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Operating Modes and Sustainable Strategies to Enhance the Market of Agro-drugs

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Abstract

Today, the agriculture faces with different challenges, which include, besides others, sustainability, which has an impact on all product processes. For farmers buying agro-drugs with sustainable price is an important aspect to ensure the economic sustainability and further development. For consumers buying food products with adequate guarantees is relevant for their health and for the environment sustainability. For companies selling agro-drugs is a profitable activity. The aim of the contribution is to focusing the operating modes that have to be corrected for a more sustainable agro-drugs market.

Keywords: Agro-drugs; Regulatory framework; National Action Plans; European agricultural system; ISTAT

Introduction

The objective of this paper is to carry out an analysis of the current framework of the agro-drugs market in order to assess its operational sustainability as it is influenced by the recent adoption of three implementing Regulation and the approval of two Communitarian directives.

The analysis was conducted starting from the definition of the regulatory framework followed by the identification of the main characteristics of both European and agro-drugs worldwide market with particular focus on the Italian reality.

Concerning the regulatory framework The European Parliament and the Council, with the establishment of the Sixth Community Environment Action (Decision 1600/2002/EC of 22 July 2002), initiated a process that led the Commission to publish on July 12, 2006 the Communication Thematic Strategy on the sustainable use of agro drugs in order to deal adequately with the issues inherent the use of agro drugs [1].

It has been painted a complex picture that came to fruition in late 2009 with the publication of the following measures:

Directive 2009/127/EC with regard to machinery for pesticide application;

Directive 2009/128/EC on the sustainable use of agro drugs;

Reg.1107/2009 concerning the placing on the market of plant protection products;

Reg.1185/2009 concerning statistics on pesticides;

In order to have a complete picture of the Statement, we have considered in add to these acts the Reg.396/2005 concerning the maximum residue in food and feed.

With reference to the adoption of the European regulatory framework the Italian legislation imposes that the agro drugs have to be approved by a Decree of the Ministry of Health, and only after this approval the production and market placing are possible.

Analysis the information, based on the agro-drugs worldwide market trends, is necessary to use in strategic decision-making process for the agricultural system.

Characteristic elements underlying the agro drugs market functioning are: the progressive substitute product offer that exceeds the demand, the threat of new and aggressive competitors, the socio political changing, technological innovations, and issues of sustainability.

Based on the information obtained and consequent analysis, an assumption intervention has been postulated aimed at reaching agricultural system sustainability.

Source of the statistical data are international bodies universally recognized.

The investigation combines empirical and conceptual approaches.

Materials and Methods

The general objectives of the above mentioned 2009/128/EC Directive are those more specifically related to the purpose of this contribution.

The mentioned Directive contains the rules for human health and environment protection.

The implementation of these procedures has a direct effect on the marketing of the products.

The objectives of human health protection include: consumer protection, protection of the rural population, protection of public areas frequenters.

The objectives of environmental protection include: protection of aquatic habitats, protection of water supplies, and protection of natural areas.

The reduction in risk to human health and environment is achieved through a framework of actions identified by the Directive and that Member States will have to implement in their National Action Plans (NAPs) to be transmitted to the Commission.

The ultimate goal of the National Action Plans is to encourage the development of integrated pest management in order to realize a sustainable usage in the following aspects:

Economic: respect of efficiency and profitability criteria of agricultural production;

1. Environmental: through a lower impact on the environment thanks to the valorisation of natural resources and ecosystems;

2. Social: thanks to the achievement of high standards of food safety and health protection.

The indications toward sustainability arising from the application of integrated pest management have been implemented in assurance systems, communication tools, observation and supervision related to production techniques all related to a deep knowledge of the food product [2].

In addition to direct interventions on the market, the adoption of Community rules led to a revision of plant protection products through the evaluation of substances (Directive 91/414 EC) by the withdrawal of almost 70% of the active ingredients when review process started.

Concerning Italy currently, approximately 360 active substances and about 3000 commercial products are authorized; the enterprises that deal with the distribution of the active substance and / or commercial compound can be identified thanks to public records kept by Institutional bodies or specific sector associations.

Overall, the European review process led to the exclusion from the market of many products with a wide range of crops on the label and limited the number of authorized crops and usage of products containing substances not allowed.

The introduction of the “cut-off criteria" and "comparative assessment" required by the Rules in Reg.1107/2009 is estimated to lead to a loss from 9% to 25% of the active substances remained.

