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Media Release

February 5, 2001

**Canadian Health Coalition
Greenpeace Canada
Council of Canadians**

Expert Panel on GMOs confirms need for immediate moratorium, say GMO critics

Ottawa - The *Canadian Health Coalition, Greenpeace and Council of Canadians* are calling on the federal government to heed the findings of a new report by the Royal Society of Canada on genetically modified organisms (GMOs). The message from the report, say the groups, is simple: Current governmental approval procedures for GMOs are totally inadequate to guarantee health and environmental safety and the agency responsible for the regulation of GMOs - the Canadian Food Inspection Agency (CFIA) - is in a conflict of interest as both a regulator and promoter for the industry.

The report from the Expert Panel on the Future of Food Biotechnology was prepared by the Royal Society of Canada at the request of Health Canada, the CFIA, and Environment Canada (full report available at www.rsc.ca). Some of the recommendations of the report to the federal government are:

- * *adoption of rigorous scientific methods to evaluate GMOs as opposed to concepts like "substantial equivalence" (recommendation 7.1, page x).*
- * *use of independent regulators for scientific assessment of GMOs (7.3 & 9.3 pages x-xi) and clear separation between the mandates of scientific assessment and economic promotion of GMOs in order to "maintain an objective and neutral stance" (9.1 page xi). This is a severe critique of the Canadian Food Inspection Agency (CFIA).*
- * *total "public transparency of the scientific data and rationales" (9.2 page xi & 6.8 page xiv)*
- * *moratorium on the "rearing of GM fish in aquatic netpens" (6.13 page xii).*
- * *labeling of GMOs (4.11 page xiii).*
- * *traceability of GMOs (5.3 & 5.9 page xiii).*
- * *undertaking of "exhaustive, long-term testing for ecological effects of biotechnology products" (6.2 page xiv & 5.7 page xv).*

In light of these findings, say the groups, the logical conclusion to be drawn is that the federal government should immediately impose a moratorium on further releases of GMOs, at least until proper scientific and adequate regulatory measures are in place.

The Canadian Health Coalition, Greenpeace and Council of Canadians are calling on the federal government to:

- * *recognize the structural failures in the existing regulatory system;*
- * *announce an immediate moratorium on all GMOs; and*
- * *introduce immediate mandatory labeling.*

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Toronto Star
February 5, 2001

Ottawa rapped in GM food report

Expert study considered major setback for biotech industry

Peter Calamai
SCIENCE REPORTER

OTTAWA Canadians aren't being adequately protected by government from the risks of genetically modified foods and other biotech products, says a highly critical scientific report commissioned by the federal government.

The expert report, formally released here today by the Royal Society of Canada, condemned the basic approach of federal regulation of biotech agricultural products as ``scientifically unjustifiable."

The experts say this approach contradicts the government's promise to err on the side of caution in adopting new technologies.

Also under attack in the 264page report is excessive government secrecy about biotech safety and the cozy relationship between government regulators and the biotech industry.

Federal regulators barred even the Royal Society panel from seeing evidence that safety tests had actually been done on genetically modified foods.

“The public interest in a regulatory system that is sciencebased is significantly compromised when that openness is negotiated away by regulators in exchange for cordial and supportive relationships with the industries being regulated,” says the report.

“The report is definitely a caution. They're saying this is a powerful technology; let's make sure we get it right,” commented Doug Powell, a University of Guelph professor who specializes in food safety.

The scientific experts also said the government had no proven way to determine whether genetically modified foods were safe in their entirety, rather than just looking at individual components. They urged a crash research program to fill this gap.

The report will likely be seen as a major victory for activists who have been urging a slowdown on development of new biotech products and a setback for the biotech industry. But antibiotech groups will be disappointed that the experts stopped short of endorsing mandatory labelling for all genetically modified food products.

But Powell said industry was already ahead of government regulators in responding to some of the specific concerns of the 15 experts assembled by the Royal Society, the country's national academy of science.

Canada is the thirdlargest producer of genetically modified crops in the world and the federal government has approved more than 40 varieties of corn, potatoes, tomatoes, squash and other plants. Most provide benefits to growers like lower pesticide use rather than any direct improvement for consumers, the report notes.

These plants are genetically engineered by inserting DNA from bacteria, viruses or insects.

