SANA Conference – Bologna 2008, 13th September

Promoted by: AAM Terra Nuova

Scientific coordination: Studio Agernova

Giuseppe Nacci, M.D.

"The Threat of GMOs (Genetically Modified Organisms) on alimentary models accompanying the immune and detoxifying therapy"

Cancer is a degenerative disease caused by a lack of vitamins and poisoning from chemical substances present in food.

One can estimate the number of vitamins and pro-vitamin substances present in natural plants commonly used as food by humans as more than 13,000 – 15,000 types.

The introduction into modern agriculture of Genetically Modified Organisms (GMOs) is an unjustified and very dangerous alteration of what Evolution has produced in plants over hundreds of millions of years:
plants on which the subsequent biochemical evolution of superior complex animal organisms has been based, culminating with the advent of mammals in the last 65 million years and then with the arrival of Man.

Therefore the delicate biochemical balance of the human race depends on plant species remaining integral, just as evolution created them, because the health of every one of us is based on the biochemical human cell, and this depends, through the complexity of the DNA, on the use of thousands of vitamins and of the herbal-chemical compounds present in nature.

Plants are complex organisms as well, they are the fruit of hundreds of millions of years of biological evolution:

every genetic modification caused in plants by Man (with radiation such as Chernobyl, or with retroviruses such as presently used in GMO), however small that modification is, will cause damage, irreparable damage which often cannot be seen, because man only knows a limited number of safe vitamins and pro-vitamin substances.

However, there are tens of thousands of vitamins and other substances present in plants, and it is these which are responsible for the correct working of the biochemical human complex and the human genome (DNA).

To (supposedly) achieve greater agricultural production today we resort to changing the genetic patrimony of natural plants, with the aim of:

1) changing their structure,

2) making them sterile (thus farmers have to buy new seeds every year),

3) patenting the transformation induced and

4) re-selling the thus obtained product all over the world.

Actually it has never been demonstrated that GMO cultivations produce a larger amount of products. In fact, some independent scientific studies carried out by ISIS proved quite the opposite.

Furthermore it can be affirmed that there is a substantial equivalence between:

1) the genetically modified product (GMO)

2) and that obtained by selecting genetic characteristics (that is by means of naturally crossbreeding plants as has been done by man over the course of thousands of years).

However, this “substantial equivalence” cannot be sustained because:

1) the natural crossbreeding of plants uses natural seeds of the same species, while genetic manipulation (GMO) crosses all barriers, and introduces genes from other types of vegetable species or even bacteria, viruses and animal genes.

2) in fact the majority of genes used in genetic engineering come from living species which have never been a part of the human food chain and actually come from DNA not of plants but of animals, bacteria or viruses and/or transgenic retroviruses.

EIGHT immediate threats can therefore be identified:

FIRST POINT: *The impoverishment of vitamin and pro-vitamin complexes in the plants*

SECOND POINT: *genetic mutations of plants and the subsequent alteration of human biochemistry*

THIRD POINT: *the failure of the anti-cancer diet*

FOURTH POINT: diseases induced by transgenic viruses

FIFTH POINT: *intoxication by poisons synthesized from transgenic plants*

SIXTH POINT: *danger of worldwide famine due to "TERMINATOR" technology*

SEVENTH POINT: *transgenic pollution of natural plants*

EIGHTH POINT: *the irreversible disappearance of the genetic inheritance of natural plants*

FIRST POINT OF THE THREAT OF GMOs:

The impoverishment of vitamin and pro-vitamin complexes in the plants

The deliberate attempt to deactivate the natural substances contained in the plants is very serious: in this way fresh fruit and vegetables – greatly impoverished of many vitamins – can be carried over long distances and long periods of time because their oxidation does not take place.

These vitamins are able to enter into complex enzymatic mechanisms inside mammals' DNA, inducing the APOPTOSIS (suicide) phenomenon in these mammal cells if they are suffering from infections or above all CANCER or LEUKAEMIA.

This deliberative vitamin impoverishment will ensure commercial profits and represents a serious act of deliberate damage inflicted on the Ecosystem by means of GMOs.

Fresh plants contain thousands of vitamins which are able to activate our immune system against germs, viruses or tumour cells, or even to induce apoptosis (cell suicide or programmed cell death) in tumour cells.

Amounts of vitamins needed to induce apoptosis in a certain number of tumour cells in the laboratory without damaging healthy human cells are really very small.

