

Rediscovering old varieties of wheat and barley *to preserve traditional brewing practices*

The “3 Fonteynen” brewery, located in the Senne Valley region of Belgium, finds its origins in a bar and geuze blendery created in 1883 and reactivated in 1953 by Gaston Debelder, father of Armand Debelder, passing on his vision and values to Michaël Blancquaert, Werner Van Obberghen and a team of 20 people.

Very closely linked to the cultural and agricultural developments of the region in which it is located, its history and very recent production commitments bear powerful witness to local and traditional varieties of wheat and barley.

We met Lucas Van den Abeele at the brewery on a sunny afternoon, for a tour visit and a nice tasting of some of the flagship lambic beers traditionally brewed a few streets away and fermented through a natural process for up to three years on the brewery’s premises.

Lucas is a dedicated young man who joined the brewery after researching the gradual disappearance, since the 1950s or so, of the local varieties of wheat and barley that used to be the pride of the region and gave the unique taste of its *lambic* and *geuze* beers. These beers are brewed with 40% of unmalted wheat, 60% of malted barley and typified by their spontaneous fermentation. For this brewing method the old varieties deliver special traits which new varieties do not offer. Unfortunately, there is no doubt about it today: the locally grown cereal varieties are no longer suitable for brewing industrial beer, and of the hundred lambic and geuze producers who used to work in the surrounding villages, only a few traditional ones remained in the early 2000s.

The tradition of brewing geuze and lambic beer has been partially lost, because of the industrialisation of brewing and the globalisation of agriculture. While a standard beer today takes to six weeks of brewing, lambic and geuze, as well as fruit beers like Kriek can take up to for years and more. Also, most ingredients for brewing are imported from the cheapest possible provider on the global market. Nowadays, in Belgium, less than 1% of cereals used by breweries is actually grown on national territory.

To carry out his research about the value of the traditional local varieties for brewing practices and beer quality, Lucas decided not to only use the existing literature on this subject but to include interviewing local farmers who had been living in Pajottenland for several decades, with the aim to collect their memories, experiences and analysis of the local agricultural situation. Furthermore, he had the vision of building the marketing strategy and the quality focus on the involvement and inclusion of the farmers into the strategy of the brewery’s development.

3 Fonteynen supported his work from the beginning, faithful to the legendary determination of their owners to defend and promote, mainly by keeping them alive, the local traditions related to the production of beers. Indeed, from the 80’s, and regardless consumption of geuze and lambic had reached its absolute lowest peak, Armand Debelder was already claiming that “lambic and geuze have a future because it’s local, and it’s ours”.

Through the work carried out by Lucas, it was demonstrated that Armand, Michäel and Werner weren’t the only one defending that maxim. Some farmers were actually hoping to return to traditional practices and traditional varieties. This was the first step in building a network of cereal producers, collaborating in order to reorganise the local cereal sector.

The network is now gathering 12farmers. Some of them are growing organically, while others can benefit from their peers’ experiences to start transitioning. All of them cultivate the traditional varieties of wheat and barley collected by Lucas from gene banks or farmers networks from around the world, which the 3 Fonteynen brewery committed to buy and use for its beer production. This project is a great demonstration of cooperation and solidarity driven by the search for better quality and more diversity within agricultural production.

Interview with Lucas Van den Abeele

Conducted by Hannes Lorenzen and Adèle Pautrat on March 19th, 2021

One of the main challenges faced by the network has been to find again and reproduce local traditional varieties to grow, but also to get access to a great diversity of other heterogeneous varieties for breeding and testing new cultures.

We were then interested in asking Lucas about the solutions they develop and the successes they get.

Seeds4All. Is the network familiar with testing non-registered varieties of wheat and barley?

Lucas Van den Abeele. We work mainly with varieties that are not listed in the official catalogues, because most of the wheat varieties available on the conventional seed market today is feed wheat, not at all suitable for brewing or organic production.

