0.01		0.01	
Other poultry, muscle	0.01	0.01		0.01	
Chicken, fat	0.01	0.01		0.01	
Other poultry, fat	0.01	0.01		0.01	
Chicken, liver	0.01	0.01		0.01	
Other poultry, liver	0.01	0.01		0.01	
Chicken, kidney	0.01	0.01		0.01	
Other poultry, kidney	0.01	0.01		0.01	
Chicken, edible offal	0.01	0.01		0.01	
Other poultry, edible offal	0.01	0.01		0.01	
Chicken eggs	0.01	0.01		0.01	
Other poultry, eggs	0.01	0.01		0.01	
Pepper,dried ※				9	
Raisin	3			3	

The residue definition is Benzovindiflupyr only.

* The uniform limit 0.01 ppm will be applied to commodities not listed above.

* Diagonal line means a food category to which MRL applies is not set.

* In the Commodity column, for the food categories to which the word other is added, refer to the Notes given in the last two pages of the Attachment.

○：Commodities for which MRLs are to be raised.

IT：Import tolerance application

※）For processed food, “Pepper, dried”, the MRL in the raw commodity (Other solanaceous vegetables) will be applied, taking into account of its processing factor. JMPR estimates it with 10 for dried pepper.

Fosthiazate

Commodity	MRL (draft) ppm		MRL (current) ppm	Registration	Reference MRL	
					Codex ppm	Country/Region ppm
Beans, dry	●	0.01	0.02	§		
Peas	●		0.02			
Broad beans	●		0.02			
Peanuts, dry	●		0.02			
Other pulses	●		0.02			
Potato	●	0.02	0.03	§		
Taro	●	0.01	0.03	§		
Sweet potato	●	0.01	0.03	§		
Japanese yam (including Chinese yam)	●	0.02	0.03	§		
Konjac		0.03	0.03	§		
Other potatoes	●		0.03			
Japanese radish, roots (including radish)	●	0.05	0.2	§		
Japanese radish, leaves (including radish)	●	0.03	0.2	§		
Turnip, roots (including rutabaga)	●	0.08	0.2	Request		
Turnip, leaves (including rutabaga)	○	0.4	0.1	Request		
Horseradish	●		0.2			
Watercress	●		0.1			
Brussels sprouts	●		0.1			
Kale	●		0.1			
Komatsuna (Japanese mustard spinach)	○	0.2	0.1	Request		
Kyona		0.1	0.1	※		
Qing-geng-cai	○	0.2	0.1	Request		
Cauliflower	●	0.01	0.1	§		
Broccoli	●	0.01	0.1	§		
Other cruciferous vegetables		0.1	0.1	※		
Burdock	●	0.05	0.2	§		
Salsify	●		0.2			
Artichoke	●		0.1			
Chicory	●		0.1			
Endive	●		0.1			
Shungiku	○	1	0.1	Request		
Lettuce (including cos lettuce and leaf lettuce)	○	0.4	0.1	Request		
Other composite vegetables	●		0.1			
Onion	●		0.05			
Welsh (including leek)	○	1	0.1	Request		
Garlic	●	0.03	0.05	§		
Nira	●		0.1			
Asparagus	●		0.1			
Multiplying onion (including shallot)	●		0.1			
Other liliaceous vegetables	●	0.01	0.1	§		
Carrot	●	0.09	0.2	§		
Parsnip	●		0.2			
Parsley	○	3	0.1	Request		
Celery	●		0.1			
Mitsuba	○	0.2	0.1	Request		
Other umbelliferous vegetables	●		0.1			
Tomato	●	0.1	0.2	§		
Pimiento (sweet pepper)	○	0.8	0.1	§・Request		
Egg plant	●	0.02	0.2	§		
Other solanaceous vegetables	●		0.1			
Cucumber (including gherkin)		0.2	0.2	§		

