

# **Genetically Modified Canola Contamination in Japan A Call for Action in Nagoya 2010**



Special Report  
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# **Genetically Modified Canola Contamination in Japan: A Call for Action in Nagoya 2010**

## ***The problem:***

Wild-growing genetically modified canola plants have been found at many locations around Japan on numerous occasions. The first investigations by concerned citizens started in 2004. The spilling occurs mainly near harbours and by roads leading from the harbours to food oil companies. Japan's importing companies and food oil companies that make canola oil, as well as the transport companies involved, are all directly responsible for the contamination of native canola (including rape seed, *natane*).

Japan has many small/medium size companies that make food oil from domestically grown rape seed. Also, many plants of related species are eaten traditionally in Japan. These food oil manufacturers, farmers and consumers - who want to eat healthy and safe food - are the victims if genetically modified canola continues to spread and grow in Japan.

## ***The solution:***

We are concerned about this issue at the local level. The issue is getting serious, and we must call for an end to imports of genetically modified canola. Crops that can contaminate local plants should not be imported. Meanwhile, we need strict rules for liability and redress to deal with contamination issues that arise from trade with the genetically modified crops. Rules are needed and they should be legally binding with effective compliance at the local and national level.

We have met with representatives from both food oil companies and trucking companies. Requests have been made for improving the handling practices, including better designs for the trucks. We demand that spilling cases should be dealt with immediately, and that any genetically modified canola plants growing wild in Japan should be exterminated.

## **The Convention of Biological Diversity and the Cartagena Protocol**

The Convention on Biological Diversity represents a dramatic step forward in the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources. The Protocol on Biosafety (Cartagena Protocol) is an international sub-treaty with rules governing the movements of genetically modified organisms if they are traded and/or brought from one country to another. However, this has not been enough to protect local plants from imported genetically modified organisms around Japan.

After the ratification, when Japan translated and introduced the Cartagena Protocol into domestic law, agriculture and human health were left out of the scope. Also, Japan has not yet ratified the International Treaty on Plant Genetic Resources for Food and Agriculture, which aims to protect traditional and existing agricultural resources.

This is the reason why there is currently no law or regulation that the government can use to respond to the genetic contamination from imported genetically modified canola.

In 2010, Japan's government has a big responsibility to make Nagoya successful. Failure of COP10/MOP5 in Nagoya, especially after the lack of progress at the COP15 negotiations in Copenhagen about climate change in December 2009, could mean a collapse of all the global efforts since the Rio Environmental Summit in 1992. That is not acceptable for the civil society and activists around the world.

We note that the negotiators representing the Japanese government tried to systematically oppose strict international regulations to protect biodiversity when the Convention of Biological Diversity held its 9th meeting in Bonn, Germany (COP9) in 2008.

Also, during the negotiations at the fourth meeting (MOP4) about the Cartagena Protocol in Bonn, Japanese negotiators tried to oppose rules for legally binding civil liability in case of contamination from imported genetically modified crops. Almost all countries around the world want the Cartagena Protocol to deal with contamination issues, including liability and redress, and how to compensate for the damages caused by imported genetically modified crops.

We were truly concerned when the negotiations could not be completed in Bonn. At that time, watching the way the negotiations unfolded, we were extremely upset by the position taken by the Japanese negotiators, as the position of the Japanese government at that time was blocking important progress.

We have to make sure that the new government will stop listening to and speaking for the handful of countries that are promoting and exporting genetically modified crops that are not even part of the international framework or the Cartagena Protocol. Such countries have no voice in the negotiations.

Instead, Japan needs to go along with the countries that are crucially in need for strict and legally binding liability rules at the COP10/MOP5 meeting in Nagoya in October, 2010. Japan, as a

large food importer and the largest importer of genetically modified crops, shares the same interest with the majority of others who want strict global rules, including developing countries.

At the same time, it is also necessary to completely review the domestic Cartagena law in Japan through legislative action by Japan's Parliament. The domestic law should incorporate agriculture and human health in its scope. Civil society and non-governmental organizations are calling for a strict liability regime and binding rules regarding redress including funding for cleanups, based on the polluter pays principle. This should apply to all cases of contamination, in particular when there is damage caused by genetically modified organisms introduced through trade, as shown since 2004 by the repeated findings of imported canola growing around Japan.

