

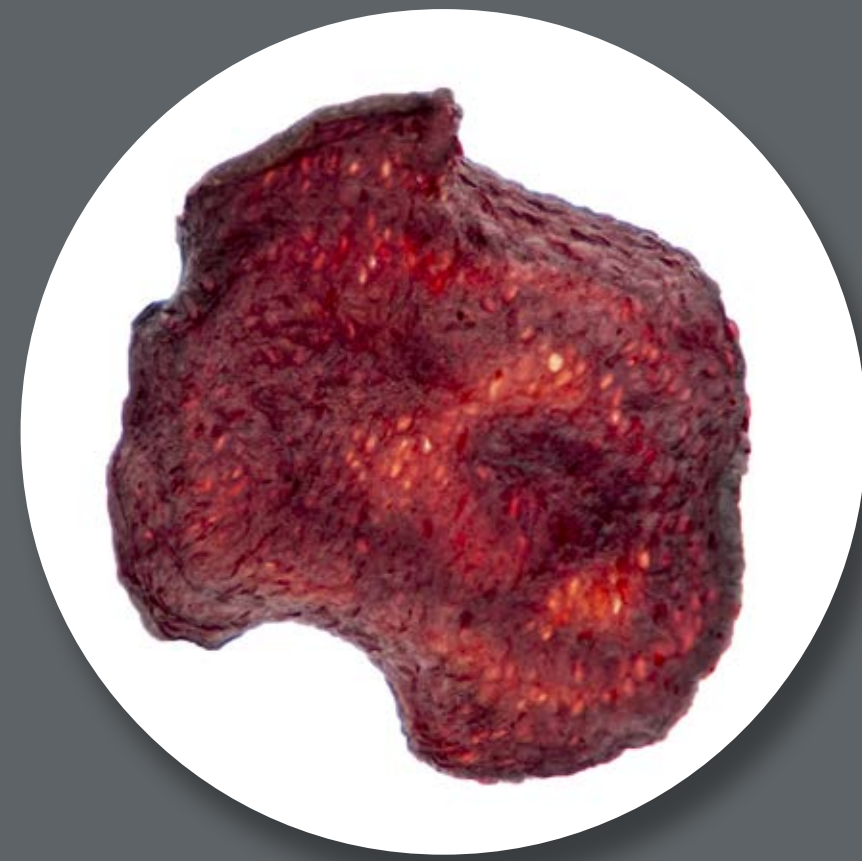


Fry the perfect veggie chip with Elea PEF Advantage belt systems

Control acrylamides, improve quality, increase yield,
reduce cost & develop new product opportunities

