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Many professional chefs say there is very little that microwaves can do for them



'An act of hate': Raymond Blanc

Warming up to microwaves

Some chefs would rather serve uncooked food than have a microwave in their kitchen. But it can be one of the most energy-efficient ways to cook, says **Leo Hickman**

The chef Raymond Blanc once said that using a microwave oven to cook food for your children was an "act of hate". There's just something about these humming masses of metal and glass that makes foodies shudder in revulsion.

But there is a growing view that we need to reassess our attitude.

Once-common perceptions that microwaves zap nutrients or pose a wider health risk because of leaking microwaves are starting to fade and are being replaced by an appreciation that microwave ovens not only save time in the kitchen, but energy too.

"These screwy views are typical of people who don't understand microwave cookery, and inhabitants of the green kitchen should ignore them," argues Richard Ehrlich, author of the recently published book *The Green Kitchen*.

He adds that microwave ovens can be one of the most energy-efficient ways to cook and should be used more widely to help reduce carbon emissions.

In the United States, a Brown University study examining the comparative energy efficiency of a microwave

against other methods of heating a like-for-like meal concluded that where a microwave uses three units of energy, an electric oven uses 16 and a gas oven seven. For certain tasks — warming pre-cooked food and defrosting, for example — this is certainly true, says Peter Barham, a physics professor at Bristol University, England, and author of *The Science of Cooking*. But he warns against assuming that a microwave oven is always the most efficient way to cook.

"It very much depends on what you are cooking," he says. "If you are just boiling water, then an electric kettle is far more efficient than a microwave so long as you only boil the amount you need and switch off the kettle as soon as it's reached boiling point. But if you were, say, warming up last night's curry then a microwave oven would be more efficient than a normal convection oven."

Barham, a long-time

adviser to the leading chef Heston Blumenthal, says microwaves are limited in what they can offer professional chefs and are probably best suited to people at home who regularly warm up pre-cooked or processed food.

A 2006 study by the United Kingdom government's market transformation programme into their energy-saving potential found that only about 20% of typical cooking tasks could be successfully transferred from an electric oven to a microwave. But in the instances where a microwave was used, it showed an average energy saving of about 50%. Some of the test results were surprising, though: cooking new potatoes in 10ml of water in a microwave compared to in a pan containing one litre of water on an electric hob achieved a 70-75% energy saving, whereas the energy saving achieved by heating baked beans or porridge in a microwave rather than on the hob was negligible.

Nathan Outlaw, the Michelin-starred chef at Restaurant Nathan Outlaw in Fowey, Cornwall, in southwest England, agrees that for some specific tasks microwave ovens can save time, energy and even water.

"We use a microwave in our kitchen

to reheat very small amounts of food, say, a ramekin of cauliflower or butternut squash purée. We will only use it for 30 seconds. It also helps us keep the washing-up to a minimum. Trying to heat such a small amount in a pan is difficult as it could burn.

"I know some pastry chefs who use a microwave rather than a bain-marie to melt chocolate and other chefs who use them to dry herbs. If you have a very small workforce in your kitchen, I think they are essential for some tasks. I would never use a microwave to cook meat or fish, though."

Winning over the sceptics will not be easy — Arthur Potts Dawson, head chef at Acorn House, the much-heralded environmentally friendly restaurant in London, says he would "rather serve raw food" than use one — but for specific jobs where the energy savings are clear-cut, microwaves clearly do have a role to play in reducing energy use in the kitchen. To use the humble baked potato as an example, it takes about one hour in a conventional 3kW oven and about 15 minutes in a 1.2kW microwave. That's a 10-fold saving in electricity — © Guardian News & Media 2009



Cooking the electromagnetic way

It's easy to be a microwave snob but there is a genuine place for it in the kitchen and a lot of life beyond defrosting and reheating. The trouble, writes *Allegra McEvedy*, is that it is often seen as a lazy, stand-alone piece of kit: the tendency is to think that if a dish can't go in just as it is, then what's the point.

You will get better results if you take the time to cut vegetables to the right size, or use the microwave in tandem with the food processor. And get to know its limitations: it's never

going to roast a potato and it's a pastys number one sworn enemy.

Soups

The basic method: cook chopped onions and garlic in butter or oil for a few minutes until softened, then add stock and a simple vegetable, such as cauliflower or watercress (chopped smallish) and blast for another few minutes until soft. Take out, season and blitz, adding a drop of milk or cream to finish. Dishes such as potato and watercress soup come out like a dream in less than 10 minutes.

Meat and fish

Fish is famously easy to cook in a microwave: fillets will cook in just a few minutes, whole fish around double that.

The areas around the outside of the dish cook much faster than the middle, so fold fillets in half, with the fold at the outside of the dish and the tail and head ends pointing inwards to keep the cooking even.

Chicken breasts take about four minutes, or longer as part of a stew, such as a basic tomato sauce with olives and thyme for chicken

Provençal. With meat or fish, you nearly always want to cover the dish tightly, or even add a poaching liquor to keep it moist and also inject flavour.

Vegetables

Vegetables cooked in the microwave usually come out more vibrantly coloured than if you had boiled them. The quick-cook ones such as broccoli, asparagus, spinach and corn on the cob do exceptionally well; just pop them in a dish and cover. Add a little butter if you wish and

only season once they come out.

Puddings

Poached pears are delicious and take about four minutes. Peel, replace the core with spices, crystallised ginger, dried berries and citrus zest, then sit it in the middle of a square of parchment paper big enough to draw up around the sides and twist at the top to seal. You can do this with microwaveable wrap too but it looks prettier in parchment, and you can serve it just like that. — © Guardian News & Media 2009