



**Press Release**  
FOR IMMEDIATE RELEASE

## Greenpeace exposes two supermarket chains in HK selling vegetables containing illegal pesticide and excessive pesticide residue

**(17<sup>th</sup> April 2006 Hong Kong)** Greenpeace today exposes Parknshop and Wellcome, the biggest supermarket chains in the territory, are selling problem vegetables containing illegal pesticide and excessive pesticide residue. Greenpeace's sampling and investigation was conducted from November 2005 to March 2006, the findings are alarming. In one *Choi Sum* sample collected in Wellcome's store, dangerously high level of pesticide residue -- 240 times over the EU standard -- was found. We call on both supermarket chains to withdraw those problem vegetables immediately, and at the same time implement more stringent surveillance on vegetable source and pesticide testing so that consumers can eat safe.

Chow Yuen Ping, Food Safety assistant campaigner said, "Being the biggest fresh vegetables retailers, both supermarket chains should make sure their produce are complying with Hong Kong standard and hundred percent safe to consumer. Neither banned pesticide nor excessive pesticide residue is acceptable in the vegetables we eat." Greenpeace investigation shows that over 70% of the vegetable samples contains pesticide residues, and 30% exceeds international standards. Banned pesticides are also found in some samples.

Pesticides poisonings have been reported over decades. Intake of excessive amount can lead to acute intoxication while long time exposure can cause chronic poisoning that affects reproductive and nervous system. Many pesticides have been identified as potential carcinogens. Some pesticides can be passed from mother to the foetus during pregnancy, and to infant through breast feeding. Furthermore, different pesticides consumed together would cause the so-called "Cocktail effect", boost up the adverse effect of pesticide up to a hundred times than standalone<sup>1</sup>. "In one tomato sample of Parknshop, 5 different pesticides, including an illegal type Lindane, was found. The health hazard of pesticide residues should never be under-estimated," emphasized Chow Yuen Ping.

In response to Greenpeace's findings, Parknshop has conducted their own investigation and presented a report to Greenpeace. On the other hand, Wellcome has terminated contracts of problematic supplier. However, our investigation shows that there is an urgent need for Parknshop to expand their farm-checking and surveillance system to non-leafy vegetables such as tomato, whereas Wellcome a full-scale reform on their monitoring in order to identify and fix the loopholes. Meanwhile, both supermarkets should stop selling any problem vegetable, or else food safety and public health are being put at risk.

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<sup>1</sup> Pesticide Action Network UK ([www.pan-uk.org](http://www.pan-uk.org))

