

Done to a turn in no time

Jeroen Knol had never dared to hope that the Nutri-Pulse e-Cooker would work as well as it does. This machine, developed by Wageningen researchers together with a company called IXL Netherlands, does meat and vegetables to a turn. In seconds.

TEXT KORNIÉ VERSLUIS PHOTOGRAPHY IXL NETHERLANDS

The Nutri-pulse e-Cooker is faster than a microwave oven, uses less energy than a gas ring and enables even an amateur cook to produce perfectly cooked fish every time. This machine could be the next revolution in the kitchen, thinks Jeroen Knol, a researcher at Wageningen UR Food & Biobased Research who was involved in the development of the machine. Johan Verbon, chef at the Restaurant of the Future on the Wageningen campus, is enthusiastic too. 'You can dose the heating', explains Verbon, who has already experimented with the Nutri-Pulse at length. 'It is ideal for fish, for example, a pricy product that is only going to get more expensive in the future. So you want to take care with it. Fish shouldn't be allowed to get too hot, because it will dry out. You can set the Nutri-Pulse to heat the whole fish to 54 degrees. Then it will be done

to a T. Firm, flaky, juicy. And it's idiot-proof. Anyone can do it.'

PULSATING ELECTRIC FIELD

The technique that the machine is based on comes from research on mild conservation methods. One of the methods being researched in Wageningen is pasteurizing juice and other fluids using pulsating electric fields. The high tension and the fast alternation in the strength of the electric field damage the membranes of bacteria and fungi. The electric current warms up the juice, but not above 40 degrees, so that it keeps its flavour better than it does when it is pasteurized at high temperatures. What you get, says Knol, is 'orange juice that tastes as though it was freshly squeezed but can be kept for weeks.'

The idea of using the technique for some-

thing completely different came from the business world: Govert van Oord of OMVE Netherlands, a company that develops electrical equipment, made a suggestion. 'Van Oord had a brainwave. He wondered whether we would also be able to use the technique to actually cook food.'

This suggestion turned out to have hit the mark. Initial tests showed that food heats up very evenly and incredibly fast when exposed to electric pulses. Vegetables and most types of meat are done in seconds, while stringy meat that would have to simmer for a couple of hours in a braising pan is done in four minutes in this machine.

LESS ENERGY

According to Knol, then, the Nutri-Pulse delivers faster results, can be used by anyone, probably produces healthier food and,



The Nutri-Pulse e-Cooker plus pans.

as if all that were not enough, will require 80 percent less energy to run. Sounds too good to be true. Certainly considering that the technology it is based on is being researched in many places in the world. Knol: 'During a scientific conference at which we presented the Nutri-Pulse, many colleagues wondered why they hadn't come up with this idea themselves. But someone has to be the first, of course.'

IXL and OMVE built the e-Cooker in the form of a column for all the electronics with the cooking unit on the top, which consists of one or more quarter-litre pans. Johan Verbon hopes to have one in his kitchen soon. 'It is a beautiful gadget. It is safe, you don't have to heat the food to 100 degrees, you don't need an extractor fan, because it produces hardly any steam,

and anyone can operate it. If you buy one e-Cooker together with a couple of the pans that go with it and start a restaurant in your living room, you could earn yourself a star in a couple of years.'

Why the cooking process goes at such lightning speed is not entirely clear, says Knol. 'We know that the temperature rises very gradually; we also see that the electric field changes the proteins and membranes. But we do not yet understand quite what goes on inside the vegetables and meat. We also suspect that the machine helps make health-giving nutrients in vegetables more available, but we would very much like to do research on that using well-designed tests on volunteers. We hope to find partners so we can get more basic research done.'

Info: www.nutri-pulse.com ■

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