

## The Way We Farm

**I**s modern industrial farming responsible for a share of the cancer epidemic? The evidence seems to say yes.

### Industrial Farming Deprives the Soil of Essential Minerals

The use of chemical fertilizers has increased yields but depleted the soil. Comparing the mineral content of food grown in the 1940s and 1950s with that grown today, researchers in Britain, Canada and the US have all reported that levels of iron, calcium, sodium, copper and magnesium in food have fallen by around 50%.<sup>1</sup> Meats and cheese have lost 50% of their iron; broccoli has lost 63% of its calcium; potatoes have lost 100% of their vitamin C.<sup>2</sup>

The soils have also lost selenium, an important antioxidant that is known to protect against cancer.<sup>3</sup> Selenium levels in soils vary, but its uptake by plants has been inhibited by modern fertilizers, as well as by mercury pollution and acid rain from burning fossil fuels. Since 1978 selenium levels in the British diet have fallen by almost 50%.<sup>4</sup>

### Industrial Farming Deprives Plants of Phytonutrients

Plants evolved over millions of years, so they know how to fight off disease. When they sense an attack coming, they generate phytonutrients to defend themselves. When we eat the plants, we acquire their disease-fighting compounds. When they have been sprayed with pesticides and fungicides, they are no longer attacked, and they don't generate the phytonutrients.

Treat the Earth well. It was not given to you by your parents. It was loaned to you by your children.

— Kenyan proverb

A particular nutrient in organic food may in fact help prevent cancer. In Britain two pharmaceutical researchers, Professors Gerry Potter and Danny Burke, discovered an enzyme that is highly over-expressed in cancer cells but not in normal tissue. Thinking (correctly) that its purpose might be to attack the cancer cells, they developed a drug to trigger it, which is going through clinical trials.

Potter then found a natural trigger in *resveratrol*, an antioxidant phytoestrogen found in grapes and red wine that is converted into the anticancer agent *piceatannol* when it interacts with the enzyme.<sup>5</sup> The piceatannol then attacks the cancer cell. When Potter's research team looked for similar compounds in other plants, however, they found no trace until they looked at food grown organically, where they found them everywhere — especially in globe artichokes, cabbage, broccoli, rosehips, peppers, red fruits and berries, apples, pears and various herbs. They named the compounds *salvestrols*.

The logic is simple. Plants that grow organically generate salvestrols as a natural defensive response against fungus and disease. When farmers use pesticides and fungicides, the plants don't need to bother, so the enzyme that evolved in our bodies over millions of years to kill cancer cells waits in vain, and the cancer cells are able to multiply without the body's natural defense. So while it is important to eat fruit and vegetables to protect yourself against cancer, they must be *organic* if you want to get their benefit.

Organic foods also contain higher levels of the cancer-fighting antioxidants that attack the

dangerous free radicals.<sup>6</sup> Organic corn contains 58% more antioxidants than corn grown with chemicals; strawberries 19% more. Organic produce also contains more ascorbic acid, which the body converts to vitamin C.<sup>7</sup> In contrast to the low mineral content of conventional food, organic crops maintain their minerals because the farmers build their soil with organic matter.<sup>8</sup>

#### Cancer Among Farmers

Since 1975 studies have consistently shown that farmers develop and die of more cancers than the general population.<sup>9</sup> Although they are healthier than most people, and don't drink or smoke as much, the excess of cancers suggests that the causes must be among things they are exposed to, including engine exhaust, pesticides, solvents and sunlight. This growth in farming-linked cancers has occurred in all industrial countries, suggesting a common exposure to harm.<sup>10</sup>

#### Industrial Farming Leaves Pesticide Residues

Modern farming also leaves cancer-causing residues on much produce. Apples, bell peppers, celery, cherries, imported grapes, nectarines, peaches, pears, potatoes, raspberries, spinach and strawberries are all consistently contaminated with pesticides.<sup>11</sup> Pesticides are showing up in the amniotic fluid of unborn babies<sup>12</sup>, in mothers' breast milk<sup>13</sup> and in the bodies of farm workers. When pesticides also disrupt the endocrine system, they may contribute to the risk of cancer at a much lower level of contamination than has otherwise been assumed to be safe.<sup>14</sup>

- Antioxidants in organic food: [www.organic-center.org/reportfiles/Antioxidant\\_SSR.pdf](http://www.organic-center.org/reportfiles/Antioxidant_SSR.pdf)
- Pesticides in produce: [www.foodnews.org](http://www.foodnews.org)
- Salvestrol food supplements: [www.salvestrols.ca](http://www.salvestrols.ca)
- Salvestrol cancer research: [www.salvestrolscience.com](http://www.salvestrolscience.com)

If biotech corporations such as Monsanto succeed in their global goal of selling genetically modified seeds that have been engineered to resist pesticide use, the result will be an utter disaster for cancer prevention. We *must* return to organic agriculture.

Can organic farming feed a hungry world? The answer is a resounding yes. The results of 200 studies show that if the whole world were to go organic, there would be 75% more calories for everyone on the planet.<sup>15</sup> (See Solution 89)



Shari MacDowall

Nikki Spooner gathering organic salad greens at Varalaya organic farm, Mayne Island, BC. [www.varalaya.ca](http://www.varalaya.ca)