Several studies from **medical and scientific literature**, almost all in PDF format, show the actual ability of these vitamins to induce APOPTOSIS in the cancerous cell line considered. Amounts needed are measurable in:

micromoles (i.e. micromoles/litre, i.e. nanomoles/millilitre, i.e. picomoles/microlitre).

SEE: http://www.erbeofficinali.org/dati/nacci/allpdf.php from **chapter 6 of the e-book *"Thousand Plants against Cancer without Chemo-Therapy"*** http://www.thenhf.com/about_us.html; **http://www.mednat.org/cancro/nacci_english.pdf** (*"Plants which make Cancers suicide"*)

SECOND POINT OF THE THREAT OF GMOs:

Genetic mutations of plants and the subsequent alteration of human biochemistry

Because of the introduction of foreign genes (for example from animals, bacteria, viruses and retroviruses) into the DNA of plants, an alteration in the normal genomic sequence of the plant occurs, with the appearance of new proteins and/or the loss of other proteins of a genomic sequence.

Therefore new substances similar to natural vitamins have appeared, but which actually have enzymatic and biochemical characteristics different to natural ones, and therefore introduce changes in their component of biochemical activity on the human genome, once they have been introduced through food.

There is therefore the potential risk of new diseases of an "artificial" type, caused by the genetic manipulation (GMO) of vegetable organisms, genetically polluted by new vitamin-like molecules with inductive effects on the human DNA and on its complex biochemistry which are totally unknown, but probably heralding serious damage given the extreme complexity and hence vulnerability of the human DNA.

For example, the only test on a long-term basis (24 months) carried out by an Italian research group demonstrated that GMOs may modify some internal organs. Feeding mice with the famous maize *Roundup Ready* changed the structure and the functioning of their liver, pancreas and testicles cells. (Malatesta M.: *Fine structural analyses of pancreatic acinar cell nuclei from mice fed on GM soybean*. Eur. J. Histochem., 47: 385-388, 2003; http://www.mednat.org/alimentazione/Malatesta.pdf),

A second study was conducted by Pusztai: he found out that mice fed with transgenic potatoes showed damage to organs, thickening of the small intestine and scarce brain development. Potatoes were genetically modified in order to contain lectin, which makes plants resistant to pesticides. (Pusztai: *Effect of diets containing genetically modified potatoes expressing Galanthus nivalis lectin on rat small intestine*, The Lancet Vol. 354, October 16, 1999) (http://www.mednat.org/alimentazione/Pusztai.pdf),

A third study was carried out by Prescott, who analysed GMO peas (Prescott: *Transgenic expression of bean-amylase inhibitor in peas results in altered structure and immunogenicity*, J. Agric. Food Chem., 53, (23), pages: 9023-9030, 2005. http://www.mednat.org/alimentazione/Prescott.pdf.

A fourth study was made by Dr Irina Ermakova in Russia, at the Institute of Higher Nervous Activity and Neurophysiology of the Russian Academy of Sciences (RAS) in Moscow.

THIRD POINT OF THE THREAT OF GMOs:

The failure of the anti-cancer diet

As already demonstrated by Gerson (**www.gerson.org**) and other authors, many substances contained only in fruit and biologically grown raw vegetables are able to induce the IMMUNE CASCADE against tumours, detoxification and the particular phenomenon of apoptosis (suicide) of diseased cells making it unnecessary to conduct difficult and expensive research.

153 patients suffering from the worst form of cancer known (melanoma) followed Dr Gerson's anti-cancer diet, and after 5 years the percentage of recovery varied from:

70-90% (if the tumour was localized)

to 40-70% (if the tumour had metastasized),

provided that the patients had not previously undergone chemotherapy.

Hildebrand, G.L.: *Five year survival rates of melanoma patients treated by diet therapy after the manner of Gerson: a retrospective review*, in Alternative Therapies, vol.1 [4], September 1995, pages 29-37). www.gerson-research.org/docs/HildenbrandGLG-1996-1/index.html

SEE also chap. 17 (Metabolic Therapy) of the on-line free E-Book "*Thousand Plants against Cancer without Chemo*" DECEMBER 2007 http://www.thenhf.com/about_us.html; **http://www.mednat.org/cancro/nacci_english.pdf**

……..

On the contrary, using chemotherapy the percentage of recovery from melanoma after 5 years is 6% or – according to other sources – is zero per cent.

