



Briefing

Roundtable on Responsible Soya - the Certifying Smoke Screen

Responsible - “based on or characterized by good judgment or sound thinking”

Introduction

The Roundtable on Responsible Soya (RTRS) Annual Conference will be held at Park Inn Heathrow Hotel, on the 23rd and 24th May 2012.

The RTRS is a voluntary certification scheme, established in May 2004 and formally launched in 2006 as the RTRS Association. Members include food and agribusiness giants including Cargill, Monsanto and Sainsbury's, but also some NGOs including WWF. Negotiations on criteria were a cumbersome process that took some considerable time, and the actual certification of RTRS soya production commenced in 2011.

From the outset, there has been strong opposition by social movements and environmental organisations both in Europe and in producing countries, which has weakened the initiatives' legitimacy. In 2011, over 25,000 people sent messages to major European and UK retailers demanding to boycott RTRS certified soya and look for real solutions. Nevertheless, some European NGOs keep supporting the project¹.

In order to get the agribusiness multinationals in the soya supply chain to participate, the RTRS adopted a watered-down approach. That meant ignoring the GM soya issue and weakening the requirements around deforestation and pesticide application. The resulting RTRS criterion fails to address the critical issue of GM Roundup Ready (RR). They also allow deforestation of the Amazon and other valuable ecosystems like the Chaco and Cerrado, as long as the land is in an area “zoned” for agricultural use.

The credibility of any remaining agreed criteria through the RTRS process was also significantly damaged by the resignation of two major Brazilian organisations in the soya supply chain. Aprosoja (representing 6000 soya producers in Matto Grosso) in May 2009 and ABIOVE¹ (representing the Brazilian vegetable oil sector) in March 2010. So far certification only covers a very small part of the crop in four soya producing countries – Brazil, Argentina, Paraguay and India.

The first audit reports have now been published online on the RTRS website, covering ten soya companies in Brazil, Argentina and Paraguay, including soya mega-producers Blairo Maggi (Brazil) and Grupo Los Grobo (Argentina). This briefing shows that the reports provide further evidence of what critics have been saying so far:

- RTRS certified soya do not provide any benefit in terms of ‘sustainability’ or improvement in production methods.

¹ These organisations are WWF International and the Dutch organisations Solidaridad, Stichting Natuur en Milieu, and BothEnds.



- RTRS certification merely rubber stamps current practices of soya producers.
- There is no evidence that the existence of the RTRS has improved anything in relation to deforestation, pesticide use or impacts on neighbouring communities.
- GM RR soya production methods are regarded in the reports as climate-friendly and beneficial for soils and water conservation.

How Much Soya is RTRS Certified?

At the time of writing, a total of less than 0.5 million tonnes of soya production has been certified from 14 companies based in Brazil (5 companies), Argentina (5), Paraguay (1) and India (3). Table 1 shows the amounts certified per country and what percentage of overall soya production this represents. Globally around 260 million tonnes of soya beans were produced in 2010 (latest data). This means that only 0.164% of global soya production is certified by the RTRS. It is not clear how much of this was actually sold as RTRS soya along fully traceable supply chains. Most of this will have been sold via the 'book and claim' system, meaning that the buyer only receives certificates, not actual 'responsible' soya.

The bulk is produced by two of the largest soya producers/investors, Grupo Andre Maggi from Brazil (66,000 hectares) and Grupo Los Grobo from Argentina (20,000 hectares). Most soya certified is RR soya, with a minority conventional soya and no organic soya.

Table 1 - RTRS certified soya production by country

Country	Amount of soya beans produced in 2010 (million tonnes)	Amount certified by RTRS in 2011 (tonnes)	Percentage certified by RTRS in 2011
Brazil	75	255,866	0.341%
Argentina	55	150,688	0.274%
Paraguay	8	5,334	0.066%
India	10.6	16,876	0.159%
Global	260	428,764	0.164%

The Impacts of Soya for Animal Feed in Europe

The EU livestock sector consumes around 500 million tonnes of animal feed every year, 75% of which is imported, mostly from South America. Europe is a major destination for soya, and is dependent on imports of feedstock for unsustainable forms of intensive production of poultry and livestock².

Results of the RTRS Public Audit Reports: No Benefit for People or the Environment

The audit reports screened for this briefing are the public versions as published on the RTRS website³. We requested the full reports from one of the auditing firms, Control Union, who refused, saying that the full reports are confidential between the auditor and client.



