

Food - pesticides and other chemicals

Chemicals such as pesticides, antibiotics and hormones are used in plant and animal farming to boost production and ensure adequate food supply. Food Standards Australia New Zealand (FSANZ) sets the maximum permissible limits for agricultural and veterinary chemical residues present in foods in Australia within the FSANZ Food Standards Code. The levels of agricultural and chemical residues that are allowed in foods are considered safe and must represent the lowest level possible complying with best industry practices.

The use of pesticides can dramatically increase crop production and ensure a higher quality of produce. However, pesticides are also toxic chemicals designed to kill agricultural pests, and some can cause problems if they are consumed by humans in large amounts.

In animal farming, drugs such as antibiotics and hormones are used to boost growth and cut down on feed requirements. Residues of these drugs can also be hazardous to humans. The level of harm from exposure to pesticides, animal antibiotics and hormones is dose related; the more you consume, the greater the potential risk.

Chemical sensitivities

Some people are more sensitive than others to pesticide residues. However, allergic reactions and sensitivities to naturally occurring chemicals – such as those found in eggs, shellfish, milk and nuts – are much more common.

Pesticide residues

The levels of pesticide residue in fruits and vegetables have been closely monitored in Australia for the past 30 years. For most pesticides, a minimum time between spraying and harvesting of produce is set to ensure safe food. Government-run produce monitoring programs are in place to regulate the proper use of farm chemicals such as pesticides. The amount of pesticide residue in food depends on many factors including:

- The type and amount of pesticide used
- The amount of rain, wind and sunshine that fell on the crop
- The kind of processing that food undergoes, such as storage time, washing or peeling.

Finding a balance

The challenge is to balance a reliable, high quality food supply with the need to protect the consumer from unnecessary exposure to chemicals. Maximum limits for safe human consumption of pesticide residue include wide safety margins. However, past experience has shown that, sometimes, a pesticide that is thought to be safe for human consumption has undesirable effects. DDT is such an example because of its environmental persistence and ability to accumulate in body fat. Although DDT is no longer used in Australian crop production, it is still used in some countries.

Antibiotics in animal farming

Antibiotics are drugs that kill bacteria. They are used in animal farming to promote growth and cut down the amount of feed required. The over-use of antibiotics may increase the possibility of breeding antibiotic-resistant strains of bacteria.

Regulations demand that animals are not given any antibiotics in the few weeks leading up to slaughter. This will help reduce the amount of antibiotic residue left behind in the meat. There are some concerns that antibiotic residues in milk can make people who are already susceptible to an allergic reaction much more sensitive to penicillin.

Hormones in animal farming

Sex hormones for example oestrogen are used to speed up the development of animals so they can be sent to market faster. Humans are also sensitive to these hormones. Eating meat that contains unacceptably high levels of hormones can lead to many side effects in people, including breast enlargement and ovarian cysts.

Organic farming

Many people choose to buy organic produce to avoid pesticide residues. Organic farming grows produce without the use of synthetic chemicals or pesticides.

Ways to reduce exposure

To reduce your exposure to pesticides and other chemicals:

- Thoroughly wash all fruits and vegetables.
- Buy organic produce.
- Grow your own vegetables.
- Peel vegetables or remove the outer layer of leaves.
- Cook vegetables, rather than eat them raw all the time.
- Trim visible fat from meats, as many residues are fat soluble.
- Cook meat and chicken thoroughly.
- Consume a variety of foods (including meat alternatives like legumes, tofu, nuts and eggs) to reduce your intake of antibiotic-resistant bacteria, hormones and pesticides.

Where to get help

- An accredited practising dietitian, contact the Dietitians Association of Australia
- Your doctor.

Things to remember

- Chemicals are used in plant and animal farming to boost production and ensure an adequate food supply.
- The use of pesticides, antibiotics and hormones in Australia is strictly regulated to ensure the safety of the consumer.
- Ways to reduce exposure include washing and peeling fruits and vegetables, trimming meats of any visible fat and cooking meat thoroughly.

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