In addition, because of the rules imposed by the EU, companies have been forced to cut costs for research of innovative solutions (On the cost side of agro-drugs use there can be costs to the environment, costs to human health, as well as costs of the development and research of new agro-drugs), effective and sustainable crop protection, with implications for the European agricultural system that loses ground against competitor’s world.

The result is a drastic decrease in the number of active ingredients developed and introduced in the European Union, according to data from Agrofarma [3].

While in the 80s and 90s in Europe four new solutions every year were introduced, between 2005 and 2014 the number dropped to 1, 2.

In addition, the percentage of the total investments directed to the European market for new products development now stands at 7.7% compared to 33% of the 80s.

In particular, according to research, the number of companies engaged in R & D decreased drastically in recent years, while it increased from 34 in 1995 to 17 in 2012. Also the focus of the research itself has changed exhibiting increasing interest on genetic varietal improvement. From a structural point of view, the agro-drugs production (The agro drugs are divided in two types: generic and specialty. The main difference between these two categories of products is attributable to the fact that generics are products for which patent rights have empire and then, being freely reproducible, are more subject to competition based on price. Instead, the specialties are the expression of recent research of the manufacturers and as such are produced and marketed exclusively by Companies holding the related intellectual property rights) is now attributable to multinational companies, highlighting an increasing concentration of the offer.

Ten companies control now 90% of the global pesticide market, while in the 80s were 20 companies.

The concentration of business finds its explanation in the high level of required investment to enter the industry, to adequate required certifications and inspections and to after place the product.

This has forced companies to activate merger or acquisition processes.

The types of companies currently operating in the sector can be divided as follows:

1. Large multi-national companies with international market

2. National SME (Small Medium Enterprises) mainly operating with international market.

The dominant position of the multinationals is expressed significantly in the specific markets in relation to specific products [4].

Multinational companies with foreign capital, dominates with large groups (Bayer, Syngenta, BASF, Dupont, Monsanto, Dow) which generate nearly 70% of total revenues.

According to ISTAT [5] data on the distribution of plant protection products for agricultural use in Italy, in the period 2003-2009, the market distribution of agrochemicals has confirmed the persistence of a high level of concentration: half of the national distribution is marketed by 9% of the companies.

From the organizational point of view, in Italy [6] is located a major global sales network consisting of approximately 4000 businesses and approximately 97% of agro drug is marketed through sales to distributors.

About 60% of the distribution is handled by private while, respectively, only 14% and 25% of sales relates to cooperatives and consortia.

On the other side, the demand is, in most cases, pulverized at the level of individual farmers.

Excessive fragmentation forces producers to have a store in every municipality with a huge waste of resources.

In this context of obvious contractual weakness of users compared to producers, is clear that prices dynamics can only be to the advantage of the strongest individuals.

The result of these dynamics is a growing, though limited, demand in terms of quantity, accompanied by a decrease in prices.

Overall, in the last decade, the input prices of the agricultural sector, as measured by products prices paid by farmers, reveal an increase of approximately 39%.

The relation between sold products prices index and prices index of products purchased by farmers, inverted, since 2003, the trend favourable to the farms that had characterized the previous period.

In the world, according to Phillips McDougall data [7], the market of agro drugs in 2010 appeared to be of over 38 billion dollars, allocated in percentage as described in Figure 1 and was estimated an average annual growth of 2.2% between 2011 and 2014.

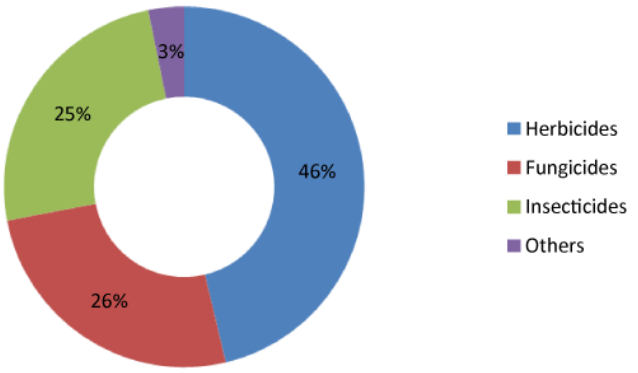

Figure 1: Distribution of the worldwide market value of agro drugs (%)

The incidence of the Italian market is equal to 3% of the value stated above.

The most significant increases were shown, in Philips Mc Douglas report, in South America, Asia and Eastern Europe.

The analysis foresees the biofuels crops and transgenic production to be the cause of the increasing consumption, as well as investments to support food demand in some Asian countries, first of all China.