The 50plus recommendations from the scientific experts add up to an overhaul of the current system of regulating biotech products, including:

- *Independent, outside science auditors to doublecheck every step of federal regulation.*
- *More openness throughout the process, with companies no longer allowed to hide documents behind claims of commercial confidentiality.*

- *Compulsory registration for all transgenic animals, such as pigs with human genes already being tested in Toronto hospitals for possible transplant use.*
- *A moratorium on the raising of genetically modified fish in pens in lakes and oceans from which they escape to interbreed with wild fish.*
- *A ban on the common practice of using antibiotic resistant genes as markers in transgenic plants because this resistance might be transferred to microbes.*

The Royal Society was asked in November, 1999 by the federal government to investigate potential risks to humans, animals and the environment by current and future biotech products.

The society tapped its membership and outsiders to come up with 15 experts covering the scientific, legal and social aspects of biotechnology. Similar Royal Society panels have reported on cell phone safety, the treatment of lab monkeys by the federal health department and other scientific controversies.

In the report, the Royal Society experts emphasize that the government's terms of reference ruled out dealing with such questions as the objection by vegetarians over animal genes inserted into plants and the broader issue of humanity playing God by creating whole new forms of life.

The report also does not deal with the claim by industry and government that benefits from biotechnology outweigh the risks.

But the experts do tackle the failings in their own backyard, bemoaning the coopting of biotechnology science in universities by commercial interests and the emphasis on secrecy to squeeze dollars out of research by patenting discoveries.

This coopting, says the report, ``contributes to the general erosion of public confidence in the objectivity and independence of the science behind the regulation of food technology."

The most potentially damaging part of the report is the assault on the approach that federal regulators have used to approve most biotech crops so far, something called ``substantial equivalence."

If a transgenic plant appears to be no more different than plants produced by conventional breeding techniques, then federal regulators often approve it without a full risk assessment, say the experts. Federal regulators contended they were more rigorous but the expert panel rejected their claims.

The experts make this analogy. ``It looks like a duck and it quacks like a duck, therefore we assume that it must be a duck or at least we will treat it like a duck."

The experts say this approach is fatally flawed for genetically modified, or GM, crops and exposes Canadians to several potential health risks, including toxicity and allergic reactions.

The decision to exempt plants from a full safety assessment is often "based upon unsubstantiated assumptions," the report says.

Toronto Star
February 6, 2001

EDITORIAL

Disturbing questions about altered foods

The value of the Royal Society of Canada's report on biotechnology, released yesterday, lies in the disturbing questions it raises.

They are not new questions, but rarely have they been raised in this country by such an esteemed group of scientists.

When the panel was appointed by the federal government to study the future and safety of biotechnology more than a year ago, critics feared it would produce an unquestioning endorsement of genetic modification.

It has not.

In fact, the society's 265page analysis stands as a testament to the value of independent scientific research, which is all too rare during these days of corporate control of the research budgets at our universities.

Consumer concern about genetically modified foods has been growing steadily. These products were slipped into the marketplace without buyers' knowledge and with no labelling to identify which foods are affected.

Critics, meanwhile, have pointed out serious problems with Canada's regulatory standards, conflicts of interest among regulators and scientists, and secretive research methods used to make and approve genetically modified foods.

The Royal Society's report will do little to calm those fears.

In fact, it says they are wellfounded, lamenting that the "integrity" of biotechnology itself is at risk. In particular, the society disparages the poorly defined "substantial equivalence" standard used to approve genetically modified foods.

Under this standard, used by countries around the world, genetically modified foods are approved if they are considered substantially equivalent to traditional foods. The Royal Society says this is "scientifically unjustifiable" and calls for independent scientific testing of new foods to ensure they are safe for humans, animals and the environment.

Its recommendations would raise the bar for approving genetically modified foods in Canada and open the industry to greater public scrutiny much-needed measures that in turn would soothe public worries about this new technology.

The Royal Society also explores the socioeconomic impact of biotechnology, the ethics of "playing God" with other species and the need to label genetically modified foods, rightfully calling for a broad public debate on these issues.

Ottawa wanted clear direction from the Royal Society on how to proceed with biotechnology. It got that, and must now act quickly on the advice.

The Ottawa Citizen
February 6, 2001
By Tom Spears

Canadians are guinea pigs: biologist

Independent scientists must study effects of biotech food: experts

Canadians have been human guinea pigs testing genetically modified foods for safety, because the agencies that approve them in Canada have kept secret the experimental data on them, says an expert panel on biotech foods.

"We have run the experiment for five years" by letting the public eat these foods, says the panel's cochair, molecular biologist Brian Ellis of the University of British Columbia.

