

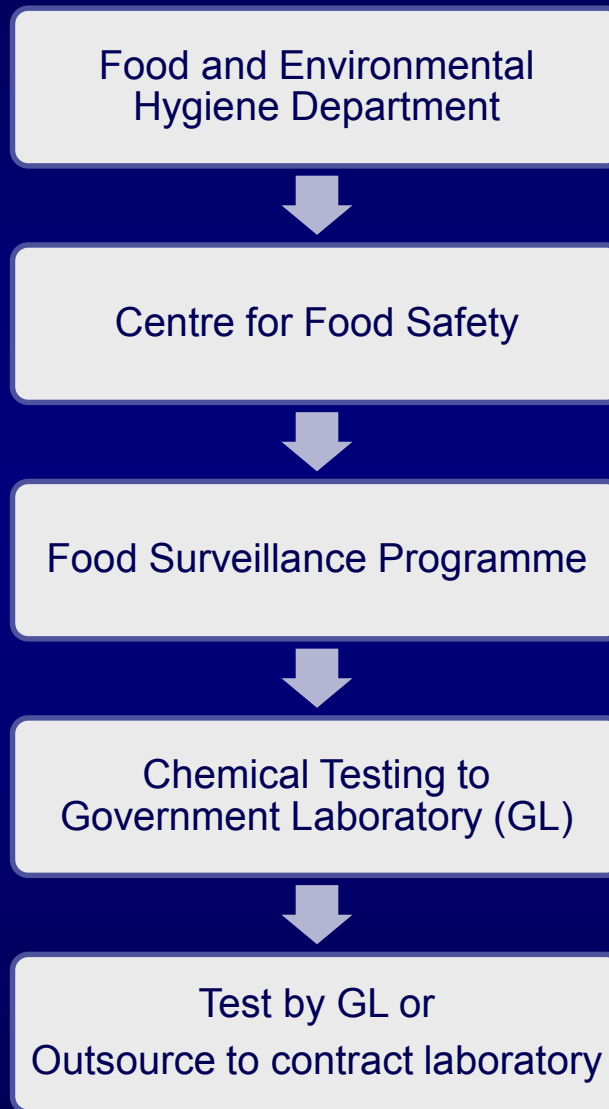


Briefing Session on
Outsourcing of
Food Tests:
Review and Way Forward

Government Laboratory
October 2014

Review of Outsourcing Contracts in 2014-15

Food Monitoring

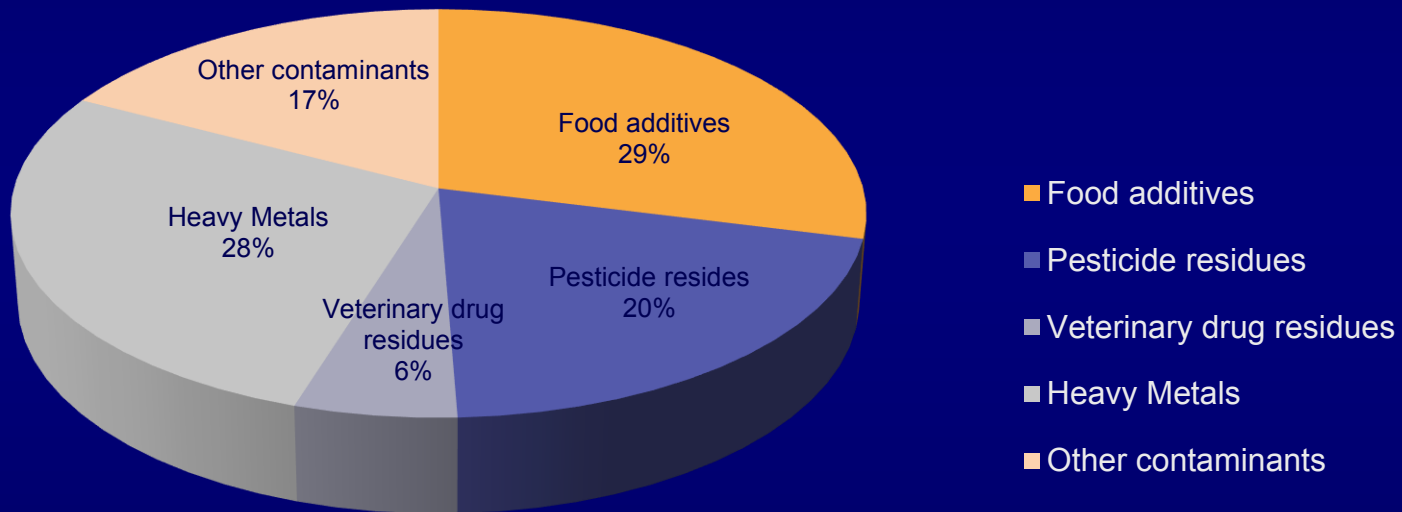


Outsourcing in 2014-15

- ★ 21 contracts issued by end of Oct 2014
 - ★ total about 119,000 tests
 - ★ contract period: 3 months to 1 year
 - ★ exercise ends in March 2015

