

## Horsemeat beefburgers? The end result of cutting costs and corners. The supermarkets' drive to reduce overheads could lie behind the latest meat contamination scare

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Cutting costs means cutting corners - and the result is horse in beef burgers, beetle juice in apple sauce, collagen from fish bladders in beer, and more...

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As the row continues over just how some **beef burgers in Britain and Ireland came to contain up to 29 per cent horse DNA**, we are all thinking more about precisely what goes into our food.

"There are differing qualities in meat," says Dr Patrick Wall, associate professor of public health at University College Dublin School of Public Health.

"**The fifth quarter of the animal** [what remains after the carcass has been divided into two fore- and two hindquarters] is often the most profitable. Nothing goes to waste. It is perfectly safe, but there are definitely tiers of quality."

On Friday, Larry Goodman, founder and executive chairman of ABP Food Group, at the centre of the horsemeat furore, said his company was not to blame for the scandal – which has led to the recall of more than 10 million burgers. He said he believed the contamination resulted from a hamburger filler sourced from a supplier on the Continent. And while food contamination, whether deliberate or accidental, is not new, there are suspicions that fierce supermarket battles to drive down prices have contributed to the cutting of corners. Recent scandals have included **pollock being passed off as cod and chicken fillets filled with water**.

**Cost savings and practicality also see other animal parts, such as glands, stomachs and abdomens, being used in everyday foods – from cheese to ice-cream, and apple sauce to yoghurt.** However, they have all passed strict European food hygiene rules and are perfectly **edible**.

But why are we using these, as well as so many **food additives and preservatives**, in our food? The answer is cost and convenience.

"The thing that drives the market is price," says Dr Ruth Fairchild, a food scientist and senior lecturer at Cardiff School of Health Sciences at Cardiff Metropolitan University. "In the UK, people want to go for their main shop once a week and perhaps pick up things now and again during the week. In France and other European countries, they do it every day. That is why we use additives and preservatives. People expect their bread to be soft after five days." Dr Wall believes that the outcome of the horsemeat fiasco could be the creation of a threshold for traces of **cross-contamination in meat products**. DNA testing to prove authenticity would prove very **costly**, he says, and it is

impossible to eradicate completely trace contaminations – which can occur when two types of meat are stored or prepared in the same area, even days apart.

But while the scandal has undoubtedly damaged confidence, with Tesco taking out national advertising to apologise for selling beefburgers containing horsemeat, the issue of whether horsemeat, considered a luxury in other European countries, is better for you nutritionally is still being debated. "If you put a beefburger up against a horse burger, that would be interesting," Dr Wall says. "But I think citizens don't fully understand all the things that go into [burgers] at the cheaper end of the food chain."

## **Tough to swallow**

### **1) Beetle juice**

*Apple sauce – carminic acid*

The red pigment comes from the dried and crushed female cochineal insect native to South America and Mexico. Reportedly, 70,000 beetles are killed to produce one pound of the red dye. Used in Starbucks Strawberries & Crème Frappuccino. The coffee chain is to switch to another ingredient.

### **2) Slime cream cone**

*Ice-cream – gelatin*

A protein made from boiled skin, tendons, ligaments and bones of cows and **pigs**, it is also found in jelly, yoghurt, cosmetics and in the making of India ink. It is popular with synchronised swimmers who use it to hold their hair in place as gelatin does not dissolve in cold water.

### **3) Gland sandwich**

*Cheese – lipase*

Cheese is a magnet for nasty ingredients, with some made with **the blood of slaughtered animals**. Others use lipase, an enzyme from the stomachs and tongue glands of calves and lambs, or rennet, an enzyme from calves' stomachs. Veggie cheeses use synthetic substitutes.

### **4) Ground sugar**

*Sugar – bone char*

Known as bone black, ivory black, animal charcoal, or abaiser, bone char is a granular material produced by charring **animal bones**. It is then used by some companies to turn sugar white after the sugar is heated into a liquid and passed through the bone char to filter.

### **5) Pep up**

*Vitamins – pepsin*

An enzyme from **pigs' stomachs**, pepsin is used in vitamin supplements and is also used in the leather industry to remove hair and residual tissue from hides. It also aids the recovery of silver from discarded photographic films by digesting the gelatin that holds the silver.

### **6) Gland colours**

*Food colouring – castoreum*

From **perineal glands of the North American beaver and the European beaver**, castoreum is also used to treat many different ailments, including headaches, fever and hysteria. The Romans believed the fumes produced by burning castoreum could induce an abortion.

### **7) Grease gum**

*Chewing gum – lanolin*

For sheep, its purpose is to waterproof and protect the wool, but lanolin, a yellow waxy substance secreted by the glands of **sheep and other wool-bearing animals**, is also used in **gum**. It can also be used as a balm to treat chapped lips, while baseball players soften and break in their gloves with it.

## 8) Spitting feathers

*Bread – L-cysteine*

An amino acid made from **human hair or duck feathers**, L-cysteine has been used in bread as a softener and even proposed as a preventative or antidote for some of the negative effects of alcohol, including liver damage and hangovers.

## 9) Slushi

*Sushi – tuna scrape*

The back-meat of tuna, scraped off bones, is the part of the fish that remains after the fillets have been removed. It is spooned out and ground down into the fish product and used inside the rice in a sushi roll.

## 10) Hmmm bugs

*Sweets – shellac*

More generally used by industry. Commonly called a "resinous glaze" or "confectioners' glaze", shellac comes from the **female lac bug**, which is common in the forests of India and Thailand. It also doubles as a tough primer and sealant.

## 11) Pulp friction

*Breakfast cereal – cellulose*

Made from **pulped wood, cellulose** is stuffed into shredded cheese, salad dressing and ice-cream to thicken it without adding calories or fat. But it is fibrous, appearing in many high-fibre snacks and breakfast cereals. Often used in place of much dearer oil or flour.

## 12) Fish head

*Beer – fish bladders*

A form of collagen, isinglass, made from fish bladders, is widely used in beer brewing. It works with the beer's yeast to make a much clearer brew. It is also used to clear wines. Originally made from sturgeon, cod has been used as a cheaper substitute.