The fact that these 48 genetically engineered grains, soybeans and other crops haven't hurt us may be due to careful scrutiny, but may also be plain luck, he said.

Without public data for independent scientists to check, says Mr. Ellis, no one can tell what's good luck and what's good science.

"You will have no credibility in a scientific process if you do not have peer review (by outside scientists) and independent assessment of results."

And yesterday, as he and other members of the Royal Society of Canada's panel on biotech foods released their final report, he said Canada's biotech regulators are too close to the industry they regulate. Regulating it and promoting it at the same time is a conflict of interest, he said, giving the appearance of being "more closely allied with the industry interest than with the public good."

Health Canada and the Canadian Food Inspection Agency, which regulate biotech foods, spent most of yesterday assuring reporters the foods are safe and thoroughly tested.

Government scientists look at what DNA is in a genetically modified plant, said Karen Dodds, director general of Health Canada's biotech office. They look at the RNA, at the proteins a gene produces, at any chemicals that might be toxic or allergenic. They look at whether there might be side effects no one had predicted.

"Our system does not make any assumptions. The companies must submit to us very detailed information," she said.

So why, reporters asked, didn't the federal government tell the expert panel all this information?

"To the best of my knowledge, they did not ask," Ms. Dodds said. "They did not come and ask us for a complete, detail explanation" of how foods are approved.

At the same time, Health Canada and CFIA officials do not release publicly all the data supplied by biotech companies, because some of this is considered a trade secret. There may have been "a miscommunication," Mr. Ellis allowed later, but he still felt it was up to the regulators to make more information public. "They operate in an environment that is quite deeply embedded in secrecy," he said.

The Royal Society panel held its news conference downtown in the National Press Building. Health Canada and the CFIA held theirs an hour later at Tunney's Pasture. Each side accused the other of failing to make clear, during their discussions over the past year, exactly what it was thinking, and what it wanted from the other side. And reporters spent the day travelling and phoning back and forth to check claims and counterclaims this way and that.

Two ends of town, two news conferences. By the end of the day the two sides had talked to a lot of reporters, but still weren't speaking to each other.

The Toronto Star
February 6, 2001
By Thomas Walkom

Modified foods get a roasting

SCORE ONE for those of us who eat. A prestigious scientific panel has confirmed what critics have argued all along: Genetically engineered foods aren't necessarily safe.

Ottawa will find it difficult to ignore this report, prepared by a panel of scientists working under the auspices of the Royal Society of Canada.

Not only are the credentials of the 14 scientists impeccable, but the study was prepared at the request of the federal government itself.

Ten years ago, virtually no genetically modified (GM) foods existed. Now it is hard to find food that hasn't had an alien gene inserted. Roughly 60 per cent of food sold in supermarkets contains GM ingredients usually corn, soy or canola.

The biotech industry and its allies say these foods are as safe as their nonGM counterparts. Those who dare question this conclusion are labelled unscientific sensationalists.

Last year, for instance, when University of Guelph scientist Ann Clark publicly questioned the methods Ottawa uses to regulate GM foods, she was condemned as "unethical" by her boss.

Agriculture Dean Rob McLaughlin said Clark had no right to comment on GM foods because "she is not considered by us to be an expert in that area."

Fellow Guelph academic Doug Powell called her report "silly ... a superficial examination worthy of high school."

Guelph's agricultural school, incidentally, is a prime recipient of the biotech industry's corporate largesse.

Now it seems that Clark may not have been so silly. Her main conclusion, that research into GM foods is based on unfounded assumptions and inadequate research, has been reinforced by the Royal Society's expert panel.

Clark and other critics, such as Greenpeace and the Council of Canadians, have focused particularly on the notion of "substantial equivalence" used by the Canadian Food Inspection Agency, the ostensible federal regulator. Currently, if federal regulators deem that a GM variant of, say, corn is more or less the same in look, taste, appearance and nutritional value as the unmodified variety, they approve it without rigorous testing.

The Royal Society panel concludes that this approach is based upon "unsubstantiated assumptions" that genetically modified foods are safe.

It recommends that regulators actually investigate whether GM crops are harmful to either human health or the environment instead of just assuming they aren't.

In particular, it calls on federal regulators to apply the precautionary principle that is to err on the side of caution when approving new GM products instead of, as at present, doing the reverse.

As the report notes, "Mutations in single genes have long been known usually to produce multiple effects."

