

Brazilian GMO-Free Areas Experiment and the Release of RR Soybean

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Abstract

This article aims to examine how the release the commercialization of the Roundup Ready soybeans in Brazil has been done and the resistance of the organized society to this fact. For that, the Brazilian legislation on Biosafety is considered, as the applications process for release and commercialization of GM soy by Monsanto to the National Biosafety Technical Commission (CTNBio). It is also examined the lawsuits made by the consumers organizations to prevent such release and the main Court decisions on this case. In 1998, Monsanto asked CTNBio commercial release of herbicide tolerant soybean Roundup Ready, and responding to this request, the Brazilian Institute for Consumer Protection (IDEC), Greenpeace and the Brazilian Institute of Environment and Natural Resources (IBAMA), intend action to prevent the commercialization and prohibit any activity related to transgenic soybeans. The Brazilian Courts suspended application of Monsanto but, in December 1998, CTNBio accepts it concluding that there was no evidence of risk to human, environmental or animal health. In August 1999, the Judiciary again suspended activities related to the soybean and several states of the Federation attempted to become "GMO free areas", editing their own laws. However, farmers in southern Brazil continued to grow transgenic soy pirated or illegally imported. In 2000 the Brazilian Federal Government stands for the production of RR Soybean and, in January 2002, decides to accelerate the commercial release of GMOs. Laws published in 2003 and 2004 allowed commercialization of RR Soybean, disregarding the precaution principle adopted by the Brazilian Federal Constitution. In conclusion it will be verified that, although organized society and various states of the Federation tried to establish a prohibition on the use of GMO or create some GMOs free area, the pressure from farmers and industry and the lack of effective supervision of the Federal Government, has made the RR soybean been released and spread in all country.

The issue of GMOs has been the subject of many analyses and is highly controversial. The debate has been extended into society at large. This uncertainty, often coupled with the fear of the “new”, has led to a number of agreements, treaties and legal instruments on genetically modified organisms. Some communities and governments have elected to apply the precautionary principle: a limit of action that gives the State and society a general duty of care in the commercial release and development of practices relating to the environment, imposing preventive measures in order to avoid irreversible damage or damage that is difficult to repair.

The precautionary measures may be direct or indirect. The direct measures require a performance as its principle or prohibiting other conduct inconsistent with it, and the indirect measures create legal and political incentives favoring the observation of the precautionary principle. Although the precautionary principle is adopted by Brazil, an effective law enforcement is lacking, and the case of the release of Roundup Ready soybeans is a practical example of the gap between the theory of law and daily practices.

It is known that transgenic soybeans were first harvested in the USA, in 1996. At this time, many GM soybean seeds also arrived in Brazil, smuggled from Paraguay and Argentina. The lack of proper monitoring by the federal government resulted in the spread of GM soybean planting in the south and central western regions of Brazil, contaminating several areas of conventional soybeans. It is in this context that the Brazilian government agencies released, on a commercial scale, the production of RR soybeans, and organizations from Brazilian society attempted to prevent this release. Some Brazilian states went so far as to enact state or regional laws to prevent the movement of GM crops in their territories.

Thus, this paper aims to analyze the Brazilian experience in the commercial release of RR soybeans, starting with the verification of Monsanto’s application for release at CTNBio (National Biosafety Technical Commission), passing through the lawsuits and the suspension of trade liberalization, the Provisional Executive Orders that allowed the marketing of harvests the 2003 and 2004 harvests (in breach of the Biosafety Law and the precautionary principle) and, finally, checking the regional laws prohibiting the movement of GMO and the closure of the issue with the New Brazilian Biosafety Law (Act No. 11105/2005).

The Brazilian biosafety law and the procedure to release GMOs

The first Brazilian Biosafety Law was passed in 1995 (Law No. 8974/95). In general, it establishes that the interests protected by this are, without hierarchy, the life and health of humans, animals, plants and the environment. However, animals, plants and men have different treatment when it comes to banning genetic manipulation activities. Conceptualized GMOs as any crop that has its genetic load modified by any technique of genetic engineering prohibits the use of GMO and the release or disposal of GMO in disagreement with the rules established by CTNBio and with what are determined by this Law.

Sanctioned in March, 2005, the New Biosafety Law establishes norms and inspection mechanisms for any activity involving genetically modified organisms and their derivatives. These norms should be strictly observed during the development, import, use and commercialization of GMOs and their entry into the country under the responsibility of the Ministry for Science and Technology, at all times respecting the precautionary principle mentioned above. It must be stated here that the production of GM grains in Brazil comes under the terms of this Law.

