



- Superintendent, inspection, auditing and analysis company
- Approved by Syndicat de Paris
- Bipea member
- Recognized by Onigc
- Accreditation:
- NF EN ISO CEI 17025 laboratory (several programmes)
- NF EN ISO CEI 17020 Inspection organisms (under way)
- Audits carried out under accreditation of NF EN ISO CEI 45011
- Member of GAFTA (laboratory and inspection organisation)



Regulations and sampling standards for foodstuffs

- EC regulation No. 401/2006 of 23/02/06 : mycotoxins
- EC regulation No. 1883/2006 of 19/12/06: dioxins - pcb (from 01/03/07)
- EC regulation No. 1882/2006 of 19/12/06: nitrates (from 01/03/07)
- EC directive No. 2001/22/CE of 08/03/01: heavy metals (lead-cadmium-mercury)
- EC directive No. 2002/63/CE : pesticides.

- Draft standards in the course of study for **cereals and cereal products:**
 - **pr EN ISO 24333 (all contaminants)**

Table 1 : Methods of sampling for the control of certain contaminants in foodstuffs

Contaminants	Foodstuffs	Methods of sampling
Nitrate	<ul style="list-style-type: none"> - Fresh spinach - Fresh Lettuce 	Commission Directive 79/700/EEC Commission Regulation n° 1882/2006 apply from 1 March 2007
3- MCPD (Monochloro-propane-1,2-di ol)	Soy sauce	Commission Directive 2001/22/EC
Polycyclic aromatic hydrocarbons (Benzo (a) pyrene)	<ul style="list-style-type: none"> - Oils and Fats - Smoked meat - Muscle meat - Bivalve molluscs / crustaceans - Baby foods and young children 	Commission Directive 2005/10/EC
Mycotoxins <ul style="list-style-type: none"> - Aflatoxins : B1/B1+B2+ G1+G2/M1 - Deoxynivalénol (DON) - Zearalenone - Fumonisin - T-2 and HT-2 toxin - Patulin - Ochratoxin A 	<ul style="list-style-type: none"> - Groundnuts - Nuts and dried fruits - Unprocessed cereals & derived products - Milk - Spices - Coffee and derived products - Fruit juices / Wine - Apples and derived products - Baby foods and young children 	<ul style="list-style-type: none"> - Commission Regulation n° 401/2006 - DRAFT Standard pr EN ISO 24333

Table 1 : Methods of sampling for the control of certain contaminants in foodstuffs

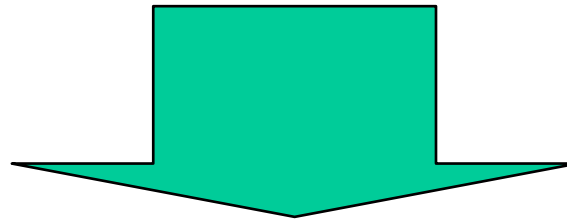
Contaminants	Foodstuffs	Methods of sampling
Dioxins and PCBs	<ul style="list-style-type: none"> - Meat and liver of terrestrial animals - Muscle meat of fish - Raw milk and dairy products - Hen eggs and egg products - Animal and vegetable fats - Oils and marine oils 	<ul style="list-style-type: none"> - Commission Directive 2002/69/EC - Commission Regulation n° 1883/2006 apply from 1 March 2007
Heavy metals <ul style="list-style-type: none"> - Lead - Cadmium - Mercury 	<ul style="list-style-type: none"> - Raw milk and heat-treated milk - Infant formulae - Meat and offal of animals - Muscle meat of fish - Cereals, legumes and pulses - Fats and oils - Fruit juices and wine - Bran, germ, wheat and rice - Soybeans - Vegetables and fruits - Fishes and fishery products 	<ul style="list-style-type: none"> - Commission Directive 2001/22/EC - DRAFT Standard pr EN ISO 24333
Pesticide residues	Products of plant and animal origin	<ul style="list-style-type: none"> - Commission Directive 2002/63/EC with ISO recommendations for sampling of grain or other commodities shipped in bulk (ISO 6644, ISO 13690 & ISO 542) - DRAFT Standard pr EN ISO 24333

Table 2 : List of some methods of sampling for the official control of the levels of mycotoxins in certain foodstuff (sampling of flowing bulk products) – Commission regulation (EC) No 401/2006

Commodity	Lot weight (tonnes)	Weight or number of sublots	Number of incremental samples	Aggregate sample weight (kg)
Cereals and cereal products (including baby food and young children)	Δ 1500	500 tonnes	100	10
	> 300 and < 1 500	3 sublots	100	10
	Δ 50 and Ω 300	100 tonnes	100	10
	< 50	-	3-100	1-10
Weight of the incremental sample : 100g Draft pR EN ISO 24333 : 20 samples per 500 tonnes (only for cereals and cereal products)				
Dried fruit with the exception of figs	Δ 15	15-30 tonnes	100	10
	< 15	-	10 -100	1-10
Weight of the incremental sample : 100g				
Dried figs	Δ 15	15-30 tonnes	100	30
	< 15	-	10 -100	Ω 30
Groundnuts, pistachios, brazil nuts and other nuts	Δ 500	100 tonnes	100	30
	> 125 and < 500	5 sublots	100	30
	Δ 15 and Ω 125	25 tonnes	100	30
	< 15	-	10 -100	Ω 30
Weight of the incremental sample : 300g				
Spices	Δ 15	25 tonnes	100	10
	< 15	-	5-100	0,5 - 10
Weight of the incremental sample : 100g				
Coffee and coffee products	Δ 15	15-30 tonnes	100	10
	< 15	-	10-100	1-10
Weight of the incremental sample : 100g				

Why have sampling regulations and standards?

