

## LIMAGRAIN: A COOPERATIVE SPIRIT AMONG THE WORLD'S SEED LEADERS

Pierre-Benoît Joly<sup>1</sup>

Limagrain is a strange company: the first international independent seed producer, and a local cooperative. This paper investigates the relationship between this company's identity, organizational structure, and its innovation strategies. The main objective of the company is to help the farmers (who are both shareholders and stakeholders) maintain a central place in the agricultural economic system. However, the innovation strategies that have been developed accordingly face important internal tensions as well as external viability problems.

*Key Words:* cooperative; identity preserved products; public/private associations.

Top managers define Limagrain as both an agricultural cooperative originating from Auvergne in France and as the first independent world seed company. Its structure is a reverse pyramid, with a turnover of 6 billion French francs (FF) (approximately 800 million US\$ or 900 million Euro), 5,000 employees, and 500 members, all of which are farmers.<sup>1</sup> This top-heavy structure is the result of a collective history which saw its rapid growth from 1971 onwards. The development of the maize variety LG 11 enabled it to take the lead in the European maize seed market early on. As a result, it specialized in seed multiplication. The resulting profits realized from two-digit growth were reinvested in research and development (R&D) activities and the purchase of additional seed companies. Limagrain focused its purchases in the vegetable sector but then also made several purchases abroad, allowing the cooperative to become a world leader in the seed industry.

Considering its top-heavy structure, and the complexity of the sectors in which it operates, one would expect farmers to have little influence, if any, on the company's decision making processes. In other words, one would expect decision making to lie firmly in the hands of technocrats and top managers. But this has not been the case. First, on two separate occasions, in 1984 and in 1994, a disagreement over significant strategic decisions between the Governing Board (representing farmer interests) and general management led to management being replaced. Second, members of the governing board play a significant role in decision-making. Not only do they follow the affairs of the company, they also share between them responsibility for the different divisions and main subsidiaries of the Limagrain group. In order to improve its own competence and industry knowledge, the Board regularly organizes training sessions and forecasting exercises for its members. Third, the Chairman of the Limagrain group, who truly represents Limagrain's interests, plays an active role in significant strategic initiatives. The Chairman is a member of the Board.

The key to understanding Limagrain's business and innovation strategies is its dual identity—both as a local cooperative and as an international leader in seed production. What follows is a brief

---

<sup>1</sup>Pierre-Benoît Joly is a Director of Research at INRA (Institut National de la Recherche Agronomique), France. This article is based on a company monograph written as part of the PITA project. © 2001 AgBioForum.

overview of its recent performance, past and present business alliances, and what these mean for its future innovation strategy.

### **Recent Performance**

Limagrain operates mainly in Europe—81% of its sales and 80% of its employment are located in European countries. It specializes in seeds for field crops and horticulture. These two business segments represent, 39% and 31% of its turnover, respectively (see table 1).

**Table 1: Main Products.**

	Sales in Million FF (and % of total)		
	1995/1996	1996/1997	1997/1998
<b>Field Crops</b>	1,906	2,186	2,397 (39)
<b>Horticultural (Vegetables and Flowers)</b>	1,307	1,626	1,906 (31)
<b>Agro-industry</b>	1,150	1,024	1,106 (18)
<b>Bio-Health</b>	575	602	307 (5)
<b>Other Products</b>	314	361	430 (7)

Note. From Limagrain Annual Reports.

Between 1993 and 1998, Limagrain's turnover doubled reflecting its strategy of internal and external growth (table 2). Over the same time period its R&D budget increased by 50%. Hence, during this rapid growth period its R&D intensity decreased from 8% to 6%. This drop in R&D intensity is significant given the focus of its innovation strategy which depends on further R&D investment.

**Table 2: General Data on the Limagrain Group (in Million FF).**

	1992/1993	1993/1994	1994/1995	1995/1996	1996/1997	1997/1998
<b>Total Turnover</b>	3,094	3,649	4,139	5,227	6,022	6,147
<b>Turnover in Europe (as % of total)</b>	76	83	82	85	82	81
<b>Operating Profit<sup>1</sup></b>	242	245	298	338	408	471
<b>Net Profit</b>	16	29	45	41	83	164
<b>R&amp;D Expenses</b>	247	253	252	277	350	369

Note. <sup>1</sup> Excluding exceptional items. From Limagrain Annual Reports.

