Mapping the Sources of Information for Journalistic Materials Concerning Pesticides Found in Some Brazilian Magazines and Newspapers

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The present study aims to investigate the sources of information for journalistic materials concerning pesticides found in some Brazilian magazines and newspapers, including both those providing general information and those providing specialized information in the area of agriculture. The methodological procedure consisted of carrying out an analytical reading, noting each primary source of information found. The results showed a predominance of the category of research institute specialists, representing 59 sources and thus constituting the greatest index in the mapping. The majority of the sources consulted by the reporters presented a pro-pesticide posture, which was observed in all the material surveyed. The information coming from the government, specialists in research institutes and public universities, who showed themselves to be collusive with the policies that favor the use and permanence of the pesticide corporations in Brazil.

Introduction

Investigation of the sources used by reporters is a highly useful tool in the process of interpreting the messages, since it allows one to know how the social actors relate to the approaches to a theme, as well as indicating their contributions to journalistic texts in the mass communication media. It also allows one to examine the source selection criteria used by the journalists. This selection is not innocent and may reflect the interests of the communication companies and their clients.

In general, a source is considered to be any person, entity, or document that provides information to a journalist to elaborate a given material.

Pereira (2002) considers the sources as necessary to the achievement of journalistic texts: "The sources of information are a basic, strategic, raw material of a journalist's work" (p. 122).

According to Mauro Wolf (2003) the sources add quality to the information:

> The sources are a determining factor in the quality of the information produced by mass communication media: however they continue imprecise in the professional mythology, which tends, for its part, to emphasize the active role of the journalist, prejudicing the contribution of the sources, essential in many aspects. (p. 233)

Wolf (2003) considers the sources distinctly in two parts: the first is related to the actual sources and the second contemplates the information agencies, "[a]lthough in many cases the latter are considered as sources for all effects" (p. 233). This distinction is legitimate since the agencies are considered as companies specialized in providing information.

Other considerations concerning the sources are related to their reliability or credibility. "If the trustworthiness of the story cannot be rapidly certified, the journalist tries to base himself on the credibility of the source, on his honesty" (Wolf, 2003, p. 237). For this reason, the journalists prefer to refer to official sources, availing themselves of, amongst others, government institutions, which have the power of authority to inform.

Costa (2005) reported that the sources of information used by reporters could be present "in the State apparatuses, in the communication or press agencies, in the corporations, companies, universities, political parties, trade unions, NGOs and institutions in general" (p. 15). The author explains that the sources of information can be used to manipulate the media:

> [T]he public found a way to participate, and the different sources found more efficient ways to manipulate the media. Even by explaining that a determined piece of information had no credibility, it frequently created a version transmuted into a definitive and unshakable fact. The facilities of communication make the game of credibility more complicated. . . . (p. 16)

Costa's report (2005) shows that the sources frequently distort information on reporting a story, divulging the name of an institution, carrying out publicity of a product, a location, or a company, with the probable intention of, amongst others, spreading certain information, selling their image and becoming well-known, canvassing followers, profiting, and thus manipulating the media.

In his survey, Fontes (2009) presented the occurrence of a group of reciprocal interests and analyzed the two basic forms in which the sources and their communication media can interact. Thus the sources:

> can both be approached by the journalists with the objective of providing information or expressing an opinion, or resort to the journalists as vehicles of communication with the objective of divulging information and opinions in a self-interested manner. This second form essentially expresses itself by way of the actions of different forms of institutional communication, such as press agencies and spokesmen. To a certain extent this refers to a recent and growing process in the professionalization of the information sources (p. 68).

However, as mentioned by the researcher, the limits between one form and the other are not evident in the journalistic texts, and in this process, potential conflicts of interest are not explicit.

Mauro (2005) reports that in elaborating the message contents of certain journalistic lines, such as editorials, one needs information on the subject to be developed by the editor. In his work, entitled "Messages Concerning Nature: A Study of Two Tourist Magazines," the author verified as the principal sources the information from travel agencies and operators, hotels and lodges, air companies, credit card networks, and municipal governments (p. 76).