- ★ Invitations to quotation sent in 4 phases
 - ★ January (7)
 - ★ February (7)
 - ★ June (3)
 - ★ August (4)

Sample Distribution in 2014-15



CAP 132 Public Health and Municipal Services Ordinance

- ✱ CAP 133H Colouring Matter in Food Regulations
- ✱ CAP 132V Food Adulteration (Metallic Contamination) Regulations
- ✱ CAP 132AF Harmful Substances in Food Regulations
- ✱ CAP 132BD Preservatives in Food Regulation
- ✱ CAP 132CM Pesticide Residues in Food Regulation

Salient Points (1)

- ✦ Accredited in corresponding tests
 - ✦ maintaining accreditation status throughout contract period
- ✦ Test parameters in specified matrices
- ✦ Specified reporting limits or better
- ✦ Delivery time of results
 - ✦ 3 – 14 days
- ✦ Testing capacity
 - ✦ 20 – 140 samples per week

Salient Points (2)

- ✦ Test sample collection
 - ✦ within specified time after notice
 - ✦ GL Headquarters at Homantin
- ✦ Retention of remaining test samples
- ✦ Past performance will be taken into account when future quotations are evaluated

Issued Contracts (Food Additives) (1)

- ✦ Sulphur dioxide and other preservatives
 - ✦ 5 contracts on general food and specific foods
 - ✦ SO₂ alone
 - ✦ SO₂ + 3 acids (benzoic acid, sorbic acid, salicylic acid)
 - ✦ SO₂ + 3 parabens
 - ✦ SO₂, benzoic acid, sorbic acid, 3 parabens
 - ✦ about 3,700 samples total
 - ✦ reporting limits: 8 mg/kg for SO₂, 30 mg/kg for parabens and 50 mg/kg for others

Issued Contracts (Food Additives) (2)

☀ Nitrate/Nitrite

- ☀ 1 short-term contract on meat and dairy products
- ☀ about 260 samples
- ☀ reporting limits: 5 mg/kg for nitrite (as NaNO_2) and 30 mg/kg for nitrate (as NaNO_3)

☀ Propionic acid

- ☀ 1 short-term contract on flour confectionery
- ☀ about 105 samples
- ☀ reporting limit: 50 mg/kg

Issued Contracts (Pesticides) (1)

- ✿ Pesticide Residues in Food Regulation (Cap 132CM) came into operation on 1 Aug 2014
- ✿ April - July: 5 contracts
- ✿ Test parameters: refer to
 - ✿ <http://www.govtlab.gov.hk/english/development.htm>
- ✿ August onwards: 2 contracts
- ✿ Test parameters: selected from
 - ✿ Survey on pesticide residue testing in June 2013
- ✿ Matrices: unprocessed fruit and vegetables
- ✿ Total no. of samples: ~2,800

Issued Contracts (Pesticides) (2)

April - July

- ★ Organochlorine (OC) pesticide residues in fruit and vegetables
 - ★ 2 contracts on 35 OC pesticides
 - ★ about 500 samples
 - ★ reporting limits: 0.01 mg/kg each
- ★ Organophosphorus (OP) pesticide residues in fruit and vegetables
 - ★ 1 contract on 42 OP pesticides
 - ★ about 510 samples
 - ★ reporting limits: 0.1 mg/kg each

Issued Contracts (Pesticides) (3)

April - July

- ✦ Pyrethroid residues in fruit and vegetables
 - ✦ 1 contract on 8 pyrethroids
 - ✦ about 510 samples
 - ✦ reporting limits: 0.1 mg/kg each

- ✦ N-methyl carbamate residues in fruit and vegetables
 - ✦ 1 contract on 16 carbamates
 - ✦ about 510 samples
 - ✦ reporting limits: 0.1 mg/kg each

Issued Contracts (Pesticides) (4)

August onwards

- ✦ Pesticide residues (new regulation) in fruit and vegetables
 - ✦ 1 contract on 50 pesticide residues
 - ✦ 1 contract on 61 pesticide residues
 - ✦ about 400 samples each
 - ✦ cover residues definition
 - ✦ reporting limits: according to MRL

Issued Contracts (Veterinary Drug Residues)

★ Chloramphenicol

- ★ 1 contract for meat and aquatic products
- ★ about 415 samples
- ★ reporting limit: 0.3 $\mu\text{g}/\text{kg}$

★ Malachite Green

- ★ 1 contract for aquatic products
- ★ Malachite Green and Leucomalachite Green
- ★ about 345 samples
- ★ reporting limit: Sum of MG and LMG: 2 $\mu\text{g}/\text{kg}$