But the most damning elements of the 245page report are those describing the unholy trinity of the Canadian biotech industry the corporations, university researchers and federal regulators.

The Canadian Food Inspection Agency, the report notes, is crippled by a profound internal contradiction.

On the one hand, it has a mandate to protect the public; on the other, it is charged by government with promoting the interests of the Canadian biotech industry.

As well, the agency is so secretive that not even the Royal Society scientists could see the information it uses to evaluate GMproducts.

In the sole case the panel was able to examine Ottawa's evaluation of Monsanto Co.'s RoundupReady canola the Royal Society scientists found the data the government used was "scientifically inadequate for either a rational regulatory process or a peerreviewed scientific publication."

As for independent academic research, the report was despairing. Because of government cutbacks, universities are increasingly dependent on corporate funding. But corporations, including those in the biotech sector, aren't anxious to fund research that might cast doubt on their products.

"Scientists who concentrate their research efforts on the environmental and health risks of new technologies ... are not likely to be prime candidates for research grants from industry partners," the report notes.

The result, the panel concludes, is that it is "more difficult to find funds for research aimed at the critique or evaluation of GM technology, or scientific researchers with the independence and objectivity to carry it out."

Curiously for scientists who have raised so many questions about the safety of GM food, panel members were split on the issue of whether Ottawa should require mandatory labelling of such products. That, however, was virtually its only concession to the biotech forces.

Otherwise, this report is a polite but scathing indictment of the industry, the academic research community and, particularly, of the federal government itself.

Rapport de la Société royale du Canada: sans règles strictes sur les OGM, un moratoire s'impose

Judith Lachapelle
LE DEVOIR

Le mardi 6 février 2001

Sans danger, les OGM? Peut-être, disent les scientifiques. Mais ce n'est pas une raison pour ne pas les soumettre à un examen serré et transparent, ce qui n'est assurément pas le cas aujourd'hui. Conflit d'intérêts, manque de transparence et d'indépendance, un grand ménage s'impose au sein des organismes de réglementation canadiens. Et à défaut de passer le balai - et vite! - le gouvernement n'a d'autre choix que d'imposer un moratoire sur les OGM.

Le rapport de la Société Royale du Canada sur les biotechnologies alimentaires a été généralement bien accueilli hier, autant par les scientifiques, les écologistes que le gouvernement. Évidemment, tous ne se réjouissent pas pour les mêmes raisons. Greenpeace, le Conseil des Canadiens et la Coalition canadienne de la santé sont satisfaits de voir leurs craintes confirmées par les plus éminents spécialistes de la question au pays. À l'opposé, le gouvernement souligne que le rapport «n'éveille aucun doute quant à l'innocuité des aliments contenant des OGM actuellement offerts sur le marché» et rappelle que le fédéral fait «l'examen approfondi de l'innocuité des nouveaux produits avant que ceux-ci ne soient vendus au Canada».

Mais de quel examen parle le gouvernement?, demandent les experts. Non seulement les données qui ont guidé les décisions d'homologation sont inaccessibles, mais les experts se demandent même si l'Agence canadienne d'inspection des aliments (ACIA), Santé Canada et Environnement Canada font les études appropriées.

Présentement, s'il n'y a pas de preuve qu'un produit transgénique est nocif, il est accepté. «Mais jusqu'à quel point cherche-t-on des preuves de danger?», se demande le professeur Marc Fortin de l'Université McGill, l'un des auteurs de ce rapport. «Nous ne savons pas jusqu'à quel point les données scientifiques qui ont été examinées par l'ACIA sont sérieuses. Nous n'avons pas accès à ces données-là, personne n'y a accès. Nous disons à l'ACIA: "Si vous faites un bon travail, rendez publiques les données scientifiques sur lesquelles vous prenez vos décisions de façon à ce que tout le monde puisse critiquer les bases de données qui auront été utilisées". Lorsqu'on a un résultat scientifique, on doit pouvoir le soumettre à la critique.»

C'est pourquoi la Société recommande la création de comités d'experts indépendants et transparents pour étudier les demandes d'homologation des nouveaux produits transgéniques. Une quarantaine d'OGM ont été approuvés par Santé Canada et sont utilisés depuis environ cinq ans. Aucun effet fâcheux n'a encore été prouvé sur la santé humaine, mais les produits qui sont

utilisés sont encore relativement simples sur le plan génétique. «Il aurait été préférable de poser la question avant», reconnaît Marc Fortin. Avec ce qui se prépare dans les laboratoires (modifications sur plusieurs gènes, protéines qui n'existent pas dans la nature), il faudra être plus prudent, surtout pour ce qui est du potentiel allergène.