For his part, Corrêa (2007) pointed out the predominance of governmental sources as carriers of information related to factual happenings concerning publications of environmental materials in a telejournal of regional scope. However, he makes it clear that it is also important to check the reality of the happenings (pp. 107-109).

Thus Massierer (2007) explains that "even depositing one's faith in the sources, the correct identification of the events to be divulged in the news demands great attention by the professionals, so that they do not become victims of political ruses" (pp. 161-162). Thus he writes that the search for sources is not a casual process, although it is also not arbitrary:

> The reporter, on checking some information, looks for his source amongst various options based on certain criteria more or less defined by journalistic practices. One cannot deny that there is a power game between the sources, especially the institutionalized ones or those with interests over and above the news, and the journalists. In this process, each needs the other: the reporter needs the information to check his news item (and the more exclusive, the better), and the source is frequently interested in having his name related to the fact or even in a determined type of information being divulged. One way the journalists have of escaping from this interest by the official sources is by contacting a specialist in the area. (p. 191)

Herman & Chomsky (2003) evaluated the "co-opting of specialists" by the government, which includes them in the pay sheet as consultants, financing their research projects, and organizing a think tank so as to assure dissemination of their messages. Thus "the dominance of the official sources is weakened by the existence of highly respectable extra-official sources, providing dissident views with great authority" (p. 82).

These specialists are co-opted as consultants by magazines and newspapers, both those providing general information and those segmented into specific areas, principally in the "letters" section to reply to readers' doubts. However, on some occasions these specialists do not have enough time available to make declarations or statements, or they prefer not to compromise themselves with certain information, such that the governmental sources are, in the majority of cases, the most consulted.

In his study concerning environmental journalism in two newspapers in the municipality of Porto Alegre, Brazil, Massierer (2007) confirmed that official information was one of the principal sources (p. 194). Similar results were found in the surveys reported by Fontes (2009) and Ramos (1995), who observed a preponderance of the category "government." Pereira (2002) also showed the hegemony of these sources in the materials published by the newspapers *Estado de São Paulo* and *Folha de São Paulo* in his study concerning intoxications caused by pesticides in the socio-environmental public debate.

Thus the objective of the present research was to investigate the sources of information consulted by reporters in journalistic materials concerning pesticides, published in some magazines and newspapers of the Brazilian press, including both those of general information and those specialized in the agricultural area.

Material and Methods

As the object of this study, some editions of the following Brazilian magazines were selected at random: *Globo Rural*, *Granja*, and *Balde Branco*, and the *Agricultural Supplement* of the newspaper *O Estado de São Paulo*, resulting in samples with the following

proportions: 24 percent, 35 percent, 30 percent, and 24 percent respectively. The supplement *Agrofolha* of the newspaper *Folha de São Paulo*, the newspaper *Jornal de Piracicaba*, and the magazine *Veja* were analyzed in their entirety since they presented few materials related to pesticides. The magazine *Caros Amigos* was not evaluated since it carried no messages concerning pesticides. Table 1 shows the number of editions and period of months in the universe sampled, and Table 2 shows the distribution per year of the magazines segmented in the area of agriculture, in which some examples from the collections were missing in the period analyzed.