Morgan G.: *The contribution of cytotoxic chemotherapy to 5-year survival in adult malignancies*, Clinical Oncol., 2004, 16, pages: 549-560 http://www.mednat.org/cancro/MORGAN.PDF

In the latest study of MORGAN, based on more than 270,000 patients undergoing CHEMOTHERAPY, this zero survival value is confirmed even in the case of: cancer of the pancreas, sarcoma, womb cancer, cancer of the prostate, bladder cancer, kidney cancer, and multiple myeloma.

This percentage goes up to 1% in case of: stomach and colon cancer,

about 2% in case of breast or lung cancer,

3-5% in case of rectum cancer,

4-5% in case of brain cancer,

5% in case of esophagus cancer,

9% in case of ovary cancer,

10% in case of NON-Hodgkin lymphoma,

12% in case of cervical cancer,

about 40% in case of testicular cancer and Hodgkin lymphoma.

The explanation of the effectiveness of these vegetarian diets lies in: not consuming food containing all the potential factors which promote cell growth,

in particular AVOIDING **the simultaneous consumption (1-3 hours) of ALL 9 essential amino acids (Valin, Isoleucin, Leucin, Lisin, Metionin, Hystidine, Tryphtophan, Phenylalanine, Treonine).**

These should not be taken simultaneously as through them cancer cells can build PROTEINS, i.e. other ill cells.

The intake of the following substances must also be avoided: **nucleic acids, vitamin B12 and folic acid** (as they cause the DNA replication of the cancer cell).

In the past,…before the GMO era, this rule was very simple to respect: the foods which contained all of these were of animal origin (meat, fish, eggs, yeast, milk, cheese, butter…).

Both Gerson and other authors (including Chinese and Indian medicine) forbade the consumption of these foods for at least a year.

A vegan diet, based only on fruit and vegetables, cereals and legumes, was, thus, the winning diet.

However, cereals and legumes are rich in ESSENTIAL AMINO ACIDS and thus their use in cancer therapy by many other Western, Chinese and Indian schools of natural medicine might seem surprising.

The success of these therapies, which are so distant from each other as far as the THEORY is concerned but are so similar in the effectiveness against CANCER, can be explained by the modern BIOCHEMISTRY:

NO CEREALS and *NO* LEGUMES, taken singularly,
contained ALL 9 essential amino acids.

These foods, however, if consumed together at the same meal determined the assimilation of all 9 amino acids.

The human body can thus synthesize PROTEINS and build cells – cancer cells.

Comparing these new therapies, it is clear that

it is ABSOLUTELY FORBIDDEN to eat CEREALS + LEGUMES together, i.e. pasta (or polenta, or bread [even if unleavened] or rice) + legumes, because according to the modern BIOCHEMISTRY there would be the integration of the 9 essential amino acids

(8 of them are contained in cereals and the other one, i.e. Lisin, is contained in legumes)

(8 of them are contained in legumes and the other one, i.e. Metionin, is contained in cereals)

with a similar nutritional effect as that obtained from eating meat (after all, once a plate of pasta and beans was called … “poor man’s meat”).

Today, however, because of the introduction on the market of cereals, legumes and other vegetables which have been genetically modified (GMO), many of these foods contain ALL the essential amino acids (Day P.R.: *Genetic modification of plants: significant issues and hurdles success*, Am.J.Clin.Nutr., 63(4), pp.: 651S-656S, 1996 http://www.mednat.org/alimentazione/DAY.pdf), effectively rendering cancer NO LONGER curable in the way it is described in this study and according to the therapy of Gerson and many other authors.

FOURTH POINT OF THE THREAT OF GMOs:

diseases induced by transgenic viruses

The transgenic viruses with which genetically modified organisms (GMO) are created today enter into the DNA of the plant, modifying it in a way which is unknown to us.

These viruses are supposed to lie dormant but there is nothing to prevent them from reactivating themselves in a manner similar to the well known RNA tumour viruses (Oncornaviruses) or DNA tumour viruses (both inducers of leukaemias, sarcomas, carcinomas, gliomas...).

These viruses can also be the carriers of new diseases or diseases similar to syndromes whose dynamics are unfortunately very little understood (AIDS, Mad Cow Disease, etc…), and whose origin is still very vague (perhaps transgenic viruses?).

There is ample bibliography on viruses used in GMOs.
(SEE chapter 8 of the E-Book *"Thousand Plants against Cancer without Chemo "* http://www.thenhf.com/about_us.html; http://www.mednat.org/cancro/nacci_english.pdf):

It is well known that CaMV (*Cauliflower Mosaic Virus*) is used today in the replication of retroviruses introduced in the plants by GMO multinationals in order to modify their DNA (GMO plants).
This virus is active both in angiosperms and gymnosperms, i.e. in all plants.

