The term pesticide covers a wide range of compounds including insecticides, fungicides, herbicides, rodenticides, molluscicides, nematicides, plant growth regulators and others. The introduction of synthetic insecticides – organophosphate (OP) insecticides in the 1960s, carbamates in 1970s and pyrethroids in 1980s and the introduction of herbicides and fungicides in 1970s - 1980s contributed greatly in pest control and agricultural output. Ideally a pesticide must be lethal to the targetted pests, but not to non-target species, including man. Unfortunately, this is not, so the controversy of use and abuse of pesticides has surfaced. The rampant use of these chemicals, under the adage, “if little is good, a lot more will be better” has played havoc with human and other life forms.

The use of pesticides is a standard practice in the agricultural production of food products. Pesticides protect yields by limiting losses due to, competition with other weeds and from attack by insects or plant diseases etc. These chemicals have played a central role in the improved yields and the quality of the products that we seen over the last fifty years.

The production of pesticides started in India in 1952 with the establishment of a plant for the production of BHC near Calcutta, and India is now the second largest manufacturer of pesticides in Asia after China and ranks twelfth globally

Farmers of the olden days relied on the use of organic farming techniques and methods in cultivating their crops. Natural methods such as crop rotation, companion planting and the use of compost were all employed to ensure a bountiful and safe harvest. As commercial farming
slowly gained popularity over organic farming, the natural methods were replaced with the ones using chemicals for fertilizers, pesticides and weed killers. The promise of higher yield in a shorter period of time is the selling point of these chemicals. But heavy reliance on chemicals is starting to take its toll on the vast farmlands and on the people’s health.

The Effects of Pesticide on Children

According to studies and researches, pesticides have grave effects on children and these can be measured in several ways. Children’s internal organs are still developing and maturing, so the effects can be seen and measured at present and in the future when they have grown up. The immediate effect is the blockage of important food nutrients for normal and healthy growth among children. When the excretory system of the child is not fully developed and yet he or she consumes fruits or vegetables with pesticides, his or her body may not be able to totally get rid of the pesticides.

Effects of Pesticides on Adults

When a pregnant woman eats vegetables contaminated with pesticides, the fetus can be exposed to the harmful chemical and cause birth defects. Pesticides can also be neurotoxins which can make a person feel light-headed, dizzy and confused, and it may reduce body coordination and ability to think in the short run. In the long-term, these can result in reduced IQ and learning capacities and in the worst case, can lead to permanent brain damage.

Effects of pesticides on fruits and vegetables

Farmers of the olden days relied on the use of organic farming techniques and methods in cultivating their crops. Natural methods such as crop rotation, companion planting and the use of compost were all employed to ensure a bountiful and safe harvest. As commercial farming slowly gained popularity over organic farming, the natural methods were replaced with the ones using chemicals for fertilizers, pesticides and weed killers. The promise of higher yield in a shorter period of time is the selling point of these chemicals. But heavy reliance on chemicals is starting to take its toll on the vast farmlands and on the people’s health.
Fruits and vegetables are highly nutritious and form as key food commodity in the human consumption. They are highly perishable due to their low shelf life. These food commodities are reported to be contaminated with toxic and health hazardous chemicals.

When a fruit ripens, many biochemical changes occur. The most obvious of these is the color, aroma and firmness of the fruit. Although illegal in many countries, calcium carbide (CaC2) is used to accelerate the ripening process of fruits. Calcium carbide is the chemical used for the production of acetylene gas during gas welding. But nowadays this process is widely used by the Indian farmers or the fruit vendors for ripening of many fruits like mango, banana, papaya, plums, chiku, apples, avocados, melons, peaches, pears, and tomatoes, pineapples, dates, etc. This allows growers to pick fruit sooner and to handle fruits when they are green and less susceptible to bruising or damage. Calcium carbide combines with moisture in the air to release a gas called acetylene, which acts the same way as the natural ethylene fruits produce when ripening.

### Worst Contaminated Vegetables on the Market

The vegetables that are heavily-laden with pesticides include lettuce, spinach, peppers, celery, potatoes, carrots, cucumbers, green beans, cauliflower, tomatoes, sweet potatoes, eggplant, broccoli, and mushrooms. Among all of these, celery and lettuce contain the most pesticides while broccoli and eggplants contain the least amounts.

### How to Effectively Reduce the Effects of Pesticides

Simply put, you can keep the chemical from entering your body by consuming organic produce. If you cannot afford its cost, make sure to select the vegetables that are least contaminated with pesticides or better yet, create your very own organic garden to ensure that you and your family can have chemical-free veggies whenever you want. This way, you will no longer worry about safety and health.

### How to prevent consumption of pesticides in fruits and vegetables?

1. Do not choose fruits that are attractive on the outside as they may not be good for health. Fruits that have a uniform colour, for example, a bunch of bananas having a uniform colour, are...
more likely to have been artificially ripened.

2. Wash the fruits thoroughly before consuming. Keep them under running water for a few minutes, so that the chemicals are washed away.

3. Do not buy fruits sold during their off season, as they are more likely to be artificially ripened.

4. While eating mangoes and papayas, always remove the peel before cutting fruits into pieces.

5. Select fruits and vegetables without spots or necrosis (lesions) and any abnormality.

6. Purchase fruits and vegetables from known dealers.

7. Peeling of fruits before consumption and vegetables before cooking will reduce exposure to pesticide.

8. Do not buy and consume cut fruits from open market.

9. Throw away fruits and vegetables infected by mould/fungus. -3-

10. To minimize the hazards of pesticide residues, discard the outer leaves of leafy vegetables such as lettuce and cabbage.

11. Do not wash fruits and vegetables with detergents as they may get absorbed inside.

You can keep the chemical from entering your body by consuming organic vegetables. Organic farming is a form of agriculture that relies on techniques such as crop rotation, green manure, compost, and biological pest control. If you cannot afford its cost, make sure to select the vegetables that are least contaminated with pesticides or better yet, create your very own organic garden to ensure that you and your family can have chemical-free veggies whenever you want. This way, you will no longer worry about safety and health.