Communication vehicles	Number of editions	Period in months
Agricultural Supplement	57	13
Magazine *Veja*	86	19
Jornal de Piracicaba	26	01
Agrofolha	57	13
Globo Rural	25	25
Granja	20	20
Balde Branco	27	27
Caros Amigos	12	12
Folha de São Paulo	31	01

Table 1. Number of editions and period in months of the communication vehicles analyzed in the present study. Note: The newspaper Jornal de Piracicaba *did not circulate on the 2nd, 7th, 14th, 21st, and 28th of January in 2008.*

Magazines	2005	2006	2007	2008	Total
Granja	2	5	11	2	20
Balde Branco	6	9	7	5	27
Globo Rural		6	12	7	25

Table 2. Distribution per year of the editions of the magazines Granja*,* Balde Branco*, and* Globo Rural *during the period surveyed*

The other vehicles were surveyed in the following time intervals: 13 months were considered between July 2007 and July 2008 for the *Agricultural Supplement* of the newspaper *Estado de São Paulo* and for the *Agrofolha* of the newspaper *Folha de São Paulo;* 19 months were considered for the magazine *Veja,* including the whole of 2007 and January to July in 2008; the newspaper *Jornal de Piracicaba* was evaluated during the month of January in 2008; and the magazine *Caros Amigos* for the 12 months of 2007.

The methodological procedure consisted of carrying out an analytical reading and noting down each primary source of information encountered. Some of the materials were then analyzed, mainly the more emphatic ones found in the survey, such that those related to pesticides were evaluated quantitatively and qualitatively.

Results and Discussion

Table 3 shows the sources of information of the journalistic materials concerning pesticides found in the sample selected.

Sources of Information	*Globo Rural*	*Granja*	*Balde Branco*	*Agrofolha*	*Agricultural Supplement*	*Veja*	*Jornal de Piracicaba*	*Caros Amigos*	Total
Agriculturalists	2	-	-	1	-	-	-	-	3
Environmentalists	-	-	-	1	-	-	-	-	1
Associations in general	-	-	-	14	4	2	-	-	20
Pesticide associations	-	2	-	-	-	-	-	-	2
Associations of organic producers	1	-	-	-	-	-	-	-	1
Consultancies	-	-	-	9	-	-	-	-	9
Pesticide manufacturers	1	8	6	4	-	-	-	-	19
Private companies	6	1	-	6	2	1	1	-	17
Company specialists	6	6	11	2	7	-	-	-	32
Research institute specialists	23	11	3	2	20	-	-	-	59
NGO specialists	1	-	-	-	-	1	-	-	2
University specialists	4	2	2	-	2	3	-	-	13
Specialists from abroad	-	-	-	4	-	-	-	-	4
Government	4	1	-	14	3	4	3	-	29
Consumer defense groups	-	-	-	1	-	-	-	-	1
ISAAA - Service for acquiring applications in agro-biotechnology for agriculture	-	-	-	1	-	-	-	-	1
Local resident	-	-	-	-	-	-	1	-	1
Certification organs	7	-	-	-	-	-	-	-	7
Rural producers	16	2	1	4	10	-	6	-	39
Rural proprietor	-	-	-	1	-	-	-	-	1
SEBRAE	7	-	-	-	-	-	-	-	7
National union for agricultural defense product industries	-	1	-	-	-	-	-	-	1
Unions & Cooperatives	1	-	-	3	-	-	-	-	4
SNA - National Society of Agriculture (Brazil)	-	-	-	-	1	-	-	-	1
TOTAL	**79**	**34**	**23**	**67**	**49**	**11**	**11**	**0**	**274**

Table 3. Sources of information present in journalistic materials concerning pesticides found in some Brazilian newspapers and magazines

The group "research institute specialists" was present in 59 sources of information, thus constituting the largest index in the mapping, appearing in 23, 11, 03, 02 and 20 of the journalistic materials about pesticides in the following printed vehicles respectively: *Globo rural, Granja, Balde Branco* and the supplements *Agrofolha* and *Agricultural* of the newspapers *Folha de São Paulo* and *Estado de São Paulo*.

The sources from the rural producer groups, company specialists, government, and associations in general expressed themselves on 39, 32, 29, and 20 occasions, respectively, as shown in Table 3. The official sources were heard on 14 opportunities in the supplement *Agrofolha*, which stood out from the other vehicles sampled. With the exception of the magazines *Caros Amigos* and *Balde Branco*, which did not consult the government sources concerning pesticides, these sources were manifested in *Globo Rural, Granja,* the *Agricultural Supplement*, *Veja* and the *Jornal de Piracicaba* in numbers inferior to the supplement *Agrofolha*.