Si aucun effet nocif n'a été observé sur la santé humaine jusqu'ici, les OGM d'aujourd'hui n'auraient pas nécessairement été approuvés aussi facilement avec le système que demandent les scientifiques. Le maïs Bt, par exemple, est largement cultivé dans les campagnes du pays. La plante, conçue pour résister à l'insecticide Bt, causerait, selon certaines études, des torts aux papillons monarques. «Je pense que si on avait fait les études - comme celles qu'on recommande -, on aurait vu un effet sur les monarques et on aurait dit. "Un instant. Il semble y avoir un effet. Attendons encore deux ans pour faire des essais en champ pour voir ce que ça donne"», estime Marc Fortin.

En fait, l'homologation d'un produit transgénique devrait passer par les mêmes étapes rigoureuses auxquelles sont soumis les médicaments, soutient Marc Fortin. «C'est un message qu'on lance au gouvernement. Il faut faire la recherche pour déterminer quels sont les protocoles appropriés. Prenons le temps de le faire. C'est la responsabilité de gouvernement de s'assurer que la chaîne alimentaire est saine.»

Demander plus d'études allongerait nécessairement le délai avant qu'un produit ne soit homologué. «Nous nous en rendons compte. Mais ça va de soi: si on veut être prudent, ça prend plus de temps. Il y aura des coûts supplémentaires pour les compagnies qui proposent des produits transgéniques mais ça fait partie du jeu.»

Un jeu auquel l'industrie ne se joindra pas d'emblée, craint Peter McCourt de l'Université de Toronto. La pression des partenaires commerciaux du Canada, notamment les États-Unis, grands producteurs d'OGM, pèsera lourd dans la balance. Brad Duplesea, de la Coalition canadienne de la santé, note également une contradiction dans le fait de dénoncer un conflit d'intérêts chez les chercheurs-entrepreneurs et, en même temps, la suggestion de confier aux universités les recherches «indépendantes» à mener sur les OGM. Le gouvernement doit lui-même faire les études de validité.

Les experts espèrent maintenant que leur rapport n'ira pas rejoindre les autres documents sur les biotechnologies sur les tablettes des ministères. «La balle est dans le camp du gouvernement, dit Marc Fortin. Si on adopte rapidement de nouveaux protocoles, de nouvelles approches réglementaires, et qu'on a confiance en celles qui ont été adoptées, il n'y a peut-être pas lieu d'un moratoire. Par contre, si le gouvernement veut prendre un an, et puisque nous avons dit que le système actuel n'est pas ce qu'il devrait être, il y a peut-être lieu d'avoir un moratoire.»

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February 6, 2001

Biotech foods trigger allergy concerns Federal safety rules inadequate, scientists charge

Peter Calamai
SCIENCE REPORTER

OTTAWA Existing science and federal safety regulations aren't up to the job of protecting Canadians from a big jump in allergic reactions when the next wave of genetically modified foods hits the grocery store shelves, says a report commissioned by the federal government.

These new transgenic foods could include a potato already being grown experimentally in B.C. that has been doctored with a protein from bee venom to boost resistance to bacteria and fungus.

"Commercialization of this genetically modified potato could sensitize consumers to honeybee venom and thus predispose them to a potentially lethal insect sting allergy," warns the report from a group of scientific experts.

This would only happen if a specific part of the venom protein made it into the potato and wasn't detected, the experts say, but current safety tests can't rule out that prospect.

And so pervasive are genetically modified foods in Canada two-thirds of all processed food already contain some transgenic component that other entirely new allergies could gallop through the population, starting with babies in the womb or being breast fed.

"The baby does not have to eat the genetically modified food. All that has to happen is that the mother eats it," said Dr. Antony Ham Pong, an allergy specialist in Ottawa and one of 14 scientific experts who reviewed the government's policing of food biotechnology.

The allergy alert was one of the few undisputed messages to emerge here yesterday at the end of a day of sniping between federal regulators and members of the expert panel which the government asked the Royal Society of Canada to set up in November, 1999.

The experts concluded that health officials often let biotech companies take a shortcut through the safety process by accepting the transgenic food as no different than a new variety produced by conventional breeding.

But Karen Dodds, in charge of biotechnology for Health Canada, told a news conference that internal department records show this shortcut was not allowed for the 48 transgenic foods so far approved.