This virus is used by GMO multinationals to modify genetically plants because it contains particular *promoters*, which are "motors" which drive genetic activation.

CaMV has two *promoters*: **19S and 35S.**
Of these two the **35S** promoter is most frequently used by multinationals.

The **35S promoter** is a DNA sequence of about 400 bases (units of genetic sequence of four different molecules: Adenine, Cytosine, Guanine or Thymine).

The CaMV promoter is preferred above other potential promoters used by GMO multinationals to modify plants because it is not influenced by the different conditions of vegetable cell tissue types and thus it can act.

Unfortunately it is able to penetrate and replicate in animal cells, including mammalian and human cells, as demonstrated by Vlasak in a study published in 2003. Vlasak J.: *Comparison of hCMV immediate early and CaMV 35S promoters in both plant and human cells*, Journal of Biotechnology No. 103, pages: 197-202, 2003)
http://www.dirittolibertadicura.org/images/OGM/vlasak.pdf
http://www.mednat.org/alimentazione/vlasak.pdf

These artificial pararetroviruses are created and used by multinationals to modify the DNA of plants. They are similar to *retroviruses* already present in nature, such as:HIV retrovirus of AIDS, HUMAN LEUKAEMIA retrovirus, Hepatitis B retrovirus
(Bonneville: *Retrovirus, Viroids and RNA recombination*, RNA Genetics, Vol. 11, pages: 23-42, 1988).
http://www.mednat.org/alimentazione/bonneville.pdf

According to scientific literature, CaMV is closely related to the virus of human hepatitis B and AIDS.

(Doolitte: Quart. Rev. Biol. 64, 2, 1989); (Xiong and Eickbush, *Origin and evolution of retroelements based upon their riverse transcriptase sequences* EMBO Journal 9, pages 3353, 1990)
(Doolitte: Quart.Rev.Biol. 64, 2, 1989) ; (Xiong and Eickbush, *Origin and evolution of retroelements based upon their riverse transcriptase sequences* EMBO Journal 9, pp. 3353, 1990
http://www.mednat.org/alimentazione/EMBO%20JOURNAL%201990.pdf)

Using CaMV in plants eaten by humans and/or animals can be very dangerous and hazardous because of the GENETIC RECOMBINATION of DNA chromosomes in the plants. This can lead to the recombination of the 35S promoter itself with the DNA of the person or animal that has eaten fruit, vegetables, pasta or GMO soya containing these pararetroviruses.

Through GENETIC RECOMBINATION, the viruses can also include cell genes present in the animal that has previously eaten that GMO plant. These can reach the man who has eaten that animal causing totally unknown genetic effects.

One the most likely consequences is the outbreak of **cancers** and **leukaemias**.

Genetic modifications to progeny can be another consequence.
In these cases, the DNA system would be disrupted as happens in the case of exposure to ionizing radiations.

However, differently from ionizing radiations, there would be also the risk of new infectious diseases.

NEW INFECTIOUS DISEASES: it has been demonstrated that the CaMV genes incorporated into the plant (canola) chromosomes recombine with infecting viruses to produce new, much more virulent diseases.

This experimental model concerning the safety of transgenic plants containing viral genes such as CaMV was presented by GAL in a study published in 1992:

Gal S.: *Agroinfection of transgenic plants leads to viable Cauliflower Mosaic Virus by intermolecular recombination*, Virology, No.187, pages: 525-533, 1992 http://www.dirittolibertadicura.org/images/OGM/gal.pdf
http://www.mednat.org/alimentazione/Gal.pdf

About recombination between CaMV and viruses involving the promoter see also Vaden's paper published in 1990:

Ray Vaden: *Recombination sites in Cauliflower Mosaic Virus DNAs; implications for Mechanisms of recombination*, Virology, No.177, pages: 717-726, 1990 http://www.dirittolibertadicura.org/images/OGM/ray%20vaden%20.pdf
http://www.mednat.org/alimentazione/Ray%20Vaden%20.pdf

Other scientific studies demonstrated that recombination of these retroviruses may take place either between DNA and DNA or RNA and RNA, thus creating new viral infections.
(Mol.Plant-Microbe Interactions 5, 48, 1992).