The pesticide manufacturers gave their opinions in 19 situations, eight times in the magazine *Granja*, six in the *Balde Branco*, four in the *Agrofolha* and one in the magazine *Globo Rural*.

A total of 274 sources were consulted during the period in which the newspapers and magazines were surveyed. The sources of information were used by the reporters in the majority of the journalistic materials about pesticides, and were of great importance in the quality of the message. In some cases they pronounced themselves so as to clarify a certain piece of information.

The sources of information consulted by the reporters so as to complement their materials concerning pesticides were also analyzed in this paper.

Government Sources of Information

Various sources were incorporated into the information coming from the "government" group. For example, the journalistic material against pesticides published in the *Agrofolha* supplement of the newspaper *Folha de São Paulo* with the title "Tomato producers are accused in SP" presents four of them. The Labor Attorney, João Batista Martins César informed the following:

> We found adolescents applying pesticides to the plantations, which is against the law. The underage can be apprenticed in some work environments, but can never be exposed to insalubrious environments. At least six workers were hospitalized due to pesticide intoxication in recent months.[1]

One member of the inspection team from the Ministry of Labor, José Celso de Vieira Soares, auditor of the work, commented that "The workers are using a real cocktail of insecticides and fungicides, which can react chemically, causing serious damage to both health and environment."

One of the pesticides used before planting, according to information obtained from agriculturalists by labor inspectors, is Furadan—an insecticide with a high level of toxicity used to combat pests—in addition to others such as Astro, Meotrim, Tecto, Akito, Sportak, Lorsban, and

[1]Supplement *Agrofolha* of the newspaper *Folha de São Paulo*, March 18th 2008, p. B10.

Pirate. According to the labor inspectors, "These products are being used without individual protection equipment."

The labor inspector Mário Tanaka said, "There's no point in providing overalls without explaining that they do not last for ever, should not be washed with soap and should be discarded according to the appropriate safety norms."

The magazine *Veja* published the material "The revolutionary and the reactionary," in which the source of information from a foreign government was personified by the French Minister of Agriculture, Michel Barnier, who, faced with the extremist attitude of the leader of environmentalists opposed to transgenic plants in agriculture, replied, "In a democracy such as ours, other manners exist to be heard, to take part in the debate and to convince."[2]

According to this magazine, the French government takes a pro-pesticide attitude and does not question the incoherence of the Green Revolution or those of the agro-businesses, principally when the subject under debate is genetically modified organisms (GMO).

The *Agricultural Supplement* of the newspaper *Estado de São Paulo* also highlighted the information provided by the government in the journalistic material entitled "Legal pesticides for 'minor crops.'" According to the general coordinator of pesticides and similar products of the Department of Inspection of Agricultural Consumables, Luis Eduardo Pacifini Rangel, the orientation of the Ministry of Agriculture is "the development of confirmatory and monitoring studies to validate the legalizing actions."[3] The source reported the intention of the Ministry of Agriculture to finance part of the registry of these products for the cultures designated as minor, since these would not attract the interest of manufacturing companies due to the high costs of the evaluation tests. The lack of registered chemical products affects the business chains of fruits, vegetables, legumes, flowers and ornamental plants, as well as forage plants, and could hinder their exportation. The idea of creating a joint specific norm by MAPA, ANVISA, and IBAMA, for the inclusion of marginalized cultures in terms of their phytosanitary support, demonstrates their support of the permanence of poisons in the country.

