

ACFEH Information Paper 3

Advisory Council on Food and Environmental Hygiene

Regulation of Freshwater Fish

Purpose

This paper briefs Members on the follow up actions taken by the Administration to ensure the food safety of freshwater fish.

Background

Current Regulation of the Feeding of Agricultural or Veterinary Chemicals to Food Animals in Hong Kong

2. In 2001, the Administration made the Public Health (Animals and Birds)(Chemical Residues) Regulation under the Public Health (Animals and Birds) Ordinance (Cap 139) with a view to regulating the feeding of agricultural and veterinary chemicals to food animals in order to protect public health and to ensure food safety. The Regulation prohibited the use of certain beta-agonists, synthetics with hormones and antibiotics, as these chemicals posed unacceptable risks to public health. The Regulation set a Maximum Residue Limit for 37 restricted chemicals in the meat, offal and milk of food animals.

3. To standardize the Maximum Residue Limits of chemicals for the entire food chain and to regulate effectively related products (such as meat), the Administration also amended the Harmful Substances in Food Regulations under the Public Health and Municipal Services Ordinance (Cap 132) to ban the sale of food containing any of the seven prohibited chemical, and food containing any of the 37 restricted chemicals exceeding the Maximum Residue Limits (equivalent to those set for meat and milk products). The list of restricted chemicals in Hong Kong is at Annex 1.

4. We will take into consideration the guidelines issued by international organizations such as the Codex Alimentarius Commission (Codex), information about other countries and the local situation when reviewing the adequacy or otherwise of our current regulations in restricting

the use of specified chemicals in food animals and related products in Hong Kong.

Impact of Food Containing Malachite Green on Human

5. Malachite green has been used in aquacultural farming for some time as a parasiticide, fungicide, as an antiprotozoan and for treatment of other diseases in fish and shellfish. **At present, Codex has not established food safety standards for malachite green in food.** Animal studies found that malachite green may cause liver tumours in mice. However, there is as yet no evidence of carcinogenicity for malachite green in human. As malachite green is carcinogenic in animals, it is unsuitable for use in aquatic products intended for human consumption. According to the toxicological information available, if malachite green is widely abused in aquaculture farms, consumers may risk an overdose of malachite green and suffer adverse health consequences.

6. According to the data we obtained from recent testings, the levels of malachite green detected in the freshwater fish samples at present is unlikely to cause adverse health effects. With the level of malachite green detected in the freshwater fish samples (using the mean level), a person would only suffer from adverse health effects if he or she consumes more than 290 kg of freshwater fish each day over a prolonged period.

Regulation of the Use of Malachite Green

7. Malachite green is not allowed to be used in aquaculture in various major agriculture economies (e.g. the United States, Canada and the European Union). The Ministry of Agriculture has incorporated malachite green into its List of Veterinary Drugs and Other Chemicals Prohibited in Food Animals in accordance with the Veterinary Drugs Control Law in the Mainland in 2002 to ban the use of malachite green in food animals. The State General Administration of the Quality Supervision, Inspection and Quarantine (AQSIQ) also issued a directive in the same year to explicitly prohibit the use of malachite green in aquaculture. As for local fish farms, the Agriculture, Fisheries and Conservation Department (AFCD) advised local fish farmers more than a decade ago against the use of malachite green. As there is now increasing concern over the use of malachite green in freshwater fish, the Food and Environmental Hygiene Department (FEHD) has taken measures to develop test method and set regulatory standard to enhance control.

Follow-up Actions

8. To step up regulation of the use of malachite green in food and fish for consumption, the Administration has taken the following follow-up actions.

Establishment of an Inter-departmental Working Group

9. The Administration is concerned about the latest test results which show the presence of malachite green in freshwater fish. An inter-departmental working group headed by the Secretary for Health, Welfare and Food (SHWF) was set up to follow up the latest development of the incident and formulate measures. Members of the working group included Permanent Secretary for Health, Welfare and Food, Deputy Secretary for Health, Welfare and Food, Director of Agriculture, Fisheries and Conservation (DAFC), Director of Food and Environmental Hygiene (DFEH), and Government Chemist.