Similar related experiments suggest that altered plants may cause deadly diseases, as shown by Greene in 1994:
Greene A.E.: *Recombination between viral RNA and transgenic plant transcripts*, Science, Vol. 263, 11 march 1994
http://www.dirittolibertadicura.org/images/OGM/greene.pdf
http://www.mednat.org/alimentazione/Greene.pdf

Very dangerous viral DNA chains produced by normal RNA viruses are frequently propagated in the vegetable environment (GMO plants) using the CaMV 35S promoter to drive the production of RNA viruses which otherwise could not propagate in the plant DNA. From here they could pass to the animal DNA (man included) or in the bacteria or viruses DNA.

Boyer J.C.: *Infectious transcripts and cDNA clones of RNA Viruses*, Virology, No. 198, pages: 415-426, 1994
http://www.dirittolibertadicura.org/images/OGM/boyer.pdf; http://www.mednat.org/alimentazione/Boyer.pdf

In conclusion: promoters recombine with the infecting viruses to produce virulent new diseases.

CaMV viruses and its promoters **19S** and **35S** may incorporate genes from the host plant or animal or bacterium DNA – or even from a DNA virus – creating virulent new diseases.

In case of a DNA virus, CaMV can recombine with insect DNA viruses, thus propagating in the insect cells.
(Zuidema D.: J.Gen.Vir. 71, pages 312, 1990).
http://www.mednat.org/alimentazione/zuidema.pdf

As a consequence, it is likely that by eating tomatoes genetically modified with CaMV (recombined for example with hepatitis B viruses) a large number of people could create a SUPERVIRUS able to propagate in plants commonly used as food and in insects – such as mosquitoes – and then reach the man.
Allison R.F.: *Recombination in plants expressing viral transgenes*, Seminars in Virology, Vol. 7, pages: 417-422, 1996
http://www.dirittolibertadicura.org/images/OGM/allison.pdf; http://www.mednat.org/alimentazione/Allison.pdf

Wintermantel W.M.: *Isolation of recombinant viruses between Culiflower Mosaic Virus and a viral gene in transgenic plants under conditions of moderate selection pressure*, Virology, No. 223, pages: 156-164, 1996
http://www.dirittolibertadicura.org/images/OGM/wintermantel.pdf
http://www.mednat.org/alimentazione/Wintermantel.pdf

Latham J.: *GM Gene Flow (B): Horizontal gene transfer of viral inserts from GM plants to viruses*, Technical paper, February 2004

J.T.Dessens: *Cauliflower mosaic virus 35S promoter-controlled DNA copies of cowpea mosaic virus RNAs are infectious on plants*, Journal of General Virology, No.74, pages: 889-892, 1993
http://www.mednat.org/alimentazione/dessens.pdf

Mae Wan Ho: *CaMV 35S Promoter fragmentation hotspot confirmed, and it is active in animals*, Microbial Ecology in Health and Disease 2000, 12, pp: 189
http://www.mednat.org/alimentazione/MaeWanHo1.pdf

Mae Wan Ho: *Cauliflower Mosaic Viral Promoter – a recipe for disaster*, Microbial Ecology in Health and Disease 1999, 11, pp: 194-197
http://www.mednat.org/alimentazione/MaeWanHo2.pdf

There are some natural retroviruses which are able to cause leukaemia, lymphomas, sarcomas or breast cancer in animals and human beings (from chapter 8 of the book "*Thousand Plants against cancer without Chemo*".)

They are very dangerous and a casual recombination with the **promoter 35S** of *Cauliflower Mosaic Virus* is very likely to happen once GMO plants are introduced in the animal or/and human diet.

Search for GMO retroviruses in human tumours

It is the author's view that research should be conducted in patients suffering from tumour, to check any possible hybridation between the polysomal RNA (of suspected GMO viral origin, probably related to the modified Oncornavirus used in GMO plants to produce food) obtained from human tumours of patients who have eaten GMO food, and the DNA created in laboratory with reverse transcriptase from Oncornaviruses which have been modified to produce GMOs.

Note: all this, however, requires access to restricted, maybe patented information on retrovirus models used by GMO multinationals and modifications they made before putting GMO plants on the market.

It is much more difficult to find the specific tumour DNA viruses used by GMO multinationals to modify the DNA of commonly eaten plants, since these DNA viruses (Poxviruses, Herpesviruses, Papovaviruses, Adenoviruses) – differently from GMO Oncornaviruses – cannot be found in the serum or in the urine of patients.