It should be noted that none of the audit reports mention compliance to the additional criteria of the EU Renewable Energy Directive (RED), which would mean that none of the RTRS certified soya will be used to meet the strongly condemned EU 10% agrofuel target. The RTRS was among the first schemes to apply for and obtain accreditation from the European Commission to certify agrofuels for the EU market.

The public reports vary greatly in details provided, but in general the evidence given for compliance with the criteria is extremely flimsy or non-existent. SGS provides considerable details for each criterion divided in sections 'strengths', 'weaknesses' and a conclusion on whether the producer meets the criterion. Schutter Argentina does the same but with a lot less detail, while Control Union only provides a conclusion of one or two lines. Having certified the two biggest producers Grupo Los Grobo and Grupo Maggi and therefore the bulk of 'responsible' soya, Control Union provides extremely poor or no substantiation on how criteria have been met, and do not mention one single element for improvement, which is hardly credible. In several cases, report text is simply copy-pasted from that found in others, not adding to their credibility.

The RTRS has adopted a so-called "progressive entry level that includes a continuous improvement approach" in order to have more producers qualify the first year.⁴ This means that for the first year, a positive certification decision will be granted if a producer meets only 62% of the RTRS standard (the so-called 'immediate compliance indicators' + 20% of other short/mid-term compliance indicators), 86% for the second year and 100% by the third year. However, as some reports conclude, no base line exists for at least some soya producers, making it impossible to verify any 'continuous improvement'. As a result, many weaknesses are recorded by the auditors for some of the companies, some of them quite severe, notably regarding pesticide use.

Auditing of farms is based on an annual pre-announced visit and by follow up emails and telephone conversations. For instance on pesticide usage, no direct evidence is generated for instance by testing the soya for presence of non-allowed pesticides. The prefixed visits enable producers to ensure that any evidence of usage of non-allowed pesticides is removed for the time of the visit.

In the end, despite all these flaws all 10 companies successfully passed the certification audit.

The following sections focus on three key aspects of RTRS principles and criteria for certification: deforestation, use of pesticides and relations with local communities.

Responsible Community Relations (Principle 3 in the RTRS Criteria)

The community relations and communications reports provide little evidence of the means by which the soya producing companies were consulting and responding to the complaints and



needs of the local people. It is not always clear how people interviewed for the audit process have been selected, but in one case they have been selected and 'prepared' for the visit by an employee of the soya producer in question.

In various cases, there is no evidence of a communication channel for dialogue with the communities - no complaint mechanism. In some cases where this is said to exist, it is noted that there is no evidence that this has been communicated to the communities.

In some cases evidence of communication channels is said to be proven by the fact that interviewees disposed of the telephone numbers of the managers. In several cases charity projects are described as proof of good relations with the communities. This typically includes donations to the local school or activities, or support for school programs.

Grupo Lucci (Viluco) for instance participated in a program to teach children how to pick their teeth, and another one (Lucas Johannes Maria Aernoudts) participates in a drug prevention program. This, while at the same time indicating to be spraying pesticides within 30 metres from peoples' homes, allowed under RTRS criteria. Soya companies donate eggs for a local festivity, some furniture for the school, or a fishing project for an indigenous community, or even the supply of soya beans to supplement school meals.

While local charity is not required by the RTRS criteria, it is something frequently seen in soya areas, to appease the local population. Handing out small charity donations is a common strategy found in soya areas to try and 'deal' with small farmers. However, in the context of widely spread opposition and resistance to soya expansion, particularly Roundup Ready throughout South America by small farmers and indigenous peoples' organisations, the fact that none of the audit reports mention any of this, let alone interview small farmer representatives, based on clear and open invitation, certainly disqualifies the reliability of these reports.

There is no clear evidence that local small farmers were consulted. In one instance, Paraguayan soya producer CYTASA helped to provide contacts for the auditors to interview. Another report provided details of an attempt to meet local people at a fuel station (Aceitera General Deheza S.A) but 'after waiting one hour no one was present'.⁵ No information about how such meetings were advertised is provided.

Soya Expansion and Deforestation (Principle 4 in the RTRS Criteria)

The audit reports confirm that all soya plantations up for certification are existing plantations, and many of them have been deforested between 2005 and 2009. These plantations would not have qualified under existing and stronger standards such as ProTerra, which has a cut-off date of 2004.