Issued Contracts (Heavy Metals / Toxic element)

✦ 7 Heavy metals / Toxic element

- ✦ 1 contract for Sb, As, Cd, Cr, Pb, Hg and Sn in miscellaneous foods
- ✦ About 2,470 samples
- ✦ reporting limits: 0.02 mg/kg – 10 mg/kg

✦ 4 Heavy metals / Toxic element

- ✦ 1 contract for As, Pb, Hg, and Sn in general foodstuffs
- ✦ About 1,390 samples
- ✦ reporting limits: 0.03 mg/kg – 10 mg/kg

Issued Contracts (Other Contaminants)

★ Sudan Dyes

- ★ 1 contract on general food products
- ★ Sudan I, II, III, IV, Sudan Orange G, Sudan Red 7B, Dimethyl Yellow
- ★ about 860 samples
- ★ reporting limits: 20 µg/kg each

★ Melamine

- ★ 1 contract on general food
- ★ about 1,050 samples
- ★ reporting limit: 1 mg/kg

Issued Contracts (Other Contaminants)

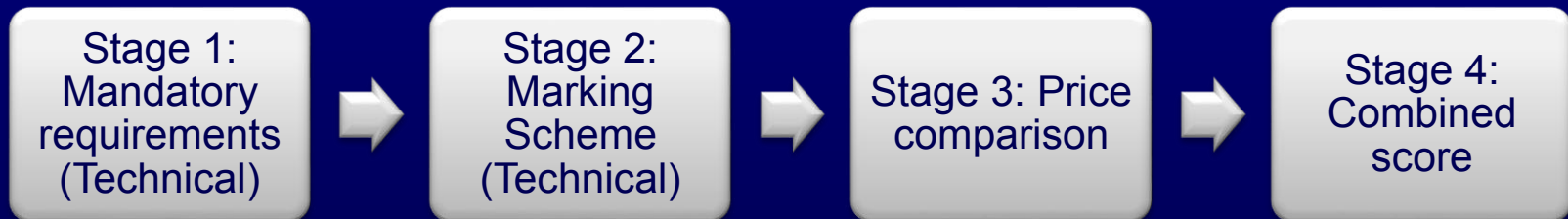
✦ Boric acid

- ✦ 1 short term contract on general food
- ✦ about 500 samples
- ✦ reporting limit: 50 mg/kg

Invitation to Quotation

★ Two-envelope system

- ★ Introduced for contracts commencing in Oct 2011
- ★ Technical proposal
- ★ Price proposal
- ★ 40% Technical weighting / 60% Price weighting
- ★ Past performance in previous contracts with GL
- ★ Evaluation process:



Way Forward:
Outsourcing Contracts
in 2015-16

Outsourcing Contracts in 2015-16(1)

- ✦ Around 120,000 tests
- ✦ Some contracts will start in April 2015
 - ✦ invitations to quotation will start in January 2015
- ✦ Contract period varies
 - ✦ 3 months - one year

Outsourcing Contracts in 2015-16 (2)

- ✓ Keeping tender documentation simple
- ✗ Two-envelope system for invitation to quotation
- ✓ Single-envelope

Outsourcing: Test Areas

- ✱ Food additives
- ✱ Pesticide residues
- ✱ Veterinary drug residues
- ✱ Heavy metals / toxic element
- ✱ Other contaminants

General Requirements

- ★ Accredited in the corresponding tests
 - ★ maintaining the accreditation status throughout the contract period
- ★ Test sample collection
 - ★ within specified time after notice
 - ★ at specified locations
- ★ Report results within specified period
- ★ Retention / return of remaining test samples

Contracts on Additives (1)

★ Sulphur dioxide and other preservatives

- ★ Regrouping and bundling
- ★ About 3 - 4 contracts
- ★ Different combinations of :
 - SO₂
 - 2 or 3 acids (benzoic acid, sorbic acid, with or without salicylic acid)
 - 3 parabens
- ★ reporting limits: 8 mg/kg for SO₂, 30 mg/kg for parabens and 50 mg/kg for others

Contracts on Additives (2)

- ✱ Propionic acid in flour confectionary
 - ✱ reporting limit: 50 mg/kg

- ✱ Nitrate / nitrite in meat and dairy products
 - ✱ reporting limit: 30 mg/kg as NaNO_3 and 5 mg/kg as NaNO_2

Contracts on Pesticide Residues (1)

- ✿ Continue to expand the pesticide residue list
- ✿ Survey on pesticide residue testing in June 2013
 - Multi-residue test methods
- ✿ Cover residues definition (unless stated otherwise in service specifications)
- ✿ Reporting limit: according to MRL
- ✿ Depend on testing capability of service providers at time of launch