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
				Codex ppm	Country/Region ppm
Pumpkin (including squash)	0.2	0.2	§		
Oriental pickling melon (vegetable)	0.2	0.2	§		
Water melon	● 0.04	0.5	§		
Melons	● 0.2	0.5	§		
Makuwauri melon	●	0.5			
Other cucurbitaceous vegetables		0.2	§		
Other cucurbitaceous vegetables(except for winter melon)	0.2		§		
Other cucurbitaceous vegetables (for winter melon)	0.1		§		
Spinach	●	0.1			
Bamboo shoots	●	0.2			
Okra	● 0.01	0.1	§		
Ginger	● 0.04	0.2	§		
Peas, immature (with pods)	○ 0.2		Request		
Kidney beans, immature (with pods)	○ 0.5		Request		
Other vegetables	● 0.05	0.1	§		
Loquat	●	0.5			
Peach	●	0.5			
Apricot	●	0.05			
Japanese plum (including prune)	●	0.05			
Mume plum	●	0.05			
Cherry	●	0.05			
Strawberry	○ 0.2	0.05	§・Request		
Raspberry	●	0.05			
Blackberry	●	0.05			
Blueberry	●	0.05			
Cranberry	●	0.05			
Huckleberry	●	0.05			
Other berries	●	0.05			
Grape	●	0.05			
Banana	○ 0.05		IT		0.05 EU
Kiwifruit	●	0.5			
Date	●	0.05			
Other fruits	● 0.02	0.05	§		
Other spices	●	0.1			
Other herbs	0.1	0.1	§		

The residue definition is Fosthiazate only.

* The uniform limit 0.01 ppm will be applied to commodities not listed above.

* Shaded figures indicate provisional MRLs.

* Diagonal line means a food category to which MRL applies is not set.

* In the Commodity column, for the food categories to which the word other is added, refer to the Notes given in the last two pages of the Attachment.

●: Commodities for which MRLs are to be lowered.

○: Commodities for which MRLs are to be raised.

§: Permitted for use in Japan.

Request: Request for setting/revising MRL was made by the MAFF.

IT: Import tolerance application

Metaflumizone

Commodity	MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
				Codex ppm	Country/Region ppm
Corn (maize, including pop corn and sweet corn)	● 0.1	0.2	§		
Soybeans, dry	0.5	0.5	§		
Potato	0.02	0.02		0.02	
Taro	● 0.1	0.2	§		
Sweet potato	● 0.1	0.2	§		
Japanese radish, roots (including radish)	● 0.3	0.5	§		
Japanese radish, leaves (including radish)	● 25	30	§		
Turnip, roots (including rutabaga)	● 0.2	0.5	§		
Turnip, leaves (including rutabaga)	○ 60	30	§		
Chinese cabbage	10	10	§		
Cabbage	5	5	§		
Brussels sprouts	0.8	0.8		0.8	
Kale	40	40	§		
Komatsuna (Japanese mustard spinach)	40	40	§		
Kyona	40	40	§		
Qing-geng-cai	10	10	§	6	
Cauliflower	○ 3		Request		
Broccoli	10	10	§		
Other cruciferous vegetables	40	40	§		
Burdock	● 0.1	0.2	§		
Lettuce (including cos lettuce and leaf lettuce)	○ 80	50	§	7	
Onion	○ 0.1		Request		
Welsh (including leek)	● 5	10	§		
Asparagus	● 0.5	0.7	§		
Carrot	0.3	0.3	§		
Tomato	5	5	§	0.6	
Pimiento (sweet pepper)	5	5	§	0.6	
Egg plant	3	3	§	0.6	
Other solanaceous vegetables	0.6	0.6		0.6	
Spinach	70	70	§		
Ginger	● 0.2	0.3	§		
Green soybeans	10	10	§		
Unshu orange, pulp		0.3	§		
Unshu orange (whole commodity)	8		§		
Citrus natsudaidai, whole	5	5	§		
Lemon	○ 8	5	§		
Orange (including navel orange)	○ 8	5	§		
Grapefruit	○ 8	5	§		
Lime	○ 8	5	§		
Other citrus fruits	○ 8	5	§		
Mume plum	10	10	§		
Strawberry	● 0.1	0.2	§		
Kiwifruit		0.3	§		
Kiwifruit (whole commodity)	15		§		
Other spices	○ 40	25	§		
Other herbs	40	40	§		
Cattle, muscle	0.02	0.02			
Pig, muscle	0.02	0.02			
Other terrestrial mammals, muscle	0.02	0.02			
Cattle, fat	○ 0.03	0.02	Request	0.02	
Pig, fat	○ 0.03	0.02	Request	0.02	
Other terrestrial mammals, fat	○ 0.03	0.02	Request	0.02	

