

Clarification on the Prohibition of Genetically Modified Crops

Sustainable Agriculture Network

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The Sustainable Agriculture Network (SAN) is a coalition of independent non-profit conservation organizations that promote the social and environmental sustainability of agricultural activities by developing standards. A Certification Body certifies farms that comply with SAN's standards. Each inspection body - authorized by a Certification Body - provides audit services for farmers and agricultural companies in their respective countries. SAN members also offer their knowledge and experience in working towards the development of the Sustainable Agriculture Standard. Rainforest Alliance currently holds the Secretariat for the Sustainable Agriculture Network and coordinates the development and review of standards and related policies for the SAN. Rainforest Alliance also administers the *Rainforest Alliance Certified™* trademark.

The Sustainable Agriculture Standard prohibits the introduction, cultivation or processing of transgenic (genetically modified) crops on *Rainforest Alliance Certified™* farms.

Therefore, transgenic (genetically modified) crops must not be used on Rainforest Alliance Certified™ farms. This rule covers all possible crops within the farm limits.

This position statement outlines the opinion of SAN's International Standards Committee about the use of transgenic crops on farms that implement SAN's Sustainable Agriculture Standard, in order to avoid any misunderstanding of its critical criterion 8.6. It summarizes the current situation of genetically modified (GM) crops, its risks and possible risk management, as well as interprets the current SAN criterion about GM crops:

Current Situation of Genetically Modified Crops

After 12 years of commercialization the majority of GM crops grown commercially remain limited to four crops, a few countries and two traits. 95% of the world's GM crops surface is made up of soya, maize and cotton. The rest is canola (oilseed rape). Over 90% of the area planted to GM crops is found in five countries in North and South America: the United States, Canada, Argentina, Brazil and Paraguay. The United States and Argentina grow more than 70% of all GM crops commercialized in the world.

Between 1995 and 2005, the total surface area of land cultivated with GM crops had increased from 17,000 km² to 900,000 km². Although most GM crops are grown in North America, in recent years there has been rapid growth in the area sown in developing countries. For instance in 2005 the largest increase in crop area planted to GM crops (soybeans) was in Brazil: 94,000 km² in 2005 versus 50,000 km² in 2004. There has also been rapid and continuing expansion of GM cotton varieties in India since 2002. Cotton also is a major source of vegetable cooking oil and animal feed.

Almost all commercial GM crops so far have one or both of two traits: herbicide-tolerance or insect-resistance. Herbicide tolerant versions of soya, maize, cotton and canola represent 81% of GM crops grown worldwide.

Currently, the following GM crops exist:

Food	Properties of the Genetically Modified Variety	Specific Genetic Modification
Soybeans	Resistant to herbicides	Herbicide resistant gene taken from bacteria and inserted into soy bean
Corn	Resistance to certain pesticides (tolerating crop spray - this way a farmer can use amounts of pesticides which would normally kill the plant, without harming it)	New gene added and transferred into plant genome

Food	Properties of the Genetically Modified Variety	Specific Genetic Modification
Cotton	Pest-resistant cotton	New gene added and transferred into plant genome
Tomatoes	Variety that does not rot (degrade) as fast - the genetically modified tomatoes do not produce a substance that normally causes tomatoes to rot.	First genetically modified tomatoes contained genes that made them resistant to antibiotics. After concern from doctors and the medical community, tomatoes are now genetically modified in an alternative way
Rapeseed plants	Resistance to certain pesticides (tolerating crop spray)	New gene added and transferred into plant genome
Sugar cane	Resistance to certain pesticides (tolerating crop spray)	New gene added and transferred into plant genome
Sweet corn	Produces its own insecticide (a toxin to insects, so insect attacks are less likely)	Insect-killing gene added to the plant. The gene comes from the bacteria <i>Bacillus thuringiensis</i>
Rice	Genetically modified to contain high amounts of Vitamin A (beta-carotene)	Three new genes implanted: two from daffodils and the third from a bacterium

Possible Risks of GM crops

Evidence has emerged to raise safety concerns about GM crops that may result in irreversible damage to health and the environment. Mixing of non-GM with GM crops can occur already at the agricultural stage. Two possible causes exist for the presence of GM crops in the harvest of non-GM plantations: 1.) the seed has been contaminated already or, 2.) the plants in the non-GM plot have received pollen from neighboring GM crop farms. Transgenic pollen, wind-blown and deposited elsewhere, or fallen directly to the ground, is a major source of transgenic contamination.