Research Institute Specialists as Sources of Information

As shown in Table 3, the specialists from research institutes stood out as sources of information in the magazine *Globo Rural* and in the *Agricultural Ssupplement* of the newspaper *Estado de São Paulo*. In the material entitled "Sad lemon tree," the magazine *Globo Rural*[4] published the question of a consultant with respect to the crooked wrinkled leaves on his lemon tree. The reply from the researcher Fernando Alves de Azevedo of the *Centro Sylvio Moreira* was favorable to the use of pesticides, as follows: "The control is very simple with the application of insecticides, which can be acquired from pesticide retailers, with the recommendation of an agricultural engineer."[5] The specialists were shown to make pacts with both the multinationals and the government, working for both and using the same language, previous to the Brazilian Pesticide Law (nº 7.802/89), published in January, 1990. Prior to this, these products were designated as "agricultural defense products."

[2]Magazine *Veja*, January 9th 2008, pp. 74-75.
[3]*Agricultural Supplement* of the newspaper *Estado de São Paulo*, May 21st 2008, p. 13.
[4]Magazine *Globo Rural*, 263, September 2007.
[5]The Sylvio Moreira Center is part of the Campinas Agronomical Institute (IAC) – São Paulo State Technology Agency for Agro-business - Apta.

The material "Obstinate sedge weeds," published in the magazine *Globo Rural,* also encouraged the consumption of pesticides. The consultant asked if there was some type of "medicine" to eliminate sedge weeds.

> Chemical control is a good option using the herbicide halosulfuron (commercial brand Sempra) . . . Consult an agricultural engineer to obtain information about the correct dosage and orientation about how to handle the herbicide safely.[6]

The Institute of Biology, by way of its legal attributions, makes it possible for a scientific researcher to recommend chemical control without bothering to explain the damage caused to human health and the environment by the use of pesticides. In addition, the specialist failed to present other control options, such as, for example, manual weeding. Another alternative would be the use of an equipment called the "Eletroherb," which, instead of spraying the land with herbicide, provides electrical discharges to the soil, promoting elimination of the weeds.

In the material "Insects in rice," published by the magazine *Granja*, the source of information of the reporter was a specialist by the name of Jaime Vargas from the *Rio Grandense Rice Institute* (Irga), who replied to the doubts raised by the reader about how to avoid infestation by insects such as the stalk bug in rice fields: "For the chemical control one should use registered products. Producers can also contact an Irga technician at the Technical Assistance Center found in each municipality."[7]

The researcher indicated chemical control since the occurrence of stalk bug can cause losses of between five and 70 percent in affected areas. He failed to allude to the use of rice varieties resistant to this insect, nor to other alternative control methods that could decrease the economic losses. This is evidence of the pro-pesticide proposal of the technicians and of the *Rio Grandense Rice Institute* (Irga).

University Specialists as Sources of Information

With respect to university specialists as sources of information, some exemplary cases can be cited. In the *Agricultural Supplement*[8] a reader asked about the control of leaf-cutting ants in ornamental plants. The suggestion of Professor Dr. Otávio José Nakano of the *Escola Superior de Agricultura "Luiz de Queiroz"* was to fill the subterranean nests with a mixture of detergent and water, killing them by drowning.

In the magazine *Granja,*[9] a reader requested information about the best way of overcoming the sugarcane borer. Prof. Newton Macedo, specialist from the Federal University of São Carlos (UFSCar) replied that it was important for the farmer to carry out good monitoring of his land and use chemical control with the right product at the adequate moment.

Does the right product exist? What is its representation? Is it that determined by the salesman, the employee of pesticide companies or of cooperatives, henchmen of the multinationals, who manipulate the agronomical prescription book and sell the product as "last generation" technology, "less toxic," "low dosage," and more expensive? The specialist goes even further and says in his reply that research exists concerning genetic manipulation to develop borer-

[6]Magazine *Globo Rural*, 261, July 2007.
[7]Magazine *Granja*, 63 (699), March 2007, p. 11.
[8]*Agricultural Supplement* of the newspaper *Estado de São Paulo*, 52 (2.745), June 18th 2008, p. 2.
[9]Magazine *Granja*, 63 (702), June 2007.

resistant varieties. That is, he is recommending transgenic plants, even though he is aware of the difficulties involved in accepting GM plants in Brazil, and of the lengthy processes to authorize the commercialization of transgenic seeds by the National Bio-safety Technical Council (CTNBio).

