

Organic food is also good for the Earth

Saturday, 10 October 1998

by Cameron Smith We shop at health food stores for three very good reasons: we know that certified organic food is grown free of pesticides and herbicides; we know that it is not treated with fungicides to preserve it during shipment; and we know that it is produced with less energy than conventional food. Of the three, the energy component of food production is probably the least understood as an environmental issue. Yet because it bears so directly on global warming, it challenges conventional wisdom on farming even more than do the other two. Conventional wisdom says that efficiency is the key to modern farming. And efficiency is defined in industrial terms to mean intensive farming -- achieving the highest possible output per person. That means the bigger, the more mechanized, and the more standardized the farm, the more efficient it will be. And that's because fewer people produce more food. In other words, productivity per person is higher. But farms aren't auto plants. What's important is not productivity per person, but yield per hectare. And income per family. And impact on the environment.

If you define efficiency in this expanded way, then organic farming comes out far ahead. Yield per hectare will be about the same. The number of hectares farmed will be lower, and farmers will have to do more work per hectare. But costs per hectare, and the energy input, will be much lower because there'll be no buying of herbicides, pesticides, chemical fertilizers, and processed feeds, and there'll be no need for big buildings and specialized equipment.

The end result for organic farmers is higher profits per hectare, smaller farms, and more farming families able to make a decent living.

It also means chemical-free food for consumers and, in the view of Hart Haidn of Saskatoon, an important advance in the struggle against global warming. Haidn developed the sustainable agriculture policy for the National Farmers Union.

Global warming is what gets left out of the conventional equation. In economic terms, it's called externalizing the cost -- making someone else, in this case the public, pay the cost for damaging the environment.

The manufacture of herbicides, pesticides, fungicides, and processed feeds, and the operation of specialized buildings and structures -- factories for dairy cows, beef and egg production -- all require energy. And the bulk of the energy, whether in the form of fuel or electricity, comes from burning fossil fuels that produce carbon dioxide (CO₂), the most common of global warming gases.

Chemical fertilizers also give off nitrous oxides (NO_x) after they've been applied to fields. And NO_x are far more potent greenhouse gases than is CO₂.

So, when you go grocery shopping, you might want to keep in mind the following comparisons of intensive and organic growing of a few basic foods. The comparisons are provided by Hart Haidn, and they show the ratio between the number of calories of energy required to produce food compared to the number of calories a person gets from eating it. (For example, a 5:1 ratio means it takes five calories of fuel and electrical energy to produce one calorie of food energy.)

- Eggs -- 5:1 intensive; 2:1 organic.
- Milk -- 7:1 intensive; 1:3 organic.
- Beef -- 25:1 intensive; 1:2 organic.
- Potatoes -- 1:3 intensive; 1:20 organic.

In addition, winter wheat, grown organically can require 58 per cent less energy than what is required for intensive growing. And spring wheat can require 47 per cent less energy, and barley 25 per cent less energy, when grown organically.

For an even more telling analysis of energy costs, it would be necessary to include processing, packaging and transportation. I haven't been able to locate such an analysis. But I did come across one set of figures. The fuel and electricity ratio for intensive growing of corn is 1:5. After processing, packaging, and distribution the ratio reverses to 17:11 -- an energy increase of five-and-a-half times what it took to grow the corn.

To my mind, it comes down to a simple proposition: organic food is healthier for us and for the planet.