One huge flaw confirmed by the report is that of partial certification. Soya producers can simply select the plantations that will easily meet the criteria, while continuing bad practices



and deforestation elsewhere. For example Grupo Lucci (Viluco SA) put forward 13,000 hectares of soya fields in Tucuman (NW Argentina) but not 36,000 hectares on eleven other sites elsewhere, explicitly stating that these would not meet the RTRS criteria.

Only part of the reports (eg Grupo Andre Maggi and Grupo Lucci (Viluco SA)) mention any supporting evidence of such claims based on, for example, satellite images before and after May 2009 – the starting date for RTRS's deforestation criteria.

Pesticide Use (Principle 5 in the RTRS Criteria)

No pesticide reduction targets or plans exist for any of the audited soya producers. This criterion, according to one auditor, is not strictly required for the first year under the 'progressive entry level' approach but falls under the 20% short/mid-term criteria that have to be met.⁶

Only two out of the ten audited soya producers have an Integrated Pest Management program in place, something that is not strictly required either. All companies are said to not be using pesticides listed under the Stockholm and Rotterdam conventions, but evidence is limited to administration and a look in the storage room during the visit. In no cases samples of soya are taken for testing.

The audit reports provide very little evidence that could verify the claims that pesticide use is in accordance with local regulations, that only approved pesticides are used and that measures are in place to prevent pesticide spray drift. Spraying is permitted within 30 metres of inhabited areas. Even in favourable weather conditions it is impossible to prevent drift, and the audit reports do not provide evidence to show how or if this is achieved. Indeed, in various cases (Alfredo Guerra, Lucas Johannes Maria Aernoudts, Siegfried EPP) there is no registration of the meteorological conditions during time of spraying, nor the names of staff who execute the pesticide spraying.

Something that is immediately required is proper storage, washing and disposing of pesticide containers. The audit report of soya producer Siegfried EPP notes that not all necessary precautions in the pesticide storage room are taken. The report for CYTASA revealed that workers applying pesticides received no training, proper equipment and protective clothing were lacking, and containers are not properly cleaned and stored.

In some cases, as a positive, it is mentioned that every pesticide application happens on the recommendation of someone with a professional title, without clarifying the role of this person (Alfredo Guerra), or simply on the recommendation of the production manager of the soya producer himself. This too, gives little reassurance that the least possible pesticides are used.



GM RR Soya Qualified as Beneficial for Soil, Water and Climate

It is important to note that auditors regard the production method of Roundup Ready soya, 'siembra directa' or direct sowing with low-tillage as a positive practice, beneficial for water and soil conservation, and for the climate. This production system however, is highly damaging to soil and water systems because of soil compacting and destruction of water and soil life with Roundup Ready and other pesticides (see further below).

Flaws in the RTRS

The Expansion of Soya Monoculture in South America

RTRS allows any land that has been cleared of forest or 'native habitat' up until May 2009 to be certified as 'responsible' soya production. This moves the start date five years forward from other standards such as the 2004 limit set by the Basel Criteria for Responsible Soya Production. After 2009, 'responsible' soya expansion can still happen if 'it is in line with an RTRS-approved map and system'.⁷

Despite the RTRS's intentions to protect habitats, the expansion of soya monocultures in South America has continued in Argentina, Brazil, Paraguay, Uruguay and Bolivia since 2009. The expansion has resulted in continuing habitat destruction of major biomes including the Atlantic Forest systems in Paraguay, Argentina, Uruguay and Brazil, the Chaco Forests of Argentina, Paraguay, Bolivia and Brazil and Chiquitano Forest of Bolivia.⁸ In Brazil, legislation to weaken the current protection of the most biodiverse rainforests (which has greatly reduced the rate of forest clearance in recent years) has been agreed by politicians and only President Dilma Rousseff can veto the most damaging clauses⁹. These include extending land which can be cultivated closer to hilltops and river banks which could increase soil erosion and amnesties for previous illegal felling before July 2008 in return for replanting or preservation of other forests elsewhere.

In addition, soya expansion continues to take over farmland previous used for mixed farming and ranching in the vast expanse of the Pampas, which in Argentina alone covers 55 million hectares of land suitable for soya monocultures. Existing ranchers and mixed family farms are displaced by soya plantations sometimes resulting in them having to migrate to cities.

In Argentina the area under soya cultivation continues to expand from 16 million hectares in 2008/09 to around 18.6 million hectares in 2010/11¹⁰ and in Brazil from around 21million hectares to 24.2 million hectares in Brazil in the same period. Production increases come from this overall expansion of the area under soya and productivity gains per hectare.