### **Recent Business Focus**

In the last decade, different events have marked the history of Limagrain. A brief review of these events allows a better understanding of the factors which have determined its present strategy.

In 1992, the European Union had proposed several changes to the Common Agricultural Policy (CAP) which were perceived as a significant threat to the future of Limagrain. Like many upstream companies, the Limagrain group thought a change in the level of agricultural support to producers (i.e., decrease in market prices, fixed compensation subsidies, and set-aside) would result in a drop in its activities. In order to avoid such a scenario and maintain its growth path, two strategies were pursued. First, in 1992 the company diversified into pharmaceuticals through the purchase of Dolisos Laboratories. Second, it set about developing branded end-products, by purchasing Pain Jacquet in 1995 (which was the first French industrial bread company); by simultaneously creating an agro-industry branch of the company; and by creating a separate subsidiary, called Ulice, which was put in charge of using advanced industrial methods to select and develop crop varieties specifically adapted to end-user needs.

In 1994, Limagrain took over the seed production assets of Rhône-Poulenc Agro (RPA) through an exchange of shares, creating Limagrain Genetics International—which was 83% owned by Limagrain and 17% by Rhône-Poulenc Agro. In addition, the two companies developed common research programs in crop biotechnology within a joint venture called “Crop Biotechnology.” The agreement made with Rhône-Poulenc Agro is still in effect: Rhobio, a subsidiary common to Biogemma and RPA was formed in April 1998. Rhobio has focused on R&D of disease-resistance, on identifying new genes of interest, and on the improvement of genetic engineering techniques.

In July 1997, Limagrain created the Biogemma company in collaboration with Pau Euralis (which had a 25% stake), Sofiprotéol, and Unigrain. The objective was to coordinate the research potential of the two companies in order to compete with the large crop biotechnology corporations, such as Monsanto. Biogemma therefore pursued a double objective: to create a purchasing group that would be able to best negotiate patent licensing contracts; and to be a source of industrial intellectual property for the exchange of technologies among large industry players. At the same time that it created Biogemma, Limagrain also made the strategic decision to concentrate on biotechnology and agro-industrial activities, and to dedicate all its resources towards this goal. As a result, it terminated its diversification strategy and sold Dolisos to P. Fabre Laboratories.

In February 1999, several public research institutes and private companies, such as Rhône-Poulenc Agro, Biogemma, and BioPlante, announced the creation of the Genoplante program. This ambitious research effort focused on plant genomics and brought together important French actors, both public and private. The work represented a research effort amounting to 1 billion FF to be expended over 5 years.

### **Future Business Focus**

Today, the Limagrain group is confronted with a major challenge—how to stay in the biotechnology race. Large agrochemical corporations, such as Monsanto, DuPont, and Syngenta, are concentrating their research efforts on plant genomics. It is estimated that they are investing between 60 and 70 million US\$ in plant genomics per year. The difficulty for Limagrain is its low investment capacity. Its total R&D budget is approximately 50 million US\$—which covers all research activities and not just plant genomics. In 1997, Lescoffit, Chairman of the Executive Committee of Biogemma, explained it this way, “there is a relation of 1 to 10 between the budget that seed producers dedicate to biotechnologies and that of the most active agrochemists.” In other words, agrochemical companies are out-investing seed companies by ten-to-one. This realization is reflected in Limagrain’s strategic positioning from 1996 onwards—biotechnology is one of the central themes for the company; and mastering biotechnology is seen as necessary if the group is to keep its identity and independence.

The research and development dilemma had led to the establishment of closer links between Limagrain and Pau Euralis, and, as already indicated, the creation of Biogemma. Indeed, the alliance of Limagrain with Rhône-Poulenc was, and still is, considered by agrochemical

companies to be a competitive threat both from a strategic point of view, as well as from an image point of view. The creation of Biogemma has allowed the company to provide technological services to farmers. This is seen as a positive step in the industry given that other companies have pursued a less farmer oriented approach. Yet despite its potential threat, its financial and technological resources limit Biogemma—it has an R&D budget of only 60 million FF per year. Hence, Biogemma is not an end in itself. Instead, Limagrain has used it as a basis to negotiate a large French research initiative, with the end result being the Genoplante program. As already indicated, Genoplante has significantly more R&D resources at its disposal.