Better shape, brighter colour & less waste

PEF treated



beetroot



sweet potato



parsnip



carrot

untreated

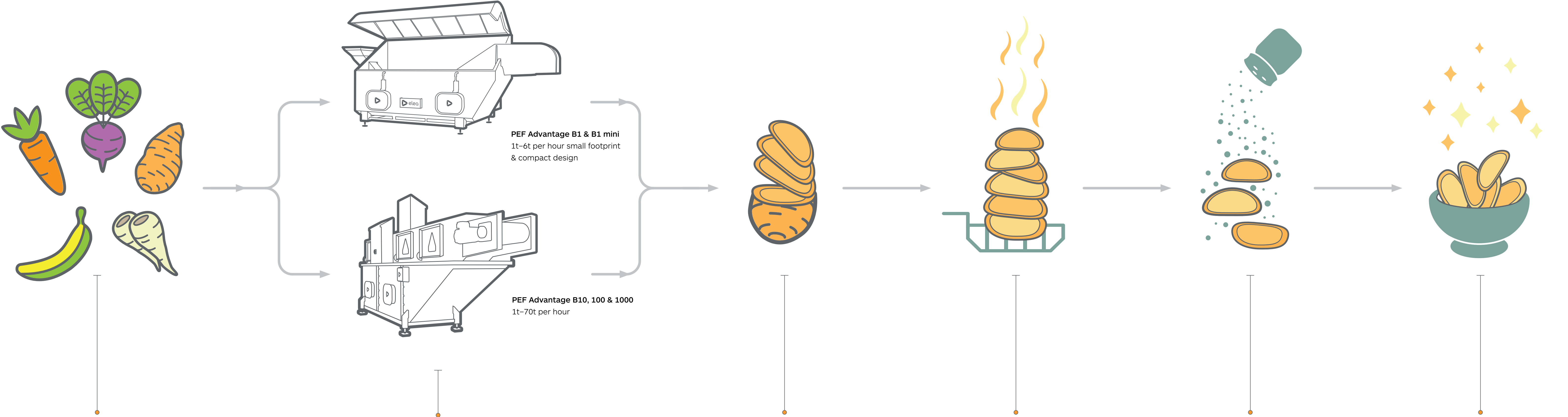


The untreated veggie chip samples shown here have all been taken directly from products available on supermarket shelves.

Fry the perfect veggie chip with Elea PEF Advantage belt systems

New product opportunities, fast treatment, energy and water savings, 24/7 reliable operation

Easier cutting, increased frying control, acrylamide reduction and improved flavour adhesion



New opportunity

PEF treatment softens the vegetable allowing new product opportunities from harder to process raw materials, including sweet potato, plantain, cassava, taro, etc.

Elea PEF Advantage

Ensuring a smooth and quick process, the belt transports the produce through an electric field. The size of the raw material can vary, whether peeled or unpeeled, the treatment remains constant.

Slicing

Easier cutting and improved slicing due to PEF softening gives longer knife durability. Improved slicing leads to less breakage and debris from the product.

Frying

A smoother surface results in less oil uptake. Increased water evaporation enables a lower frying temperature. This leads to reduced acrylamides and improved colour.

Flavouring

The smoother surface enables a more uniform seasoning adhesion producing a better flavoured chip.

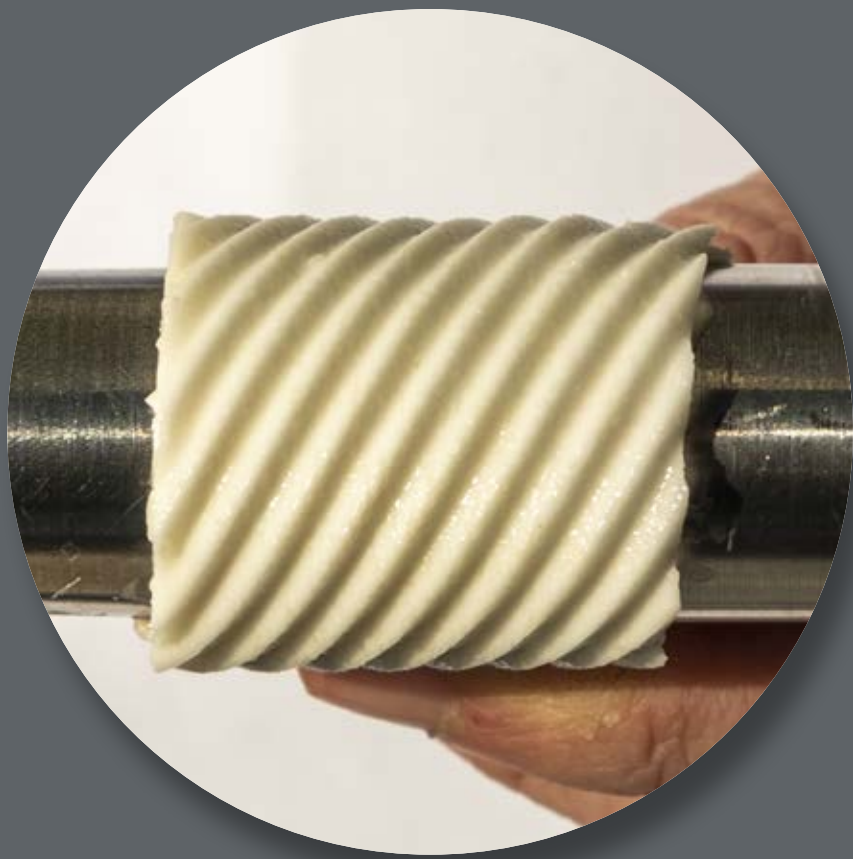
Better vegetable chips

Elea PEF Advantage enables better shape, brighter colour, crispier chips, new cuts, and a lighter and healthier product.