Commodity		MRL (draft) ppm	MRL (current) ppm	Registration	Reference MRL	
					Codex ppm	Country/Region ppm
Cattle, liver		0.02	0.02		0.02	
Pig, liver		0.02	0.02		0.02	
Other terrestrial mammals, liver		0.02	0.02		0.02	
Cattle, kidney		0.02	0.02		0.02	
Pig, kidney		0.02	0.02		0.02	
Other terrestrial mammals, kidney		0.02	0.02		0.02	
Cattle, edible offal		0.02	0.02		0.02	
Pig, edible offal		0.02	0.02		0.02	
Other terrestrial mammals, edible offal		0.02	0.02		0.02	
Milk		0.01	0.01		0.01	
Chicken, muscle	○	0.03		Request		
Other poultry, muscle	○	0.03		Request		
Chicken, fat	○	0.9		Request		
Other poultry, fat	○	0.9		Request		
Chicken, liver	○	0.08		Request		
Other poultry, liver	○	0.08		Request		
Chicken, kidney	○	0.08		Request		
Other poultry, kidney	○	0.08		Request		
Chicken, edible offal	○	0.08		Request		
Other poultry, edible offal	○	0.08		Request		
Chicken eggs	○	0.2		Request		
Other poultry, eggs	○	0.2		Request		
Fish		2	2			
Pepper,dried ※					6	

The residue definition for metaflumizone is sum of *E* and *Z*-isomers of metaflumizone.
The current residue definition for agricultural products is sum of *E* and *Z*-isomers of metaflumizone and metabolite D【*p*-[*m*-(trifluoromethyl)phenacyl]benzonitrile】, expressed as metaflumizone. The residue definition for animal and aquatic products is sum of *E* and *Z*-isomers of metaflumizone.

* The uniform limit 0.01 ppm will be applied to commodities not listed above.

* Diagonal line means a food category to which MRL applies is not set.

* In the Commodity column, for the food categories to which the word other is added, refer to the Notes given in the last two pages of the Attachment.

●：Commodities for which MRLs are to be lowered.

○：Commodities for which MRLs are to be raised. (*It should be noted that the residue definition (for agricultural products) will be changed.)

§：Permitted for use in Japan.

Request：Request for setting/revising MRL was made by the MAFF.

※For "Pepper, dried" as food category with MRL set by Codex, MRL of its raw commodity (Other solanaceous vegetables) will apply to the commodity, taking into account of its processing factor. For this substance, JMPR estimates it at 10 for Pepper, dried.

Notes:

“Other cereal grains” refers to all cereal grains, except rice (brown rice), wheat, barley, rye, corn (maize), and buckwheat.

“Beans, dry” includes butter beans, cowbeans (red beans), lentil, lima beans, pegia, sultani, sultapya and white beans.

“Other legumes/pulses” refers to all legumes/pulses, except soybeans (dry), beans (dry), peas, broad beans, peanuts (dry), and spices.

“Other potatoes” refers to all potatoes, except potato, taro, sweet potato, yam, and konjac.

“Other cruciferous vegetables” refers to all cruciferous vegetables, except Japanese radish roots and leaves (including radish), turnip roots and leaves, horseradish, watercress, Chinese cabbage, cabbage, brussels sprouts, kale, *komatsuna* (Japanese mustard spinach), *kyona*, qing-geng-cai, cauliflower, broccoli, and herbs.

“Other composite vegetables” refers to all composite vegetables, except burdock, salsify, artichoke, chicory, endive, *shungiku*, lettuce (including cos lettuce and leaf lettuce), and herbs.

“Other liliaceous vegetables” refers to all liliaceous vegetables, except onion, welsh (including leek), garlic, *nira*, asparagus, multiplying onion, and herbs.

“Other umbelliferous vegetables” refers to all umbelliferous vegetables, except carrot, parsnip, parsley, celery, *mitsuba*, spices, and herbs.

“Other solanaceous vegetables” refers to all solanaceous vegetables, except tomato, pimiento (sweet pepper), and egg plant.

“Other cucurbitaceous vegetables” refers to all cucurbitaceous vegetables, except cucumber (including gherkin), pumpkin (including squash), oriental pickling melon (vegetable), watermelon, melons, and *makuwauri* melon.