Their selection has been guided by the needs of the industry and has been based mainly on yield criteria. Agronomic criteria such as soil cover, disease resistance, straw size, have been abandoned because conventional agriculture uses chemical alternatives to control them.

The brewery and the network of cereal farmers have therefore embarked on this research project with the aim of developing varieties adapted to 1/ brewing production, 2/ our Pajottenland terroir and 3/ organic farming. For this purpose, old varieties and population varieties are more suitable, because they are more progressive.

S4A. Where do the seeds come from?

LVdA. Most of our seeds come from seed banks, but also from other farmers or other networks. Through this way, we can receive 10, 20 or 30 kilos of seeds, which allows us to carry out major tests. However, when we go through the seed banks, we generally receive no more than 100 seeds, which considerably limits the genetic potential of our tests, but allows us to have access to a broad range of rare varieties.

S4A. The seed varieties you receive and try, are there connected to Belgium?

LVdA. We are primarily looking for Belgian varieties. Unfortunately, there are not that many. In Belgium, there has been almost no political or industrial interest in the conservation of cultivated varieties. In fact, there is no decent seed bank. So, everything that has ceased to be used has been lost.

Within the network, we are also interested in cereal varieties from regions bordering Belgium, like northern France, Germany, the Netherlands... regions where the soil and climate conditions are close to or even similar to those in the Pajottenland region. But not only that, because in the end, the most important thing is to test. We already tested Italian varieties that have grown very well in our fields.

S4A. How do you manage the breeding and testing?

LVdA. In general, we start on a small scale, on plots of 1m². Then we regularly visit the fields with all the members of the network to compare the different varieties and follow their development. Each farmer has a different perspective and can choose the varieties he wants to test on a larger scale in his field.

The second phase of testing is done at the brewery: one test per variety and two barrels per test. The varieties are left to age in the barrel for at least two years, as the 3 Fonteinen brewery works according to very long traditional fermentation methods. At the end of last February, we were able to taste the first barrels of beers produced from old varieties!

S4A. How many varieties are currently breeding and testing within the network?

LVdA. Since the creation of the network, we have tested 60 wheat varieties in our fields. Next year, we plan to test 7 more. At the brewery level, 13 of these old wheat varieties have been tested in the barrel.

For barley, it's a bit more complicated, but we want to try to produce our own malt within the network. At this stage we have done brewing tests on 5 different barley varieties. Last year we tested 5 in the field and this year we have 20.

S4A. What are the criteria you are looking for in a variety?

LVdA. We try to define this with the farmers, to have a collaborative and participatory approach in order to bring out what's best for farmers and brewers.

Of course, very often for farmers, the first criterion is yield. But within the network, other elements become more important. For example, it has happened that a farmer selects a variety primarily because he finds it beautiful. This is also the pride of a farmer: to have something beautiful, even if it is completely subjective. The other more technical criteria that we observe are the percentage and the tillering habit, which favour the yield, but also the soil cover, the width of the leaves, the resistance to diseases, the height of the straw and its resistance to rainfall, etc.

S4A. How is it difficult to breed your own varieties?

LVdA. For us, this is a lot of work for little short-term results. We multiply the varieties for at least 5 years to reach the 300 kilos of seeds necessary to carry out a single test brew. For the brewery, in terms of investment and commitment, it is huge and a bit insane, but we have no choice, this is the only option we have today.

S4A. What kind of support do you get for your research on plant breeding?

LVdA. Unfortunately, we hardly get any support. We have already tried to obtain Flemish subsidies, but most of the time, we do not exactly meet the criteria of the calls for projects. We feel that in Flanders there is no real political will to develop and strengthen the Belgian cereal consumption sector or alternative projects like ours. Flanders is still very much focused on industrial agriculture.

Wallonia supports more local initiatives and organic farming, but we do not have access to Walloon subsidies because we are located in Flanders. It's crazy because in fact we collaborate a lot with Wallonia, and it's even a beautiful aspect of the project: to have Flemish and Walloon farmers collaborating and learning from each other.

