The Science of Christmas: Dinner Table

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THE SCIENCE OF CHRISTMAS... DINNER TABLE

The science of preservation lies behind two common Christmas foods, mince
meat and plum pudding. Both have names that are slightly misleading, as
nowadays mince meat contains no meat and plum puddings contain no
plums.

It all goes back to the Middle Ages when, following harvest in late Au-
tumn, many animals were killed as there was not enough food to
feed them over winter. The meat of these animals was then pre-
served by combining them with dried fruit and spices and long
cooking to preserve them for feasting during winter.

The origin of plum pudding or Christmas pudding is a por-
ridge-like dish called ‘furmenty’ which contained fruit and spe-
ces. It altered then to become a plum porridge, or pottage,
containing meat or fish and later again was stuffed into
sheep’s stomach to produce a form of haggis.

When pudding cloths became available, the familiar cannasail shaped plum
pudding that we associate with Charles Dickens’ ‘A Christmas Carol’ became the norm.

Pudding cloths could be rubbed with bitter
and flour before being filled with the
pudding mix of suet, lowodervin, eggs,
spices, dried fruit, meat or fish and then
boiled or steamed in a cauldron. By the
18th century, improved stock-breeding
and cheaper sugar had made meat preserving
and spicing less necessary; so wholly savoury meat pies
were coming into fashion, and sweeter ‘minced’ pies with very little
meat. By the early 19th century, the meat eventually was left out of the
plum pudding but suet remained, which is also true of mincemeat.

To preserve food you need to alter the conditions to make it unfavourable
for tiny organisms, called microbes, that can spoil food, to grow. This
can be done by altering the temperature (cooking food, refrigeration or freez-
ing), altering the moisture (drying foods, salt or sugar), removing oxygen
(cooking, sealing with fat or batter, vacuum packing, canning), and
altering the pH of the food using acids such as vinegars. Both sugar and salt
have the ability to inhibit microbial growth, most notably for a process
known as osmosis, or dehydration.

Spices also have natural antibac-
teral properties and have been used
for centuries as natural preservatives of food.

What! Our two favourite Christmas desserts once contained meat?

Alcohol can also act as a preservative and it is common for certain
spirits, beer, ale or cider to be added to Christmas basted goods.

The word plum refers to a prune fruit from the 16th century and was
also referred to any dried fruits such as raisins, currants and sultanas.
The word is also associated with the best of things; for example a plum
job. Minced pies used to be ‘offins’ or ‘pastry cases’ filled with sweet
savoury mix of fruit and meat topped with melted butter for preservation.
Over time the butter was omitted and served on top, often mixed with
some spirit.

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