The Vancouver Province
February 6, 2001
By Kathy Tait

GM crops `creating a monster'

Critics of genetically modified foods gained ammunition yesterday from a blueribbon panel of scientists.

In a report released yesterday, the Royal Society of Canada said Canadians aren't being adequately protected from the risks of genetically modified foods and other biotech products.

The Council of Canadians, the Canadian Health Coalition and Greenpeace issued a joint statement yesterday calling on Ottawa to heed the findings of the report, commissioned by the government in 1999.

The report criticized government secrecy about biotech safety and the cozy relationship between government regulators and the biotech industry. Federal regulators even barred the Royal Society panel from seeing evidence that safety tests had been done on GM foods.

The report called for independent auditors to doublecheck every step of federal regulation. Canada is the thirdlargest producer of GM crops and the federal government has approved more than 40 varieties of corn, potatoes, tomatoes, squash and other plants. But Canada unlike Britain, Australia, New Zealand and Japan has no law requiring labelling of foods containing GM ingredients, and the report did not call for such a law.

On that score, the report ``fails miserably," environmentalist David Suzuki said yesterday.

``Canola oil is ubiquitous," said Suzuki. ``It's in dozens of foods, like instant cake mixes, for example. We have learned painfully that you don't put people into experiments without informing them through labelling."

The B.C. government last year called on Ottawa to test and label GM foods.

Suzuki said he is even more concerned about the impact of GM crops on the environment. He said genetic modifications can spread to other plant species, producing, for example, weeds that are superresistant to pesticides.

Dr. Brian Ellis, associate director of the Biotechnology Laboratory at the University of B.C. and a contributor to the Royal Society report, said 50 to 70 per cent of the foodstuffs on store shelves have some GM content.

“As far as we can tell at this point, it doesn't present a problem,” he said. “I believe eating this stuff is okay but I hesitate to say ‘guaranteed safe.’”

ChronicleHerald
February 6, 2001
By Dennis Bueckert

Screening of altered foods inadequate, panel reports; Bureaucrats say scientists didn't understand policies

Ottawa The federal Health Department is defending its screening of genetically modified foods after a scathing report by a panel of independent scientists.

Health Minister Allan Rock told the Commons on Monday he welcomes the report even though it concludes the current federal approach is deeply flawed and vulnerable to conflicts of interest.

Rock noted it was he and his cabinet colleagues who commissioned the report by a panel of the Royal Society of Canada, the country's science academy.

But the panel seems to have taken the government by surprise with its warning that the current screening process could fail to protect against "serious harms to human health, animal health or the environment."

The 265page report calls for a much higher standard of scientific assessment of proposed transgenic products in cases where the risks are "potentially catastrophic."

Health Department spokeswoman Karen Dodds told a news briefing Monday that the 14 scientists on the panel don't understand federal policies as now applied.

She said the panel must have looked at some of the wrong documents on the Health Department Web site. Some of those documents are intended for the general public, not for experts, she said.

"If they'd asked for indepth sessions we'd have given them indepth sessions."

Conrad Brunk, cochairman of the panel, said it examined all the information publicly available, but some key principles of the regulatory process are ambiguous.

He said there is an apparent conflict of interest, given the government's dual objective of promoting the biotech industry and protecting the public.

"Since they operate in an environment that is quite deeply embedded in secrecy and confidential information they certainly have an appearance of being (more) aligned with the industry than they do with the public good," Brunk said.

"That may be largely perceptual but nevertheless it definitely contributes to the current unease in the public about the way the technology is being regulated."

Nadege Adam of the Council of Canadians criticized the suggestion that the scientific panel did not understand federal policies.

"To say that is an outrage. If they're not going to consider the Royal Society a credible voice to assess their regulatory process then they won't take anybody's word for it."

Brunk said pressure to get funds from industry is distorting the whole research agenda in Canada. Most government funding agencies ask researchers to get matching funds from industry, he noted.

"One of the important elements of biotechnology is that just about everything you come up with in terms of research findings has proprietary value.

"So there's also a question of researchers themselves having their research agenda distorted by the attractions of commercialization, which are very powerful."

Canada is the thirdlargest producer of genetically modified crops in the world and the federal government has approved more than 40 varieties of modified corn, potatoes, tomatoes, squash and other plants.

Recommendations from the scientific experts include calling in independent auditors to doublecheck every step of federal regulation and more openness throughout the process.

The report also recommends a moratorium on the raising of genetically modified fish in pens, from which they escape to interbreed with wild fish.