Companies including Monsanto Co. and Bayer Co. are strongly insisting on their patent rights to genetically modified crops, which has created difficulties as the companies go to court against canola farmers, such as Percy Schmeiser in Canada. But when approaching Japan, the companies keep silent about this sorry state of affairs, evading responsibility for their actions.

Instead of insisting on their intellectual property rights and being granted patents, we believe the polluter pays principle must be applied here. The companies should take 100% responsibility for the problems with genetically modified crops including imported canola. The companies are violating the rights of nations and individual farmers and consumers every time one of their mutated plants infects someone else's crop and changes it. It is the companies that are violating the property rights of farmers by introducing genetically modified plants that spread genetic material in the environment in a way that may be impossible to control or stop.

Since 2004, the results of the canola investigations around Japan show that this has already become a large problem. We want to protect Japan's domestic food crops of the *brassica* family, including *natane*, broccoli, cabbage, *hakusai*, *komatsuna*, *mizuna* and other related crops that are under threat from further cross-contamination as time goes by. As such issues are not resolved, we conclude that genetically modified crops should be denounced, proscribed and outlawed indefinitely.

**Triangle of U:**  
***Brassica* and Related Vegetables**

Family:

Brassicaceae (Cruciferae)

While the taxonomy of *brassica rapa* is considered as “confused” by experts it has been known since 1935 that members of the plant genus *brassica* are closely related. Woo Jang-choon, a Korean researcher and botanist working in Japan at the time (his name was transliterated as “Nagaharu U”) published the first data about the relationships, called Triangle of U. The *brassica* plants are thought to have been three different ancestral genomes that combined to form the common vegetables and oilseeds we are cultivating today. They include many varieties that are native to Asia.

The genomes of the three original *brassica* plants are denoted by the letters AA, BB, or CC, but they have interbred and combined into plants derived from different parent species. This can explain why genetically modified broccoli has suddenly appeared, found growing wild in Japan, even though no such plant has been developed by the biotech industry.

Genetically modified canola is being imported, and presumably, the herbicide-resistant trait has spread from the canola to the broccoli. No safety assessment has been done to check if the novel genetically modified broccoli may be harmful for human consumption or to the environment. This clearly indicates that introducing genetically modified canola is a big mistake, with unknown effects and threats to the local biological diversity in Japan.

**Triangle of U:**

AA: *Brassica rapa* – Turnip, Chinese cabbage, *mizuna*, *komatsuna*, *hakusai*

BB: *Brassica nigra* – Black mustard

CC: *Brassica oleracea* – Cabbage, kale, broccoli, brussels sprout, cauliflower

AABB: *Brassica juncea* – Indian mustard

AACC: *Brassica napus* – Rapeseed, rutabaga

BBCC: *Brassica carinata* – Ethiopian mustard



**Photo: Activists gathering at events to pick and test wild-growing canola around Japan**

**Results of the Picking and  
GMO-testing of  
Wild-growing Canola Plants  
Around Japan in 2009 and 2010**

Name of prefecture	Number of investigated plants 2009/2010	Confirmed test results 2009/2010			Notes
		Number of GMO plants detected	Roundup Ready (RR) resistance confirmed	Basta (LL) resistance confirmed	
Hokkaido	29/51	0/0			
Aomori	9/10	0/0			
Iwate	19/21	0/0			
Miyagi	14/0	0/0			
Niigata	42/27	0/0			
Tochigi	20/20	0/0			

Gunma	17/13	0/13	0/7	0/6	
Ibaraki	64/65	0/0			
Chiba	101/67	25/6	12/1	16/5	3 cases of resistance to both Roundup and Basta found in 2009
Saitama	112/46	0/0			
Tokyo	58/57	0/0			
Kanagawa	48/28	3/0	1/0	2/0	
Yamanashi	8/0	0/0			
Nagano	30/10	0/0			
Shizuoka	39/47	0/7	0/2	0/5	
Aichi	119/10	8/1	6/1	2/0	
Mie	208/0	126/0	67/0	61/0	
Kyoto	18/25	0/0			
Osaka	47/60	0/0			
Hyogo	21/51	1/0	1/0	1/0	Location near J Oil Mill (food oil factory)
Tottori	5/5	0/0			
Okayama	4/13	0/0			
Yamaguchi	17/17	0/1	0/1	0/0	
Tokushima	5/3	0/0			
Fukuoka	77/89	29/61	15/25	18/36	
Saga	5/5	0/0			
Nagasaki	10/5	0/0			

Kumamoto	64/55	0/0			
Oita	27/27	0/0			
Kagoshima	26/19	0/1	0/0	0/0	
Miyazaki	5/5	2/0	2/0	2/0	
Total 2009:	1268	194	104	102	
<b>Total 2010:</b>	<b>862</b>	<b>90</b>	<b>38</b>	<b>52</b>	

### Discussion:

Since 1996, genetically modified crops have been grown in certain countries around the world. We note that while there is no commercial cultivation of genetically modified crops in Japan, the country imports soybeans, corn and canola that may be genetically modified to resist herbicides (Roundup or Basta). Japan also imports some crops that may be genetically modified to produce an insect-killing toxin called *Bacillus Thuringensis* (BT).