It has nevertheless been demonstrated that a very specific and small part of messenger-RNA remains in the cytoplasm of mammalian tumour cells infected and modified by these tumour DNA viruses. This part of messenger-RNA does not exist in normal cells nor in tumour cells infected with other DNA viruses.

It is necessary, then, to verify the possible hybridation between this RNA-messenger – of suspected GMO viral origin, i.e. produced by a DNA virus modified to produce GMO foods – obtained from the cytoplasm of tumour cells in patients who have eaten GMO food, and the DNA created in laboratory with the same DNA viruses modified to produce GMOs.

Also in this case, access to restricted, maybe patented information on retrovirus models used by GMO multinationals and modifications they made before putting GMO plants on the market is needed.

If the hybridation takes place, thus creating a radioactive (^{32}P) hybrid DNA, it will show the presence of viral DNA sequences in the modified cells (Green, Perspect Biol. Med., 1978).

Secret information

Nowadays multinationals are spreading “classified” GMOs all over the world, whose modification is not known as is protected by industrial secrecy.

Not having this information, no analyses and controls are possible.

This is a matter of grave concern as these GMOs are produced in the USA and in other countries where they are not kept separate from GMO-free products and so the exportations can be contaminated.

What should be done?

First of all, it is necessary to ask the Istituto Superiore di Sanità (*Italian Health Institute*), the Istituto Zooprofilattico (*Animal Disease Control Centre*) in Rome, the Ministry of Agriculture and the European Commission for information and launch a parliament enquiry.

The European Commission is favouring the authorization of GMO foods in Europe, in order to avoid a complete block of importations from the USA.

It amounts to say since GMOs are in any case imported secretly, it is better to accept them in Europe so that maybe they can be controlled…

But a stronger political action in virtue of the precaution principle of Maastricht Treat is very likely to prevent GMOs from being licensed and any industrial “secrets” about genetic manipulations from being hidden.

In fact this “secret” information could regard not only the imported products but also the seeds…thus causing an irreversible and indiscriminate contamination of the European agriculture.

FIFTH POINT OF THE THREAT OF GMOs:

intoxication by poisons synthesized from transgenic plants

Chronic poisoning of foods caused by the toxic substances in insecticides which are used on plants to make them resistant to parasites such as *Bacillus touringiensis*, with a likely consequent increase in cancers, miscarriages, genetic mutations in descendants, Acquired Immunodeficiency Syndromes, degenerative diseases and diseases caused by toxic substances, etc.

For example, it has been demonstrated that GMO maize causes lesions in the oral cavity of sheep and ruminants.

A study published in 2003 showed that eating GMO maize damages the oral cavity wall and is associated with inexplicable death in experiment animals: sheep and ruminants.

Duggan et al, *Fate of genetically modified maize DNA in the oral cavity and rumen of sheep*, British Journal of Nutrition, 89 (2): 159-166, 2003 http://www.mednat.org/alimentazione/Duggan_GMO_Mais.pdf

SIXTH POINT OF THE THREAT OF GMOs:

danger of worldwide famine due to "TERMINATOR" technology

Passing to natural "indigenous" species of wheat, rice, sweet corn, potatoes, legumes, because vegetables themselves cannot reproduce themselves the normal way due to "TERMINATOR" technology; this is caused by cross pollination, and it also causes irreversibly the loss of natural vegetables that are nowadays used as food by humans, as these will be polluted by the transgenic genes coming from transgenically cultivated areas (GMO) where "TERMINATOR" technology is used.

Therefore there is a potential menace of global famine in the future, something that cannot be controlled, as the world will not have sufficient quantities of wheat, rice, sweet corn, legumes, the way they are in nature, or in any case not of the "NON-TERMINATOR" kind.

SEVENTH POINT OF THE THREAT OF GMOs:

transgenic pollution of natural plants

The transmission to “indigenous” natural species of artificial toxic substances such as *Bacillus touringiensis* or others by means of cross pollination, with a potential threat also to the plants and herbs used today in herbal remedies, because the latter will also become polluted by the transgenic genes coming from the agricultural areas devoted to transgenic cultivation (GMO).

