

**For discussion  
on 9 December 2014**

## **LegCo Panel on Food Safety and Environmental Hygiene**

### **Implementation of the Pesticide Residues in Food Regulation**

#### **Purpose**

This paper briefs Members on the implementation of the Pesticide Residues in Food Regulation (Cap. 132CM) since 1 August 2014 and provides information in response to the relevant questions raised by Members previously.

#### **Background**

2. On 26 April 2012, the Director of Food and Environmental Hygiene, in exercise of the power under section 55(1) of the Public Health and Municipal Services Ordinance (Cap. 132), made the Pesticide Residues in Food Regulation (the Regulation). The Legislative Council completed scrutiny of the Regulation in June 2012 and the Regulation came into operation on 1 August 2014 after a two-year grace period.
3. The Regulation aims to strengthen the regulation of pesticide residues in food to protect public health and promote harmonisation between local and international standards. In striving to achieve the above objectives, the Government is mindful of the need to maintain stable supply of food in Hong Kong.
4. The standards for pesticide residues in food developed by the Codex Alimentarius Commission (Codex)<sup>1</sup> form the backbone of the regulatory framework under the Regulation. The Regulation specifies in Schedule 1 a list

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<sup>1</sup> Codex was established by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) of the United Nations in the 1960s and has been the single most important international reference point for consumers, food producers, processors, national food control agencies and the international food trade in developing food associated standards.

of maximum residue limits (MRLs)<sup>2</sup> and extraneous maximum residue limits (EMRLs)<sup>3</sup> for certain pesticide-food pairs, i.e. the maximum concentration of specified pesticide residues permitted in specific food commodities. The formulation of Schedule 1 to the Regulation was based primarily on the available standards recommended by Codex in 2011, supplemented by standards of the Mainland and other major food exporting countries to Hong Kong available at that time, while taking into consideration comments received during the public consultation held between July and September 2011. These standards have been scrutinised by conducting risk assessment to ensure that they are adequate to protect public health in Hong Kong, taking into account the heavy reliance of Hong Kong on imported food.

5. Schedule 2 to the Regulation specifies a list of exempted pesticides with no MRLs/EMRLs. These are pesticides that are natural and the residues of which are identical to or indistinguishable from natural food components. Exemption of these natural pesticides is intended to facilitate their use by the trade.

6. The general principle of the Regulation is that except for exempted pesticides, import or sale of food containing pesticide residues with no specified MRLs/EMRLs in Schedule 1 is only allowed if the consumption of the food concerned is not dangerous or prejudicial to health. Based on risk assessment, the Centre for Food Safety (CFS) will decide whether the consumption of the food concerned is dangerous or prejudicial to health.

7. Any person who imports, manufactures or sells any food not in compliance with the requirements of the Regulation concerning pesticide residues commits an offence and is liable to a maximum fine of \$50,000 and to imprisonment for six months.

8. To prepare for the commencement of the Regulation, CFS has conducted a series of briefings for the trade. Technical meetings as well as workshops on pesticide residues testing have also been arranged for the testing industry to help them develop and equipped themselves with the relevant laboratory techniques. To assist the trade in complying with the requirements

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<sup>2</sup> MRL is the maximum concentration of specified pesticide residues legally permitted in specified food commodities.

<sup>3</sup> EMRL refers to a pesticide residue arising from environmental sources (including former agricultural uses) other than the use of a pesticide directly or indirectly on the commodity. It is the maximum concentration of specified pesticide residues legally permitted in specified food commodities.

of the Regulation, CFS has prepared guidelines on the interpretation of MRLs/EMRLs in the Regulation as well as use of the Codex's food classification to identify the appropriate pesticide residue limits etc. CFS has also set up the Hong Kong Pesticide MRL Database on its website<sup>4</sup> to assist the trade and the general public in finding relevant MRLs/EMRLs for concerned pesticide-food pairs. Details of the Regulation and relevant guidelines have also been uploaded to CFS' website.

9. Since the commencement of the Regulation on 1 August 2014, we have continued with our efforts to ensure the food safety of vegetables supplied to Hong Kong through control at source and the Food Surveillance Programme. Detailed account of the relevant mechanisms will be given in the ensuing paragraphs.

### **Control at Source**

10. The Government is committed to enhancing food safety through a multi-pronged approach. It adopts the "from farm to table" strategy to safeguard public health by ensuring that food consumed by the public meets safety standards. This includes not only surveillance at the import, wholesale and retail levels, but also proper control at source.