In Brazil, the Biosafety Law placed responsibility for the technical analysis of GMOs on CTNBio (National Technical Biosafety Committee). This is a panel of 27 specialists, all of whom have a Doctorate Degree, from renowned institutions in the fields of human and animal health, the environment, consumer rights and family agriculture, among other fields, and representatives from nine ministries.

Law 11105/05 made CTNBio exclusively responsible for evaluating the safety of GMOs, and all other inspection agencies had to abide by this decision. The other agencies are Anvisa (National Agency of Sanitary Inspection), the Ministry of Agriculture and IBAMA (Brazilian Institute for the Environment and Renewable Natural Resources). Therefore, it is not within the sphere of other governmental agencies to evaluate the biosafety of GMOs, with that responsibility lying exclusively with CTNBio. Following evaluation by CTNBio, in cases of commercial liberation, the approved transgenic is still subject to analysis by the CNBS (National Biosafety Council), made up of 11 Ministers, who decide on the economic and social aspects concerning the liberation of GMO.

The Biosafety Law also makes no specific reference to the matter of traceability in the food chain. However, it does state in Article 40 that food and food ingredients for human or animal consumption must contain information to this end on their labels. Information about the transgenic origin of grains is included in this legal norm, since these grains are ingredients of food for human consumption.

At the same time, it is stated in Article 19 of Decree 5591, of November, 2005, which regulates the clauses of the Biosafety Law, that food and food ingredients for human or animal consumption that contain or are produced from GMO and their derivatives must have this information added to their labels, within the guidelines of this Decree. Although these clauses do not directly or clearly refer to the certification of agricultural products for human consumption, they do leave open a legislative option for traceability and the importance of information for the consumer concerning the origin of food, since it is through this information on the label that it is possible to know whether it is transgenic in origin or not. It is possible to discover the productive chain the food went through prior to purchase. Therefore, it is important to note that labeling does not lie within the scope of CTNBio, the agency responsible for regulating and liberating GMOs in Brazil. It comes under the Consumer Protection Law, since labeling is the main communication channel with the consumer.

The Biosafety Law was regulated by Decree 5591 in November, 2005. The aim of this decree was to establish security norms and inspection mechanisms on the construction, cultivation, production, handling, transport, transfer, import, export, storage, research, commercialization, consumption, release into the environment and disposal of GMOs and their derivatives.

To strengthen the regulations of Law 11105/2005, there are also directives in the Decree about encouraging scientific advances in the fields of biosafety and biotechnology, protecting human, animal and vegetable life and observing the precautionary principle when it comes to protecting the environment. According to the rules of this Decree, activities and projects involving GMOs and their derivatives concerning teaching how to manipulate living organisms, scientific research, technological development and industrial production in Brazil are restricted to public and private entities that are obliged to obey the terms of the Biosafety Law, the Decree and any amendments or complementary norms. They will also be held responsible for any eventual consequences or effects resulting from non-compliance with the law. It is important to point out that those interested in becoming involved in any activity referred to in the terms of the law or decree, including the commercialization of GMOs in Brazil, will have to request authorization from CTNBio when the activity falls within the scope of the Biosafety Law.

According to the Ministry of Science and Technology, the CTNBio is a multidisciplinary collegiate body, established by Law No. 11105 of 24 March 2005, whose purpose is to provide technical support and consultative advice to the Federal Government in the formulation, updating and Implementation of National Biosafety Policy for GMOs, and in establishing standards of safety and technical advice relating to the protection of human health, living organisms and the environment, for activities involving the construction, experimentation, cultivation, manipulation, transportation, marketing, consumption, storage, release and disposal of GMOs and their derivatives”.

The commercial release of GMOs and their derivatives follows the standards of the Normative Resolution No. 05 of 12 March 2008 and the release does not require the completion of other legal obligations applicable to the case. The commitment to free trade may be suspended or revoked by CTNBio at any time if it finds adverse effects on the environment, human and animal health arising from the known results of monitoring the post-commercial release or from evidence of new scientific knowledge.

To submit a proposal for a commercial release of GMOs, the applicant must make a written request to CTNBio, dated and signed by the legal representative of the applicant and attach the following documents: a copy of the Internal Commission on Biosafety's (CIBIO) technical advice on the proposal, a statement of veracity of the information signed by legal representative; an abstract containing a summary of the proposal, information on GMOs, risk assessment to human and animal health and the environment and a plan for monitoring post-release business.