As long as Rhône-Poulenc Agro keeps to the initial deal—that is, no direct investments made in seed production—the Biogemma and Genoplante projects are compatible. Limagrain has taken on the role of a specialty seed producer, developing a strategy of specialized marketing channels, while Rhône-Poulenc Agro has adapted its activities to the crop protection market. Any modification to these strategic directions is a threat to the stability of the deal. As it turns out, the creation of Aventis (bringing together AgrEvo and Rhône-Poulenc Agro) represents a serious threat to the earlier alliance established with Limagrain, as AgrEvo is the stronger partner with regard to crop biotechnology. AgrEvo is wanting to integrate seed production into its existing activities, as reflected in its recent investments.

### **Limagrain's Innovation Strategy**

As already indicated, in order to fully understand Limagrain's innovation strategy, one must understand its dual identity as an international seed producer and as a farmer cooperative. The present slogan of Limagrain, “an agriculture of the future for the benefit of mankind,” summarizes Limagrain's approach. Its focus is on agriculture rather than life sciences, and an agriculture of the future which is not solely focused on farmers but rather on taking advantage of technological progress. The reference to “the benefit of mankind” is equally important in defining the group's identity. It is situated in a humanistic worldview in which profit is only a means to an end—at the service of human development. For Limagrain this is even more applicable as its shareholders—farmers—are not solely in search of dividends but rather the development of their own activities.

These characteristics have largely determined Limagrain's biotechnology innovation strategy as follows,

- Biotechnology is seen as a means to develop identity preserved, value-added, branded products, because in the long-term biotechnology is viewed as adding significant value to agricultural production. Hence, resources, such as the company's capacity for research and development, are earmarked for biotechnology. On this basis, development of specific marketing and distribution channels for value-added products is part of its innovation strategy.
- Limagrain's participation in the development of biotechnology must allow farmers to remain major actors in the chain of agro-industrial activities. Limagrain is concerned about the erosion in farmers' freedom to operate (FTO), whereby their activities are restricted by strong agricultural suppliers, on the one side, and giant food retailers, on the other. An example of such erosion is the “gene leasing contract” system implemented by Monsanto in the US.

The formation of Biogemma is the net result of this innovation strategy. Through the formation of Biogemma, farmers are able to fund and participate in decisions regarding upstream R&D activities. This allows them to influence the direction of research projects and the methods used to develop specific products. Biogemma is seen as a strategic tool which will allow farmers to play a major role in the unfolding biotechnology revolution. However, the ability of Limagrain to be a world leader in plant genomics is not solely based on the formation of Biogemma, as its strategic investment in Genoplante demonstrates. Limagrain's strategy must be seen in the broader context of France's desire to lead in the plant genomics revolution.

Two major constraints, each of a different nature, may impede the implementation of this innovation strategy: (1) the availability of financial resources, and (2) consumer acceptance of biotechnology, particularly, genetically modified organisms (GMOs). Each constraint is addressed separately.

The costs of biotechnology R&D and the development of specific distribution, marketing and identity preserved channels are quite high. Sharing R&D costs is a partial solution to this problem but it is not enough. The objective of Limagrain is to increase returns on traditional activities. This should be possible by strengthening its position in seed markets.<sup>2</sup> However, the challenge facing the company is to find a way back to its core competence—to concentrate and build upon its seed production capabilities. Seed production is already of growing strategic importance in the emerging biotechnology-seed-chemicals complex, and particularly with the development of identity preserved systems. In addition to this general challenge, Limagrain has rightly identified Asia as having the potential for strong growth in biotechnology. Limagrain therefore needs to invest in Asian seed markets. Top managers are also aware that the future of seed producers, like Limagrain, is dependent on the evolution of industrial property rights. Indeed, plant patents are perceived by Limagrain to be a threat to the free access to plant genetic resources which it has enjoyed so far and which are needed to develop new products.