11. As the Mainland is the major supplier of vegetables to Hong Kong, the Government and the Mainland authorities have established administrative arrangements under which vegetables supplied to Hong Kong must come from registered vegetable farms and production and processing establishments under the supervision of the relevant Entry-Exit Inspection and Quarantine Bureau in accordance with the requirements set out in the Administrative Measures on the Quarantine of the Vegetables Supplied to Hong Kong and Macao. Every year, officers of CFS inspect registered farms on the Mainland to ensure that the agricultural products supplied to Hong Kong are wholesome and safe at source.

12. Every year, the CFS will first submit to the State General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) an initial request for inspection of registered farms supplying vegetables to Hong Kong, and later confirm the list of registered farms to be inspected in consultation with the relevant local authorities on the Mainland having regard to

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<sup>4</sup> CFS' website: [www.cfs.gov.hk](http://www.cfs.gov.hk)

the actual circumstances at the time. The areas and list of vegetable farms to be inspected are determined by factors such as previous inspection records, intelligence and risk assessments. From January to October 2014, the CFS conducted inspections to 15 registered vegetable farms and about 13 500 *mu* in total. Over the past three years, CFS has inspected about 16 registered farms supplying vegetables to Hong Kong on average each year.

13. In addition, the Agriculture, Fisheries and Conservation Department (AFCD) and the Vegetable Marketing Organization (VMO) jointly run the Accredited Farm Scheme (the Scheme). The Scheme aims at promoting the adoption of good horticultural practice and environmentally friendly production, encouraging the adoption of integrated pest management and the proper and safe use of pesticides, as well as safeguarding public health through regular inspections of the farms to ensure production of quality vegetables that are safe for consumption. As at 31 October 2014, 267 local farms and 37 farms on the Mainland have been accredited under the Scheme.

14. For the accredited farms in Hong Kong, AFCD provides guidance and supervision on the safe use of pesticides for participating local farmers, and publishes and distributes the codes of practice on “*Good Agricultural Practices for Crop Production*” to encourage local farmers to reduce the use of pesticides and produce vegetables and fruits in a sustainable manner.

15. Regarding accredited farms on the Mainland, VMO and the Federation of Vegetable Marketing Co-operative Societies Limited (FVMCS), with the technical support from AFCD, inspect all accredited farms on the Mainland regularly every year. Inspection covers horticultural practice of farms as well as records of storage and usage of pesticides. Inspectors will also disseminate information on the safe use of pesticides to the farmers, offer advice to them on the use of pesticides and collect vegetable samples for testing of pesticide residues. In addition, VMO regularly commissions independent auditors to review the performance of the farms concerned.

### **Food Surveillance Programme**

16. In addition to proper control at source, at the downstream of the food supply chain, the food surveillance programme is also a key component of our measures to ensure food safety. Through conducting relevant food

surveillance at the import, wholesale and retail levels, CFS ensures the food safety of vegetables imported to Hong Kong.

## **Import Arrangements**

17. Under the administrative arrangements between the Government and the Mainland regulatory authorities, all vegetables supplied to Hong Kong must come from registered vegetable farms and production and processing establishments under the supervision of the relevant Entry-Exit Inspection and Quarantine Bureau, and must be accompanied with supporting documents to ensure food safety and must be affixed with labels on the packaging for transport (e.g. basket or carton) showing information about their origin. All fresh vegetables entering Hong Kong via the land route must be imported through Man Kam To as designated. The inspection and quarantine authorities on the Mainland will conduct random inspection and testing of vegetables so that only consignments that come with intact seals and satisfy the inspection requirement are allowed to enter Hong Kong. CFS officers will inspect the vehicles when they arrive at the Man Kam To Food Control Office. They will conduct checks to see if the seal on the vehicle remains intact and whether the consignment tallies with the accompanying documents, inspect the vegetables and adopt a risk-based approach in taking vegetable samples for quick tests for pesticide residues and comprehensive chemical analysis. CFS will keep in close contact and collaboration with the Mainland authorities and the trade to exchange intelligence. Irrespective of whether or not the vegetables are distributed through direct sale<sup>5</sup> or through distributors, all vegetables supplied to Hong Kong by land must be imported according to the aforesaid arrangements.