The current territorial division of the global agro drugs market, shown in Figure 2 [8], confirms the strong relationship between chemicals consumption and the adoption of agro-industrial development models.

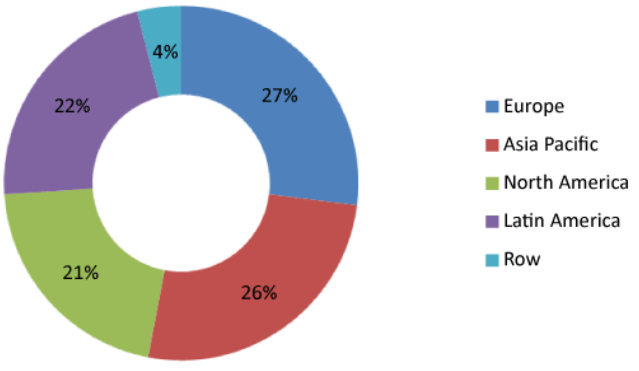

Figure 2: Global Agro drugs market (%)

Considering the decade period from 2001 to 2009, the amount of crop protection products distributed annually does not show relevant and changing trends marked although the context reveals large annual fluctuations. This relative stability of flows, however, represents an aggregate value emerging from contrasting performance of the main products categories: decreasing trends affect fungicides, insecticides, herbicides, while, innovative and low environmental impact products registered quite relevant increasing trends. Organic products doubled their weight within the sector over a ten years period.

Especially for toxic products, the reduction is mainly due to the use of agricultural practices, agro-environmental policies encouraged by the EU and national, addressing a lower demand of chemicals means used in agricultural crops.

Results

Generally speaking, compared to other sectors dealing with technical means, agro drugs uses appear to be less affected by the economic situation, both for the characteristics of the used raw materials that are less susceptible to markets fluctuations, and for the adoption of rational behaviour of users.

As is clear from the survey, the European registration system, which turns out to be the most severe for what concerns the regulation of crop protection products, would be pushing more and more companies to invest outside Europe.

In recent years, plant protection products were characterized by a technological tendency to replace the old conception molecules with new generation active ingredients with reduced environmental impact, even though climatic conditions evolving year after year and types of crops influence the distribution of different types of products.

The technological evolution and new regulation of the agro drugs sector has led to the need for more resources and bigger enterprise dimension to deal with the requested economic efforts related to the development and registration.

The concentration in a few hands of resources devoted to research allowed exercising market power against farmers, the end users of the products, increasing their dependence on the inputs production.

In order to avoid this dominant power, a greater aggregation of farms, distributors, retailers and secondly, to encourage independent research could be a solution [9].

The excessive number of companies that mainly characterizes the Italian and European agricultural reality is not a sign of market competitiveness, but of its inefficiency.

The reasons why is not easy to rationalize agriculture Italian system and its offer and eliminate less efficient firms are well known both at Italian and European level. Often motivations of social or environmental nature induce the adoption of disciplines and subsidy schemes designed to protect small and discourage the big ones.

In the absence of a modernization of agricultural supply, strengthening the structure of agro drugs demand appears unrealistic and reaches positions of greater balance with the offer likely to be illusory.

The use of a greater diversification in agro drug is, in any event, an opportunity to be exploited to strengthen the freedom of choice.

It is also vital to overcome fragmentation also in the distribution channel, in order to achieve a sustained correction of the imbalances existing in the market, through a rationalization of the distribution

that is more geared towards more modern company's models forms of and increased economic dimensions.

In this regard, the development of competition is desirable in order to encourage a reduction in prices.

References

1. European Commission (2006) Thematic Strategy on the sustainable use of agro drugs. COM 372 final, Brussels.
2. MIPAAF (2012) Piano d'Azione Nazionale per l'uso sostenibile dei prodotti fitosanitari, Roma.
3. Federazione Nazionale dell'Industria Chimica (FEDERCHIMICA)
4. Vieri S (2012) Agricoltura settore multifunzionale allo sviluppo. Edagricole, Bologna.
5. ISTAT (2011) Indagine conoscitiva sulla situazione dei mercati delle sementi e degli agro farmaci, Roma.
6. INEA (2012) Annuario dell'agricoltura Italiana, Roma.
7. Phillips McDougall.
8. Markets and Markets.
9. Camera dei Deputati (2010) Indagine conoscitiva sulla situazione dei mercati delle sementi e degli agro farmaci. Bollettino delle giunte e delle Commissioni, Roma.