My New Scientist

Smoked jellyfish: The roast of Christmas future

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Tomorrow's festive fare will be very different from today's, but there'll be no shortage of tasty treats on offer

(Image: Johann Jaritz)

WITH Christmas lunch 2050 just days away, the truly exciting news is that, after an absence of more than 20 years, old-fashioned turkey is back on the table - sort of. Superficially the menu appears remarkably similar to that of 2010. But peek under the foil and it is wildly different in its composition and origin. Our food has been entirely transformed over the past 40 years and, looking back, it has been quite a ride.

Perhaps in 2010 we were in denial. We didn't want to see the trouble brewing as rocketing populations and increasing demand for biofuels put a strain on farmland and water supplies. In retrospect, fast-rising food prices, water wars and bread riots were inevitable. But so, too, was a technological fix.

Bioengineers may not have been popular before then, but they certainly got us out of a hole. Within years, genetic modification had increased crop yields by 50 per cent and created plants that were resistant to drought and pests, as well as being high in vitamins and minerals and able to produce

their own nitrogen, so that they needed less fertiliser. Inevitably, though, biodiversity suffered. So did consumers, as multinationals gained ever more economic and geopolitical control.

Feast to famine

Christmas dinner 2020 marked the arrival of the gargantuan genetically engineered MegaJuicyTurkey™. It was a high-water mark for carnivores and a nadir for animal-lovers. But as the 2020s progressed, meat became increasingly unaffordable as demand outstripped supply and taxes on greenhouse gas emissions turned beef and lamb into luxury items. Kangaroo farming eased the pressure a little, and for a time this low-methane critter was hopping off supermarket shelves. But Joey didn't plug the gap for long.

As the Earth's population passed 8 billion and demand for meat kept growing, the vast amount of grain needed to feed livestock put an intolerable strain on food resources. Change eventually came when western governments ran low on money and revoked farming subsidies, finally allowing the developing world to compete fairly. Unfortunately, food prices at the checkout tripled to reflect real production costs. Pragmatic vegetarianism became widespread and food waste in western countries dropped from around one-third to 10 per cent, yet billions of people still went hungry. The world was in full food crisis.

When a solution arrived in 2030, it came from an unlikely source: insects. Major food companies began selling grasshopper burgers and mopane-worm mince in place of meat. The idea was a no-brainer. Insects are highly efficient at transforming plant matter into edible protein, with a protein output to energy input ratio of 1:4, compared with a dismal 1:54 for cattle. Westerners were squeamish at first, but when the price of a real beef Big Mac™ hit £100, reconstituted insect protein Bug Macs™ at £10 apiece started tasting a whole lot better. The burden on the world's land, grain and water resources finally began to ease, with everyone wondering why it had taken so long.

Christmas 2040 was a surprisingly healthy affair. The craze for low-fat roasted locusts was at its peak and sugar consumption had been eradicated. Instead, we were all eating desserts and confectioneries made with intensely sweet plant extracts such as monatin, thaumatin and stevia, which offer far more taste per calorie. This was also the year synbio made its first appearance. Products laced with synthetic bacteria that turn bright blue to indicate spoilage hit the shelves, and health foods containing microbes that make nutritional supplements were created. A few years later, living gut sensors finally arrived, allowing consumers to diagnose nutritional deficiencies simply by looking at the colour and brightness of their stools.

By the beginning of the 2040s most fish stocks had collapsed. Jellyfish, however, remained cheap

and plentiful, and it became increasingly popular as celebrity chefs battled to find ways to make it palatable. Meanwhile, advances in fish farming allowed the production of cloned whale-like mega-salmon, mega-scallops and terrifying mega-lobsters. In addition, artificial meat finally took off. Although lab-grown meat was first produced in 2000, it wasn't until 2042 that the first pack of Mince-alike™ was sold. It had an authentic beefy taste but a slurry-like texture. Nevertheless, "meat" was once again available at an affordable price.

The past decade has seen some exciting advances in food technology, culminating in the new-look Turk-Ish™. I'll be honest: it doesn't taste quite like the real thing, but it is cheap at £150 for an eight-person serving compared with £800 for a real squawker. And the preparation is simplicity itself. Just put your insect-protein powder cartridges into the Meatmaker™, set the program to "turkey" and leave it overnight. In the morning you will have a ready-denatured protein mass. Take it out of the mould, pop it in a 3D Protein Printer to add the crispy skin and voila! Dinner.

> Preparation is simplicity itself. Just put your insect-protein powder cartridges into the Meatmaker

So there you have it, a traditional Christmas bird, after a fashion. It comes leathery and overcooked, just like granny used to make it. Which might leave you wondering, as you sit down to watch World President Lady Gaga give her festive address, why you didn't just stick with roasted locusts.

Christmas dinner 2050
Starter

Smoked jellyfish and mega-salmon with synbio crème fraiche
A provocatively textured brace of seafoods, served with a glow-past-its-use-by-date creamy dressing

Main course

Cruelty-free Turk-lsh™ with all the trimmings
Succulent, bone-free synthetic turkey created using the latest artificial Meatmaker™ and 3D food printer technology, stuffed with insect-based sausage-alike and served with rashers of low-methane kangaroo and vegetable-oil-composite bacon

High-flatulence comedy Brussels sprouts
Genetically modified to torment grandad by packing more indigestible sugars than usual

Potatoes and parsnips
Crispy roasted, hydroponically grown

Dessert

Traditional plum pudding
Dark and moist, made with genetically modified high-yield wheat, natural monatin for sweetness, anti-allergy nuts and plump Alaskan raisins

***Stefan Gates** has more to say about food at thegastronaut.com*

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