18. The CFS and the Customs and Excise Department (C&ED) have been working closely and conduct joint operations from time to time to inspect vehicles carrying vegetables. From 2011 to 2013, the CFS inspected about 28 830, 28 890 and 32 720 vegetable vehicles respectively at the Man Kam To Boundary Control Point (MKTBCP). During the period, there was no report of cases involving vegetable sources that did not tally with the accompanying documents.

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<sup>5</sup> Direct sale means that vegetables imported from the Mainland are not distributed through Government vegetable wholesale markets or the Vegetable Marketing Organisation and other distributors, but are directly distributed to retail outlets.

19. CFS will detain any consignment from unknown sources or consignment that does not tally with its accompanying documents. If the test result of a vegetable sample is found to be unsatisfactory, CFS will destroy the vegetable consignment concerned and inform the relevant Mainland authorities for investigation and follow-up actions. Information about the identity of the vegetable farm and production and processing establishment concerned, as well as the vegetable vehicle involved will also be recorded to facilitate detention of their next vegetable consignment supplied to Hong Kong. For cases involving the sale of any consignment of vegetables from unknown sources or consignment that does not tally with its accompanying documents, the Food Safety Ordinance (Cap. 612) provides that any person who fails to comply with the requirement of keeping records of transactions with food distributors, without reasonable excuse, commits an offence and is liable to a maximum fine of \$10,000 and imprisonment for three months.

### **Surveillance at Import, Wholesale and Retail Levels**

20. CFS' Food Surveillance Programme monitors food on sale to ensure its compliance with legal requirements and fitness for human consumption. CFS takes food samples at the import, wholesale and retail levels and adopts a risk-based approach in determining the types of samples to be collected, the frequency and number of samples taken for testing, and the types of laboratory analysis that need to be conducted. The surveillance programme is under regular review, taking into account factors including past food surveillance results, local and overseas food incidents as well as relevant risk analysis.

### **Enhancement of Relevant Mechanisms**

21. To enhance the effectiveness of the aforesaid mechanism, the Administration has made the Regulation. The Regulation specifies in Schedule 1 a list of maximum residue limits (MRLs)/extraneous maximum residue limits (EMRLs) for certain pesticide-food pairs, setting clearly the standards for pesticide residue limits. We consider that control at source and the Food Surveillance Programme, coupled with the implementation of the Regulation, will ensure the food safety of vegetables imported to Hong Kong more effectively.

## Implementation

22. During the period from 1 August 2014 when the Regulation came into operation to 30 November 2014, the CFS collected about 4 000 vegetable samples at Man Kam To Food Control Office for quick pesticide residue tests in accordance with the Regulation. During the same period, the CFS also completed pesticide residue tests for about 4 600 food samples collected at the import, wholesale and retail levels. Of these, 28 samples were found to be unsatisfactory while the remaining samples were all satisfactory. The overall unsatisfactory rate was less than 0.4%. Among the 28 unsatisfactory samples, ten samples were confirmed to have come from vegetable processing establishments registered with the Mainland inspection and quarantine authorities whereas another eight samples were suspected to have also come from the Mainland, but not from those vegetable processing establishments registered with the Mainland inspection and quarantine authorities. Besides, five samples were produced locally, one from Thailand<sup>6</sup>, the source of three was not pursuable due to lack of information<sup>7</sup> and the source of one is under investigation. Of these 28 unsatisfactory samples, 13 food samples were collected at the retail level, nine at the MKTCP, five from the co-operative societies under the VMO and one from the airport. CFS is preparing for prosecuting six of the cases. Investigation of the remaining cases is underway. The CFS has also announced the information about the unsatisfactory samples through press releases. For details of these unsatisfactory samples, please see [Annex 1](#).

23. The 28 unsatisfactory samples include nine white string pod samples, four water spinach samples, two green string pod samples, three Chinese lettuce samples, one choisum sample, one chili sample, two baby Shanghai green sample, two Chinese white cabbage sample, one purslane sample, two Chinese wolfberry leaf samples and one chayote sample. Besides, according to the findings of the risk assessment<sup>8</sup> conducted by the CFS on the unsatisfactory

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<sup>6</sup> The unsatisfactory chilli sample from Thailand was taken at the airport from a low-volume shipment. The owner claimed the shipment was intended for personal consumption, not for sale.

<sup>7</sup> CFS will consider initiating prosecution against the sellers involved in two of the cases for failure to keep proper transaction records under the Food Safety Ordinance (Cap. 612).