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## Tables

Table 1: Vegetable samples with excessive pesticide

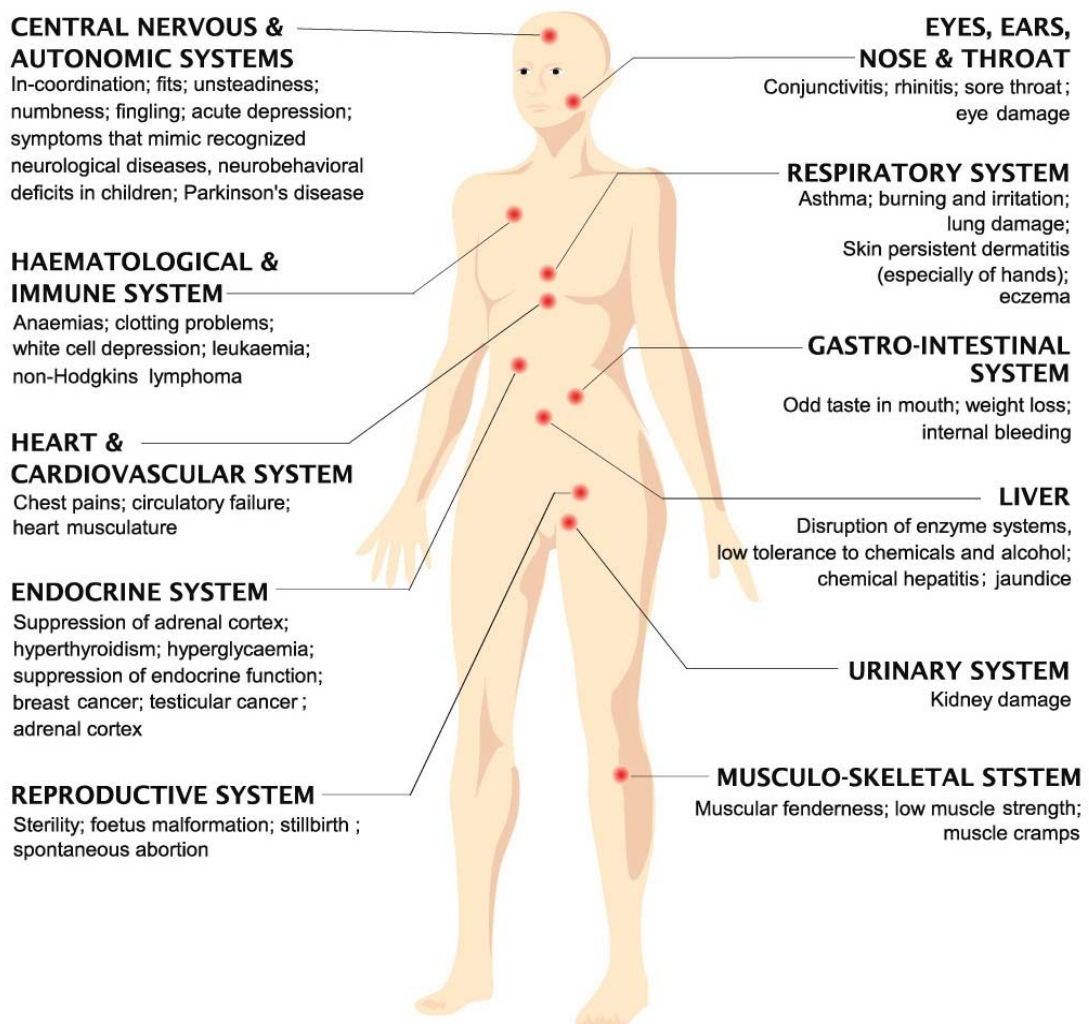
Sampling date	Source	Vegetable category	Pesticide	Exceeding times	
				Codex standard	EU standard
09/11/2005	Parknshop, Chung Fu	Small Pak Choi	Cypermethrin	1.2	1.2
05/01/2006	Wellcome, Chung Fu	Pak Choi King	Chlorpyrifos (ethyl)	7.6	<b>152</b>
			Cypermethrin	4	4
05/01/2006	Wellcome, Chung Fu	Choi Sum	Chlorpyrifos (ethyl)	12	<b>240</b>
			Cypermethrin	5.8	5.8
09/03/2006	Wellcome, Chung Fu	Kale	Chlorpyrifos (ethyl)	5.8	<b>116</b>
			Cypermethrin	3.0	3.0

Table 2: Vegetable samples with illegal pesticide

Sampling date	Source	Vegetable category	Illegal pesticide
09/11/2005	Wellcome, Chung Fu	French Bean	DDT
05/01/2006	Parknshop, Chung Fu	Tomato	Lindane
02/02/2006	Parknshop, Chung Fu	Tomato	Lindane
			Delta-HCH
09/03/2006	Wellcome, Chung Fu	Tomato	Lindane
09/03/2006	Wellcome, Chung Fu	French Bean	Methamidophos