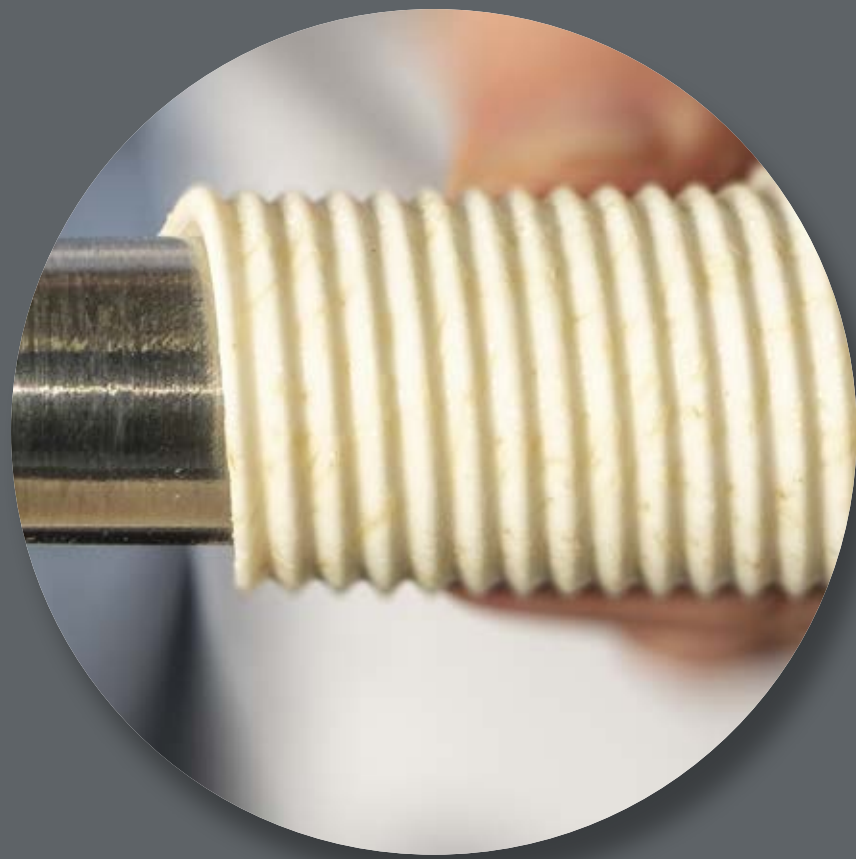
New cuts, greater flexibility & improved quality