CTNBio must promote public consultations of the proposed commercial release for 30 days. Thus, relevant information will be available on the website of CTNBio and its Executive Secretariat. CTNBio may conduct a public hearing requested by one of its members or by someone demonstrably interested in the subject matter of ruling and approved by an absolute majority, ensuring the participation of civil society. After completion of the work of the public hearing, demonstrations, opinions, suggestions and documents will be available to interested parties at the Executive Secretariat of CTNBio. Following the completion of public hearings, CTNBio should include

materials that are relevant to biosafety at its meeting to discuss and consider the notes and questions received. The proposal will be evaluated by all the CTNBio Permanent Subcommittees Sector, which may require additional information or new documents from the applicant. After publication of the decision on the technical support of the proposed biosafety, commercial release of GMOs and their derivatives, CTNBio forwards a copy of the process to the organs and entities of registration and supervision for the performance of their duties. Once the 'MOs' commercial release has been approved, their monitoring is the responsibility of the applicant, with the purpose of monitoring the effects of their release on the environment, human and animal health. This should be done in strict compliance with the precautionary principle, transparency and scientific independence.

Guidelines will be the use of internationally recognized scientific methodology and the use of experimental designs for appropriate inferences to be made. The applicant will submit a monitoring plan that, once approved, should be sent by CTNBio to the bodies and entities of registration and surveillance, for information and monitoring. The applicant should submit a post-release monitoring annual report for a minimum period of five (5) years, and a final report after the end of the monitoring, which should be referred to the Authority.

The release of RR soybeans in Brazil

In Brazil, the commercial release of GMOs began in June 1998, when Monsanto applied to CTNBio for the commercial release of soybean tolerant to the herbicide Roudup Ready (Case number 01200.002402/98-60). This request included the free circulation of culture activities, registration, use, testing, transportation, storage, marketing, consumption, import and disposal of the RR soybean. The CTNBio approved the release without even asking for a presentation of prior studies on the possible environmental impact (EIA), as determined by the Biosafety Law.

Responding to this approval, the Brazilian Institute for Consumer Defense (IDEC), Greenpeace and the Brazilian Institute for the Environment and Natural Resources (IBAMA) filed a Public Civil Action to prohibit any activity related to the GM soybean. The São Paulo Federal Court, on September 16, 1998, granted the preliminary application on the grounds that:

“Indeed, the Constitution raised the environment for common use by the people and essential to healthy quality of life (art. 225). Determined, also, to instruct the government, to preserve the diversity and integrity of the country's genetic heritage and monitor the entities dedicated to research and manipulation of genetic material (art. 225, II, CF).

It also requires the prior study of environmental impact - EIA - for the installation of work or activity of potentially causing significant environmental degradation (art. 225, IV, CF).

It falls to the State to promote and encourage scientific development, technological research and training in view of the public good and progress of science and the development of the national productive system (Article 218, paragraphs 1 and 2, CF).

Faced with two seemingly antagonistic values the regency of legislation and international conventions refer to sustainable development,

understood as the compatibility between legally protected assets, and both of great importance.

These, in summary, are the constitutional provisions relevant to the case.

Therefore, we believe that the Government, which is tied to the principle of legality, cannot act in differently, given that the defendant cannot extrapolate the limits of their actions. "

Thus, understanding that CTNBio had extrapolated its duties and authorized GM soybean release without a preliminary environmental impact study, as determined by the law, the request for authorization of any activity related to the RR soybean was suspended. Nevertheless, on December 15, 1998 CTNBio, through Normative Instruction 18/98, approved Monsanto's request, concluding that there was no evidence of environmental, human or animal health risks arising from the use of GM soybean. The conclusion was based on the fact that the soybean is a domesticated species, highly dependent on humans for survival. Therefore, there was no scientific reason to predict the survival of plants from the GTS 40-3-2 line outside of agricultural environments. Moreover, in the absence of selective pressure (Glyphosate use), the expression of the inserted gene would not confer adaptive advantage. There would be no indication that the use of crops derived from the GTS 40-3-2 line would lead to significant changes in the profile and dynamics of the insect population associated to conventional soybean culture. Moreover, the research records show that after using GM soybeans and their derivatives in South, Central and North America, Europe and Asia, not a single case of allergic reactions in humans that were not previously allergic to conventional soybeans was found. CTNBio's Conclusive Technical Opinion approved Monsanto's request and determined the monitoring of RR soybean commercial production areas for a period of five years by Monsanto, for the purpose of carrying out comparative studies on the plant/species, insects and microorganisms present in the crops. Monsanto also had to make available planting areas and conduct scientific monitoring necessary for the generation of additional information which would be supervised by technical experts nominated by CTNBio. These areas, their locations and dimensions, would be established in a mutual agreement between CTNBio and Monsanto, and should be located in regions where the soil and weather conditions were favorable to soybeans.