## Pesticide Residues and Health

### symptoms of chronic poisoning





**GREENPEACE**

Briefing

A briefing by Greenpeace

April, 2006

# Incidents of illegal pesticides and excessive pesticide residue found in vegetables in supermarkets

## Q & A's

### **1. Why does Greenpeace concern about excessive pesticide residue found in vegetables?**

Answer: Greenpeace concerns about food safety and promotes the development of sustainable agriculture. Fresh vegetables in Hong Kong are mainly imported from Guangdong Province in the Mainland, where large quantities of fertilizers and pesticides are being used in industrialized agriculture. According to investigations by Greenpeace, the use of illegal and excessive pesticides in China has become a serious problem. Consuming the produce from this agricultural production line, people in Hong Kong are under the threat of illegal pesticides and excessive pesticide residue everyday. Food safety has become a great concern among Hong Kong people, after all those horrible incidents in recent years, such as malachite green, streptococcus suis, excessive heavy metals in vegetables, and outdated foods in supermarkets. Greenpeace urges the retailers to face the issue without delay, so as to ensure food safety for consumers.

### **2. Why does Greenpeace target at vegetables in supermarkets?**

Answer: We used to buy fresh vegetables in traditional wet markets. Yet, with the increasing pace of life and longer working hours, people nowadays tend to buy vegetables in supermarkets, which are easily accessible and with better hygiene. The two major supermarket chains in Hong Kong have over 200 branches across the territory, receiving tens of thousands of consumers looking for goods, including various kinds of vegetables. The two supermarket chains have to make sure that they provide customers with fresh, and more importantly, safe vegetables, since they are among the greatest retailers and at the frontline of food provision to the people in Hong Kong.

Consumers are now more aware of food safety, and their demand for safe foods should not be ignored. In that connection, the two major supermarket chains should exert to improve the quality and safety of their merchandises in addition to the large amount of money devoted to advertisement. Greenpeace calls for the two chains to allocate more resources to the establishment of a vegetable surveillance system immediately, so that consumers may feel assured to buy fresh and quality vegetables in the supermarkets.

**3. How many tests has Greenpeace done? And what is the institute and methods of testing?**

Answer: Greenpeace bought 55 vegetable samples in 4 visits to supermarkets from November 2005 to March 2006. Those samples included 13 kinds of Chinese leafy vegetables, podded vegetables and fruit vegetables. Those samples from different branches of supermarkets were sent directly to laboratory for pesticide testing within the same day. The tests were entrusted by Greenpeace to Eurofins Dr. Specht Laboratorien, an international authoritative testing institute in Germany. Qualitative and quantitative analyses were conducted with the Gas Chromatography/Mass Spectrometry (GCMS) method, which can be used to detect over 300 types of pesticides at the same time.

Table 1: Date of testing and number of samples

Pesticide testing of vegetables	Date of sampling	Number of vegetable samples
First sampling	9 <sup>th</sup> November, 2005	18
Second sampling	1 <sup>st</sup> January, 2006	15
Third sampling	2 <sup>nd</sup> February, 2006	12
Fourth sampling	9 <sup>th</sup> March, 2006	10

**4. What kinds of vegetables were included in the samples of testing? From which supermarkets were they bought?**

Answer: Vegetables for the pesticide tests were bought from five branches of ParknShop and two branches of Wellcome, including thirteen kinds of common vegetables such as *Choi-sum*, *Pak-choi*, *green sprout*, *Kale*, *French beans*, and *tomatoes*.

Table 2: Location of sampling

Supermarkets	Location of branches	Number of vegetable samples
ParknShop	Kingswood Ginza, Tin Shui Wai	6

	Chung Fu Shopping Centre, Tin Shui Wai	11
	Sun Yuen Long Centre, Yuen Long	4
	City One, Sha Tin	3
	Lucky Plaze, Sha Tin	4
Wellcome	Chung Fu Shopping Centre, Tin Shui Wai	20
	Wo Che Commercial Complex, Sha Tin	7

