

Cut energy use by eating better, study says

August 12 2008, By Susan Lang

(PhysOrg.com) -- How much energy we use to produce food could be cut in half if Americans ate less and ate local foods, wolfed down less meat, dairy and junk food, and used more traditional farming methods, says a new Cornell study.

"We could reduce the fossil energy used in the U.S. food system by about 50 percent with relatively simple changes in how we produce, process, package, transport and consume our food," said David Pimentel, professor emeritus of ecology and agriculture in the College of Agriculture and Life Sciences at Cornell.

Pimentel's analysis, co-authored with five former Cornell undergraduates who were in Pimentel's Environmental Policy course in 2006, is published in the academic journal *Human Ecology*.

Pimentel says that about 19 percent of the total fossil fuel used in this country goes into the food system -- about the same amount we use to fuel cars. His analysis details how changes in the food system could reduce energy.

For example, the researchers recommend:

-- Eat less and cut down on junk food: To produce the typical American diet requires the equivalent of about 500 gallons of oil per year per person, says the study. Americans, on average, consume about 50 percent more calories than recommended by the federal government for optimal health and get one-third of their calories from junk food. Eating

less and cutting down on junk food would use significantly less energy, considering all the processing, packaging and transportation costs saved.

-- Eat less meat and dairy: We use 45 million tons of plant protein to produce 7.5 million tons of animal protein per year, according to Pimentel. Switching to a vegetarian diet, he says, would require one-third less fossil fuel than producing the current animal-based American diet.

-- Eat more locally grown food: Food travels an average of 1,500 miles before it is eaten. "This requires 1.4 times the energy than the energy in the food," Pimentel said. A head of iceberg lettuce, for example, which is 95 percent water, provides 110 calories and few nutrients. Irrigating the lettuce in California takes 750 calories of fossil energy and shipping it to New York another 4,000 calories of energy per head, according to the analysis. Locally grown cabbage, on the other hand, requires only 400 calories to produce and offers far more nutrients, not to mention it can be stored all winter long.

-- Use more traditional farming methods: Pimentel's team also shows how using methods to reduce soil erosion, irrigation and pesticide use, through such things as crop rotation, manure and cover crops, could cut the total energy now used in crop production.

The study's co-authors are Sean Williamson, Courtney Alexander, Omar Gonzalez-Pagan, Caitlin Kontak and Steven Mulkey, all Cornell Class of 2007.

Provided by Cornell University

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