Another key strategic challenge for Limagrain is the acceptability of GMOs. Key to overcoming this challenge is the perception of their usefulness. The development of identity preserved products with improved quality traits should contribute to solving this problem, but such products are not a sufficient solution. Top managers at Limagrain also consider the lack of any clear vision for the future of European agriculture, both by the general public and the European government, to be a major constraint in the development of biotechnology products. Key questions need to be addressed in order to articulate such a vision of agriculture. Should Europe recover its self-sufficiency in plant proteins? Should it increase its capacity to export plant and animal proteins? What is the future of the agricultural sector if the will is lacking to expand production? At present, such a vision is missing. In this context, technical progress brought about by GMOs is unlikely to be valued.

### **Which Organizational Structure Is Viable?**

As a local cooperative, Limagrain is a very specific company. Being a cooperative has important consequences for the company's culture and decision-making processes. Farmers are both shareholders and stakeholders.<sup>3</sup> The support of farmers to Limagrain is not only contingent upon expected returns on investment but also on the ability of the Governing Board to form a consensus view of the company's direction. Although technocrats play an essential role in decisions, broader strategies and specific technological projects are usually discussed at several different levels of the company. Such joint action is crucial to the formation of a consensus view and farmers play a central role in such dynamics. This often results in a slower reaction to business opportunities, however. The firm is able to react to a changing business environment, as the divestment of Dolisos readily indicates. Yet, the problem for Limagrain is that such decisions take time, and a "maturation" period before business orientation is changed. In such a decision-making environment consistency and consensus is achieved at the expense of flexibility.

Limagrain clearly favors decision-making by consensus. Committees play an important coordination role, and in all research areas where committees are involved, a common view prevails. While new ideas may develop (such as Limagrain's participation in Genoplante or its strategic investment in Pain Jacquet) it takes time to give them shape and bring them to fruition, particularly if they run contrary to the prevailing common vision of the company.

Limagrain's innovation strategy clearly reflects its dual structure. However, in order for it to achieve its goal of leveraging biotechnology innovations for value-added products, it must

become a leader in international markets, which may take it along trajectories that fall outside the control farmers. This internal tension is at the core of Limagrain's dilemma.

Because its lack of resources, the strategy of Limagrain currently rests on external collaborations with other key players. In many ways, Limagrain has succeeded in transforming its national environment by setting up Genoplante. However, the future of this public/private genomics platform is not guaranteed, in part, because of the recent acquisitions of Aventis and also because of an ongoing lack of public support. Ironically, the genomics research being conducted at Genoplante may provide a way to avoid transgenic methods altogether delivering it from the current controversy. An innovation strategy that is consistent with the strategies of other industry players, such as the agrochemical corporations, is imperative. This is particularly important at present, given the continuing merger and acquisition activity that is taking place within the agricultural sector.

## **Endnotes**

- <sup>1</sup> In comparison, another French cooperative, Pau Euralis, has 2,000 employees for 25,000 members and a consolidated turnover of 4 billion FF (according to 1997/98 data).
- <sup>2</sup> The contribution of vegetable and maize seeds to Limagrain's bottom-line is essential: these two activities contribute 100 and 80 million FF to its net income, respectively. Net income totals 160 million FF, which is slightly less than the total contribution of the combined income derived from seed sales, but which takes into account losses from other businesses. Because of its recent difficulties and its desire to return to being the market leader in the maize seeds market, Limagrain still holds the strong belief that its competence lies in seed production, "our job is to always be aware of the evolution of varieties, to have good ideas before others do and know how to implement those ideas." (Limagrain, personal communication, September 1999).
- <sup>3</sup> The company's stakeholders are individuals or groups that contribute significantly to the recognition of the company—both internally (e.g., employees) and externally, for example, societal groups (consumers, citizen groups). A company must defend its legitimacy vis-à-vis stakeholders as well as shareholders.

## **Additional Readings**

Joly, P-B. and Jorge, I. (2000). PITA Project: Policy influences on technology for agriculture: Chemicals, biotechnology and seeds (Limagrain Group Monograph Annex C10). Available on the World Wide Web: <http://technology.open.ac.uk/cts/pita/AnnC10-mono-limagrain.pdf>.