Table 3: Category and number of vegetables

Category	Name	Number of samples
Chinese leafy vegetables	Choi-sum	12
	Pak-choi	18
	Green sprout	1
	Kale	3
	Leaf Mustard	1
	Watercress	1
	Kau Kee	1
Podded vegetables	Green brassica	2
	Dutch bean	2
	French bean	5
Fruits vegetables	Sweet bean	2
	Tomatoe	6
	Cherry tomatoe	1

**5. Which institute was commissioned for the food testing? How about its authority?**

Answer: The German institute of Eurofins Dr. Specht Laboratorien took charge of the testing of vegetable samples. The institute is a leader in the detection of pesticides and organics in foods and agricultural products. The company has been adhering to the EU-authorized Good Laboratory Practice (GLP) in the analysis of pesticide residue since 1990. The testing method of Dr. Specht Laboratorien has been accredited to DIN ENISO/IEC17025 of the European Union. Besides, the advanced technology of lower testing limit enables Dr. Specht Laboratorien to accept regular tasks from baby food companies, most of which are leading enterprises in the international market. The pesticide testing method of DFG S 19, which was developed by the company, was adopted by the European Committee for Standardization as the official method in

1998. The testing results by Dr. Specht Laboratorien are of scientific accuracy. For more information, please visit [www.eurofins.com](http://www.eurofins.com).

**6. What is Greenpeace’s criterion for excessive pesticide residue in vegetables?**

Answer: The GCMS method used for detecting pesticide residue in the test was the same as that adopted by the Government Laboratory. It can be used to detect various kinds and contents of pesticides. The test covered four major categories of pesticides, including Organochlorine, Organophosphorous, Pyrethroids, and N-Methyl Carbamates. The results were compared with the Codex Maximum Residue Limits (MRL) co-developed by WHO and FAO, as well as with the EU standard. And if the content of pesticide residue in a sample exceeded the standard maximum limit, it was considered excessive.

**7. What are illegal pesticides?**

Answer: A great number of pesticides were used commonly and widely in agriculture in the past. But recent scientific research shows that the use of pesticide poses not only threats to our health, but also severe pollution to the environment. The production and use of pesticides are supervised and controlled in both the Mainland and Hong Kong. Now the Mainland has a list of banned pesticides, which details the restriction on each of them. And here in Hong Kong, the Agriculture, Fisheries and Conservation Department has also a registration system, in which only registered types of pesticides can be used in the territory. In our investigations, however, we found the problem of illegal pesticides is serious in the Mainland, where a large amount of banned pesticides are still widely used .

**8. What are the rates of excessive pesticide residue and illegal pesticides in vegetables?**

Answer: Greenpeace has had pesticide tests on fresh vegetables sold in the two major supermarket chains since last November. Result shows that out of 55 vegetable samples, over 70% of them contains pesticides residue, and 30% exceeds standards. Banned pesticides are also found in some of the samples.

Table 4: Test results

Number of samples	55	Percentage(%)
Samples containing pesticides residue	41	75%
Samples containing excessive pesticides residue	17	31%

Samples containing illegal pesticides	5	9%
Samples containing excessive illegal pesticides	4	7%

Table 5 Samples containing excessive residue

Date of sampling	Sources of the samples	Name	Excessive pesticides identified	Rate of excessive pesticides residue	
				Codex	EU standard
09/11/2005	ParknShop, Chung Fu	Pak-choi	Cypermethrin	1.2	1.2
05/01/2006	Wellcome, Chung Fu	學藪白	Chlorpyrifos (-ethyl)	7.6	152
			Cypermethrin	4	4
05/01/2006	Wellcome, Chung Fu	Choi-sum	Chlorpyrifos (-ethyl)	12	240
			Cypermethrin	5.8	5.8
09/03/2006	Wellcome, Chung Fu	Kale	Chlorpyrifos (-ethyl)	5.8	116
			Cypermethrin	3.0	3.0

