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- Author
- Title
- Date

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### Mother Nature's Chemical Bounty (from the New York Post)

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EDITORIAL

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We live in an intensely chemical-phobic society, one where food labels and menus brag of being "all-natural" and "purely organic." Poultry sections offer fryers from "happy, free range chickens." "Chemical-free" cuisine is in.

So it may come as a shock to you that even an all-natural holiday feast (and every other meal you consume throughout the year) comes replete with chemicals, including toxins (poisons) and carcinogens (cancer-causing chemicals) -- most of which average consumers would reject simply on the grounds that they can't pronounce the names.

Assume you start with an appetizer, then move on to a medley of crispy, natural vegetables, and proceed to a traditional stuffed bird with all the trimmings, washing it down with libations of the season, and topping it all off with some homemade pastries.

You will thus have consumed holiday helpings of various "carcinogens" (defined here as a substance that at high dose causes cancer in laboratory animals) -- all of them put there not by some nefarious corporation but simply by nature:

- Fresh vegetable salad:** aniline, caffeic acid, benzaldehyde, hydrogen peroxide, quercetin glycosides, and psoralens
- Roast turkey with stuffing:** heterocyclic amines, acrylamide, benzo(a)pyrene, ethyl carbamate, dihydrazines, d-limonene, safrole, and quercetin glycosides
- Prime rib of beef with parsley sauce:** benzene and heterocyclic amines
- Broccoli, potatoes, sweet potatoes:** furfural, ethyl alcohol, and allyl isothiocyanate
- Apple and pumpkin pies:** coumarin, methyl eugenol, acetaldehyde, estragole, and safrole
- Red and white wines:** ethyl alcohol with ethyl carbamate

Then sit back and relax with some benzofuran, caffeic acid, catechol, 1,2,5,6,-dibenz(a)anthracene with 4-methylcatechol (that is, all-natural coffee).

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And those, all produced courtesy of Mother Nature, are only the *carcinogens*. Your 100%-natural holiday meal is also replete with *toxins* -- popularly known as "poisons." These include the solanine, arsenic, and chaconine in potatoes; the hydrogen cyanide in lima beans; and the hallucinogenic compound myristicin found in nutmeg, black pepper, and carrots.

The good news? These foods are *safe*.

Four observations are relevant here:

- When it comes to toxins, only the dose makes the poison. Some chemicals, regardless of whether they are natural or synthetic, are potentially hazardous at high doses but are perfectly safe when consumed at low doses like the trace amounts found in our foods.
- While you probably associate the word "carcinogen" with nasty-sounding synthetic chemicals like PCBs and dioxin, the reality is that the more we test naturally occurring chemicals, the more we find that they, too, cause cancer in lab animals.
- The body of evidence documenting the carcinogenicity (in the lab) of common substances found in nature highlights the contradiction we Americans have created up to now in our regulatory approach to carcinogens: trying to purge our nation of synthetic carcinogens, while turning a blind eye to the omnipresence of natural "carcinogens."
- While animal testing is an essential part of biomedical research, so is common sense. A rodent is not a little man. There is no scientific foundation to the assumption that if high-dose exposure to a chemical causes cancer in a rat or mouse, then a trace level of it must pose a human cancer risk.

If we took a precautionary approach with all chemicals and assumed that a rodent carcinogen must pose a human cancer risk ("so let's ban it just in case"), we'd have very little left to eat. (A radical solution to our nation's obesity problem!)

The reality is that these trace levels of natural or synthetic chemicals in food or the environment pose no known human health hazard at all -- let alone a risk of cancer.

So the next time you hear a self-appointed "consumer advocate" fret about the man-made "carcinogen du jour" and demand the government step in and "protect" us -- remember, you just ingested a meal full of natural carcinogens with no risk to your health.

Bon Appetit!

*Dr. Elizabeth Whelan is president of the American Council on Science and Health.*

See also: ACSH's [Holiday Dinner Menu](#).



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