

Switching to Ecological Alternatives is no smooth sailing!

When you are entering the market with a new product, they always say you should go for an MVP: a minimum viable product. Something that works, and that serves as a good example of where you want to go.

When the Alberts Smoothie Station was in beta-version, we had basically built our MVP: the vending machine could prepare a smoothie automatically and it cleaned itself once finished. Even the app that lets consumers personalize their smoothie was launched pretty soon after the first two machines were installed in the field.

For the beta-series, we didn't put all of our focus on assembly efficiency, durability, optimal performance or the ecologicality of disposables just yet. We applied a lean improvement method. We wanted to get consumer feedback as soon as possible and gradually optimize according to their needs.

However, now that we've proven that our Smoothie Stations work, we have started preparing for industrial series-production. And that also means: optimizing the secondary focus points and what we've learned from our customers.

The learnings from our Smoothie Stations will be transferred into our future Soup Stations as well!

Single-use plastics

The European Parliament officially announced this year that single-use plastics will be banned as from 2021. This message has clearly sunk in with the Belgian citizens.

We are very pleased to have received so many remarks from consumers who suggested that we should "do something about our plastic cups and straws", because "then our healthy solution would truly be perfect".

What they don't realize, however, is that finding ecological alternatives that tick all the boxes is not as easy as it sounds.

Our search for eco-cups

Currently, we decided to work with PET cups for our smoothies. PET cups can be recycled. When they are thrown into the right pile, they can be made into new recycled cups for reuse.

The truth is, though, that [70% of PET plastic never makes it to the recycling process](#). Why? The plastic needs to be sorted and cleaned correctly, because it takes just a small fraction of contamination to make the entire batch of PET unusable.

Nevertheless, we are continuously on the look-out for environmentally friendly cups.

The first contender for Alberts were biodegradable PLA cups. PLA plastic, or polylactic acid, is a bio-based plastic. It is made from renewable raw materials such as corn-based resin.

The problem with PLA cups is that they are rather fragile and they deform when you add hot water (60°C or higher). At Alberts, we've chosen to work with blend-in-cup technology to reduce water and food waste, and to increase nutrient retention. When we make our smoothies and soups, the cup collects all frozen ingredients after which hot, filtered water is added for easy blending while achieving the desired temperatures.

The result was that the PLA cup started crumbling, which created quite a mess as you can imagine! Also, the seal that we place on top of the cups puts too much pressure on to the fragile PLA cups, which made it crumble as well.

We have even tried cookie cups!

Our experiments also included paper cups. However, there are still some difficulties to solve if we were to go this route. More specifically, with these cups, we noticed that:

- the seal is too strong which deforms the cup
- the bottom starts leaking and/or
- the coating inside the cup detaches.

And of course it doesn't look as nice when you can't see the bright soup or smoothie colors inside the container!

But then: is switching from plastic to paper really the way to go?

The best solution so far turn out to be bagasse cups. These cups are made of sugarcane pulp, which is:

- strong enough to withstand the force of the blender
- hot water resistant
- entirely bio
- OK compost

The fact that bagasse cups are tree-free and made of sugarcane waste streams is a big one as we make the switch from plastic to eco. And seeing as the lining inside the cup is made of PLA, the cups are officially "OK Compost". The challenge for the future is, however, to set up a collection system that allows for efficient industrial composting.

Before we can introduce this cups, though, we'd have to find a manufacturer to make them a size that fits our smoothie stations.

In short, we still have some more experimenting to do, but by the end of the year, we'll be introducing our eco-cups amongst our clients.

By the way, as was hinted at before, Alberts is also working on a hot alternative for the smoothie vending machine: a soup machine. For this purpose we are currently also running experiments with bagasse and paper cups. On our radar are also promising new technologies such as those used to make grass-based cups.

What about reusable cups?

This is a question we get often.

First of all making reusable cups that fit our machines would be quite an investment. Also, we need to be able to ensure that the cups are perfectly cleaned at all times. This is an issue you don't have with disposable PET cups, of course. However, if we can count on the client to have a professional team using professional cleaning devices so that we can guarantee food safety at all times, then reusable cups will definitely become a possibility in the near future!

What's up with the straws?

We did use plastic straws in the beginning. The eco-straws that were available until now weren't up to the standard that we wanted to offer our consumers. Bamboo and paper straws don't have a very long stability in liquids. And offering steel straws to everyone would turn out to be an expensive switch, too!

Finally, we met Wisefood at the EIT Food Venture Summit in Paris last year. Their mindset is completely in line with ours. Wisefood has found a way to transform the residual material from the apple juice production, which is otherwise disposed of, into edible straws.

The Superstraw, as they call it, is dimensionally stable in cold drinks for over 60 minutes, and in cocktails even up to 2 hours. In coffee or tea, the edible drinking straw lasts about 20-30 minutes. By using wheat and fruit fibres, Wisefood was able to create an alternative, which is completely biodegradable in approximately two weeks. Or you can simply eat the straw once you finished your drink of course. Superstraws are made using ingredients from Germany like apple pomace and grain. This way, the organization can save unnecessarily long transport distances and protect the environment at the same time.

For their innovation, Wisefood has won the EU EIT Food Award.

Conclusion

The need for an industry standard is eminent. Currently, end-consumers, clients, suppliers, recycling agents nor governments are aligned and many are actually confused. On the one hand, many expectations are unmet. But on the other hand, all seem to have the right mindset now to move towards eco-friendly alternatives.

Switching to ecological alternatives for single-use plastics turns out to be easier said than done. Nevertheless, Alberts wants people to make healthy food choices with respect for the environment. After launching the edible Superstraws this summer and in the context of our Smoothie Station's industrial series production, Alberts is striving to launch a more ecological alternative for PET cups by the end of this year and reusable cups in the course of next year.