FEEDINFO
PERSPECTIVES

# Nor-Feed Invests in Production to Support Growing Demand for Botanicals

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**What is driving the boom in botanicals? Is it the association in consumers' minds with characteristics such as wholesomeness, at a time when the trend for natural foods is ascendant? Is it the move away from chemical pharmaceutical solutions, driven by regulators? Is it the fruit of research which has been carried out over the last several years to better understand the composition, benefits, and modes of action of plant-based additives?**

All three factors—and perhaps others besides—are indeed believed to be contributing to the growth of this sector. Meanwhile, in order to keep up with that growth, companies such as France's Nor-Feed are investing in production. Over the last month, the botanicals firm opened a new manufacturing in Chemillé. Today, Nor-Feed's joint CEOs Olivier Clech and Pierre Chicoteau, as well as industrial director Nicolas Tessier, sit down with Feedinfo to explain the rationale behind the investment and share their views of the future of this space.

**[Feedinfo] How does that plant change Nor-Feed's production operations, in terms of output and new capabilities? What does this mean for your existing production facilities?**

**[Nicolas Tessier]** The new plant in Chemillé is a great achievement for us at Nor-Feed. The 2,500 square metres (or 26,910 square feet) plant is fully automated and the various machines and equipment we have installed will enable us to increase capacity four-fold.

The new plant will also allow us to operate an innovative extraction process we have developed and patented, to fractionate plant materials and make certain metabolites available without having to use expensive and often chemical-based extraction methods. In total, this will allow us to produce enough additives to supplement around 50 million tonnes of feed per year.

**Nicolas Tessier**
Industrial Director
**Nor-Feed**

This is a great opportunity to reinforce our position in markets where we are already active, such as in Europe and Asia, while boosting our presence in many markets we have recently entered. This includes the USA, China or Brazil, to name the most recent developments.

The existing manufacturing site, only a few kilometres away, will be closed down. All the equipment has been transferred to the new plant. With sales continuously increasing, having to interrupt manufacturing operations for two weeks without stopping the deliveries was a delicate undertaking, as you can imagine. Our supply chain and commercial teams have worked closely with our clients to manage this transition in a consistent and smooth way.

**[Feedinfo] In what ways does the new plant help support the sustainability of Nor-Feed's operations?**

**[Nicolas Tessier]** The new Nor-Feed plant runs on green power, as the electricity powering it is renewable and locally-produced. Furthermore, sustainability is built into the DNA of our products, and is a driving force from their conception down to their final use. At the very beginning of the production chain, the raw materials used to make our feed additives come from co-products of the agricultural industry, rather than being deliberately-cultivated resources with an increased agricultural footprint (Melissa officinalis being an exception). The products are manufactured without any chemical solvents, and are concentrated to reduce the carbon footprint of their transportation. Plus, they are designed to replace synthetic chemical products.

Finally, Nor-Feed has recently engaged in a B-corp certification process, which cements our commitment to a more sustainable way of doing business.

**[Feedinfo] Which specific products will be the focus of production at the new plant?**

**[Nicolas Tessier]** The new plant will manufacture the entire Nor-Feed product portfolio.

**[Feedinfo] Why did you decide to make this investment? What does it imply about Nor-Feed's growth as well as its long-term strategy?**

**Pierre Chicoteau**
*Joint CEO*
**Nor-Feed**

**[Pierre Chicoteau]** The investment was made to keep up with the high level of interest and growth in the botanicals

market and the continuous expansion of Nor-Feed over the years. It meets the increasing market needs for botanicals, which were initially used as flavouring substances, and which are now showing more and more benefits, in three applications in particular:

First, as natural coccidiostats: these are in demand in many territories around the world, which fuels the growth of Norponin XO. Some countries in Asia for example are stricter than Europe vis-à-vis the use of chemicals and ionophores, in finishing feed in particular.

Second, to improve feed efficiency in a sustainable way: this is a never-ending objective of this industry, for economical but also for environmental reasons. This is compounded by the skyrocketing cost of raw materials, making this issue all the more critical. Some of our integrator customers have incorporated Nor-Spice AB in their feed, and to quote one of them, “it is a very cost-effective solution”.

Third, as antioxidants: in that space, we have our flagship product Nor-Grape 80, a well-documented antioxidant supported by five patents, used by vet and feed companies to protect mammals, birds, and fish against the damage of free-radicals and ultimately to enable the production of a healthier animal protein.

Nor-Feed has been preparing for years to ride the current “botanicals wave”, as export sales represent ¾ of our current sales even as the French market continues to show double-digit growth. We have worked hard, for example, at pursuing EU authorisation as a demonstration of our products’ credibility (Nor-Feed has one of the sector’s highest number of EU dossiers approved or submitted for botanicals, according to the FEFANA inventory list). This facility allows us to cater to the needs of both domestic and international markets.