Testing of Freshwater Fish

10. Noting that imported live eels and eel products were suspected to contain malachite green, the Administration collected samples from the market for testing. Test results indicated that 67 of the 80 samples of live eels and eel products contained malachite green.

11. In the light of the above findings, we are concerned that malachite green may be present in other types of freshwater fish. We therefore collected samples of live freshwater fish from local fish ponds, border control points and wholesale markets every day for the past week for testing. As at 25 August, the Administration had altogether tested 62 samples of live freshwater fish. Among them, 13 samples were tested positive for malachite green. Test results of live freshwater fish are set out in Annex 2.

12. As regards the criticism that the government had intentionally delayed the release of test results of imported freshwater fish on 20 August, we would like to clarify that we had only tested a few samples of imported freshwater fish on the first day and only three of the eight samples were tested positive for malachite green. The remaining five samples were all tested negative for malachite green. Since the concentration of malachite green in the three problematic samples was much lower than that in eels, we considered it necessary to collect more samples for further evaluation.

13. We immediately notified AQSIQ of our test results and strengthened our random checks on freshwater fish. It is to be noted that although the Mainland authorities had also promptly stepped up inspection of freshwater fish, they did not suspend the export of freshwater fish to Hong Kong.

14. At present, our primary task is to formulate effective regulatory measures on freshwater fish and continue our random checks and laboratory tests on freshwater fish to ensure that they are free from malachite green and restore the confidence of the trade and the community towards the hygiene and safety of the imported freshwater fish as soon as possible.

Strengthening Communication and Cooperation between Hong Kong and the Mainland in Respect of Food Incidents and Control of Aquatic Products Imported from the Mainland

15. On the issue of malachite green, discussion was held between SHWF and the Minister of AQSIQ in Beijing on 23 August to strengthen food safety cooperation between Hong Kong and the Mainland and consensus was reached on, among other things, the arrangements for the import and export of aquatic products to Hong Kong and the notification mechanism in respect of food incident between the two places.

16. To further strengthen the safety of live freshwater fish supply to Hong Kong, the HKSAR Government and AQSIQ agreed that the following actions would be taken to control supply of freshwater fish to Hong Kong at source:

- Freshwater fish supply to Hong Kong can only be provided by fish farms which are registered in the Mainland and approved by FEHD;
- All freshwater fish supplied by registered and approved farms should be accompanied with health certificates when entering Hong Kong to certify that they are free from malachite green or any other harmful pesticides and chemical substances;
- FEHD will send staff to registered and approved freshwater fish and aquaculture farms in the Mainland for inspection;
- Technical exchanges on freshwater fish farming and aquaculture will be conducted between Hong Kong and the Mainland; arrangements will be made for technical staff to visit fish farms and exchange experiences; and
- Examine the need to amend the legislation to require importers to seek prior approval before the import of aquatic products.

We believe that the new arrangements on inspection and quarantine will further ensure the safety of freshwater fish supply to Hong Kong, thereby enhancing public confidence in consuming these products.

17. We have also reached a consensus with AQSIQ on further enhancing the communication and notification mechanism. Hong Kong will be promptly informed of any food safety incidents arising from Mainland's export markets for which similar food products are also supplied to Hong Kong in order to ensure our better understanding of any major food safety problem in the mainland.

Regulation of Malachite Green by Making Amendments to the Harmful Substances in Food Regulations

18. We gazetted the amendments to the Harmful Substances in Food Regulations on 26 August 2005 to prohibit the use of malachite green in food with immediate effect so as to further enhance the safety of freshwater fish supply for public consumption. We will continue to monitor the latest situation on the regulation on the use of chemical substances in agricultural and fisheries products in other countries and will also review or update the First Schedule of the Harmful Substances in Food Regulations from time to time.

Communication with Operators in Trades

19. On 20 August, AFCD and FEHD issued letters to the operators of fishery and food trades respectively, informing them of the latest development and reminding them that their goods and products should be free of malachite green and fit for human consumption. In the letters, they were also informed that the AFCD would tighten its checks on freshwater fish in the wholesale markets while and the FEHD would strengthen its checks on the edible fish and related products in food premises. In the letter, they were also informed that the government intended to amend existing legislations.