Company Specialists as Sources of Information

Other sources of information consulted by the reporters refer to company specialists. What are their voices and what do they wish to say? They were heard 11 times by the magazine *Balde Branco*. According to the specialist Bernard Gozlan of the company *Phytosynthese*, cited in the material "Partnership unites M. Cassab & Phytosynthese," this alliance "allows Brazilian breeders to receive new alternatives to the antibiotics used as growth promoters, already approved and used in Europe."[10] He added that the cost/benefit ratio was competitive with synthetic chemical products and the results were similar. The research on new products by the company is based on 350 vegetable species such as ginseng, neem, boldu, artichoke, passion fruit, and eucalyptus. Two products stand out amongst those on sale in Brazil: Biostar Tonic, an additive to improve the growth and zootechnical performance of animals by stimulating their appetite and reducing stress, and Eimericox, a supplement supplied together with the feed, aiding the control of problems related to coccidiosis and improvement in food conversion.

Although the materials published in the magazine *Balde Branco* express a posture strongly associated with encouraging the use of pesticides, a change in paradigm in relation to the food concept can be perceived by way of the information linked to the private company, representing a new orientation for alternative products.

In the material "Clinical mastitis in four responses," published in the magazine *Balde Branco,*[11] the veterinary surgeon Breno Silva, specialist from a private company, deals with some more frequent doubts concerning the clinical form of the disease. Clinical mastitis is the disease causing the most prejudice to dairy activities. The losses occur on account of various factors amongst which a reduction in milk production, an increase in discarded milk and an increase in labor, veterinary, and medicine costs. According to the specialist:

> What happens in the majority of cases of clinical mastitis is that the bacteria causing the inflammatory reaction and clinical case is overcome by the natural defenses of the animal. Thus in approximately 30% of the cases, treatment with antibiotics is of no purpose, since the animal itself already eliminated the bacteria (Silva, 2008, pp. 50-51).

The considerable pressure exerted by pesticide industries could have its part in the responsibility for the continuation of this behavior. They oblige us to accept the presence of pesticides and ingest them every day, probably in doses above the maximum limits for residues (MLR) allowed by the legislation, deceived by the announcements and by the companies.

At this point it is interesting to reflect on the legislation that altered the toxicological classification of pesticides, as follows:

[10]Magazine *Balde Branco*, 13 (506), December 2006, p. 6.
[11]Magazine *Balde Branco*, 43 (521), March 2008, p. 50.

> Decree number 03 of the Ministry of Health, Brazil, of January 16th 1992, ratified the terms of an act published in the Official Journal of the Union on 13/12/1991, denominated "Policies & orientations concerning the authorization of registers, renewal of registers and use of pesticides and similar products." (Falk, Carvalho, Silva, & Pinheiro., 1996, p. 246)

Falk et al. (1996) explained that this decree referred to the change in toxicological classification of pesticides. Thus:

> The products that were registered according to the original classification as Toxicological Class I–EXTREMELY TOXIC (red band and skull) and Toxicological Class II–HIGHLY TOXIC (yellow band and skull) have become Toxicological Class III–AVERAGELY TOXIC (blue band) and Toxicological Class IV–SLIGHTLY TOXIC (green band), neither with the skull and the usual identification concerning the risk presented by these products. (p. 246)

Due to this normative change, on average six percent of the pesticides in Brazil remained in classes I and II–Extremely and Highly Toxic—and 94 percent moved into classes III and IV–Averagely and Slightly Toxic. Previously, according to Law 7.802/89, on average 85 percent of the pesticides in Brazil belonged to classes I and II, 12 percent to class III, and three percent to class IV. Decree number 3 not only minimized the toxicological classes of the products, but also made it possible to increase the concentration of the active ingredient in many pesticides (Falk et al., 1996, p. 246).