Table 6: Samples containing banned pesticides

Date of sampling	Sources of the samples	Names	Banned pesticides identified
09/11/2005	Wellcome, Chung Fu	玉豆	DDT
05/01/2006	ParknShop, Chung Fu	Tomatoes	Lindan
02/02/2006	ParknShop, Chung Fu	Tomatoes	Lindane
			Delta-HCH
09/03/2006	Wellcome, Chung Fu	Tomatoes	Lindan
09/03/2006	Wellcome, Chung Fu	玉豆	Methamidophos

**9. What are the pesticides detected in the test?**



Answer: In the test, 20 different kinds of pesticides are identified in 55 samples while most of the samples contain more than one pesticide. The most commonly found pesticides are Chlorpyrifos (-ethyl) and Cypermethrin, and illegal pesticides found included Methamidophos, DDT, Lindan, Delta-HCH and Isocarbophos etc.

**10. What are the effects of excessive pesticide residue in vegetables on human?**

Answer: Excessive consumption of pesticides can cause acute poisoning, while consumption of pesticide residue for a long time can also cause chronic poisoning including cancer, reproductive disease and nervous disease. Over 150 pesticides have been identified as potential carcinogens. Lindan is even suspected to be closely related to breast cancer. Some pesticides may damage the nervous system and the endocrine system, while others may cause problems to the reproductive system and reduce the number of sperms, even resulting in infertility. Worse still, some pesticides can be passed from mothers to foetus during pregnancy, and to infant through breast-feeding.

And the mixture of different pesticides can give rise to the “cocktail effect”, causing more severe damage to human body than any single substance. Studies have shown that three pesticides consumed together equal to one hundred times the effect of any one on its own. In our pesticide testing, we detected five pesticides in a single tomato sample with large amount of illegal pesticide (44 times over the EU standard). The result is alarming to the public.

**11. What is the supervision of pesticide residue in vegetables of the two supermarket chains?**

Answer: Now the two chains get their vegetables from different sources. ParknShop has an appointed vegetable farm in Guangdong Province. Apart from a clear guidance for the use of pesticides, it also has regular supervision on the farm by scientists. In addition, ParknShop has a laboratory in Sheung Shui Fresh Food Centre, taking samples for pesticide tests on a daily basis. Whenever vegetables with excessive pesticides are found, all of these vegetables are removed from shelves.

Wellcome, on the other hand, get their vegetables from suppliers in the Mainland and local wholesale markets. It does not have a complete system to monitor the sources, and pesticide detection is mainly carried out by its suppliers. Wellcome’s laboratory in the Fresh Food Centre takes samples for testing only on a weekly basis, which is far from adequate to guarantee the safety of vegetables.

**12. Why is there pesticide residue in vegetables sold in supermarkets?**

Answer: Vegetables available in the two supermarket chains are mainly from the Mainland, where excessive amount of pesticides is frequently used. So if the two chains do not have strict controls on its source monitoring and pesticide testing, vegetables with pesticide are very likely

being stocked. ParknShop has vegetable surveillance system including vegetable source control and pesticide residue test, and has made a public promise that they would ensure the safety of their vegetables. However, the scope of its surveillance system is not broad enough, and that's why the problem of excessive pesticides cannot be eliminated. Wellcome, on the contrary, does not adopt any supervision or control over pesticides, resulting in excessive amount of pesticide found in their vegetables.

**13. According to Greenpeace, what are the reasons of illegal pesticides found in vegetables?**

Answer: Over 80% of the vegetables sold in the two supermarket chains are from the Mainland, where many banned pesticides are still manufactured and illegally used, especially in Guangdong Province. As the consumers of this agricultural production line, people in Hong Kong are under the threats of illegal pesticides and pesticide residue everyday. Therefore, we regard it as the responsibilities of the two supermarket chains to monitor the sources of vegetables, in order to prohibit any use of illegal pesticides on the farms.