20. In view of the concerns of the trade operators over the incident, the AFCD and FEHD had a meeting with them on 22 August and explained to them the latest development. In order to let them have a deeper understanding on amendment of the Harmful Substances in Food Regulations, the FEHD also met them on 25 August to brief them on the details of the legislative amendments.

Way Forward

21. The Administration will consider drawing up appropriate measures. In the short term, we will require all aquatic product imports to be accompanied by certificates issued by the relevant authorities of the origin. In the medium term, we will implement the regulatory regime of registered fish farms and other control measures at source. In the long run, we will require all importers and wholesalers to register the origin of all imports and the details of their sales, to enable rapid tracing of the origin of any problematic aquatic products and prompt follow-up actions. Besides, we will also examine the need for amending legislation to require all imported aquacultural products to have prior approval. Nevertheless, such measures will be effectively implemented only with the support of the relevant authorities and trades of the origin. Therefore, we need to study the matter in detail and consult the relevant authorities and trades properly before any appropriate and feasible measures can be formulated.

Health, Welfare and Food Bureau
August 2005

Annex 1

List of Chemicals Regulated Under Existing Laws

List of Prohibited Chemicals

1. Dienoestrol ((E,E)-4,4'-(diethylideneethylene) diphenol) including salts and esters thereof.
2. Diethylstilboestrol ((E)-B-diethylstilbene-4,4'-diol) including salts and esters thereof.
3. Hexoestrol (meso-4,4'-(1,2-diethylethylene) diphenol) including salts and esters thereof.
4. Avoparcin
5. Clenbuterol
6. Chloramphenicol
7. Salbutamol

List of Restricted Chemicals

1. Amoxicillin
2. Ampicillin
3. Bacitracin
4. Benzylpenicillin
5. Carbadox
6. Ceftiofur
7. Chlortetracycline
8. Cloxacillin
9. Colistin
10. Danofloxacin
11. Dicloxacillin
12. Dihydro-streptomycin
13. Dimetridazole
14. Doxycycline
15. Enrofloxacin
16. Erythromycin
17. Flumequine
18. Furaladone
19. Furazolidone
20. Gentamicin
21. Ivermectin
22. Josamycin
23. Kitasamycin
24. Lincomycin

25. Metronidazole
26. Neomycin
27. Oxolinic acid
28. Oxytetracycline
29. Sarafloxacin
30. Spectinomycin
31. Streptomycin
32. Sulfonamides
33. Tetracycline
34. Tiamulin
35. Trimethoprim
36. Tylosin
37. Virginiamycin

Annex 2

(As at August 25, 2005)

Accumulated test results of 62 freshwater fish samples

Types	Claimed Source	Number of samples	Presence of malachite green
Big Head	Local	5	Negative
	Imported	8	Two positive samples (1.9; 6 µg/kg)
Grass Carp	Local	4	Negative
	Imported	9	Two positive samples (18; 43 µg/kg)
Edible Goldfish	Local	3	Negative
	Imported	3	Two positive sample (1.8; 3.2 µg/kg)
Grey Mullet	Local	7	Negative
	Imported	1	Negative
Tilapia	Local	6	Negative
	Imported	1	Negative
Freshwater Grouper	Local	--	--
	Imported	3	Three positive samples (1.2; 64; 900 µg/kg)
Common Carp	Local	1	Negative
	Imported	1	One positive sample (30 µg/kg)
Milk Fish	Local	--	--
	Imported	1	Negative
Seabass	Local	--	--
	Imported	1	Negative
Cat Fish	Local	--	--
	Imported	2	One positive sample (2.0 µg/kg)
Mud Carp	Local	--	--

Types	Claimed Source	Number of samples	Presence of malachite green
	Imported	3	Negative
Snake Head	Local	--	--
	Imported	1	One positive sample (10 µg/kg)
Large Mouth Bass	Local	--	--
	Imported	1	One positive sample (2.9 µg/kg)
Yellow eel	Local	--	--
	Imported	1	Negative

Summary of results:

1. A total of 62 samples were tested.
2. A total of 13 samples were found to be positive.
3. A total of 49 samples were found to be negative.
4. Malachite green was not detected from samples collected on 23, 24 and 25 August.