The authors pointed out the importance of the colors of the bands, which are commonly identified by the farmers. The alteration of these colors and also the increase in concentration of the active ingredients increased the number of intoxications due to pesticides in the municipality of Venâncio Aires, a tobacco producing region. However, frequently such intoxications are not diagnosed by health professionals as being a consequence of these products (Falk et al., 1996, p. 247).

It must also be pointed out that up to this day, the older tobacco growers mostly speak in German and show difficulty with the Portuguese language. Many are also illiterate and others never developed the habit of reading the labels or agronomic prescription books. Thus the products are recognized according to their packages and by the colors of the warning bands.

Benatto (1995) denounced the illegality of this administrative act since it did not have the names or seals of the authors and because this was not the meaning of the document approved.

In the material "Strawberry: abundant and healthy harvest," published in the *Agricultural Supplement* of the newspaper *O Estado de São Paulo*, the specialist Sérgio Homma from the research center of the company Korin in Atibaia, Brazil, commented about the productivity of organic strawberries: "If all works out we should reach 700 grams/plant with a standard for selling *in natura.* . . . Seven years ago the average productivity was 300 grams/plant."[12] However, the Coordinator of the research center, Fernando Souza, said that the construction of healthy soil is a lengthy process. He stated that "the product must be attractive and tasty or the consumer will not buy it, and it must also be productive, or the producer will not survive."

[12] *Agricultural Supplement* of the newspaper *Estado de São Paulo*, Year 52, nº 2.705, September 12th 2007, p.10.

Meneghini et al. (1999) developed a survey with the objective of understanding the environmental sociological perspective, the form with which the network of social actors is constituted around the organic products, oriented mainly with respect to the producers, entrepreneurs, and consumers, and also to AGRECO (Association of Ecological Producers of the General Mountain Slopes), which coordinates the producers. The results showed 130 family producers, a supermarket chain pioneer in the commercialization of organic produce, and a consumer public aiming to consume healthy, high quality produce (Meneghini, et al., 1999, pp. 361-362). The researchers observed a rich social process involving "[t]he organization of producers; diversification of their produce; possibility of reducing the rural exodus; feasibility of involving new neighboring producers; influence on other local supermarkets" (p. 362).

The supermarkets acquire an "alternative" and "healthy" image amongst the consumers, and the organic products containing no pesticides remain on sale or return, with low additional costs for marketing and sales structuring (Meneghini et al., 1999, p. 362).

The authors reported the selectivity of the consumers, since 74 percent had completed university education and 75 percent had a salary above 15 minimum salaries. Of these, 51 percent only started consuming organic products when they were presented in the supermarket, and more than 50 percent were confident in the way in which the products were produced (Meneghini et al., 1999, p. 362).

Pesticide Manufacturing Companies as Sources of Information

As can be seen in Table 3, the magazine *Granja* stood out with respect to the use of pesticide manufacturing companies as sources of information, using eight such sources. As an example, *Granja* divulged the use of PINBa–Bayer integrated prevention, an innovated concept developed by the company, which promises to revolutionize the fruit and vegetable market by the preventative control of diseases and pests in the plantations. The program will attend 14 cultures in the fruit and vegetable sector.

> When diseases and pests are detected in the field, the producer can be sure he will have some type of prejudice. The best way to avoid the losses caused by infestations is to anticipate them and this is what PINBa does: It offers all the support necessary for the farmer to avoid compromising his plantations, and consequently he will produce fruits and vegetables with the standard of quality demanded by the market[13].