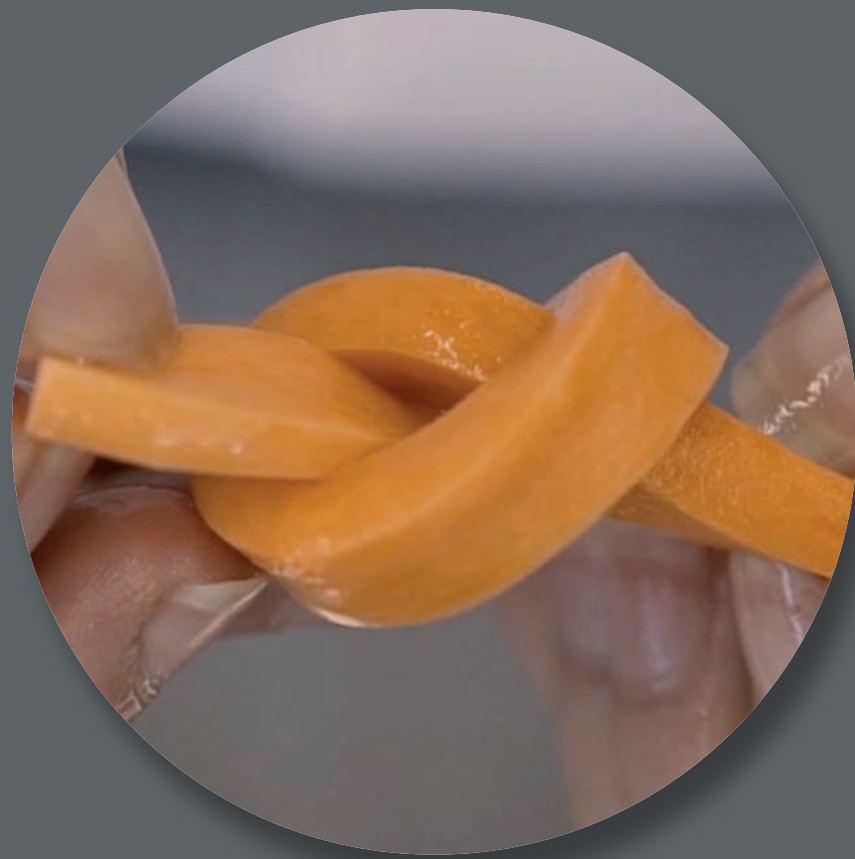
purple sweet potato



cassava



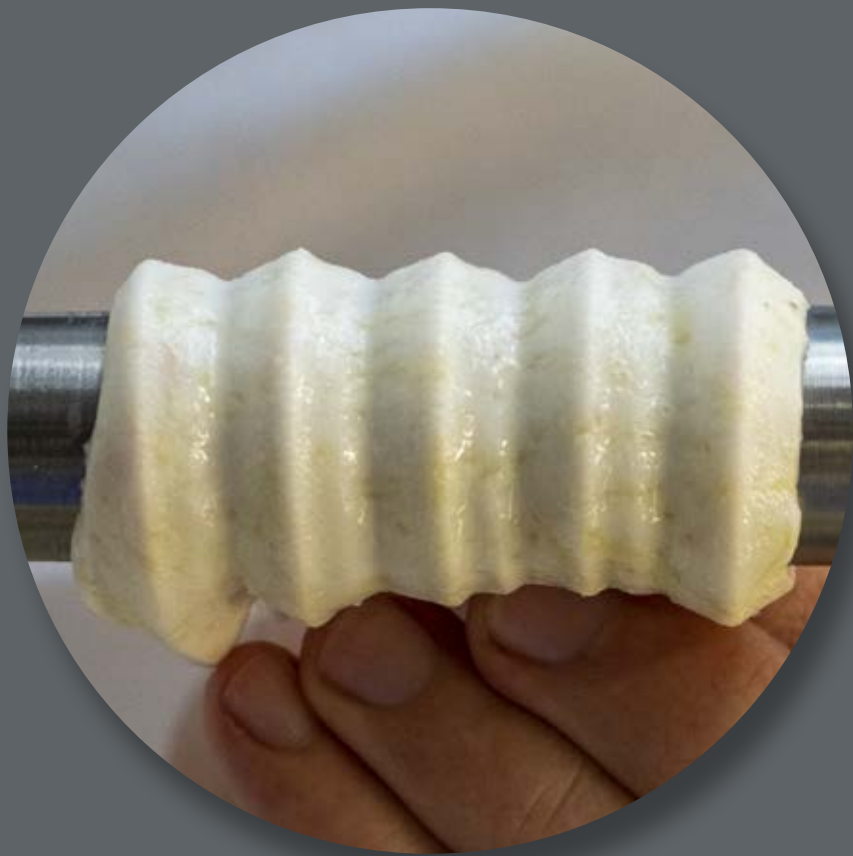
taro



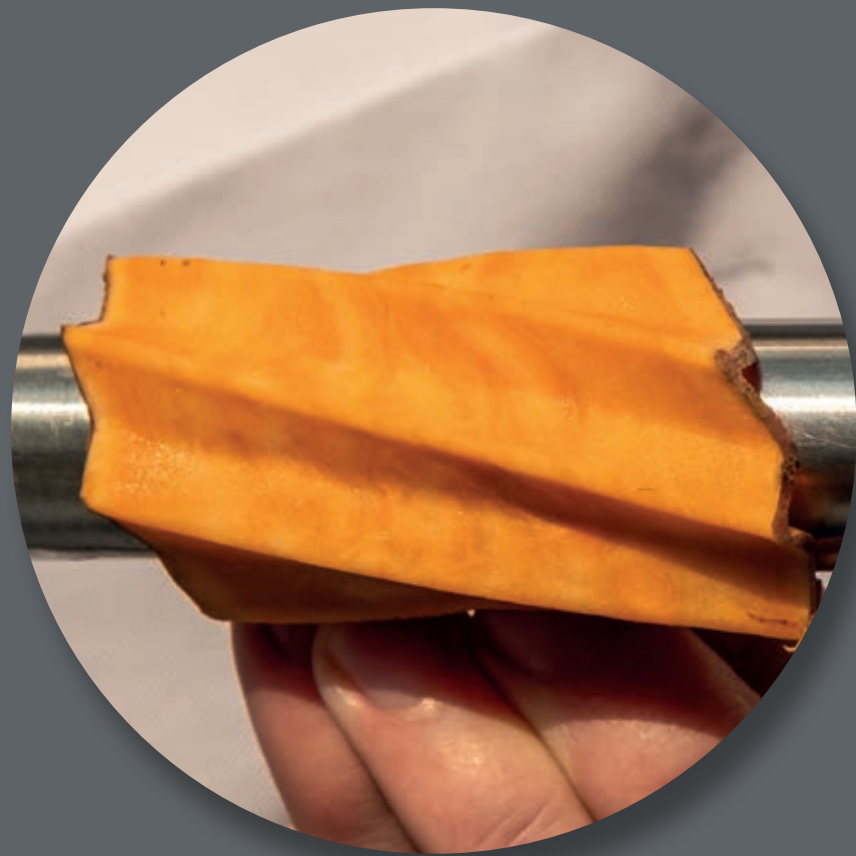
sweet potato