GM Watch Citizens Network is a volunteer group that was formed with the aim to address this serious issue. In July, 2004, activists found genetically modified canola growing wild near the Yokaichi harbour in Mie Prefecture, southwest of Nagoya. There was no cultivation of genetically modified canola or any related *brassica* crops in Japan, so the import from North America was the obvious source of the contamination. The result was confirmed using an independent laboratory, and caused great concern around Japan.

People from local volunteer groups, consumer organizations and the co-operative movement have diligently continued searching for wild-growing canola plants near roads and food oil factories since that first discovery.

Cleanup events are now held regularly all over the country, from Hokkaido in the north to Fukuoka, Kumamoto and Kagoshima in the south.

Activists can use test kits to perform a simple “strip-test” analysis to assess if the wild-growing plants are genetically modified organisms or not. Based on tests to determine the presence of endotoxins through the DAS-ELISA technique, using commercial kits, the first test is carried out to determine the presence or absence of proteins that are present in herbicide-tolerant genetically modified crops.



Photo: Test-kit



In many cases, the results are sent to an independent laboratory for further confirmation. Independent laboratories have confirmed that both Roundup Ready and Basta tolerant types of genetically modified organisms are among the types found growing wild in Japan as a result of the import of canola from North America.

A 2005 report from the Japanese National Institute for Environmental Studies (NIES) confirmed that herbicide-tolerant genetically modified canola plants were identified at five of the six Japanese harbours where samples were collected in an investigation which the institute initiated in June, 2004.

Another group, Stop GM Seeds Network, conducted investigations in Yokohama harbour in Kanagawa prefecture and found Roundup Ready canola growing wild. Similar cases of genetically modified canola were also found during investigations at harbours in the prefectures of Hyogo, Fukuoka, Shizuoka and Chiba. The local group that found genetically modified canola in Shimizu harbour in Shizuoka prefecture recorded finding both Roundup Ready soybeans and BT corn growing wild as well.

Over 100 people gathered on June 7, 2009 in Mie Prefecture with No GM Chubu Association to pick and eliminate these unwanted plants from their neighborhoods and roads. Over a thousand canola plants were collected all day long by the activists. Of 208 plants tested, 126 were found to be genetically modified varieties. These were sent to an independent laboratory that confirmed that 67 were tolerant to Roundup and 61 were tolerant to Basta. A few plants had acquired

tolerance to both herbicides. This indicated that genetic modification and genetic mutations can be passed on to the next generation and continue to spread their traits and damage other related plants in unexpected ways.

Shockingly, a wild-growing genetically modified broccoli plant was also found in Mie prefecture for the first time in 2009. How was this possible? There were no field trials or efforts to grow such a crop. As seen above, genetically modified broccoli may have mutated and appeared growing wild in Japan, as a result of the import of genetically modified canola, as broccoli is closely related to canola and other members of the plant genus *brassica*.



**Photo: GM broccoli plant found in Mie prefecture, Japan in 2009**

Such results have been stark reminders that as Japan imports genetically modified organisms, illegal contamination and potentially dangerous cross-contamination and mutations of native crops that are traditionally eaten in Japan may be inevitable. We want to stress that we find this unacceptable.

In October 2010, Japan is hosting the United Nations conference to finalize negotiations related to protecting biological diversity. To be discussed is also efforts to protect local plant varieties from genetically modified plants under the Cartagena Protocol, an important instrument to protect local, native plants.

The results we are seeing around Japan confirm similar cases of contamination of corn in Mexico, where corn is a native crop. We are calling for all the governments and experts meeting in Nagoya to take our results very seriously.

## **Protect Biodiversity from Genetically Modified Organisms in Nagoya!**

Japan Citizens' Network for Planet Diversity is a nationwide network for citizens who are working on protecting our food crop diversity from genetically modified organisms.