Ottawa Citizen
February 5, 2001
By Tom Spears

Panel urges beefedup biotech safeguards: Experts say regulators must be independent

Genes that make hogs meatier. Genes for bigger eggs. Genes for fastergrowing beef cattle. An explosion of new genetically modified foods is just around the corner, and Canada must get better at regulating it, an expert panel says.

Royal Society of Canada panel says federal officials must stop promoting the biotech industry they regulate, and shed public light on the shadowy and unevenly applied "scientific rationales" underlying decisions on GM foods.

But the panel, convened at the request of three federal departments to study the fastgrowing biotech food industry, stops short of backing mandatory labeling for foods containing genetically modified grains, fruits or meat. It says there is "not at this time sufficient scientific justification" to demand labels on biotech foods, though it hopes food processors will put on labels voluntarily.

However, the panel says regulators should use "the precautionary principle," refusing to approve new GM foods unless their inventors prove they are safe.

The mad cow disease epidemic in Britain should be a lesson, the panel says: Scientific experts there decided that the potential danger of beef to humans was only "remote," and the government didn't order sick cows taken out of the food chain.

Dozens of Britons died from a brain disease linked to beef from sick cows, and the country "felt betrayed" by its scientists and political leaders. The 14 experts from six provinces will discuss their report today. The full text of the report is available on the Royal Society's Web site (www.rsc.ca).

The biotech food debate hit Canada in earnest in late 1999 after simmering in Europe for several years before that.

Most genetically modified foods in Canada today are grains engineered with genes from nongrain species that make them resist insects or tolerate pesticides, so that a farmer can spray a field and kill everything but his crops. For the most part, biotech animals are still on the drawing board. But antibiotech activists and academics have objected that adding these "transgenic" crops could cause allergic reactions in some people eating the food. They also warn that pesticideresistant genes could jump to wild plants, creating "superweeds," or could harm valuable insects such as the Monarch butterfly.

While Canada has maintained all its GM foods are screened carefully for safety, it hasn't helped us sell our grains abroad. Some European countries ban imports of biotech grains, or insist that they be labelled as genetically modified which means customers are less likely to buy them. Fish lovers have also objected to development of genetically modified

Atlantic and Pacific salmon, not yet raised commercially, which grow faster than natural salmon. They warn farmed ``supersalmon" could escape and breed with wild fish, corrupting their genetic pool, and the panel spent a chapter on this issue as well. Health Canada, Environment Canada and the Canadian Food Inspection Agency asked the Royal Society to set up an expert panel to suggest how Canada should handle the thorny biotech food problem.

The report says:

Biotech foods are quickly expanding to include many farm animals: ``Over the next five to 10 years, much of the biotechnology research and development will be driven by corporate strategies to capture the potential economic value of transgenic technology for increased growth rate and altered carcass composition in meatproducing animals and compositional modification of milk and eggs."

Most genetic work is done to make farming more efficient, not to make food better tasting, cheaper or more nutritious: ``Noticeably absent from the first generation of GM crops have been varieties that bring direct consumer benefits."

The Canadian Food Inspection Agency has two conflicting duties to check the safety of ``novel" foods but also to promote biotech. Bad idea, says the panel: ``The more the regulatory agencies are, or are perceived to be promoters of the technology, the more they undermine public trust in their ability to regulate the technology in the public interest."

It calls for a new independent, nongovernmental science panel to review federal approvals of GM foods. Canada now judges biotech foods heavily on the basis of whether a genetically modified apple or wheat plant is ``substantially equivalent" to those raised without transgenic help. This means it must pose no more threat to human health or the environment than other apples or wheat.

The committee has ``grave concerns" about this method, saying it is sometimes applied in a way that carries too many untested assumptions. Regulators sometimes examine safety tests on the one gene that biotech scientists were trying to add, and assume that there are no other accidental genetic changes that matter.

Escaped farm salmon do indeed prey on wild salmon, destroy their nests, or breed with them and change their genetic mix. The only way to know what will happen if escaped biotech fish interbreed with wild ones is to let it happen, and it's very difficult to do this while keeping such tight control over an experiment that no fish get away.

The panel recommends that genetically modified fish be permitted only in landbased pens, not in the usual fish farms that use huge cages hung in the ocean. Thousands of fish sometimes escape from these in storms or when seals damage the cages.

