

# ORGANIC, NATURAL and mostly VEGETABLE FOOD: a necessary choice to save ourselves and the planet

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## PESTICIDES, NITRITES and FOOD ADDITIVES

In the last 60 years, pollution and, consequently, man's health in civilized countries, is seriously deteriorated. There are currently on the market, and consequently into the soil, more than 70.000 chemicals. Eating food from conventional agriculture we could ingest about 2 kilos of pesticides in a year. Many of these substances are called "ENDOCRIN DISRUPTORS", as they bind to hormone receptors (especially estrogen ones), they mimic their action altering the delicate physiological balance and for this they are related to dysfunction of the reproductive system, fertility disorders, miscarriage, premature puberty, early menopause, breast, uterus, ovary and prostate cancers. These are the polychlorinated biphenyls (PCBs), dioxins and various groups of agricultural pesticides: organochlorine pesticides (aldrin, dieldrin, DDT, etc.), organotin (TBT), fungicides (etilenbisditiocarbammati, vinclozolin, etc), herbicides, plasticizers (phthalates). Some other pesticides, mostly organ-phosphates, interfere with our nervous system, inhibiting and causing neuropathies such as Parkinson's disease. Some fungicides have a thyrostatic action interfering with the important function of this gland. Being lipophilic of low molecular weight, these chemicals tend to accumulate in fatty tissues (adipose, liver, myelin) and bind to nuclear receptors such as the PPARs, the RXR, the LXR, the TR and GR in the cells of various tissues and organs, altering the homeostatic mechanisms and also inducing metabolic abnormalities that can lead to obesity, diabetes and metabolic syndrome. In men, BMI and fat mass appear to be related to circulating levels of these compounds..



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These toxic molecules can in fact interfere with lipid metabolism promoting adipogenesis and causing the increasing childhood obesity. Various studies have shown a direct correlation between obesity and certain pesticides or environmental pollutants, defining these molecules "ENVIRONMENTAL OBESIOGENS". Moreover, they are pro-oxidants and carry the biological damages also through the production of free radicals. Obviously all these risks increase in weak organisms such as fetuses (most of these molecules can pass through the placenta and are found in maternal milk), infants and children who absorb more for needs of growth. Not to mention the serious problem of the "multi residue tolerance", that means the presence of several toxic molecules in the same food or meal, even if each is within legal limits, and on which there has been no study conducted.

Another problem is the use of nitrites to fertilize fields that seems to be related to the exponential increase of celiac and gluten intolerance.

Laboratory tests have shown that the ingestion of nitrites has negative effect on some components of the immune system. Also nitrites are inhibitors of enzymes that degrade histamine, therefore they can be indirectly responsible for pseudo-allergic or inflammatory reactions due to the accumulation of histamine in the blood.

An additional risk factor for the children is the incorrect eating style that brings a further load of toxic molecules represented by food additives. There are studies that correlate the intake of "junk" food such as candy, snacks, sodas, etc., to obesity and related diseases such as sexual development or behavioral disorders. In particular, the "attention deficit hyperactivity disorder" (ADHD), appears to be caused not only by pesticides or nutritional deficiencies, such as of DHA, but also from food additives such as sweeteners, colorings, flavorings and preservatives. A study published in Lancet showed that tartrazine and benzoic acid, present in carbonated beverages, induce dramatic responses in 79% of children and are able by themselves to induce ADHD.

Also, these food additives, with no nutritional value, could interfere with MDR receptors, our membrane P-glycoprotein, altering absorption of nutrients and drugs. Improperly feeding expose children at risk of developing serious chronic diseases in an increasingly early age becoming teenagers and adults addicted to drugs.