The RTRS standards state that after May 2009 'expansion for soya cultivation has not taken place on land cleared of native habitat', however under certain conditions, exceptions apply if:

- *It is in line with an RTRS-approved map and system*



And where no RTRS-approved map and system is available:

- *Any area already cleared for agriculture or pasture before May 2009 and used for agriculture or pasture within the past 12 years can be used for soya expansion, unless regenerated vegetation has reached the definition of native forest.*
- *There is no expansion in native forests.*
- *In areas that are not native forest, expansion into native habitat only occurs according to one of the following two options:*

Option 1. Official land-use maps such as ecological-economic zoning are used and expansion only occurs in areas designated for expansion by the zoning. If there are no official land use maps then maps produced by the government under the Convention on Biological Diversity (CBD) are used, and expansion only occurs outside priority areas for conservation shown on these maps.

Option 2. An High Conservation Value Area (HCVA) assessment is undertaken prior to clearing and there is no conversion of High Conservation Value Areas.

In other words there is scope for soya growers to move into forested land.

The Soya Strategic Gap Analysis published in July 2011 'to identify the key gaps and bottlenecks for production and supply of sustainable certified soya in Brazil and Argentina' and based on questionnaires and interviews with producers and other stakeholders found that protection of forest under RTRS was certainly not guaranteed¹¹. They identified a 'gap in compliance with some environmental requirements related to native vegetation'. In addition, the results of their interviews revealed a number of worrying incidents and trends:

- *"Among the interviewees in northern Argentina, there was a case of legal deforestation in native woodland after May 2009"*
- *"In the areas of agricultural frontier MAPITOBA (Maranhão, Piauí, Tocantins and West of Bahia) there was the opening of new areas (authorized deforestation) in the Brazilian cerrado after May 2009".*
- *"Interviews with NGO's revealed that the expansion of soybeans and the increase of land costs have led farmers to seek other areas. Additionally, it has led to illegal deforestation and to the consequent advance of soybean crops over these areas"*
- *"Generally in Brazil, both in Mato Grosso and Paraná, farmers interviewed are not compliant with the proportion of Legal Reserve required by the current Forest Code. For small producers, Legal Reserve requirements are even harder to be met, because it represents a significant loss of productive area"*
- *"Producers in new agricultural frontiers are entrepreneurs and the new agricultural areas in the Brazilian cerrado are in compliance with Legal Reserve requirements of*



the current Forest Code. Controlled burning has been legally permitted -by the Brazilian Environmental Agency, IBAMA- for clearing new production areas”.

- *High Conservation Value Areas: the indefiniteness of the maps of national High Conservation Value Areas (HCVA) by the RTRS can be a limiting factor for producer adhesion to this certification process. Because these maps are not yet defined and because they represent restrictions for the expansion of soya production, Mato Grosso producers do not accept these criteria. According to them, accepting HCVA in the RTRS criteria would be compromising to something without knowing for sure the consequences of doing so”.*

The RTRS are promising that the HCVA maps will be available by the end of 2012¹². However, based on evidence of recent activities, the small areas of land covered by RTRS certification cannot guarantee the protection of these valuable habitats.

Responsible GM RR Soya?

The RTRS criteria allows GM soya to be included. Since the RTRS was founded in May 2004, the agronomic, health and environmental impacts of the reliance on Monsanto's GM RR soya in Argentina, Paraguay and Uruguay (where close to 100% of soya grown is RR) and in Brazil (where around 75% is GM) has become a lot clearer due to independent research and analysis.

RR soya has depended on glyphosate (Roundup) almost exclusively for weed control. Monsanto promised farmers cheaper and simpler weed control which would make zero tillage easier to follow. Consequently glyphosate use rose very quickly, for example eight fold in Argentina between 1996 and 2006¹³, as soya plantations expanded. Initially RR soya did allow for cheaper and better weed control by soya farmers but within a few growing seasons overuse of glyphosate lead to weeds developing resistance. In particular the Johnsongrass (*Sorghum halepense*) and Gramma mans (*Cynodon hirsutus*) has developed glyphosate resistance causing a major problem for some growers in the heart of Argentine soya belt near Cordoba¹⁴. Twenty one other weeds in Argentina have been listed as '*just barely controlled by glyphosate*' and '*might be the next to upgrade to full resistance by another evolutionary step*'¹⁵. In Brazil four weed species with glyphosate resistance have been found in soya fields¹⁶.