purple sweet potato



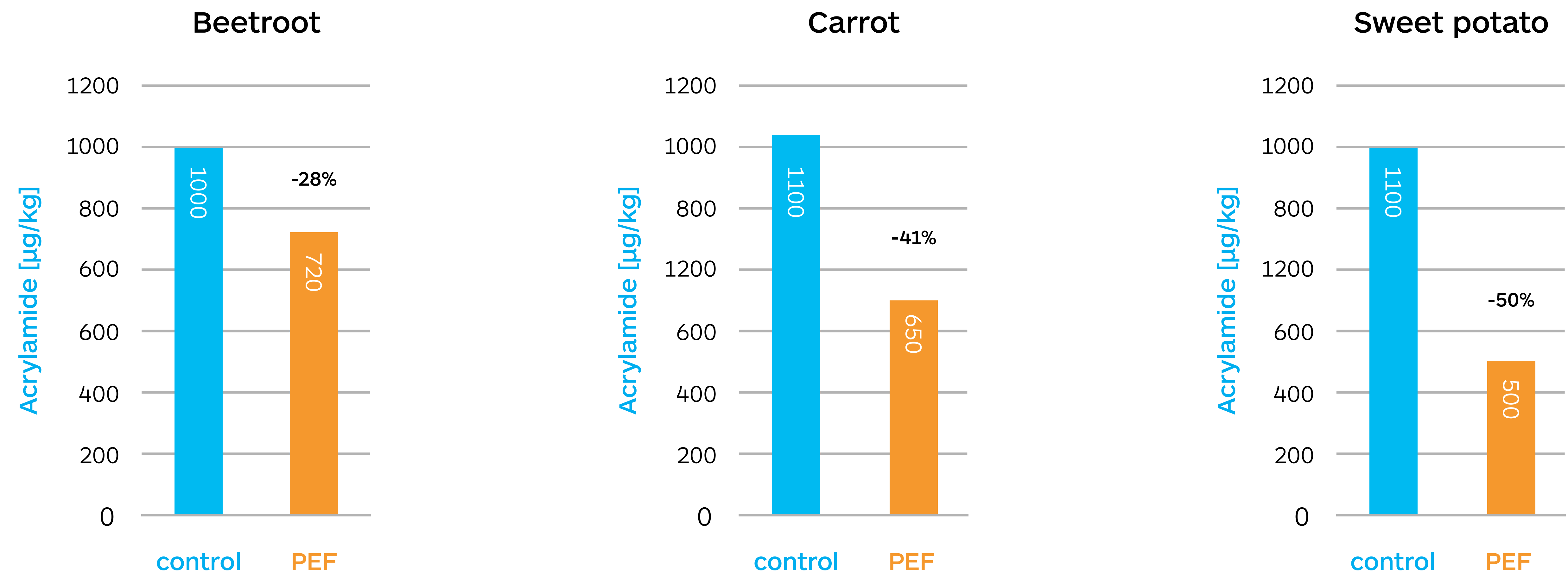
cassava



sweet potato

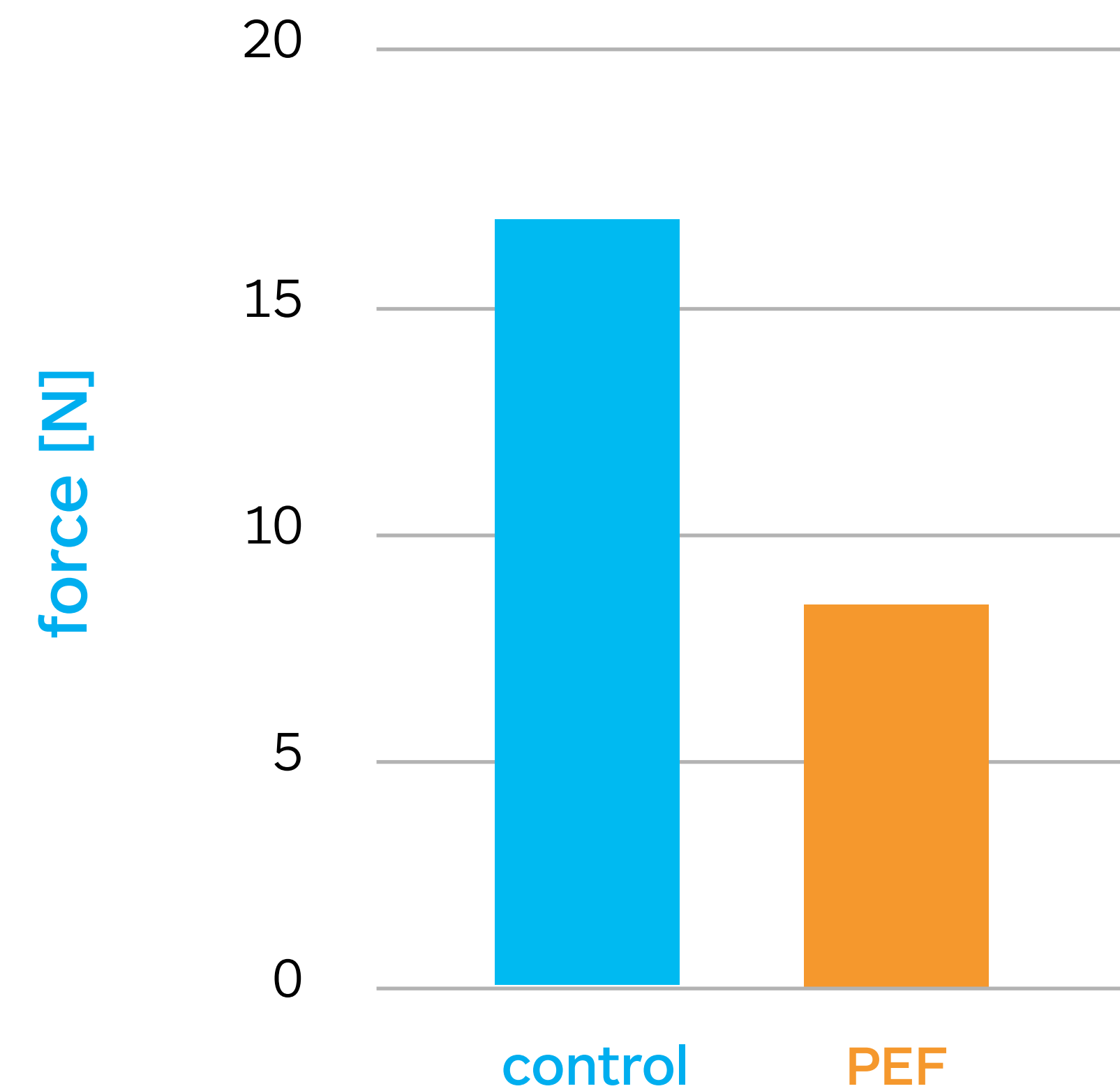
PEF can create radical new shapes and cuts for veggie chips. Raw materials now have the strength and flexibility to maintain its structural integrity and provide exciting opportunities for novel product development.