It is important to mention that the verifying of any changes considered significant for biosafety could result in immediate suspension of commercial crops. However, how would the monitoring and "prevention" of risks work? The party interested in the procedure would conduct it and CTNBIO would only act as a process "supervisor". Again, the Brazilian Federal Government presents a public policy contrary to the principle of prevention and operates more according to economic pressures.

Because of this CTNBio decision, the Supreme Court upheld the ban as a measure of inhibitory character and determined that:

"I – the companies promoted, MONSANTO DO BRASIL LTDA and MONSOY LTDA submit a Preliminary Environmental Impact Study, as recommended by art. 225, IV, of the Federal Constitution, as a crucial condition for planting round-up ready soybeans on a commercial scale;

II - these companies are prevented from selling the seeds of genetically modified soybeans until they are regulated and defined by the competent

authority, standards of biosafety and labeling of genetically modified organisms;

III - the culture of the product is suspended on a commercial scale if technical issues raised by renowned researchers on the possible shortcomings presented by CNTBio on examining the application for deregulation of the round-up ready soybeans are not sufficiently clarified in the course of the investigation procedure;

VI - to be notified personally, the Minister of Agriculture, Science and Technology, Environment and Health, so as not to dispatch any authorization prior to the completion of judicial determinations, here included, considered suspended the authorizations that may be dispatched, in this sense;

VII - A fine of ten (10) minimum wages per day is set from the date of break of these measures to be applied to offender agents, both public and private (Law No. 7347/85, art. 11)".

In August 1999, Federal Judge Antonio Souza Prudente, granted the request for the suspension of the RR soybean related activities. Among the arguments presented, the one that was considered the most relevant was the precautionary principle. Moreover, the judge argued that for this principle to be applied effectively, it must overcome celerity, precipitation, irrational speed and the desire for quick results. "It is not easy to confront these behaviors because they corrode modern society. Taking a look at the stock market, it is possible to see how the "culture of risk" contaminates the financial sectors and governments, playing most of the time with unrelated goods. The precautionary principle does not mean prostration in fear, it does not eliminate healthy audacity, but it is equivalent to seeking a healthy environment that is essential for the continuity of life. Thus, in doubt, the solution must be chosen that immediately protects human beings and preserves the environment ("in dubio pro salute" or "in dubio pro natura")" (Cf. Lawsuit 1998.34.00.027681-8 Class 9200, invoke precautionary action. Court Decision n^o 99). Finally, he highlights that CTNBio failed in its constitutional role by accepting a simple Technical Conclusive Opinion without requiring Preliminary Environmental Impact Study. Based on these factors, the Federal Justice decided that the trade of GM soybean seeds that had already been produced should be prohibited until the standards of biosafety and labeling of GMOs was regulated and defined by the competent government authority. Therefore, he suspended the RR commercial scale release until a sufficiently clarified solution on the technical issues should be made available. This should be presented with the conclusive Environmental Impact Study. For as long as no such document existed, the planting of GM soybeans would be limited to the necessity for testing and for the Environment Impact Assessment (EIA) and Environment Impact Report (EIR), in a monitoring regime in an area of contention, demarcated and defined, with the ban on trading the fruits obtained from the mentioned tests in the different stages that integrate the making of EIA / EIR.

The controversy over the release of RR soybeans did not cease there. Farmers in the south of Brazil, in complete defiance of biosafety legislation and judgments, systematically planted GM soybeans, with seeds that were pirated and smuggled or imported illegally. Pessanha¹ reports that in April 2000 the CONAMA (Brazilian

National Environmental Council) established a working group to determine procedures and competences in the preparation of EIA-EIR for GMOs. In July, the Federal Government declared that it was in favor of the production of GMOs in the country, despite the lack of studies on risks to health and the environment. In August, the Federal Courts decided unanimously to ban the commercial planting of Monsanto's transgenic soybeans, confirming the requirement for an Environmental Impact Study. On July 18, 2001, the Federal Government set standards for the labeling of GM food, publishing Decree nº 3871. Thus, the Minister of Agriculture said that the Federal Government would allow the registration of six varieties of GM soybeans for trade and production in Brazil. In January 2002, at a meeting of the Agriculture, Environment, Science and Technology and Development Ministers and the representative of the State Office and the Federal Attorney General Office, the Federal Government decided to accelerate the commercial release of GMOs in Brazil.