An analysis of all the materials published by the magazine *Granja* that used pesticide manufacturing companies as their source of information shows a policy highly favorable to the consumption of pesticides. One example is the interview given by the president of Arysta LifeScience, Flávio Prezzi, entitled "Agro-business requires agility" and published in the magazine *Granja*:

> Brazil needs to be agile in conceding the register of products and in obtaining technologies; in the development of infrastructure with respect to highways, transport and ports; in the definition of agricultural policies and principally in the implementation of definitive solutions that would help Brazilian producers, such

[13] Magazine *Granja*, Year 62, nº 689, May 2006, p. 64

> as, for example, the Agro-business Receivables Foundation (FRA), which has been limping for years. The amplification and agility of the dialogue with the authorities and with different representations of the production chain and agricultural exporters are the only way.[14]

According to Flávio Prezzi, contrary to all forecasts, the Brazilian agricultural market has entered a new cycle of growth, part of which was generated by new investment in soybean and sugarcane for the production of ethanol, caused by the domino effect created by the American project. Growth in the sugarcane area squashed some other cultures, especially in the State of São Paulo, and other factors increased the prices of almost all commodities. The year 2007 was very good for Arysta and we hope for the same in 2008 and 2009.

It is clear from the speech of the president of Arysta that amongst many interests of the companies, one is to increase the price of commodities, with a view to surviving the loss in profit when the fall in pesticides comes to pass, which is the reason why these corporations react by pressuring the government of the country.

In the material, "Food crisis turbines transgenic plants," published in the supplement *Agrofolha*, pesticide manufacturing companies divulged a new generation of genetically modified (GM) harvests, in which they concentrated on abiotic factors such as drought and flood, heat and cold, salinity and acidity. Between 2012 and 2015, the company Bayer Crop Science plans to launch flood resistant corn varieties onto the market. Syngenta aims to produce a corn variety that is superior to the common one in drought years, but which, according to the company's research director, Zinselmeyer "does not prejudice the yield in years when water is abundant."[15] At the same time, Monsanto is working to add genes to increase the nitrogen efficiency of the plant. None of these companies commented on pesticides.

However, this new biotechnological generation, associated with the abiotic factors, will probably require chemical control just like the conventional plants, due to the appearance of diseases, pests, and invading plants of the first transgenic plants. Nevertheless, the government is favorable with respect to transgenic plants, protecting them despite knowing about their limitations and the fact that they demonstrate the need for increasing doses of pesticides.

In addition, the newspapers and magazines only show the profits obtained from the chemical products, misleading the population with false promises of well being and greater productivity, with the objective not only of increasing the number of followers, but also of maintaining the "frightened herd" subdued and non-participant in the actions. Chonsky (2003) cites Reinhold Niebuhr, who "argued that rationality was a gift given to very few. Only a very few receive this gift, and the majority of the people are guided by their emotions and impulses" (pp. 18-19).

Rural Producers as Sources of Information

Information from rural producers was consulted by the vehicles sampled in the present survey, with the exception of the magazines *Veja* and *Caros Amigos*, showing a total of 39 sources. The newspaper *Jornal de Piracicaba,*[16] for example, in a material entitled "Producers organize themselves to gain space," presented six sources of information alluding to the

[14] Magazine *Granja*, Year 64, nº 710, February 2008, p. 66.
[15] Supplement *Agrofolha* of the newspaper *Folha de São Paulo*, July 15th 2008, p. B 10.
[16] *Jornal de Piracicaba*, January 9th 2008, p. B-3.

egy used by small rural producers to define and implant actions as a group, with the objective of divulging organic agriculture.

Final Considerations

The greater part of the sources consulted by the reporters presented a pro-pesticide posture, as observed in the publication of the journalistic materials in the selected magazines and newspapers.

Many of the reports resulting from sources of information in the government and from research institute and public university specialists demonstrate the connivance of the state with a policy favorable to pesticides, showing they do not remain as neutral as they should. Such sources propose subsidies for the permanence of the pesticide multinationals in Brazil, giving force to the neo-liberal way of thinking of the communication vehicles.

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