- Technical means and statistics in order to obtain batch representativity as part of research into microscopic element set out in a heterogenous manner.
- Control of the sanitary risk.
- Guaranteeing a high reliability level of the analysis results.
- Eliminating an error factor in the sanitary quality control.



- **SAMPLING IS THE CORNERSTONE OF ANY SYSTEM SEEKING TO CONTROL THE SANITARY RISK**

SAMPLING STANDARDS

MANAGEMENT

SAMPLING PLAN

FOODSTUFF

CONTAMINANT

BATCH

PACKING

METHOD

SAMPLING LOCATION

EQUIPMENT/PERSONNEL

OPERATIONS

CONSTITUTION OF SAMPLES + SEALING

TRANSMISSION TO LABORATORY IN QUEST OF CONTAMINANTS

MANAGEMENT

SAMPLING PLAN

ELEMENTS TO BE TAKEN INTO CONSIDERATION

Food to be sampled: difference in sampling modes between bulk or seed and lettuce batches.

Contaminant researched: pesticides, mycotoxins

e.g.: field mycotoxins / storage: not the same periods.

Lot to be sampled: tonnage, static sampling, on the move,

Packing: bags, holds, tank, skips, silo....

Feasibility: movement, static, storage condition, flowrate, manual or automatic samples.

Safety: possibility of human action without any risk (dust, height, etc...)

APPLICATION OF REGULATION

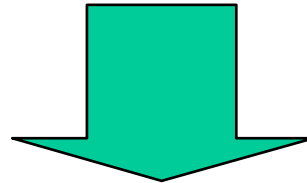
- In the light of the previous elements there are two possibilities:

- REGULATORY SAMPLING IS POSSIBLE:



APPLICATION

- REGULATORY SAMPLING IS NOT APPLICABLE :



- POSSIBILITY OF REFERING TO ANOTHER STANDARD OR ANOTHER SAMPLING PLAN, DULY DOCUMENTED AND REFERRING TO:

- The reasons why it is impossible to implement the sampling provided for in the regulations.
- The standard referred to for carrying out the sampling.
- If there is no adaptable standard, draw up a sampling plan coming as close as possible to the spirit of the regulation.

METHOD

- **Sampling locations:** **Other than automatic sampling:**

In movement: location with easiest access, away from danger and making it possible to take samples from the entire grain section.

Static: depending on the size of the lot, performance of sampling by manual soundings or by suction.

- **Equipment: ALWAYS PERFECTLY DRY, CLEAN AND ODOUR-FREE**

- Hand shovel
- Probe rod
- Sampling bucket
- Suction probe
- Bucket
- Divided (conical or rifled)

- **Personnel:** professional competence – regular activities – permanent qualifications and training

- **Operations:**

movements: determination of regularity of sampling depending on the flow rate of the grain

- Basic samples: 100 regular samples, same weight of around 100 grams, forming the global sample of 10 kilos.

- Homogenization and division of global sample into laboratory samples with units of 10 kilos

METHOD continued

Operations:

Static: Depending on the size of the batch to be sampled (truck, barges, flat bottom storage batch): use of a manual probe or suction probe. Batch grid arrangement.

Example: batch of 20 000 tm wheat: 150 points X 6m (height): 900 samples: 1 per 22 tonnes. 1 day's work for two people (pr EN ISO 24333).

End of elementary sampling operations:

- Homogenization
- Division using divider to obtain identical samples intended for the laboratories.
- Stamping of samples from opposite standpoints with other party.
- Drawing up of sampling report.
- Preservation of samples in cold store

Reminder: This sample representative of a lot of several hundred tonnes will be used for extracting a test specimen of 10 grams in order to search for contaminants and for which the results will be expressed in micro-grams per kilo.... There are two possibilities regarding the results of this research:

- Conforming lot: used for food
- Non-conforming lot: other openings, in the worst case: destruction generating financial costs that may come to several hundreds of thousands of Euros ...

Conclusion

- These regulations are designed to control the sanitary risk and in doing this, the more representative nature of the samples will also be in favor of the physical quality and technological approach of the lots and better apprehension of infestation by pests.
- To control the problem of contaminants, sampling efforts must be made from harvest through to storage and not only on the day on which the commercial lot is shipped to come because it is already too late.
- We also need to bear in mind that despite the multiplication of elementary samples, we cannot rule out the risk of an anomaly (a dead pigeon, animal droppings ...), because none of the existing sampling plans can guarantee the individual detection of an undesirable element.

This type of risk can only be eliminated during the goods handling and storage work.

This regulation must be applied systematically during every transaction and commercial shipment and replace any other means of sampling that has existed thus far (Incograin, Gafta type contracts...)

Who will cover the costs?