<sup>8</sup> The assessment methodology involves comparison between the data determined by the detected level of pesticide residues in a food sample in combination with the relevant consumption pattern of the food (i.e. the result of risk assessment) and the safety reference values (e.g. acceptable daily intakes (ADI) for long-term exposure assessment, or acute reference dose (ARfD) for short-term exposure assessment).

samples, a green string pod sample was found to contain Carbofuran at a level of 4.4 parts per million (ppm). Adverse health effects may be caused under normal consumption. A purslane sample was also found to contain Dimethoate at a level of 5.2 ppm. Consumption of more than 230 grams of the purslane concerned within a short period of time may cause adverse health effects. As for the remaining unsatisfactory samples, normal consumption is unlikely to pose immediate adverse health effects.

24. The Mainland inspection and quarantine authorities are following up on cases involving vegetable processing establishments registered with the Mainland inspection and quarantine authorities, follow-up actions are generally as follows:

- i. Tracing the farm which produced the unprocessed vegetables;
- ii. Suspending the supply of vegetables from the registered farms concerned to Hong Kong ;
- iii. Ordering the vegetable processing establishments concerned to take remedial measures; and
- iv. Strengthening surveillance.

25. The Government is very concerned that some unsatisfactory samples that might be originated from vegetable processing establishments not registered with the Mainland inspection and quarantine authorities. The Administration alerted the AQSIQ and relevant inspection and quarantine authorities of the problem last month and appealed for their prompt follow-up actions including stepping up of interception actions at various control points.

26. On the part of Hong Kong, we have also taken a series of actions against at MKTBCP vegetables supplied to the territory from vegetable processing establishments not registered with the Mainland inspection and quarantine authorities. These include joint operations launched with the Customs and Excise Department (C&ED) and Police since late September to strengthen the interception actions at the MKTBCP. In the joint operations of the CFS and C&ED in September and October, 495 and 521 vegetable vehicles were inspected respectively while in those of the CFS and the Police in September and October, 68 and 289 vegetable vehicles were inspected respectively. During the operations, there was no report of cases involving vegetable sources not tallying with the accompanying documents. The CFS will continue to conduct surprise checks jointly with the C&ED and the Police to ensure the food safety of imported vegetables. Furthermore, starting from December, the



CFS will optimise the existing inspection measures for inbound vegetable vehicles and strengthen checks on high-risk inbound vegetable vehicles.

27. As regards the unsatisfactory cases of local origin, CFS will also refer the details to the AFCD for follow-up at source. Technical staff from the AFCD will conduct site inspections at the farms concerned, educate the farmers on the proper and safe use of pesticides, and collect vegetable samples from the farms for testing of pesticide residues. Concerned farmers will also be advised to suspend the sale of the relevant consignment of vegetables until the testing results show that the vegetables are fit and safe for consumption.

28. In addition, there is a pesticide residue testing laboratory at the Cheung Sha Wan Wholesale Vegetable Market under the management of the VMO, which is responsible for testing and monitoring the pesticide residues in the vegetables sold at the market, so as to provide quality assurance service to its customers. A total of 36 750 vegetable samples were collected for testing in the past twelve months (from 16 November 2013 to 15 November 2014), of which three samples from the Mainland and 9 samples from local farms failed to comply with the requirements<sup>9</sup>. The non-compliances were all identified after the implementation of the Regulation and the overall unsatisfactory rate was 0.03%. Details of these samples are at [Annex 2](#). According to the findings of the risk assessment conducted by the CFS on the unsatisfactory samples detected by VMO, except for a peppermint leaf sample tainted with promecarb which could not be assessed due to a lack of sufficient international reference, normal consumption of all other samples is unlikely to pose immediate adverse health effects.

### **Advice Sought**

29. Members are invited to note and comment on the contents of this paper.

**Food and Health Bureau**  
**Food and Environmental Hygiene Department**  
**Centre for Food Safety**  
**Agriculture, Fisheries and Conservation Department**  
**December 2014**

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<sup>9</sup> The pesticide residue testing laboratory of the VMO made reference to the pesticides listed in Schedule 1 to the Regulation and unregistered highly toxic pesticides in Hong Kong (such as Methamidophos and Isocarbophos) when conducting the testing.