Large acrylamide reductions in PEF treated veggie chips



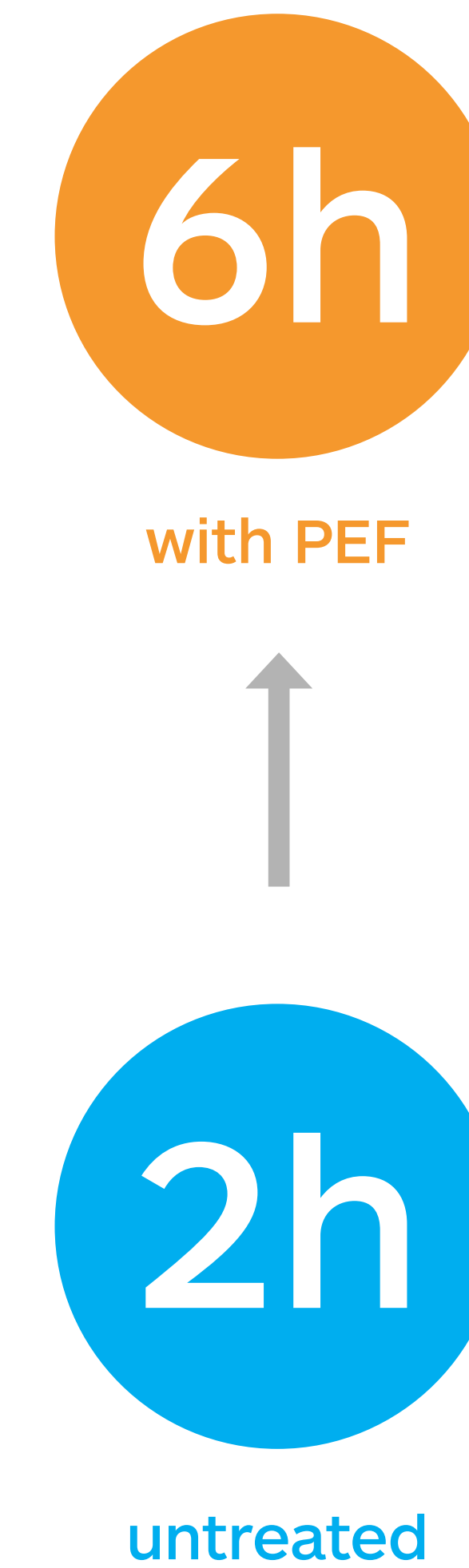
Lower frying temperatures result in a reduction in acrylamide formation and improvement in colour, for both continuous and kettle chips.

Cutting force reduction with PEF of up to 50%



The PEF induced open cell structure and water release softens the raw material making cutting easier.

Much longer knife durability



Due to a softer product the knife durability can be increased.

Reduced starch loss through cutting improvement

€188.000

Value from more solids

181kg/day



47t/year

9kg/h

10%

reduced starch
loss with PEF

Less starch leakage during washing,
because less cells are mechanically
damaged during cutting.

(Data from a 1.3 t/h final product line)

Greater capacity for batch frying

The improved water evaporation
leads to batch size increase and
frying time reduction.

+5% & -10% = +15%

increased batch size

frying time

increase in line capacity
can be achieved

Reduced oil content

A smooth cut results in a smaller
surface area and less oil uptake.

