

All. A a Pocerba E m. 2  
del 21/12/2021  
(pag. 1)

Domanda 1

- Come si costruisce una curva di taratura?
- Tecniche di purificazione per la ricerca di un analita in una matrice alimentare

Domanda 2

- Quali caratteristiche deve avere uno STD interno e a che cosa serve?
- Tecniche di estrazione di un analita da una matrice alimentare

Domanda 3

- Approccio allo sviluppo di un nuovo metodo analitico
- Determinazione di Mercurio in una matrice alimentare

Domanda 4

- Come si calcola l'incertezza di misura di un metodo?
- Tecniche di pre-trattamento di una matrice alimentare per la ricerca di metalli

Domanda 5

- Cosa si intende per LOD e LOQ di un metodo e come sono calcolati?
- Tecniche di pre-trattamento di una matrice alimentare per la ricerca di contaminanti organici persistenti

Domanda 6

- Come si valuta il recupero di un analita in una metodica?
- Tecniche di pre-trattamento di una matrice alimentare per la ricerca di farmaci

Domanda 7

- Come si controlla il mantenimento delle prestazioni di un metodo durante la sua applicazione in routine?
- Tecniche di pre-trattamento di una matrice alimentare per la ricerca di tossine

Domanda 8

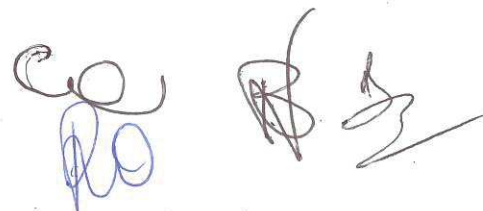
- Come si costruisce una carta di controllo e a cosa serve?
- Tecniche di pre-trattamento di una matrice alimentare per la ricerca di pesticidi

Domanda 9

- Quali caratteristiche deve avere un materiale di riferimento e a che cosa serve?
- Tecniche di pre-trattamento di una matrice alimentare per la ricerca di ormoni

Domanda 10

- Cosa si intende per precisione e accuratezza?
- Tecniche di pre-trattamento di una matrice alimentare per la ricerca di additivi e loro determinazione





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## **B. Sampling, transport, traceability and storage of laboratory samples**

### *Sampling*

B1 Food samples should be taken in accordance with Directive 2002/63/EC or superseding legislation. For feed, the regulations are laid down in Annex I of Regulation (EC) No. 152/2009 or superseding legislation. Where it is impractical to take primary samples randomly within a lot, the method of sampling must be recorded. Samples taken according to Directive 2002/63/EC or Regulation (EC) No. 152/2009 should be considered as legal, official laboratory sample, representative for the lot or consignment from which they are taken. Therefore, the contribution of the sampling variability to the variability in or measurement uncertainty of residue analytical results is not dealt with in this document.

### *Transport*

B2 Samples must be transported under appropriate conditions to the laboratory in clean containers and robust packaging. Polythene or polypropylene bags, ventilated if appropriate, are acceptable for most samples but low-permeability bags (e.g. nylon film) should be used for samples to be analysed for residues of fumigants. Samples of commodities pre-packed for retail sale should not be removed from their packaging before transport. Very fragile or perishable products (e.g. ripe raspberries) may have to be frozen to avoid spoilage and then transported in "dry ice" or similar, to avoid thawing in transit. Samples that are frozen at the time of collection must be transported without thawing. Samples that may be damaged by chilling (e.g. bananas) must be protected from both high and low temperatures.

B3 Rapid transport to the laboratory, preferably within one day, is essential for samples of most fresh products. The condition of samples delivered to the laboratory should approximate to that which would be acceptable to a discerning purchaser, otherwise samples should be considered as unfit for analysis.

### *Traceability*

B4 Samples must be identified clearly and indelibly, in a way to ensure traceability. The use of marker pens containing organic solvents should be avoided for labelling bags containing samples to be analysed for fumigant residues, especially if an electron capture detector is to be used.

B5 On receipt, each laboratory sample must be allocated a unique code by the laboratory.

### *Storage*

B6 Laboratory samples which are not analysed immediately should be stored under conditions that minimise decay. Fresh products should be stored in the refrigerator, but typically no longer than 5 days. Dried products may be stored at room temperature, but if storage time is expected to exceed two weeks, they should be sub-sampled and stored in the freezer.

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## C. Sample analysis

C1 All sample preparation and processing procedures should be undertaken within the shortest time practicable to minimise sample decay and pesticide losses. Analyses for residues of very labile or volatile pesticides should be started, and the procedures which could lead to loss of analyte should be completed as soon as possible, but preferably on the day of sample receipt.