“Other mushrooms” refers to all mushrooms, except button mushroom, and *shiitake* mushroom.

“Other vegetables” refers to all vegetables, except potatoes, sugar beet, sugarcane, cruciferous vegetables, composite vegetables, liliaceous vegetables, umbelliferous vegetables, solanaceous vegetables, cucurbitaceous vegetables, spinach, bamboo shoots, okra, ginger, peas (with pods, immature), kidney beans (with pods, immature), green soybeans, mushrooms, spices, and herbs.

“Other citrus fruits” refers to all citrus fruits, except *unshu* orange (pulp), citrus *natsudaidai* (pulp), citrus *natsudaidai* (peel), citrus *natsudaidai* (whole), lemon, orange (including navel orange), grapefruit, lime, and spices.

“Other berries” refers to all berries, except strawberry, raspberry, blackberry, blueberry, cranberry, and huckleberry.

“Other fruits” refers to all fruits, except citrus fruits, apple, Japanese pear, pear, quince, loquat, peach, nectarine, apricot, Japanese plum (including prune), mume plum, cherry, berries, grape, Japanese persimmon, banana, kiwifruit, papaya, avocado, pineapple, guava, mango, passion fruit, date and spices.

“Other oil seeds” refers to all oil seeds, except sunflower seeds, sesame seeds, safflower seeds, cotton seeds, rapeseeds and spices.

“Other nuts” refers to all nuts, except ginkgo nut, chestnut, pecan, almond and walnut.

“Other spices” refers to all spices, except horseradish, *wasabi* (Japanese horseradish) rhizomes, garlic, peppers chili, paprika, ginger, lemon peels, orange peels (including navel orange), *yuzu* (Chinese citron) peels and sesame seeds.

”Other spices (limited to roots and rhizome)” includes asafoetida roots, turmeric root, galangal rhizome and licorice root.

“Other herbs” refers to all herbs, except watercress, *nira*, parsley stems and leaves, celery stems and leaves.

“Edible offal” refers to all edible parts, except muscle, fat, liver, and kidney.

“Other terrestrial mammals” refers to all terrestrial mammals, except cattle and pig.

“Other poultry” refers to all poultry, except chicken.

“Other fish” refers to all fish, except salmoniformes, anguilliformes, and perciformes.

“Other aquatic animals” refers to all aquatic animal, except fish, shelled molluscs and crustaceans.

Item 2. Establishment of Analytical Methods for Agricultural and Veterinary Chemicals in Food

The MHLW notifies analytical methods for certain agricultural and veterinary chemicals in the Ministry of Health and Welfare Notification No. 370. The Food Sanitation Act stipulates that any ingredients of agricultural chemicals or other chemical substances shall not be detected by the methods.

The MHLW is going to prescribe the following analytical method developed newly in the Notification No. 370:

- Analytical Method for Gentian Violet

Item 2. Establishment of Analytical Methods for Agricultural and Veterinary Chemicals in Food

Analytical Method for Gentian Violet
(Target to Animal and Fishery Products)

The target compounds to be determined are gentian violet and leucogentian violet.

1. Instrument

Liquid chromatograph-tandem mass spectrometer (LC-MS/MS)

2. Reagents

Use the reagents listed in Section C ***Reagents/Test Solutions, Etc.***, Part II ***Food Additives***, except the following. Reagents designated as "special grade" in this section must meet the requirements for "special grade" specified in the Japan Industrial Standards for the reagents.

Acetonitrile: Use a reagent not containing any substance that may interfere with the analysis of the target compounds.

Acetone: Use a reagent not containing any substance that may interfere with the analysis of the target compounds.

Ethanol: Use a reagent not containing any substance that may interfere with the analysis of the target compounds.

Ammonium formate: Ammonium formate (special grade).

Citric acid (anhydrous): Citric acid (anhydrous) (special grade).

Sulfonate-modified divinylbenzene-*N*-vinylpyrrolidone copolymer cartridge (500 mg): A polyethylene tube of 12-13 mm in inside diameter packed with 500 mg of sulfonate-modified divinylbenzene-*N*-vinylpyrrolidone copolymer, or a cartridge equivalent to the specified one in separation capability.