33%

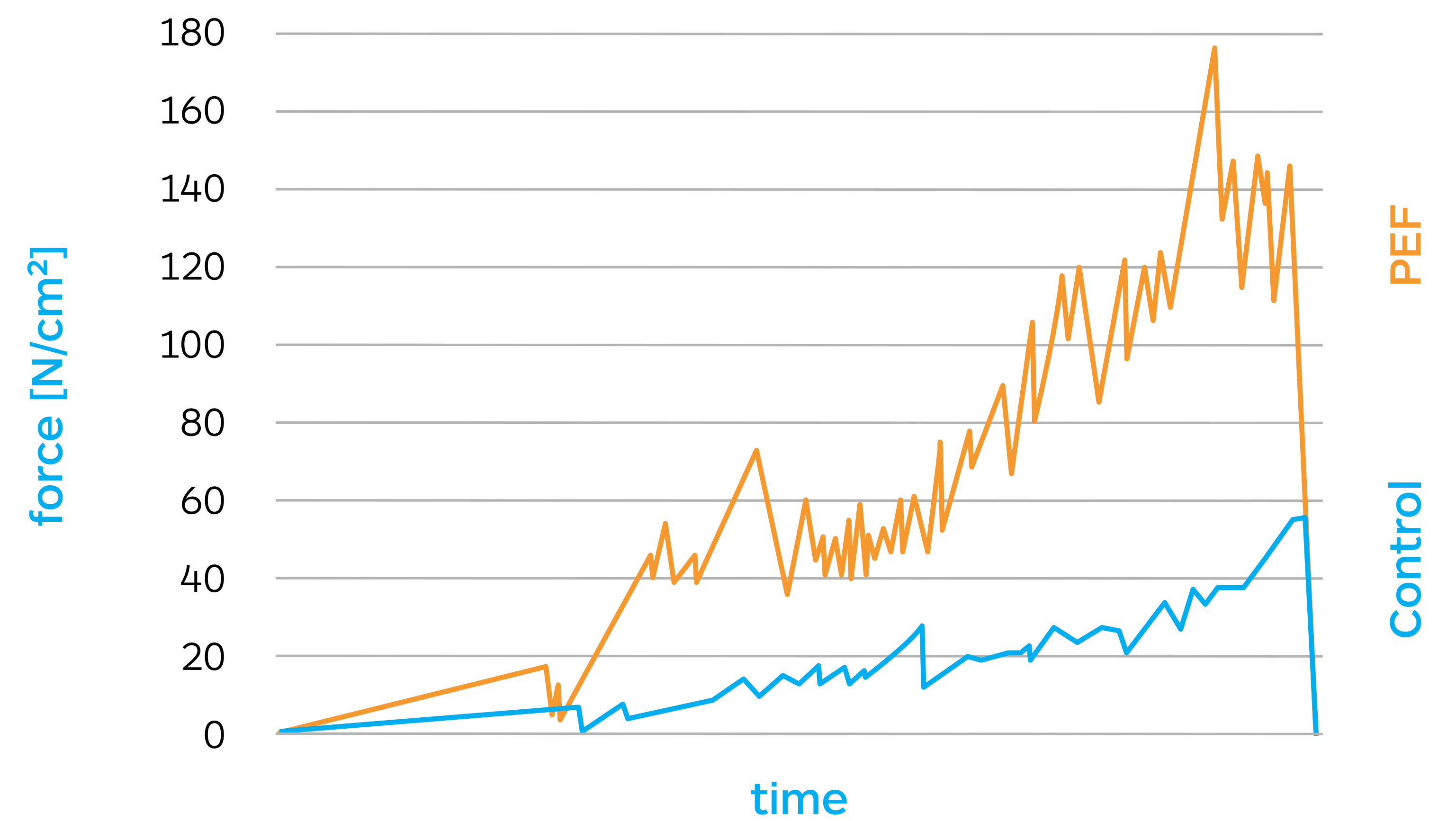
untreated

28%

with PEF



Improved texture and crispiness



Enhanced water release and homogeneous starch gelatinization lead to an improved crunch and mouthfeel.



Get the right Elea PEF Advantage system for your veggie chip line

We offer a range of different sized PEF belt systems with varying line capacity. In addition, we provide a design and build service to customise Elea PEF technology to your specific requirements. All of our systems share the same 24/7 production capability and are designed to operate under extreme conditions. Designed to be easily and fully integrated into your existing production line with minimal disruption.



PEF Advantage B1, 10, 100, 1000

The industrial scale solution for the treatment of tubers, roots, vegetables and fruits. Our PEF Advantage Belt system is available in a range of four models: the PEF Advantage B1, 10, 100 & 1000. Each option is fully customisable to your requirements.

1t – 70 t per hour processing capacity, quick start-up, low energy & water consumption.



PEF Advantage B1 & B1 mini

The compact industrial scale systems for treatment of vegetables and tubers. The PEF Advantage B1 & B1 mini systems are built as a single unit including pulse generator, treatment belt and vessel. The B1 is designed for standard chip line capacities with 1t - 6t per hour.

The B1 mini is especially engineered for smaller lines with capacities of 1t - 3t, with an option to upgrade to B1 capacity if required.





We are the world's leading
manufacturer of Pulsed
Electric Field solutions
with more than 175 Elea
PEF Advantage systems
already installed globally

elea-technology.com