

Dry Ageing

The key effect of dry ageing is the concentration and saturation of the natural flavour, as well as the tenderisation of the meat texture.

The process changes beef two ways: moisture is evaporated from the muscle – this creates a greater concentration of beef flavour and taste – and secondly the beef's natural enzymes break down the connective tissue in the muscle, which leads to more tender beef.

The process of dry-aging will usually promote growth of various fungal species and/or mould on the outside of the meat. This forms an external "crust" on the meat's surface, which is trimmed off when the meat is prepared for cooking. These fungal species complement the natural enzymes in the beef by helping to tenderise and increase the flavour of the meat. The genus *Thamnidium*, in particular, is known to produce collagenolytic (the ability to breakdown collagen) enzymes which greatly contribute to the tenderness and flavour of dry-aged meat.

For ageing to properly improve the quality of a cut of meat, the product chosen should contain substantial marbling. This means that there is fat evenly distributed throughout the muscle. Only the highest grades have this kind of marbling and make ageing worthwhile.

Wet Ageing

The less expensive (and less risky) alternative to dry ageing is called wet ageing. Since the meat is packed in its own juices (in a vacuum pack bag) the enzymes will breakdown the connective tissues and make it more tender. However because there will be no fluid loss the concentration of flavour that you get from dry ageing won't happen.

Here is a really good in depth article. Harold McGee is a well known American food writer and he translates the science for us in this article:

<http://gizmodo.com/5866754/the-science-of-taste-or-why-dry+aged-meat-is-so-damned-delicious>

Here is an extract:

When we create such conditions, we allow enzymes to do their work. And we end up with a complexity of flavour—savouriness, sweetness, some bitterness – that just wasn't there before. There's no cooking method that can generate the depth of flavour of a dry-aged piece of meat.

What happens is that enzymes in the meat's muscle cells begin to break down the meat's proteins, fats and glycogen—a carbohydrate—into amino acids, fatty acids and sugars. One amino acid generated by dry-aging—the most important and flavourful one in fact—is glutamate, which is part of MSG. Other amino acids have flavours somewhat similar to MSG; others still are sweet.

Dry-aging beef also causes it to lose some of its moisture. Meat begins at about 75% water; after dry-aging, it may go down to somewhere around 70%. It doesn't sound like much of a change, but what it means is that the flavours become more concentrated, and the tissue itself becomes more concentrated, too. Dry-aged meat is still juicy when you cook it, but the juices are even more delicious than usual.



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