

Biotechnology and the Environment

BY KEN SMITH

By the year 2030, the world's population is projected to reach ten billion people. In order to provide food for that many people, we will have to increase food production, while at the same time trying to minimize the environmental damage. Biotechnology, which includes techniques such as transplanting genes between plant species and synthetically producing animal hormones, could have potential to help with these goals.

However, some environmental groups, such as the Edmonds Institute, have serious reservations about biotechnology. They are concerned about the motives of the corporations that control it, and they are worried about its possible environmental hazards. Although these groups have not convinced me that biotechnology is completely evil, its drawbacks do seem to outweigh its advantages.

To the dismay of the Edmonds Institute, most biotechnology research is under the control of private corporations. According to their research, 75% of research and development in the USA is carried out by private corporations. The primary goal of most private corporations is to make money; hence, these companies tend to encourage large mono-crop farms with high inputs of fertilizers and pesticides. Environmental groups, on the other hand, tend to support low-input levels of chemicals, and would like to see a focus on alternative farming techniques such as agroforestry, which help to conserve the soil and avoid chemical additives.

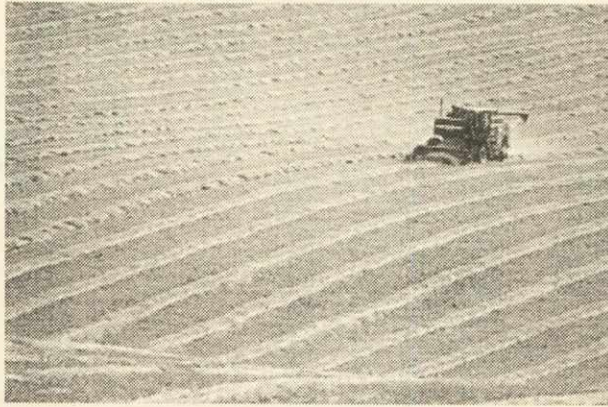
The Edmonds Institute claims that corporations are not interested in new farm management techniques, because these cannot be packaged and sold. They believe that corporations are not interested in trying to change agricultural practices, but instead would like to see agriculture improved through further technological advances, such as super-crops, which can be sold to

farmers. Biotechnology is a further extension of the style of agriculture that private companies prefer.

Environmentalists are quick to point out that such strategies will not produce sustainable agriculture, and that they will not do the third world much good. The famines that occur in the world today are not caused by a lack of food, but are the result of, among other things, debt-burdened third world economies. Multinational corporations do not intend to give their research away for free, so the situation for third world agriculture is unlikely to change.

Some environmental groups are also worried about the possible risks of creating new organisms and species. It is impossible to tell what kind of effect a genetically designed organism will have once it is released into the environment. Although personally I am not afraid of finding my lawn invaded by herbicide-resistant corn, I was upset to learn that researchers have considered developing new types of soil microbes to enhance the soil. I cannot understand how researchers intend to contain microbial organisms within a farm, or how they could predict the effect that they would have on the environment if something went wrong.

Needless to say, biotechnology companies are in full support of the benefits of their research. I came across one particularly interesting article — "Planetary Patriotism" — in a journal called *Environmental Science and Technology* (April 1990). It appears as an objective scientific article which defends the use of biotechnology. But upon further investigation, the two authors (Howard A. Schneiderman and Will D. Carpenter) turn out to be senior scientists in the Monsanto Corporation. The company stands to make a lot of money out of biotechnology and is on the top ten most-hated list of many environ-



I actually find it hard to argue against some of the claims made about high-input farming, since world food production has been steadily increasing, thereby ostensibly meeting the needs of the ever-growing global population. Admittedly, there is more food produced now than there was before, but there seem to be

through further technological band-aid solutions, but these do not address the underlying problems with modern industrial farming.

Still there is the hope that some of the advancements in biotechnology research might be of help for sustainable agriculture. Regardless of the motives of corporations, some of their research might help to establish practices that use less chemical additives and that help to control soil erosion.

Perhaps the real problem is not that millions of dollars are being pumped into biotechnology research, it is that an equal amount of money is not being put into research about alternative farming techniques. If non-profit research had the resources of private business, then we might get solutions about how to really save the earth, rather than just ways to increase profits.

mentalists.

The article begins by pointing out cases where low-input farming has still caused great damage to agricultural land. It then goes on to describe possible dream scenarios for future biotechnology. They depict land with enhanced crops, and environmentally friendly herbicides and fertilizers, which are able to support agriculture forever.

enormous social and economic problems created by industrial farms in the third world.

I have to wonder, however, how long this increase can continue through modern agriculture techniques. Fertilizers are leaking nitrates into the water, herbicides and pesticides are accumulating, and topsoil is undergoing erosion. Monsanto would like us to believe that the problems can be solved

Recycling a Society

BY ADEL ISKANDAR

EcoAction Student Environment Group last week held its first general meeting to discuss its proposed agenda for the year, and to rally together the greens to fight for the protection of the environment.

On the meeting's agenda was the promotion of Waste Reduction week (October 21 to 25) and the Harbour Solution Symposium (November 8 and 9). Other concerns raised ranged from promoting composting in residence to discouraging the use of styrofoam containers at the newly-built Second Cup.

EcoAction is not alone in the drive to save mother nature; it is closely affiliated with NSPIRG (Nova Scotia Public Interest Research Group). Nor are the society's activities confined to the Dalhousie campus: a province-wide strategy is already in effect. In its four year history, EcoAction

has taken a strong stand on many issues including the management of solid wastes in the Halifax municipality. Although its 1993 proposal for a garbage incinerator at Dalhousie was turned down, the society organised the recycling of outdated Dal yearbooks into binders and clipboards.

GreenDal websites, a series of homepages run by EcoAction to detail the environmental movement at Dalhousie, include a Dalhousie virtual second hand store and information on the society's upcoming events.

EcoAction is currently negotiating with the hopes of composting Dal's leftovers with Mike Murphy from the Physical Plant. Although an attempt to put this idea into effect was organised several years ago, technicalities interfered with its success. A pilot project to compost Sheriff Hall's food remains is already in construction. The results of this project will determine whether

other on-campus residence houses and the Student Union Building will start composting.

The overriding goal of the EcoAction meeting was, however, self-promotion. With a mailing list that does not exceed 15 individuals, and little more than posters for publicity, EcoAction's hopes for the promotion of environmental awareness are feeble. This is disappointing considering the number of fundamental issues on the table and the members' overwhelming enthusiasm. EcoAction must pull its ideas out of the dark.

Green Days -

- October 18:** Waste Reduction Week. Kick-off-lunch at Westin Hotel. EcoAction composting.
- October 19:** Swap Saturday — exchange second-hand items.
- October 23:** Dal Yearbook binding workshop. 10 a.m.-4 p.m. at SUB.
- November 8/9:** Harbour Solution Symposium at SUB.

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