This situation showing the lack of a more vigorous public policy to monitor plantation areas of RR soybeans led to the passing of Executive Provisional Order 113/03 on 26 March 2003, stating that "soybean trade of the 2003 crop was not subjected to the requirements of Law 8974/95". This measure was converted into Law 10.688/03, which authorized the sale of the GM soybean crops planted illegally until January 31, 2004. The decision was taken with the excuse that it would avoid major losses for soybean farmers and due to pressure from the industry sector. The measure prohibited the use of GM soybeans, produced as seeds, in the subsequent crop and determined that unsold stock should be burnt. In other words: the illegal GM soy planting which had not been released was legalized only because of economic power pressures, without considering the risks to the health and lives of Brazilian citizens and the environment.

Again, there is a complete lack of respect for the precautionary principle that is in several laws adopted by Brazil. The speech of Congressman Darcísio Perondi of the PMDB-RSD party on March 14, 2003 illustrates the lack of knowledge and concern of Brazilian politicians over biosafety and the focus of their actions in relation to the GM soup:

"In a short time, Mr. President, we will vote Provisional Measure No. 113. In fact we are voting whether Brazil will continue in the direction of biotechnology, the transgenics, and the science that carries the gene from one plant to another of the same species or other species to increase production, increase farmers' income, mainly medium size and small farmers. Biotechnology is a science for the service of man and a powerful weapon to defend the environment. Transgenic culture harms the land less due to fewer pesticides being used than in traditional agriculture, which is today intoxicating, poisoning the soil and, thus, polluting rivers and seas. It is a science that serves small rural properties ... And here in Brazil there are fundamentalists, I do not believe that for economic reasons, I think the pesticide industry support groups opposed to biotechnology".

This public policy, distanced from the very principles of the biosafety legislation, continued. In 2003, Executive Provisional Order 131/03, September 25, 2003 was passed, establishing rules for the trade of the 2004 soybean crop. Again the situation

of the illegality of the soybean was legalized. This was converted into Law No. 10814 of 2003. Similarly, Decree 223/04 authorizes the trade of transgenic soybeans for the 2005 season, which was converted into Law No. 11092/2005.

The issue related to the effective possibility of the cultivation of GM seeds in Brazil was ended with the new Biosafety Law of March 24, 2005, which established that CTNBio is responsible for the analysis, processing and decisions on the requirements for any activity related to GM crops in Brazil.

The attempt to establish GMO free areas in Brazil

In the midst of these discussions, Brazilian states attempted to become GMO-free areas and drafted and passed their own laws on the subject. This is the case of Rio Grande do Sul State which, by means of Decree 39314 of 1999, imposed restrictions on activities that involve GMOs, determining that any research should be reported to the state government, along with the submission of the EIA/EIR. In cases of no information, the government could take repressive measures that range from a warning to a ban on trade to seizure of the product. However, the creation of GMO-free areas was not accepted by the farmers of Rio Grande do Sul, who organized militias to prevent the entry of inspection teams on their property. These farmers, represented by the Rio Grande do Sul Agriculture Federation (Farsul), with the opposition to the PT government, began to accuse the State Government of being against scientific progress. Once more, there is the confrontation between the pressures of the market and the government's difficulties to create effective measures to ensure the implementation of legislation related to GMOs.

During this period too, some states attempted to protest against the decisions of the Federal Government and passed laws to prohibit any activity related to GMOs on their territory. The State of Paraná is an example. Through State Law No. 14162, October 27, 2003, it prohibited the cultivation, handling, import, export, industrialization, trade and financing of GMOs. This legislation was deemed unconstitutional in the Unconstitutionality Direct Action, nº 3035.3, which considered that the State of Paraná did not have the right to legislate on this subject. The Supreme Court Minister, Gilmar Mendes, reported at this vote that the law on this subject is the exclusive responsibility of the Federal Government and it is in conflict with the hierarchy, thereby challenging the rights of the Federal Government when legislating on the import and export, transit, industrialization and trade of GM products through Paraná's ports. Minister Mendes affirmed that this was a conflicting challenge of legislative competence, as the state law rules restrictions on the cultivation, handling and manufacturing of GMIO and also on financing for the crop. When voting, he said he believed that "it is not acceptable in the use of residual competence, that Paraná should legislate on the matter, dismissing the application of federal standards in general. So, first we see that the federal rule aimed to set a discipline on the general themes that were objects of the state's act. Contrary to what occurs in Paraná's law concerning the cultivation, handling and industrialization of genetically modified organisms, in Federal Law they are not subject to an absolute seal", said Gilmar Mendes. After the declaration of unconstitutionality, the state also approved Law 14.861, October 26, 2005, which regulates the right to information regarding food and food ingredients containing or produced from GMOs.