Ottawa Citizen
February 6, 2001
By Tom Spears

'Superweeds' invade farm fields: Canola plants are almost pesticide proof, experts say

Genetically modified "superweeds" have invaded Canadian farms canola plants engineered to help farmers that instead escaped and crossbred with each other to form plants stronger than their parents.

Most pesticides can't kill these canola superweeds, which are sprouting up in wheat fields and other areas where farmers don't want them, Canada's expert panel on biotechnology says.

Three types of canola, each engineered with genes to resist one type of weedkiller, have merged into new varieties resistant to many pesticides. Instead of helping farmers avoid weeds, the canola itself has become the weed.

The superweedcanola is especially bad in the Prairies, where canola is a multibilliondollar crop, says a report released yesterday from the Royal Society of Canada's biotech experts.

The biotech industry has been "naive" in thinking that good farming methods alone will hold superweeds at bay, the report says.

And the panel warns that as the next generation of genetically engineered crops becomes more complex, it will be tougher to head off the superweeds of the future.

Canola "is the classic example" of a superweed, said Brian Ellis, a cochair of the panel and molecular biologist from the University of British Columbia.

Canola varieties such as Liberty Link and Roundup Ready were engineered to use with a pesticide (such as Roundup). The idea was that a farmer would plant canola resistant to Roundup, then spray the field with Roundup.

Everything except the canola would die.

Where canola is nearly pesticideproof, it can crowd out other plants crops and weeds in farm fields.

But its resistance to pesticides doesn't help its survival in the wild, where there are no pesticides.

“The next generation ... is crops that come along carrying genes that make them more frosttolerant or droughttolerant. They have an advantage over their wild cousins,” Mr. Ellis said.

That means they will have a bioengineered advantage in taking over farm fields and in moving through wild areas.

“Herbicidesistant volunteer canola plants are beginning to develop into a major problem” in the Prairies, the panel’s report says. (Volunteer plants are those that seed themselves.)

Canola has been farmed for only a few generations and so it still has some wild tendencies such as dropping its seeds before a farmer can harvest them. This plants seeds for next year.

And plants, the report says, “can be quite promiscuous.” Canola plants will breed with any other canola they meet, creating the phenomenon of “gene stacking,” or accumulating all the genes originally built into different strains by different laboratories.

This forces farmers to retreat to “broadpectrum” pesticides chemicals that kill just about anything, such as 2,4D. These are chemicals that farmers were trying to get away from in the first place.

“The point is, technology is still driving agricultural production along a chemical dependence route. And I think that’s something the government has to take a very serious look at,” Mr. Ellis said.

Biotech industry reps told the expert panel that good farming will stop superweeds from evolving.

“This perspective may be unduly naive,” the report says. “In the real world, human error and expediency may often compromise guidelines for the growing of such crops.”

February 5, 2001
CBC.ca

Canadian consumers threatened by GM foods

OTTAWA The Royal Society of Canada is condemning the way the federal government regulates geneticallymodified foods, saying consumers aren't being protected.

The scientific report talks about government secrecy and the close relationship the government has with biotech industries.

"The public interest is...significantly compromised," says the report.

"There is a definite lack of transparency in the current process," said Dr. Brian Ellis, co-chair of the Royal Society panel.

The Royal Society is Canada's national academy of science. It gathered 15 experts to compile the report.

Canada is the thirdlargest producer of GM crops and the government has approved more than 40 varieties of corn, tomatoes, potatoes and other plants.

Ellis says Canada should adopt Europe's more cautious approach.

"Changes are taking place so fast that we don't even have baseline data that we can compare to," complains Ellis.

The report came up with 50 recommendations, among them:

- *companies can no longer hide behind
- *commercial confidentiality and must
- *open up their processes
- *an independent auditor to watch every step of federal regulation
- *compulsory registration for transgenic animals, such as pigs with human genes
- *a ban on using antibiotic resistant genes in transgenic plants

The report also criticizes what it calls the "coopting" of biotechnology science in universities by commercial interests.

It concludes federal regulators have approved transgenic plants without a full assessment of its risks to consumers.

Health Canada officials say they agree with most of the recommendations and would like to make the process more transparent.

However, they say they are faced with confidentiality laws that are even stronger than the ones in the U.S.

U.S. panel comes up with nothing

Meanwhile, a U.S. federal environmental review of biotechnology laws has come up with no recommendations. The panel was put together by previous president Bill Clinton to review regulations concerning geneticallymodified foods.

Consumers groups have complained not enough is known about the longterm effects of such foods on human health and the environment. They are calling for stricter rules.