Glyphosate resistance is even more advanced in the US in RR soya, maize and cotton where millions of hectares are infested with weeds Roundup cannot control¹⁷. The solution proposed by Monsanto and other biotech companies is to apply more herbicides in mixtures or in rotation to ensure resistant weeds are killed. Weed killer such as 2,4-D, dicamba and glufosinate ammonium are all lined up to deal with the weeds with glyphosate resistance in the US and the same can be expected in South America. Such increased chemical use shows how the RTRS standards will endorse an escalation of the pesticide arms race in soya monocultures and will do nothing to reduce pesticide dependency on soya estates.



Glyphosate is also increasingly being linked to damage to the soil and enhancement of soil borne plant diseases¹⁸.

Irresponsible Exposure to Glyphosate

Exposure of people and wildlife to glyphosate has also increased following the introduction of RR soya. In the Argentine state of Chaco birth defects increased four-fold over nine years in areas sprayed intensively with glyphosate¹⁹. Laboratory trials have shown that the toxicity of RR is greater than glyphosate alone because it is mixed with other chemicals which allow the herbicide to penetrate into cells more easily and that glyphosate disrupts endocrine systems²⁰. The risk of exposure is made worse by the use of aerial spraying and inadequate buffer zones around dwellings. The death of an eleven year old boy in Paraguay in 2003 followed an incident when he was engulfed in a glyphosate spray from a tractor but no legal action has been taken against the farmer involved or Monsanto²¹.

In the US, research mimicking natural habitats found that '*Roundup induced morphological changes in the tadpoles*'²². Research on the indirect effect of glyphosate on non-target biodiversity has not been carried out on soya but on other crops it has been found to reduce the availability of weeds and weed seeds which are the base of the food chain and therefore species dependent on them will decline²³.

Given the volume of independent evidence showing the toxicity of glyphosate suggests that classing RR soya as "responsible" cannot be justified any more.

Benefits for Workers

RTRS promises improved pay and working conditions. In Argentina most of the labour force is outsourced including planting, harvesting, spraying and transportation and therefore data on working conditions and pay are simply not collected by potential RTRS farmers²⁴.

Rules on working hours on soya farms were weakened in 2010 meaning employees can now be asked to work up to 60 hours per week in '*exceptional*' periods, such a harvesting, for unspecified period of time whereas previously this was limited to two busy period in the crop cycle²⁵.

Human Rights Abuses Continue

Examples of slave-like conditions in agriculture still occur. For example, in January 2012 it has been alleged that one of the RTRS members, Monsanto, has been using a contractor in Argentina that forced work to de-tassel corn for 14 hours per day and withheld their wages²⁶. The Dutch seed company Nidera, another RTRS member, was also accused of keeping seasonal working in appalling conditions akin to a 'concentration camp'. Seven executives of the company were arrested and Nidera were fined €125,000²⁷.

A recent FAO report²⁸ has confirmed the widespread nature of land grabbing in Latin America. The report identified four types of land grabbers: international, [Trans]Latina, domestic/national, and '*undetermined*' (i.e. financed from tax havens) by companies wanting



to extend soya plantations. The report confirms that soya plantation expansion is an important factor in driving the acquisition of new land. It highlighted Argentina and Brazil as countries where foreign land grabbing was prevalent. It confirmed that *'dispossession by displacement of the rural poor'* did occur but that *'land deals resulted in the incorporation – adversely or otherwise – of smallholder and farmworkers into the emerging commercial farm and plantations enclaves'*²⁹.

The Institute for International Trade Negotiations report³⁰ highlights the problem small and family farmers have in establishing their rights to land and thus may find opposing land grabs far more difficult:

"A large number of producers have property deeds and lease contracts, the minority, however, are pending regularization. Family farmer: some struggle with agrarian regularization due to verbal lease agreements and/or legal processes related to property division and issues with inheritance/inventories".

Land grabs and their consequences are often violent and can lead to deaths when private militias shoot protesters. As recently as November 2011, Cristian Ferreyra, a member of a Peasant Farmer's Organisation was shot and killed and another injured during a land dispute for soya expansion in the province of Santiago del Estero³¹ in Argentina.

RTRS Special Agrofuel Certification

In the EU, the RTRS has lobbied hard to gain accreditation for "responsible" soya production for agrofuels, under the EU Renewable Energy Directive (RED). This directive sets a binding target of 10% energy from agrofuels in transport by 2020. The target has come under severe and increasing criticism as evidence has grown that agrofuels lead to monoculture expansion, land grabbing and higher food prices, but do not actually reduce greenhouse gas emissions.