**Annex 1****Details of unsatisfactory samples detected by CFS****(As at 30 November 2014)**

	<b>Food</b>	<b>Source</b>	<b>Pesticides involved</b>	<b>Testing results (ppm)</b>	<b>Statutory MRLs/EMRLs (ppm)</b>
1	White string pod	Mainland	Carbofuran	0.17	0.1
2	White string pod	Mainland	Carbofuran	0.36	0.1
			Acephate	4.3	1
			Methamidophos	0.34	0.05
3	Choisum	Mainland	Cyhalothrin	0.4	0.2
4	White string pod	Mainland	Carbofuran	0.71	0.1
5	White string pod	Mainland	Carbofuran	0.41	0.1
			Acephate	2.1	1
			Methamidophos	0.12	0.05
6	White string pod	Mainland	Carbofuran	0.44	0.1
			Methamidophos	0.094	0.05
7	White string pod	Mainland	Carbofuran	0.76	0.1
8	Water spinach	Mainland	Methamidophos	0.27	0.05
9	White string pod	Mainland	Carbofuran	1.4	0.1
			Chlorpyrifos	0.032	0.01
10	Green string pod	Mainland	Carbofuran	1.2	0.1
11	Green string pod	Mainland	Carbofuran	4.4	0.1
12	White string pod	Mainland	Acephate	2.5	1
			Methamidophos	0.25	0.05
13	White string pod	Mainland	Carbofuran	0.68	0.1
14	Chili	Thailand	Triazophos	0.026	0.02
15	Water spinach	Hong Kong	Trichlorfon	2.284	0.1
16	Water spinach	Hong Kong	Trichlorfon	0.146	0.1
17	Baby Chinese green	Mainland	Carbofuran	0.038	0.02
18	Chinese white cabbage	Mainland	Chlorpyrifos	0.16	0.1

	<b>Food</b>	<b>Source</b>	<b>Pesticides involved</b>	<b>Testing results (ppm)</b>	<b>Statutory MRLs/EMRLs (ppm)</b>
19	Chinese lettuce	Mainland	Methomyl	0.36	0.2
20	Water spinach	Hong Kong	Dimethoate	2.804	1
21	Purslane	Hong Kong	Dimethoate	5.2	1
22	Chinese lettuce	Mainland	Methamidophos	0.11	0.05
23	Chayote	Mainland	Methamidophos	0.61	0.05
24	Chinese lettuce	Mainland	Methomyl	0.33	0.2
25	Baby shanghai green	Mainland	Methamidophos	0.33	0.05
26	Chinese wolfberry leaf	Mainland	Acetamiprid	3.979	3
27	Chinese white cabbage	Mainland	Carbofuran	0.041	0.02
28	Chinese wolfberry leaf	Hong Kong	Cypermethrin	8.7	2

**Details of unsatisfactory samples detected by VMO**  
**(As at 15 November 2014)**

	<b>Food</b>	<b>Source</b>	<b>Pesticides involved</b>	<b>Testing results (ppm)</b>	<b>Statutory MRLs/EMRLs (ppm)</b>
1	White string pod	Mainland	Isocarbophos <sup>10</sup>	0.18	-
2	White string pod	Mainland	Isocarbophos	0.05	-
3	White string pod	Mainland	Isocarbophos	0.09	-
4	Mui Choy	Hong Kong	Dimethoate	1.59	1
5	Mui Choy	Hong Kong	Chlorpyrifos	1.72	1
6	Chinese wolfberry	Hong Kong	Permethrin	1.36	1
7	Peppermint leaf	Hong Kong	Promecarb <sup>11</sup>	8.54	-
8	Sweet potato shoot	Hong Kong	Cypermethrin	4.71	2
9	Water cress	Hong Kong	Cypermethrin	4.81	2
10	Water cress	Hong Kong	Cypermethrin	2.37	2
11	Chinese wolfberry	Hong Kong	Cypermethrin	2.43	2
12	Water cress	Hong Kong	Cypermethrin	2.25	2

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<sup>10</sup> The MRL of isocarbophos in white string pod is not specified in Schedule 1 to the Regulation. According to the Regulation, import or sale of the food concerned is only allowed if the consumption of the food concerned is not dangerous or prejudicial to health. If isocarbophos is detected in CFS' follow-up sample, CFS will conduct risk assessment to decide whether the consumption of the food concerned is dangerous or prejudicial to health.

<sup>11</sup> Promecarb is not specified in Schedule 1 to the Regulation. According to the Regulation, import or sale of the food concerned is only allowed if the consumption of the food concerned is not dangerous or prejudicial to health. If promecarb is detected in CFS' follow-up sample, CFS will conduct risk assessment to decide whether the consumption of the food concerned is dangerous or prejudicial to health.