

Points I wanted to make during the Harris Centre session on the pesticides, but didn't, for the lack of time. Piotr Trela, MUN, CAP-NL:

1. The role of international trade deals in the controlling of the pesticide use:

If Canada wanted to ban pesticides like the government of Sri Lanka did, the US would not need to threaten the economic sanctions – NAFTA or maybe in the near future TPP would do.

Under NAFTA, chapter 11, if a sovereign decision of our government affects negatively a company in the US or Mexico we can be subject to a NAFTA challenge. This way, the decisions on our environmental regulations in effect are taken out of our Canadians court system, and outsourced to an unelected, secretive, arbitration panel. The NAFTA challenge system is so tipped against Canada (and Mexico) that even corporate entities headquartered in Canada, instead of pursuing it in Canadian courts, use their US subsidiaries to file a NAFTA challenge. This how a Canadian company Abitibi was able to sue Canada, and win millions of compensation for our expropriation of our hydro-resources we have given them to operate the paper mill in Grand Falls after they balked at their part of the bargain and shut down the mill.

In fact, Canada has been the most sued of the NAFTA governments, and furthermore:

“63 % of the claims against Canada involved challenges to environmental protection or resource management programs that allegedly interfere with the profits of foreign investors”

“There are currently eight cases against the Canadian government asking for a total of \$6 billion in damages. All of them were brought by U.S. companies.

Many of those current challenges involve domestic environmental protections such as the promotion of renewable energies, a moratorium on offshore wind projects on Lake Ontario and Nova Scotia’s decision to block a contentious mega-quarry.”

http://www.huffingtonpost.ca/2015/01/14/canada-sued-investor-state-dispute-ccpa_n_6471460.html

There is not much known about the “supersized” NAFTA – the Trans-Pacific Partnership treaty, but according to all information it seems that it may be even more tilted in favour of foreign companies, not mentioning that will increase several-fold the number of the countries from investors from which will be able to sue us.

2. **A comment on using Integrated Pest Management – IPM**, by using pesticides only as the last line of defence and only to those areas of the crops that are most affected – not only reduces the use of the pesticides, but also protects the natural enemies of the pests, and decreases the chances of pests developing the pesticide-resistance.

3. GMOs and pesticides.

There two ways in which GMOs link with the use of pesticides:

a) the “pesticide-ready” GMOs

These GMOs have a gene for the resistance to the pesticide incorporated into the genetic material of the crops. By definition this increases the use of pesticides, since the benefit justifying the more expensive seeds is realized *only* if the pesticide is used.

Furthermore, only one pesticide can be used, the one for which the crop was genetically modified, which precludes one of the more important tools in preventing the appearance of the **pesticide-resistance** in pests – the rotation of pesticides. We rotate pesticides because even if pests resistant to this one pesticide appear, they would be killed by a different pesticide to which their resistance to the original pesticide is useless. But in the case of pesticide-ready GMOs – we don't have this option - as the “Round-up Ready” crops are not “ready” for any other pesticide.

b) **The transgenic GMOs**

These pesticides produce the pesticide themselves – they have a gene for its production put into their genome. The first accepted for use was the “New Leaf” potato, which Monsanto equipped with a gene producing a natural pesticide Bt. The gene has been derived from a natural source – from bacterium *Bacillus thuringiensis* (hence: **Bt**), which produces δ -endotoxins that kill insects.

This natural pesticide has been used for a long time, so we have information on its potential long-term effects. And it has been used for a very long time, because it maintained its effectiveness thanks to being used in the way that reduces the likelihood of pests developing the resistance against it:

- used sporadically (only when absolutely needed)
- used topically (to the most affected plants and not to less affected)
- well targeted – different forms of BT are used to target different groups of insects

All this has meant that when it was not used – pests with the resistance to Bt it didn't have the advantage, and since developing a pesticide resistance comes with a biological cost, when not sprayed with Bt they were at a disadvantage compared to the nonresistant individuals, thus preventing them from dominating the population.

All this is changed when the GMOs are equipped with the gene for producing Bt – those GMO plants produce this toxin in all parts of their body, produce much higher doses than would be sprayed, and produce them not only when there is an outbreak, but day in, day out, through the entire season. This means evolutionary advantage of the B-resistant individuals is never turned off, and the non-resistant pests will be systematically eliminated, and all the resources will be now available to the pests Bt-resistant.

And since the Bt-resistance has been included in a number of different GMO major crops (soybean, corn, cotton) and spread widely – the BT resistance has already been appearing in different part of the world. In India, a major market for Bt-producing cotton, pest boll worm has already become resistant to the first generation of Bt GMO cotton – the response was the 2nd generation of GMOs that produces ... higher doses of Bt, which makes the evolutionary selection in pests for the Bt resistance even stronger... Boll worm resistance to Bt has appeared also in Australia, China, Spain, and the US.

To sum it up – an Agro-multinational takes a free natural pesticide, incorporates it into their commercial product, makes money on it, while at the same time, through its widespread use, assures that pests develop resistance to it. With the natural pesticide useless, our multinational will then turn around and offer farmers either their line of chemical pesticides, or their GMOs, with a new built-in pesticide production capability. The difference now will be that they will have a captive market, for this time around - they will be the only game in town, since the major natural and non- proprietary alternative, used for decades in sustainable manner, would have been just rendered ineffective.