EIGHTH POINT OF THE THREAT OF GMOs:

the irreversible disappearance of the genetic inheritance of natural plants

The gradual and irreversible disappearance of biological diversity, that is of the normal, natural flora. This phenomenon is already taking place in the USA as a consequence of modern cultivation practises, which prefer transgenic monoculture (GMO) to differentiated cultivation techniques. Transgenic cultivation will pose a serious threat to those areas which are rich in biodiversity (natural genomes): the transgenic flow which will go from modified plants to natural plants will be inevitable when the numerical ratio between areas cultivated with artificial plants exceeds the areas of natural plants, thus causing the irreversible loss of a great part of the natural genetic patrimony of all the plants existing in the world: at present there are about 442,000 species already classified out of an estimated total of 600,000 – 800,000 species.

In short:
Numerous plants have already disappeared during the last few years because farmers have abandoned natural plants to adopt artificial plants, that is, genetically modified plants, because they are uniform in their genome and they yield high production (but are poor in vitamins). They are intrinsically sick (because they are incapable of surviving without pesticides), they are made sterile for economic reasons, and finally they are genetically manipulated to resist to insects and other animals because they themselves are capable of producing poisons, i.e. toxic substances which are eaten by farmyard animals and so passed on to man.

Even in the forests genetic variety is threatened today by the loss of habitat, not only caused by incorrect deforestation practices, but also by the contamination of the genetic patrimony (which has adapted to local situations) by hybrids created by large seed companies which produce GMOs.

Transgenic products *per se* therefore aim at underlining the unilaterality of monocultures, which lead to the disappearance of the natural genetic inheritance existing from hundreds of millions of years.
In a not so distant future, all the varieties of plants – used as food or not – which are typical of a region or country will not exist any more.

Environmental genetic contamination induced by hybrids created by large companies producing GMO seeds – which inevitably will cross with varieties present in nature – will cause the irreversible loss of the natural genetic inheritance and of all particular features gained by the plant genome during the long processes of adaptation to the different environmental situations.

Even natural environments such as forests are seriously threatened by this loss. Substantially the very foundations of the human Biochemistry – the human DNA – are threatened today by the reckless use of these artificial plants, without any possibilities of regaining a genetic inheritance of more than 440,000 classified species out of 600,000-800,00 estimated species. Most of these will disappear within few hundred years because of genetic damage caused by man.

Agro-alimentary Multinationals (GMO, Biotech)

For some years we have been witnessing the birth of multinationals which define themselves as “science of life multinationals”, which are active in the pharmaceutical market, agri-business (seeds and pesticides) and the veterinary business.

They are, in themselves, different sectors, but they are linked by the use of biotechnology (GMO) to produce their products.

These multinationals are using unscrupulous and aggressive economic strategies: since the beginning of the 90s they have been working towards buying companies, even large companies.

One of these, *Monsanto*, within the space of a few years has acquired *Asgrov*, *Agracetus*, *De Calb*, and *Cargill* investing 10 billion euros.

Another big group, *Dupont*, has acquired *Pioneer*, investing about 8 billion Euros.

These investments do not seem to have any economic logic: they pay much more for the companies than their actual value, as if they were trying to eliminate a potential competitor rather than obtain a short term economic result.

Alongside the acquisitions we also have the mergers: *Ciba Geigy* and *Sandoz* created *Novartis* (with a turnover of 20 billion euros in the year 1997-98).

From the merger of the French company *Rhone Poulenc* and the German company *Hoechst* we have the new company *Aventis*.

Still within this context, *Syngenta*, the first worldwide agrochemical group was founded in October 2000. It is the result of a merger between the Swiss company *Novartis* (a company well-known for producing medicines for chemotherapy) and the Anglo-Swedish company *Astra-Zeneca* (a company also well-known for producing medicines for chemotherapy), and will have a turnover of about 8 billion euros. *Monsanto*, after its merger with *Pharmacia & Upjohn*, a large pharmaceutical industry (this too is well-known as a producer of medicines for chemotherapy) now concerns itself only with agriculture, with a turnover which in 2000 reached 5.5 billion dollars.

The current situation stands thus: a few multinationals (*Syngenta*, *Monsanto*, *Novartis*, *Dupont* and *Aventis*) have 25-30% of the seed market (but more than 90% of the transgenic seed market) and behind these big groups there is a plethora of smaller companies which makes one think that this trend can only get stronger in the future, since medium size companies cannot compete with these big groups. The objective seems clear: to convert the traditional seed market into a biotechnical one, i.e. GMO. But the worrying fact is that we find the same names in the field of pesticides, where the same companies control 55% of the market, and in the pharmaceutical field where the *same* companies play a dominant role.