Contracts on Pesticide Residues (2)

★ Desirable test parameters:

- ★ Aldicarb
- ★ Cyhalothrin
- ★ Fenthion
- ★ Phorate
- ★ Pyrethrins
- ★ Quizalofop ethyl

Contracts on Pesticide Residues (3)

★ Desirable test parameters:

★ Aldicarb

- Sum of aldicarb and its sulphoxide and sulphone, expressed as aldicarb
- Lower reporting limit: 0.02 mg/kg

★ Cyhalothrin

- Cyhalothrin (sum of all isomers)
- ✗ Cyhalothrin-lambda
- Desirable reporting limit: 0.01 mg/kg

Contracts on Pesticide Residues (4)

★ Desirable test parameters:

★ Fenthion

- Sum of fenthion, its oxygen analogue and their sulphoxides and sulphones, expressed as fenthion
 - Fenthion
 - Fenthion sulphone
 - Fenthion sulphoxide
 - Fenthion oxon
 - Fenthion oxon sulphone
 - Fenthion oxon sulphoxide
- Desirable reporting limit: 0.05 mg/kg

Contracts on Pesticide Residues (5)

★ Desirable test parameters:

★ Phorate

- Sum of phorate, its oxygen analogue, and their sulphoxides and sulphones, expressed as phorate
 - Phorate
 - Phorate sulphone
 - Phorate sulphoxide
 - Phorate oxon
 - Phorate-oxon-sulphone
 - Phorate-oxon-sulphoxide
- Desirable reporting limit: 0.05 mg/kg

Contracts on Pesticide Residues (6)

★ Desirable test parameters:

★ Pyrethrins

- Total pyrethrins, calculated as the sum of pyrethrins 1 and 2, cinerins 1 and 2, jasmolins 1 and 2, determined after calibration with World Standard pyrethrum extract
- Will accept any other validated source of individual or mixed standard(s), containing individually assayed amounts of the 6 isomers, for calibration
- Desirable reporting limit: 0.05 mg/kg

Contracts on Pesticide Residues (7)

★ Desirable test parameters:

★ Quizalofop ethyl

- Sum of quizalofop-p ethyl ester [ethyl(R)-2-[4-((6-chloroquinoxalin-2-yl)oxy)phenoxy]propionate], quizalofop-p [R-(2-[4-((6-chloroquinoxalin-2-yl)oxy)phenoxy]) propanoic acid] and the S enantiomers of both the ester and the acid, expressed as quizalofop-p ethyl ester
 - Quizalofop
 - Quizalofop ethyl
- ✗ Quizalofop-P-ethyl and Quizalofop-P
- Desirable reporting limit: 0.05 mg/kg

Pesticide Residues

✦ Measurement uncertainty

- ✦ JRC Interlaboratory Comparison Report, IMEP-37, June 2014
- ✦ Usually around 25 – 50%
- ✦ https://ec.europa.eu/jrc/sites/default/files/imep-37_report_final_web.pdf

Pesticide Residues

✦ Measurement uncertainty

- ✦ Codex Report, REP11/PR, Appendix X
- ✦ Draft revision of the guidelines on the estimation of measurement uncertainty of results for the determination of pesticide residues (Annex to CAC/GL 59-2006)
- ✦ http://www.codexalimentarius.org/download/report/762/REP11_PRe.pdf

Contracts on Veterinary Drug Residues

- ✱ Chloramphenicol in meat and aquatic products
 - ✱ reporting limit: 0.3 $\mu\text{g}/\text{kg}$
- ✱ Malachite green in aquatic products
 - ✱ reporting limit: 2 $\mu\text{g}/\text{kg}$ for sum of malachite green (MG) and leucomalachite green (LMG)

Contracts on Contaminants (1)

- ★ Heavy metals / Toxic element in general foodstuffs (2 contracts)
- ★ 1 / 4 / 7 elements

Analyte	Reporting Limits
Antimony (Sb)	0.2 ppm
Arsenic (As)	0.1 ppm as As_2O_3
Cadmium (Cd)	0.02 ppm
Chromium (Cr)	0.2 ppm
Lead (Pb)	0.1 ppm
Mercury (Hg)	0.03 ppm
Tin (Sn)	10 ppm

Contracts on Contaminants (2)

★ Sudan dyes in general foodstuffs

- ★ Sudan I, II, III, IV, Sudan Orange G, Sudan Red 7B and Dimethyl Yellow
- ★ reporting limit : 20 µg/kg each

★ Melamine in general foodstuffs

- ★ reporting limit: 1 mg/kg

★ Boric acid in general foodstuffs

- ★ reporting limit: 50 mg/kg

Proficiency test (PT) programmes

★ PT programmes

- ★ Boric acid in food
- ★ Propionic acid in flour confectionery



Thank You