Quaternary ammonium salt-modified divinylbenzene-*N*-vinylpyrrolidone copolymer cartridge (150 mg): A polyethylene tube of 12-13 mm in inside diameter packed with 150 mg of quaternary ammonium salt-modified divinylbenzene-*N*-vinylpyrrolidone copolymer, or a cartridge equivalent to the specified one in separation capability.

50 mmol/L ammonium formate buffer (pH 3.5): Dissolve 3.15 g of ammonium formate in 990 mL of water. Adjust pH to 3.5 with formic acid, and add water to make exactly 1,000 mL.

3. Reference standard

Reference standard of gentian violet oxalate: Contains not less than 90% of gentian violet.

Reference standard of leucogentian violet: Contains not less than 98% of leucogentian violet.

4. Procedure

a. Extraction

Weigh sample accurately and add half amount in weight ratio of 15 w/w% of dibutylhydroxytoluene-ethanol solution and half amount in weight ratio of 50 w/w% of citric acid solution, respectively. Homogenize and take the sample equivalent to 10.0 g (5.00 g for fat). Add 100 mL of acetone, homogenize, and filter with suction using glass fiber filter. Add 50 mL of acetone (10 mL of water and 50 mL of acetone for honey) to the residue on the filter, homogenize, and filter as described above. Combine the resulting filtrates, and add acetone to make exactly 200 mL. Take exactry a 1 mL (2 mL for fat) aliquot of the solution and add 4 mL of 2 vol% formic acid.

b. Clean-up

Add 5 mL each of acetonitrile and 2 vol% formic acid to a sulfonate-modified divinylbenzene-*N*-vinylpyrrolidone copolymer cartridge (500 mg) sequentially and discard the effluents. Add 5 mL of acetonitrile/ammonia water (9:1, v/v) to a quaternary ammonium salt-modified divinylbenzene-*N*-vinylpyrrolidone copolymer cartridge (150 mg) and discard the effluent. Transfer the solution obtained in "a. Extraction" with 4 mL of 2 vol% formic acid to the sulfonate-modified divinylbenzene-*N*-vinylpyrrolidone copolymer cartridge, add 5 mL of acetonitrile, and discard the effluent. Connect the quaternary ammonium salt-modified divinylbenzene-*N*-vinylpyrrolidone copolymer cartridge to the bottom of the sulfonate-modified divinylbenzene-*N*-vinylpyrrolidone copolymer cartridge, elute with 10 mL of acetonitrile/ammonia water (9:1, v/v), and take the eluate. Add acetonitrile/ammonia water (9:1, v/v) to the eluate to make exactly 10 mL, and use this solution as the test solution.

5. Measurement

a. Calibration curve

Dissolve reference standards of gentian violet and leucogentian violet in methanol to make 100 mg/L, respectively, and use these solutions as stock standard solutions. Mix each stock standard solution appropriately, dilute with acetonitrile/ammonia water (9:1,

v/v), and prepare standard solutions of several concentrations. Inject each standard solution to LC-MS/MS, and make calibration curves by peak-height or peak-area method. When the test solution is prepared following the above procedure, the sample containing 0.002 mg/kg of gentian violet and leucogentian violet gives the test solution of 0.00001 mg/L in concentration.

b. Quantification

Inject the test solution in LC-MS/MS, and calculate the concentration of gentian violet and leucogentian violet from the calibration curve made in "a. Calibration curve".

c. Confirmation

Confirm using LC-MS/MS.

d. Measurement conditions

(Example)

Column: Octadecylsilanized silica gel, 2.1 mm in inside diameter, 150 mm in length and 5 μm in particle diameter

Column temperature: 40°C

Mobile phase: Linear gradient from acetonitrile/50 mmol/L ammonium formate buffer (pH 3.5) (3:7, v/v) to (9:1, v/v) in 15 min and hold for 10 min.

Ionization mode: ESI (+)

Major monitoring ions (*m/z*):

Gentian violet: Precursor ion 372, product ions 356, 340

Leucogentian violet: Precursor ion 374, product ions 358, 238

Injection volume: 10 μL

Expected retention time

Gentian violet: 10 min

Leucogentian violet: 15 min

6. Limit of Quantification

Gentian violet: 0.002 mg/kg

Leucogentian violet: 0.002 mg/kg