For example, in the United States, glyphosate-tolerant weeds are plaguing GM cotton and soya fields, and atrazine, one of the most toxic herbicides, has had to be used with glufosinate-tolerant GM maize. Transgenic contamination has also occurred in maize landraces growing in remote regions in Mexico despite an official moratorium that has been in place since 1998. High levels of contamination have since been found in Canada. In a systematic investigation on GM food, 'growth factor-like' effects were found in the stomach and small intestine of young rats that were not fully accounted for by the transgene product, and were hence attributable to the transgenic process or the transgenic construct, and may hence be general to all GM food. Bt proteins, incorporated into 25% of all transgenic crops worldwide, have been found harmful to a range of non-target insects. Some of them are also potent immunogens and allergens. The possibility cannot be excluded that feeding GM products such as maize to animals also carries risks, not just for the animals but also for human beings consuming the animal products (Independent Science Panel).

Risk Management

Research has demonstrated that coexistence of GM and non-GM crops can be managed by several agricultural measures, such as isolation distances or biological containment strategies. To limit mixing in the first stages of production, researchers and politicians are developing codes of good agricultural practice for GM crops. In addition to the thorough cleaning of machinery, recommended measures include the establishment of "isolation distances" and "pollen barriers". Isolation distances are the minimum distances required between GM and non-GM plots for most of the GM pollen to fall to the ground before reaching non-GM plants. Pollen barriers actively catch pollen, and can consist of hedges and trees which physically hinder pollen movement. Pollen barriers consisting of conventional crops of

the same species as the GM crop have an advantage, as the conventional plants not only physically limit the GM pollen flow, but also produce competitive, conventional pollen. Additionally, farms can apply propagation control mechanisms, such as maps and planting records that allow the farm to identify the areas where different propagation materials are used. Farms also can determine if transgenic materials are used on surrounding farms or communities.

SAN Criterion on Prohibition of GM Crops - and its Interpretation

The following section provides further guidance with the objective to interpret the criterion of SAN's Sustainable Agriculture Standard about transgenic crops correctly. This section intends to eliminate doubts about what it means to take appropriate measures to avoid contamination by GM crops, or to remediate any contamination.

Criterion 8.6 of the Sustainable Agriculture Standard is a critical criterion. *A farm must completely comply with a critical criterion in order for the farm to be certified or maintain certification. Any farm not complying with a critical criterion will not be certified, or certification will be canceled, even if all other certification requirements have been met.* The criterion states:

- 8.6 Critical Criterion. The farm must take steps to avoid introducing, cultivating or processing transgenic crops. When nearby transgenic materials are accidentally introduced into a certified farm's crop, the farm must develop and execute a plan to isolate the crops and provide follow-up in order to comply with the requirements of this criterion.**

Interpretation

- Transgenic (genetically modified) crops are not used on *Rainforest Alliance Certified™* farms. This rule covers all possible crops within the farm limits.
- The farm demonstrates that it verifies that seeds and any other genetic material used for crop propagation are free of transgenic materials.
- The farm has certificates showing the seeds' origins, invoices for the purchase of propagation materials and other documents or receipts providing evidence of the materials' origin.
- When there are transgenic materials on surrounding farms, the *Rainforest Alliance Certified™* farm takes steps to prevent accidental introduction of these materials into its crops.
- Buffer zones with several rows of non-GM crops isolate the plantation from GM crop contamination depending on specific conditions. The product harvested in these buffer zones is not commercialized as *Rainforest Alliance Certified™* product.

SAN's Sustainable Agriculture Standard will be subject to a complete review in 2012 during a public consultation process that complies with the ISEAL Alliance Code of Good Practice for Setting Social and Environmental Standards (www.isealalliance.org).