Chemical-pharmaceutical Multinationals (Big-Farma)

The history of the chemical-pharmaceutical multinationals is incredible because of their rapid development, and today they are connected to the agro-alimentary sector in an extremely dangerous way.

The chemical-pharmaceutical industry started in Europe in the second half of the nineteenth century: in many cases they were dyeing industries which, moving away from basic chemistry, moved towards the new and more promising fields of specialized chemistry in key economic fields.

Before the Second World War, a powerful international pharmaceutical cartel developed in Germany. It controlled global pharmaceutical companies and chemical plants and was active in 93 countries, representing a powerful economic and political force in each of them. It was known as I.G. Farben.

It would become the main supporter of Hitler's chemical production during the years of war, offering products such as high explosives, toxic gases and the ignominious *Zyklon-B*, the lethal substance used by Nazis in the death camps.

In 1928, however, before the outbreak of war, the American monopolist manufacturer John D. Rockfeller had merged his international empire in America with I.G. Farben, creating the largest and most powerful pharmaceutical cartel ever seen.

The Military Nuremberg Tribunal established in 1946/47 that the Second World War would not have taken place without this petrochemical cartel called *I.G. Farben*.

As a consequence of the sentence passed by the Tribunal, *I.G. Farben* was divided into *Bayern*, *BASF* and *Hoechst*, and some executives were condemned for initiating a war against international law, genocide, the exploitation and looting of private and public properties in foreign countries and other crimes against humanity.

The events leading to the war and linked to this powerful cartel are reported in Joseph Borkin's *The Crime and Punishment of IG Farben*.
After the war, Germany, with its three large companies *Bayer*, *Hoechst* and *BASF* (which encouraged the rise of Hitler's national socialism), played an important role. So did Switzerland, which, in Basle, saw the founding and the development of companies *Ciba*, *Sandoz* and *Roche* – all of which later spread throughout the world.

But it was in the 1990s that the really big mergers started: in 1989, in the United Kingdom two big pharmaceutical companies merged to form *Smith Kline-Beecham*: later they merged with *American Home* (with an annual turnover of about 25 billion euros).

In 1993 the Swedish company *Pharmacia* bought the Italian company *Farmitalia-Carlo Erba*, then it merged with the American company *Upjohn* in 1995, and then again with *Monsanto*, before being bought by *Pfizer* which had previously bought the American company *Parke Davis*.

In 1995 there was the *Glaxo-Wellcome* merger (with an annual turnover of about 14 billion euros).

In 1998 *Smith-Kline-Beecham* (with an annual turnover of 62 billion euros) merged with *Glaxo-Wellcome* (with an annual turnover of about 90 billion euros) to make an annual turnover of more than 150 billion euros.

In the meantime the English company *Imperial Chemical Industries* merged with the Swedish company *Astra*, forming the company *Astra-Zeneca*.

These mergers have continued among the same companies operating in the same field: *Sandoz* and *Ciba Geigy* (Novartis, 1996), *Astra-Zeneca* (1998).

These huge companies have not been founded for the good of patients but out of the need to create monopolies and hence ever bigger profits.

Latest data:

June 2002: *Aventis* was taken over by *Bayer*. This allowed *Bayer* to enter the sector of GMO seeds. The merger brought to the foundation of *Bayer CropScience*, which is composed of three main commercial groups: *Crop Protection*, *Bio Science* and *Environmental Science*.

June 2005: *Sementis* was taken over by *Monsanto*.

The perverse alliance

One can thus affirm that the two cardinal points of the economy and the life of the individual, agriculture and pharmaceuticals, are substantially under the control of a few multinational groups.

CONCLUSIONS

We are faced with a choice: accepting biochemical modifications of plants leading to immense damage to human health or taking a stand together with the democratic institutions of our society against GMO and chemo-pharmaceutical multinationals, which in their perverse alliance are responsible for the reckless invasion of GMOs all over the world.

The solution is simple but there are only four months left to prevent GMOs from causing an IRREVERSIBLE event, as Prof Altieri rightly defined it:

1) Total ban on GMO cultivation
2) Total ban on experiments in the fields (risk of horizontal genetic transfer)
3) Promotion of organic farming (it produces a higher yield)
4) Defence of bio-diversity, in particular with the re-establishment of the freedom to exchange seeds.

If this does not take place, the world will need to consider the possibility of a SECOND NUREMBERG TRIALS, this time not with 4 allied judges – American, English, French and Russian – but 4 German judges instead…

Thank you