In conclusion, it is possible to say that currently there are legally in Brazil no areas that can be considered GMO free, since the law effectively allows GMOs to be planted all over the country. In practice, what do occur in Brazil are isolated attempts by farmers and/or cooperatives that are organized to create areas dedicated to a specific type of cultivation that may be GM, organic or conventional. Thus, practices of co-existence are beginning to be established, much more regulated by the market than the Federal State Government, to be part of the contractual rules and becoming business practice.

Conclusions

As shown, the Brazilian experience in the release of RR soybeans was very troubled, with the public policies disregarding the precautionary principle. This led to insecurity in society and to the advantage of extreme positions, instead of the practices of co-existence among conventional, organic and transgenic cultures, practices that are not beginning to occur. With this, it could be said that today, legally, in Brazil there is no area that could be considered GMO free since the Biosafety Law allows GMOs to be planted nationwide.

It should not be forgotten that in the context of a preventive approach, the use of GMOs is only justified if the benefits to humans and the environment are higher than the risks they will face. The goal is to avoid genetic manipulation causing unpredictable and irreparable damage or playing with the fate of the planet. Therefore, in balance, the use of GM crops is always permissible if they do not put human life and the preservation of biodiversity on the planet at risk. This does not mean that biotechnology should not be used. On the contrary, when this knowledge is put to use, the law should be respected and the safety of Brazilian citizens should be ensured through precaution to protect the country from the risk of harm to life, health and guarantee the safety of residents and the environment.

References

- Barboza, M.P. Os transgênicos na imprensa: o caso da liberação da soja round-up ready. *Revista Em Questão*, Porto Alegre, vol. 10, no. 2, pp. 435-447, jul./dez. 2004.
- Diniz, M.H. *Curso de Direito Civil Brasileiro*, 3º volume: teoria das obrigações contratuais e extracontratuais. 23ª Edição., revista e atualizada de acordo com a Reforma do CPC – São Paulo: Saraiva, 2007.
- Dutra, AS O processo decisório de implantação de estrutura para armazenagem de soja ao nível de propriedade rural na Região de Santo Ângelo/RS.. Dissertação de Mestrado apresentada para obtenção do título de mestre em Agronegócios pela Universidade Federal do Rio Grande do Sul. Disponível em www.biblioteca.universia.net/ficha.do?id=380073604, pesquisado em 03/12/2008.
- Goldsmith, P., Bender, K. Ten conversations About Identity Preservation: Implications for cooperatives. Department of Agricultural and Consumer Economics University Of Illinois at Urbana-Champaign, paper presented at NCR-194 Research on Cooperatives Annual Meeting, October 29, 2003, Kansas City, MO, USA.
- Leonelli F.C.V., Azevedo, P.F. Sistemas de Identidade Preservada em Cadeias Agroindustriais: o caso de produtos não geneticamente modificados. Disponível em www.pensaconference.com.br, pesquisado em 01/12/2008.

Machado, P.A.L. Direito ambiental brasileiro. 16^o ed.. São Paulo: Malheiros, 2008.

Pessanha, L.D.R., Wilkinson, J. Transgênicos provocam novo quadro regulatório e novas formas de coordenação do sistema agro alimentar. Cadernos de Ciência & Tecnologia Brasília, v. 20, n. 2, p. 263-304, maio-agosto 2003.

Pessanha, L.D.R. Transgênicos, recursos genéticos e segurança alimentar: uma análise da judicialização do conflito sobre a liberação da soja rr no Brasil. In: http://www.abep.nepo.unicamp.br/site_eventos_abep/PDF/ABEP2004_499.pdf

Rios, A.V.V. (painelista). Questões sobre Biossegurança. In: Revista do Centro de Estudos Judiciários da Justiça Federal: n^o 1. Brasília: CEJ, 1997.