**14. Why does Greenpeace publish the results today, instead of earlier, when excessive pesticide residue and illegal pesticides were found in vegetables last year?**

Answer: We did not publish the results immediately after the first test because multiple sampling and investigations were needed to reveal the actual problem of pesticides in vegetables sold in supermarkets, for the sake of accuracy and objectiveness. Besides, pesticide residue in vegetables is subject to variations of weather and seasons, and the use and amount of pesticides on different vegetables may also be different. So we need to take samples of various vegetables in different seasons. Now, since we have detected severely excessive amount of pesticides in all of the four tests, we regard it necessary to inform the public of the problem without further delay.

**15. Did Greenpeace inform the two supermarket chains of the results? And have they taken any remedies?**

Answer: Greenpeace wrote to the two supermarket chains in February regarding the results of the second test, asking them to discuss the issue. ParknShop made immediate follow-ups on the samples with pesticide, and submitted a written promise at our request. Besides, it also takes the initiative to study the possibility of extending and intensifying the current surveillance system, so as to provide consumers with more confidence.

Wellcome has also ended the contracts with those suppliers, who provided vegetables containing banned pesticides and made a schedule to enhance its surveillance system.

**16. Is Greenpeace satisfied with the responses from the two supermarket chains?**

With regard to the responses given, there are still many loopholes on the vegetables surveillance system. We think that ParknShop should expand their farm-checking and surveillance system to non-leafy vegetables such as tomato, whereas Wellcome should have a fullscale reform on their surveillance until food safety is guaranteed. Meanwhile, Greenpeace calls on both supermarkets to stop selling any vegetable with pesticide.

**17. What is the ultimate goal of the issue by Greenpeace? Do you have any further actions?**

Answer: Greenpeace exposed the fact of excessive pesticides in vegetables being sold in supermarkets. We think that it is the responsibility of the supermarkets to provide safe and quality products to consumers. We urge the supermarkets to stop selling all vegetables with pesticide immediately, and to develop related surveillance as soon as possible, in order to protect the safety of consumers.

With regard to the responses given, there are still many loopholes on the vegetables surveillance system. We strongly demand that the two supermarket chains have to stop selling those vegetables with pesticide until a solid and effective surveillance system is set up and make instant commitment that:

- A system will be established to monitor the sources of vegetables
- No illegal pesticides are contained in the vegetables for sale
- The vegetables for sale correspond with safety standards

**18. If pesticide residue in vegetables is such a serious problem according to the testing results by Greenpeace, why do related incidents of poisoning seldom occur?**

Answer: Since pesticide residue is invisible by eye, many citizens may have consumed excessive amount without being aware of it. And even if the amount of pesticide residue is not enough to cause acute poisoning, long-term consumption will certainly pose threats to their health. Besides, the dangers of different pesticides also vary, so the consequences may not be the same. But consumption of those vegetables with excessive pesticides is undoubtedly adverse to health.

**19. Can pesticide residue in vegetables be got rid of by washing?**

Answer: Consumers cannot detect pesticide residue in vegetables with naked eyes. The best they can do is to soak them in water and wash them thoroughly before cooking. However, water may in fact carry away some of the nutrients and vitamins in vegetables. And some pesticides can be absorbed by plants, so washing the surface of vegetables alone cannot absolutely get rid of the pesticide residue.

**20. Who does Greenpeace think should be responsible for pesticide residue in**

## **vegetables?**

Answer: Greenpeace believes that the responsibility of ensuring food safety is more on supermarkets and retailers than on consumers. Consumers should join hands and urge the two major supermarket chains to provide safe vegetables. As for the government, it should intensify the supervision on retailers and the sample inspection of vegetables in supermarkets, so as to protect the health of citizens.