**[Feedinfo] How does the location near Angers help Nor-Feed access a unique pool of talent and research? Can you give any examples of “cross-pollination” which has taken place between the medicinal and animal nutrition sectors to the benefit of Nor-Feed?**

**Olivier Clech**
*Joint CEO*
**Nor-Feed**

**[Olivier Clech]** Chemillé is located in the heart of the Anjou region, in western France, known as the hub of aromatic and medicinal plants in the country. The region is also home to a number of our research partners, such as ITEIPMAI (the French technical institute on aromatic and medicinal plants), which has selected the specific variety of M. officinalis utilised in our EU dossier; Vegepolys Valley (the

French competitive cluster dedicated to plants); and the CPVO, or Community Plant Variety Office, established here 1994, whose task is to administer a system of plant variety rights, also known as plant breeders' rights, a form of intellectual property right related to plants.

Close to our offices and the new facility, there is also the FeedInTech “Labcom”, a joint lab between Nor-Feed and the SONAS laboratory (part of the Angers University of Pharmacy). SONAS is one of the leading labs in the world focusing on pharmacognosy (the study of medicines based on natural, rather than synthetic, sources), and the laboratory is supported by France’s ANR (National Research Agency). This partnership has been instrumental in the building up of Nor-Feed’s expertise in saponins, polyphenols or citrus extracts, amongst other actives.

In addition, the new location is purposefully close to the old one, so that we can keep our current production team of nine on board for this new chapter in the Nor-Feed adventure.

**[Feedinfo] What are the most significant changes in the botanicals market since you entered this category years ago?**

**[Pierre Chicoteau]** When we started Nor-Feed in 2003, the market’s perception of natural products and botanicals in general was definitely not the same as today’s. The first point to tackle was efficacy, as without addressing this, the main actors in the industry would not trust botanicals over existing chemical solutions. Therefore, providing evidence about our products, supported by documented trials, has been critical to push back against this narrative since Nor-Feed was founded.

Since then, natural solutions such as botanicals began to take a place in the spotlight after concerns grew about the use of in-feed antibiotics and other related solutions, which took place alongside a societal shift that focused more attention on the origins of food and feed. A related factor that has played into the segment’s growth have been governmental bans of things like antibiotic growth promoters, zinc oxide, certain ionophores, and other substances, oftentimes as a result of the general public’s demands. That, of course, has influenced the private sector and the image of natural products.

Last but not least, the industry’s ability to prove the effectiveness of botanicals have matured after decades of dedicated research. Our products have a clear composition and identity, as their ingredients are well-defined from development to production, and transparent in terms of the minimum percentage of the main active ingredient in the plant extracts. Positive results and feedbacks from users have been growing exponentially, an outcome that gives an extra incentive to Nor-Feed and our partners.

**[Feedinfo] We are increasingly seeing botanicals used in zootechnical applications. What are some of the areas in which your products have had the most success? How do these products measure up to more traditional measures against challenges like coccidiosis?**

**[Olivier Clech]** To limit the impact of coccidiosis on broiler chicken health and welfare, coccidiostats have been used successfully for decades; their very large usage has triggered the development of resistant strains of Eimeria, pushing

for the development of more sustainable alternatives. Plant and plant-extract feed additives are among the most promising tools used to control coccidiosis in broiler flocks. It has been demonstrated that some saponins in particular have the ability to disrupt the protozoa cellular membranes, and are able to inhibit the invasion process of the parasite. Nor-Feed has developed a proprietary technology by combining this property of saponins with the use of antioxidants.

One of the challenges on the way to developing such solutions that can become either reliable alternatives or complementary solutions to synthetic coccidiostats the market is looking for is finding a reliable assessment tool for evaluation. Many authors, such as Soutter (2020) have highlighted the issue.

The reason is that experimental trials conducted in research stations are based on a small number of birds, all uniformly exposed to very high level of infestation. These methods may be relevant in evaluating classic synthetic coccidiostats but not necessarily others that have a different mode of action; this is a first concern.

Moreover, in commercial farms, birds are exposed to coccidia over a very different geographical and time pattern: coccidia pressure is not uniform, the reaction of the flock is not the same as that of an individual bird, etc.

Nor-Feed has conducted both experimental station trials and controlled field trials. Experimental trials have shown the efficacy of our technology compared to synthetic coccidiostats, and this on-station approach must be complemented by field trials on large numbers of birds. We have also conducted many controlled field trials with our partners in different countries around the world, including the recording of lesion scores, where birds were exposed to coccidia in real commercial conditions. And these trials totalling more than 1 million birds, all show Norponin XO can be used safely as a standalone coccidiostat solution, or as part of a shuttle programme or included in a rotation.

**[Feedinfo] And what are some of the more exciting potential future applications of botanicals that you can share with us?**

**[Olivier Clech]** There's a lot to come! We are currently completing the development of an insect model that will speed up product screening. We are also refining the documentation of new value-adding benefits of our antioxidants, and working on integrating one of our extracts in a feed value matrix.

The new plant is an opportunity for Nor-Feed to implement a new extraction technology, patented but not in use before now, to exploit new botanical sources and make their actives compounds bio-available. This eliminates the need to use expensive and sometimes solvent-dependent technologies to complete the extraction. And to illustrate the potential we foresee: we have designed the plant in such a way that it will permit an extension to double capacity when time comes. Botanicals are definitely part of the future.

*Published in association with Nor-Feed*