We want the meeting in Nagoya to define strict rules to protect consumers and the environment. The rules will be a crucial element of the global regulations regarding the integrity and continued sustainable use of living organisms under threat from certain risky applications of modern biotechnology.

We started this network specifically to act on the United Nations' major meeting to be held in Nagoya, October 2010, for the Protocol on Biosafety (Cartagena Protocol) which regulates the international trade of organisms modified by modern biotechnology.



**Photo: Wild-growing canola found at a harbour in Nagoya, Japan in 2004**

### **Make Binding Global Rules!**

The Cartagena Protocol was adopted as a supplementary agreement to the Convention on Biological Diversity. It sets forth procedures for the transport, handling, and use of living organisms that have been modified by modern biotechnology that have the potential to adversely affect biodiversity. The protocol specifies regulations on cross-border transfer of modified living organisms developed with biotechnology, such as genetically modified agricultural seed, food products, and microorganisms. Such regulations are needed because of the possibility

that genetically modified organisms can exert adverse effects on other living organisms.

By February 2009, 191 countries and regions had become contracting parties. Japan became a party to the Convention on Biological Diversity in May 1993. Japan approved the first National Strategy for the Conservation and Sustainable Use of Biological Diversity at a Cabinet meeting in October 1995 and the third National Strategy was approved at a Cabinet meeting in November 2007.

The international conference in Nagoya in October, 2010 is called MOP5 (meaning the fifth Meeting of the Parties of the Protocol). It is an important part of the Convention on Biological Diversity, which aims to conserve, use and share biological diversity in general. General issues concerning the Convention will be discussed and decided at COP10 (meaning the tenth Conference of the Parties of the Convention).

### **MOP5 Should Finalize the Discussion About Liability and Redress!**

Genetically modified crops are known to disturb, harm and in some cases destroy other living organisms. Their cultivation have expanded in only a few countries over the past 15 years, and the introduction has led to increased control over seed, as smaller plant breeding companies and independent seed companies have been bought up by a few multinational corporations. This has also led to a major shift in the control of food and agriculture through patents on genetic traits and methods. This urgently needs to be addressed at

the international level.

One of the focal points of the MOP5 meeting will be to discuss liability and redress. What measures should an administration undertake if biological diversity is damaged by the introduction of a genetically modified organism? Who is going to bear the costs and expenses of the damage, and how? What backup financial system should be established for the cases where the cost for the redress is not properly covered? The rules and methods will be debated as stipulated by the Cartagena Protocol.

In Japan, this is a very real question as exemplified by the spread of imported genetically modified canola (related to domestic varieties of vegetables and crops including rape seed, *natane*). As seen by this report, the imported genetically modified canola has repeatedly been found to mix with related native crops along roads and near harbours. It must be decided on the international how an administration (local or national) and the corporations involved should approach such contamination.

# Japan Citizens' Network for Planet Diversity

## Our Goals and Vision

Our goal is to take food and agriculture into our own hands, and make every effort to protect living organisms and biological diversity by establishing the Japan Citizens' Network for Planet Diversity, in cooperation with other NGOs in Japan and around the world.

Caring deeply about food and agriculture, we strongly believe that the debate and discussion during MOP5 meeting in Nagoya should rapidly be brought to agreement so that the legal framework will be strengthened for truly protecting local crop varieties and all living things.

- Parties should finalize a binding international regime to ensure that both liability and redress will be forthcoming.
- The damage-scope should be as wide as possible to include human health and socio-economic effects.
- Strict liability, financial security and limited exemptions are fundamental to ensure that payment is forthcoming to consumers and farmers in all cases of damage caused by genetically modified organisms.
- Parties should establish a backup fund to ensure that the environment can be truly protected and victims compensated.



**Maps: Activists have been making detailed notes and indicate exactly where they find wild-growing canola plants**



#### **Participating Organizations:**

- No! GMO Campaign
- Association of GMO Concerns, Chubu-district, Japan
- Seikatsu Club Consumers Co-operative Union
- Seikatsu Club Consumers Co-operative in Aichi
- Shumei Natural Agriculture Network
- Kiso River Ryuiki Min-min Association
- Consumers Union of Japan/ GM Kokusai Watch
- Consumers Union of Japan
- Policy Research Institute for the Civil Sector
- Japan Organic Agricultural Association
- Co-op Shizenha Consumers Co-operative

#### **Japan Citizens' Network for Planet Diversity**

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