At one time, we thought it would be interesting to put forward this inter-regional cooperation in order to get federal subsidies, but they don't exist... The only solution would be to go through European funding programmes, which is completely absurd.

S4A. So, to put it more bluntly, in terms of support, this project relies mainly on the private convictions and efforts of people committed to make it exist?

LVdA. Yes, and it's a shame, because all the research we do in our fields and at the brewery level could be of interest to many people. It is sad to be reduced to work only within the network, without receiving feedback or being able to disseminate our results and share our experience.

S4A. A new European regulation on organic production is due to come into force in January 2022. One of its major effects will be to stimulate, and in the longer term to make it mandatory for farmers to use organic heterogeneous material and varieties specifically adapted to organic farming. This should accelerate the growth of the organic seed market and therefore allow everyone to progressively have

access to a greater diversity of varieties available in organic farming. Do you expect your breeding and testing activities to be impacted by the implementation of the new regulation on organic production?

LVdA. The brewery recently decided to become certified organic, so from now on, all the farmers will have to grow organically. As far as seeds are concerned, we don't only use varieties developed for organic farming and sometimes we multiply population varieties that don't exist in organic farming. So yes, it might change a little our way to work with seeds.

But personally, I feel that there is also a fear among farmers regarding the provisions of the Organic Regulation, and more particularly regarding the stakeholders who will soon be able to offer organic seeds under the label of Organic Heterogeneous Material: many are afraid that this will open up the market to everything and anything.

On the other hand, once organic farmers will be able to sell their own seed production, what will they have to comply with? Will it be easier or more complicated than buying seeds to seed companies? This is not clear at the moment, and it's possible that initiatives will be nipped in the bud, leaving other players free to take over the market.

S4A. Clearly, the risk exists. We are in a decisive phase regarding the possibilities of support that will or will not be granted to sustainable research projects on plant breeding and seed production. The other possibility is that the industry takes over the organic market and replicates the same practices that plague the conventional sector: creation of hybrid, non-reproducible varieties protected by IPRs, etc.

LVdA. Exactly, and that's why the success of these measures will be linked to strong political initiatives supporting seed producers who are truly committed to a paradigm shift. The companies that are seriously doing organic seed production in Europe can be counted on the fingers of one hand at the moment, which is not very reassuring.

S4A. In fact, what really matters is to support the actors most committed to seed autonomy, food sovereignty and biodiversity. It is with them that we will have to work, in a relationship of trust and proximity. An anonymous market is more prone to abuse and fraud. The organic market is not immune to this, on the contrary, given its exponential growth and the profits it brings in.

It is to put forward the truly sustainable initiatives committed to seed production and dissemination that we created the Seeds4All platform. The Pajottenland network of cereal farmers appeals to us precisely because it demonstrates that quality is based on commitment, will and cooperation, not just on the political measures that are put in place.

So, we will keep on sharing the stories of amazing people leading alternative projects like this one, hoping that they will continue to grow and be spread everywhere.

Have you ever heard of “le petit roux du Brabant”?

Until the 1960s, the star of Pajottenland was the little redhead from Brabant, a very old wheat landrace that was used by all brewers of Lambic and which owed its name to the size and colour of its grain. Since he became interested in the plant heritage of Pajottenland, Lucas has searched for it everywhere: in seed banks, farmers' barns or breweries' granaries, *le petit roux du Brabant* is not to be found anywhere.

We don't know much about its specificities and it's a safe bet that it would have evolved a lot by now, but Lucas has embarked on a real quest to find the trail of this once emblematic Belgian variety. Thanks to the information he gathered, he has succeeded in tracing the history of its movements and crossbreeding.

To date, Lucas has collected 20 wheat varieties that he considers to be close or similar to the little redhead from Brabant. All of them are currently being tested on very small plots, one next to the other, to observe their similarities and specificities. The ultimate aim is to select the most interesting ones, sow them together or cross them with the aim of obtaining a new population specifically adapted to the fields owned by the network and to the local growing conditions; in other words, to **create a *petit roux du Brabant 2.0*, for the pleasure of Lambic and Belgium.**