



Let's Learn About: Pesticide Residues

Pesticide residues may be present in fruits and vegetables as the pesticides are sprayed on them during their cultivation.

So, how can pesticide residues be removed?

The best way is washing them thoroughly before eating.



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◆ What are pesticides?

Pesticides are substances that prevent, destroy, repel, reduce or control the growth of harmful organisms to protect crops and increase yields.

◆ Are pesticides absolutely necessary for farming?

Without the use of pesticides, it would be difficult to maintain the quality and yield of agricultural products, which may lead to insufficient supply so that the price is significantly increased.

What are the effects of pesticides on human health?

- ◆ There are many kinds of pesticides. The effects on human health vary depending on its toxicity, quantity contained in food as well as ingestion period. Such factors take into account in the systematic judgement on health effects. Thanks to advanced scientific studies, many pesticides pose significant health hazard are difficult to metabolise and prone to bioaccumulate in body for a long-time. These are banned from agricultural use; hence, consumers should not overly worry about the residues of toxic pesticide in foodstuffs.



◆ How can we reduce our intake of pesticides?

According to scientific research, proper cleaning and washing of fruits and vegetables can significantly reduce the pesticide residues. It is always recommended to wash all fruits and vegetables before eating.

◆ What measures have been taken by the competent authorities of Macao to control and monitor the quality of fruits and vegetables?

In accordance with existing laws, regulations and Macao's import regime, importers of fruits and vegetables are required to apply for an import registration from the Municipal Affairs Bureau (IAM). All imported fruits and vegetables are subject to mandatory quarantine and inspection before they are released into the local market. For fruits and vegetables imported from China, all of them come from the particular "Vegetable and Fruit Farms for Exportation to Hong Kong and Macao". Concerned authorities strictly supervise the cultivation, production and processing procedures in these farms. In addition, IAM conducts random inspections and testing of fruits and vegetables available for sale in Macao at regular intervals to ensure food safety through market surveillance.



Currently, is there any regulation on the limitation of pesticide residues?

Macao has enforced the 'Maximum Residue Limits of Pesticides in

- ◆ Foodstuffs**, which includes the maximum residue limits (MRLs) and extraneous maximum residue limits (EMRLs) for pesticides. (The latter refers to the levels of pesticide residues or contaminants remained in agricultural land.) Over 5,500 indicators of pesticide residues limits are established by the competent authorities as a basis of food safety regulation; moreover, it can fulfil the arising needs for food supervision and market expectations, and safeguard the food safety in Macao.



*Administrative Regulation No. 11/2020: Maximum Residue Limits of Pesticides in Foodstuffs
(Amended by Administrative Regulation No. 2/2023)



Tips for cooking vegetables:

- * As snap beans, lentils, red kidney beans and navy beans contain lectins, these must be thoroughly cooked before consumption so that the lectins are destroyed by heating.
- * Bamboo shoots and cassava contain cyanogenic glycosides. These can be cut into small pieces, soaked in water, then boiled until thoroughly cooked before consumption.
- * Do not choose potatoes that have sprouted, turned green or rotten. Always store potatoes in a cool place.



How can we reduce our intake of pesticides?

Bear in mind the method of cleaning fruits and vegetables



1 Remove the spoiled and inedible outermost layers or leaves



2 Rinse away dirt on their surface with running water



3 When washing firm fruits and vegetables under running water, use a clean soft brush designed for the purpose



4 Clean and wash them thoroughly before cutting to avoid loss of nutrients

Tips for Everyday Life



Water after washing fruits and vegetables is not drinkable but it can be reused for watering plants and flushing toilets.



It is not advisable to use a produce wash agent as its residue can remain on the fruits and vegetables while not thoroughly rinsed.



Water after blanching vegetables should be discarded because it may contain pesticide residues.