## **21. What are organic vegetables? What does Greenpeace think of them?**

Answer: Organic planting advocates a natural and healthy model of agricultural production that caters for both social demands and economic benefits. This pattern also regards and respects agriculture as an ecological system. Organic planting abandons all synthetic pesticides, fertilizers, medicines and feedstuff, trying to increase productivity and fight against pests with attentions paid to soil care and natural coordination, for the sake of pollution-free and sustainable development. In addition, cost and pollution can be reduced via recycling of resources. Applying these concepts to practice, organic planting not only offers nutritious and healthy foods, but also maintains biodiversity. Since no pesticide or synthetic fertilizer is used in organic planting, the crops are more natural and healthy, and free of any toxin residue.

Alarm is raised already for food safety in such modern society with more and more serious pollution and industrialized production. Greenpeace regards organic food as the way out in the future. Organic planting paves the road for sustainable agriculture.

## **22. What are the adverse effects of excessive pesticides on environment?**

Answer: Pesticides are mainly targeted at pests on crops. Yet, their toxicity may also kill beneficial insects or animals (such as bees spreading pollen and earthworms aerating soil), destroying the ecological balance. The decrease of pests, on the other hand, leads to the decrease and even extinction of their enemies, which endangers biodiversity. Some pesticides may also inhibit the growth of animals, plants and microbes, and even change the gender of frogs, affecting nature in a severely negative way.

Pesticides can remain in the soil when they are used, which is detrimental to the soil in the long run, resulting in denudation, petrification, or desertification. Some pesticides may evaporate in the air, polluting rivers and groundwater. Some pesticides can accumulate in the environment. Such sustainable organic pollutants are difficult to decompose in nature, and dissolve in adipose tissues. So they not only pollute soil and water, but also accumulate in the food chain and become ecological hazard. Some researchers found pesticide residue in the fish we eat.

## **23. Were there any incidents of excessive pesticide residue in vegetables in Hong Kong?**

Answer: There was a vegetable poisoning incident in 1987 in Hong Kong. Methamidophos was found in Choi-sum imported from Shenzhen at that time, and over 100 citizens reported

symptoms of acute poisoning after eating the vegetables. Similar incidents also occurred in 1988 and 1991, concerning 50 to 70 citizens admitted to hospital after eating Choi-sum or Pak-choi with methamidophos. Now, after more than a decade, the problem of illegal and excessive pesticides still exists and the case gets even worse. So we must follow up the case and protect the safety of citizens. According to the statistics by the Food and Environmental Hygiene Department, incidents of excessive pesticide residue and illegal pesticides in vegetables were reported in Hong Kong every year, which indicates that more attention should be paid to food safety, pesticides in vegetables included. Here is a list of recent incidents of pesticide poisoning in Hong Kong:

Date	Type of pesticides	Category of vegetables	People poisoned
5/2005	Methamidophos	Kidney bean leaves	4
3/2005	Methomyl	Choi-sum	3
7/2001	Methamidophos	Scallion	5
6/2001	N/A	Broccoli	3
6/2000	Methamidophos	Towel gourd	5
6/1999	N/A	Palm-shaped Gourd	1

#### 24. What can citizens do?

Answer: Vegetables have always been an important part in the recipe suggested by doctors and nutritionists, since they contain large quantity of nutrients, including vitamins and cellulose, which are essential to our health. Yet, vegetables in the market nowadays contain more than that; some dangerous substances are also included.

In the current industrialized pattern of agricultural production, pesticide residue is just unavoidable. When consumers cannot detect pesticide residue in vegetables with naked eyes, the best they can do is to soak the vegetables in water and wash them thoroughly before cooking. But those are no more than stopgap measures. Greenpeace emphasizes that the responsibility of ensuring food safety is more on the side of supermarkets and retailers than on the side of consumers. Consumers should join hands and urge the two major supermarket chains to provide safe vegetables.

On the other hand, organic food is the way out in the future. Since no pesticide or synthetic fertilizer is used in organic planting, the crops are more natural and healthy, free of any toxin residue. Alarm is raised already for food safety in such modern society with more and more serious pollution and industrialized production. Organic planting paves the way for sustainable agriculture.