Summary

The RTRS is hosting its next conference on 24th May in London. After many years since its establishment, the RTRS has published the first ten audit reports covering soya producers from Argentina, Brazil and Paraguay on its website.

The reports show that the impact of RTRS certification on the overall destruction of habitats and other environment and socioeconomic impacts of soya plantations will be zero. There has been no impact on constraining the rate of deforestation, the application of pesticide use, and no effort to support small-scale farmers in the areas accredited.

Even worse, the acceptance of GM RR soya within the criteria means that consumers are being asked to accept a production model based on unsustainable weed control methods using herbicides which are increasingly being linked to a number of human health effects, harm to wildlife and soils.



The amounts of soya certified are unlikely to increase because farmers do not receive a premium price for RTRS soya and therefore have no incentive to apply for certification.

The RTRS certification and traceability system based on 'mass balance' provides no surety for consumers that buying RTRS soya will protect people and the environment because they may be getting soya produced on non-certified plantations.

In the long-term, European reliance of soya imports for feeding livestock and poultry are unsustainable because of continued pressure on globally important forest biomes in South America and bad agricultural practices, allied to the competing demands from the domestic market in South America and China.

In conclusion, RTRS certified soya is a highly misleading and flawed product that will most likely be rejected by consumers. The long-term solution is not the smoke screen provided by the RTRS or other forms of soya certification but a change in direction away from highly intensive poultry and livestock towards production which is integrated into an agroecological approach to farming and consumption.

[ENDS]

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² Friends of the Earth, 2008. *What's Feeding Our Food? The Environmental and Social Impacts of the Livestock Sector*. At: http://www.foe.co.uk/resource/briefings/livestock_impacts.pdf

³ See 2012 RTRS Public Audit Reports. At: http://www.responsiblesoy.org/index.php?option=com_content&view=article&id=298&Itemid=182&lang=en

⁴ RTRS, 2010. *Weighting the RTRS production standard: Progressive entry level for the RTRS production standard certification*. At: http://www.responsiblesoy.org/index.php?option=com_content&view=article&id=193&Itemid=151&lang=en

⁵ See 2012 RTRS Public Audit Reports. At: http://www.responsiblesoy.org/index.php?option=com_content&view=article&id=298&Itemid=182&lang=en

⁶ Ibid

⁷ RTRS, 2010. *Weighting the RTRS production standard: Progressive entry level for the RTRS production standard certification*. At: http://www.responsiblesoy.org/index.php?option=com_content&view=article&id=193&Itemid=151&lang=en

⁸ Friends of the Earth, 2008. *What's Feeding Our Food? The Environmental and Social Impacts of the Livestock Sector*. At: http://www.foe.co.uk/resource/briefings/livestock_impacts.pdf

⁹ BBC News, 2012. *Brazil's Congress approves controversial forest law*. At: <http://www.bbc.co.uk/news/world-latin-america-17851237>

¹⁰ Nassar A. Antoniazzi L.B., Brandão J. and Moura P., 2011. *Soy Strategic Gap Analysis: Brazil and Argentina*, Institute of International trade Negotiations.

¹¹ Ibid

¹² RTRS Association, 2010. *RTRS Standard for Responsible Soy Production*. Version 1. 10th June. At: <http://bit.ly/egW0ea>



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- ¹⁶ Heap I., 2012. Op cit.
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- ¹⁹ Otaño A, Correa B & Palomares S. 2010. *Water Pollutants Investigation Committee – First Report*. At: http://www.gmwatch.eu/files/Chaco_Government_Report_Spanish.pdf.
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- ²¹ See *Monsanto to stand trial for child's death and effects of controversial weed killer*. At: <http://www.agricorporateaccountability.net/en/post/media-resources/56> & Friends of the Earth, 2012. *Paraguay's soy harvests a new set of victims*. At: http://www.foe.co.uk/news/paraguay_soy_27076.html
- ²² Reylea R., 2012. *New effects of Roundup on amphibians: Predators reduce herbicide mortality; herbicides induce antipredator morphology*. Ecological Applications, 22: 634–647.
- ²³ Heard MS, Hawes C, Champion GT, Clark SJ, Firbank LG, Haughton AJ, Parish AM, Perry JN, Rothery P, Scott RJ, Skellern MP, Squire GR & Hill MO. 2003. *Weeds in fields with contrasting conventional and genetically modified herbicide-tolerant crops. I. Effects on Abundance and Diversity*. Philosophical Transactions of The Royal Society London B 358:1819-1832.
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