

Brain food

The adage “you are what you eat” applies not just to heart, muscle and bones, but to the brain as well, says G. Harvey Anderson, a nutrition researcher at the University of Toronto. “Diet can have a profound effect on behavior,” he said at a recent Bristol-Myers press symposium in Washington, D.C., on nutrition.

Working in his laboratory, Carol Leprohon-Greenwood found that rats fed a diet high in polyunsaturated fats learned more quickly than rats eating saturated fat.

Anderson speculates that when nerve cells use saturated fats in their membranes, the membranes become less flexible. The more rigid membranes may distort the receptors for the neurotransmitters that control cell-to-cell communication, making them less sensitive. Whether humans can improve their mental performance by cutting down on saturated fat “we just don’t know,” says Anderson.

Vomiting in pregnancy

Vomiting is a routine part of many pregnancies; historical mention of it dates back to 2000 BC. But its epidemiology is not well documented, so researchers at the National Institutes of Health in Bethesda, Md., studied data on 9,098 pregnancies to see what lifestyle and socioeconomic factors were associated with vomiting.

They found more than half the participants in the study vomited during the first trimester of pregnancy. First-time mothers, women under 20, women with less than 12 years of education, nonsmokers and women who weighed more than 170 pounds were more likely to report vomiting, as were women who had vomited in previous pregnancies, they report in the November 1985 *OBSTETRICS AND GYNECOLOGY*.

While the researchers found out who was more likely to vomit, what remains to be seen is why it occurs more often in certain groups.

Breast decision

The Food and Drug Administration has approved a drug as a follow-up for certain women who have had breast cancer surgery. The treatment was endorsed last fall by a National Institutes of Health consensus conference.

Despite advances in surgical and radiation treatment, breast cancer continues to kill about 38,000 U.S. women each year. The newly approved drug, Stuart Pharmaceuticals’ tamoxifen citrate, has been shown to decrease the rate of cancer spread and death in postmenopausal women whose breast cancer cells depend on the hormone estrogen for growth. Tamoxifen works by blocking estrogen receptor sites on breast cancer cells throughout the body.

Another cell victim of AIDS virus?

The AIDS virus attacks immune system cells indirectly as well as directly, according to AIDS researcher Robert Gallo of the National Cancer Institute.

The AIDS virus is known for its marked preference for a particular immune system cell, the T4 cell, which orchestrates the immune response. But the T4 may not be the only casualty.

When the virus kills a T4 cell, the cell secretes something that kills other cells around it, his laboratory has found. The chief victims: mononuclear cells, the scavenger cells that destroy bacteria and other foreign material.

“We think it [the dying T4] liberates some proteins that lead to failure of other cells around it to thrive, and thus contributes to the pathogenesis [development] of the disease,” Gallo said last week in Bethesda at a National Institutes of Health seminar.

The high cost of pesticide subsidies

Developing countries and aid agencies frequently promote widespread pesticide use—and abuse—through major chemical subsidies to their farmers, according to a new study by Robert Repetto, senior economist with the World Resources Institute in Washington, D.C. Ironically, his study found, governments and international development agencies are generally unaware of these subsidies’ full costs to the affected nations’ economies. But potentially more important, Repetto says, is that by discounting the cost of pesticides, governments and aid agencies provide such a strong incentive for greater pesticide use that farmers can lose sight of related environmental costs or declining gains in farm yields—factors that might otherwise serve to limit abuse of these toxic chemicals.

One of the major contributions of this study was its extrapolation of the subsidies’ previously unevaluated economic costs from data provided by the governments of nine countries representing a range of agricultural policies: China, Colombia, Ecuador, Egypt, Ghana, Honduras, Indonesia, Pakistan and Senegal. Their subsidies discounted the cost of pesticides by 15 to 90 percent. However, Repetto found, none of the countries he surveyed had collected the data—for instance, on pesticide demand or the elasticity of pesticide prices when demand changes—that would allow analysis of the impacts of these subsidies on a domestic economy. As a result, Repetto says, though hundreds of millions of dollars are spent annually subsidizing the sale of dangerous pesticides to farmers, “the agencies responsible have no way of knowing whether those subsidies are accomplishing their purpose.”

Subsidies “can influence farmers to use more chemicals, even when the crop savings are quite unlikely to justify the very real additional costs,” Repetto found. Moreover, the study says, severely discounting pesticides can encourage farmers to choose chemicals over more labor-intensive but environmentally safer control strategies, like integrated pest management, which can include careful timing of plantings, hand removal of some pest eggs, burning of contaminated crops and release of predator insects and microbes to attack pests.

Repetto’s data also show that the per capita value of these subsidies is not trivial. Although the median was \$1.70, Egypt’s was \$4.70. For perspective, the per capita Indonesian subsidy for pesticides, at about 80¢, is half the government per capita expenditure on housing and water, and roughly a third of the government expenditure for health.

Environmental rules for development aid

Any project aimed at improving a developing country’s economy that damages the country’s natural resource base “will likely become an economic failure,” according to a statement by the House Appropriations Committee. And that’s why the committee helped craft legislation—passed into law on Dec. 19—requiring U.S. representatives to the World Bank and to three other multilateral development banks to actively promote a series of sweeping environmental reforms in the banks’ lending policies. Its goal is to avoid repetition of cases like the World Bank’s \$434.4 million *Polonoeste* road-building and land-development project in Brazil. The project greatly contributed to accelerated destruction of valuable rain forests over a region the size of Great Britain.

Among other things, the new law instructs U.S. executive directors of these banks to promote: the hiring of more professionally trained staff to identify potential ecological impacts of projects up for funding; the involvement of conservation groups and native-peoples’ organizations in the planning of environmentally sensitive projects; and more funding of “environmentally beneficial” projects, such as agroforestry, integrated pest management and rural solar energy systems.