### Sample preparation and processing

C2 Sample preparation, sample processing and sub-sampling to obtain portions should take place before any visible deterioration occurs. The parts of the commodity that should be analysed are stipulated in Regulation (EC) No 396/2005 Annex 1

C3 Sample processing and storage procedures should have been demonstrated to have no significant effect on the residues present in the sample (see Directive 2002/63/EC). Where there is evidence that comminution (cutting and homogenisation) at ambient temperature has a significant influence on the degradation of certain pesticide residues, it is recommended that the samples are homogenised at low temperature (e.g. frozen and/or in the presence of "dry ice"). Where comminution is known to affect residues (e.g. dithiocarbamates or fumigants) and practical alternative procedures are not available, the test portion should consist of whole units of the commodity, or segments removed from large units. For all other analyses, the whole laboratory sample needs to be comminuted. To improve the extraction efficiency of low moisture commodities (e.g. cereals, spices, dried herbs), it is recommended that small particle sizes, preferably less than 1 mm, are obtained. Milling should be performed in a way that avoids extensive heating of the samples, as heat can cause losses of certain pesticides.

C4 Sample comminution should ensure that the sample is homogeneous enough to ensure that sub-sampling variability is acceptable. If this is not achievable, the use of larger test portions or replicate portions should be considered in order to be able to obtain a better estimate of the true value. Upon homogenization or milling, samples may separate into different fractions, e.g. pulp and peel in the case of fruits, and husks and endosperm in the case of cereals. This fractionation can occur because of differences in size, shape and density.

Because pesticides can be heterogeneously distributed between the different fractions, it is important to ensure that the fractions in the analytical test portion are in the same ratio as in the original laboratory sample. It is advisable to store in a freezer a sufficient number of sub-samples or analytical test portions for the number of analyses/repeated analyses that are likely to be required.

### Pooling of samples

C5 Pooling of individual samples or sample extracts may be considered as an option for the analyses of commodities with a low frequency of pesticide residues (e.g. organic or animal products), provided that the detection system is sensitive enough. For example, when pooling 5 samples, the limit of quantification (LOQ) or screening detection limit (SDL) must be at least 5 times lower than the reporting limit (RL).

C6 Pooling of sub-samples before extraction will reduce the number of analyses required, but in some cases additional mixing or homogenisation of the pooled sub-samples, before withdrawing the analytical portion, may be necessary. Alternatively, sample extracts can be pooled before injection. The original samples or the extracts must be re-analysed in cases of pesticide residue findings at relevant levels.



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**1. Tra le seguenti coppie, quale è corretta?**

- xls - MS Powerpoint
- docx - MS Word
- pdf - MS Publisher
- ppt - MS Excel

**2. Che cosa indica "gigabyte"?**

- un'unità di misura della sola memoria disco
- un'unità di misura della sola memoria RAM
- un'unità di misura della sola memoria ROM
- 1 miliardo di byte

**3. Che cosa vuol dire "fare il backup"?**

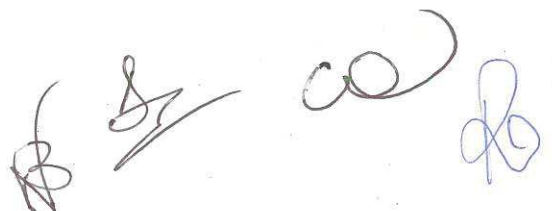
- creare una copia di sicurezza dei dati
- forzare il caricamento di un file su Internet
- sostenere il computer nei momenti di massimo sforzo computazionale
- attuare una prassi trascurabile e marginale nell'era digitale

**4. Quali sono le più popolari famiglie di sistema operativo per personal computer?**

- Windows, Macintosh, Next
- Windows, Symbian, Macintosh
- Windows, Macintosh, Linux/Unix
- Windows, Linux, Microsoft

**5. Quale dei seguenti tipi di connessione ad Internet è tipicamente "mobile"?**

- ADSL
- Wi-Fi
- Dial-Up
- LAN Ethernet



**6. La tastiera è normalmente una periferica di?**

- input
- output
- input e output
- neutra

**7. Le combinazioni rapide da tastiera per i comandi "copia", "incolla", "taglia" sono rispettivamente:**

- CTRL+C, CTRL+V, CTRL+T
- CTRL+C, CTRL+I, CTRL+T
- CTRL+C, CTRL+X, CTRL+V
- CTRL+C, CTRL+V, CTRL+X

**8. Una cartella può contenere?**

- File o cartelle
- Solo i file
- File o menù
- File e CD

**9. Una volta selezionato il testo cosa esegue la Combinazione dei tasti CTRL+X**

- Taglia il testo selezionato
- Copia la formattazione del testo selezionato
- Copia il testo selezionato
- Incolla il testo selezionato

**10. Che differenza c'è tra hardware e software?**

- L'hardware si riferisce al computer come macchina, il software si riferisce ai programmi
- Hardware e software designano rispettivamente computer difficile e facile da usare
- L'hardware è il corpo principale del computer, il software è costituito dai cd
- L'hardware è costituito dal sistema operativo, il software da tutti gli altri programmi

