

Eating Quality Of Poultrymeat

In this, the first of a series of articles which outline how to set up a Quality Assurance Programme for poultrymeat from the farm to shop, Peel Holroyd formerly Senior Food Technologist and Senior Agriculturist with UK retailer Marks & Spencer plc, present his definition of eating quality.

The appraisal of eating quality is the prerogative of all consumers.

The process of evaluation is by a combination of methods including visual, source, environment, cost, ease of preparation, smell, carvability, ambience and the physical act of eating or mastication and

subsequent swallowing with the associated after effects.

These, in turn, create the memory of the degree of enjoyment or revulsion of any particular food product.

The food is then categorised by the consumer and in general no amount



Peel Holroyd

of persuasion will encourage any shift in the ultimate decision. This individual judgement is used on a very regular basis throughout the day and then translated into which foods will be selected in exchange for hard cash.

Members of the food industry compete for a share of the family budget. In the UK the percentage of total consumer spending on food has declined from 17.8% to 12.2% over the last ten years.

This factor alone has generated a dramatic increase in high street competition for both the complete meal and snack food markets.

The purchase of the 'snack' is very much an individual and often impromptu decision.

The purchase of the 'complete meal' requires much more thought as other members of the family are involved.

For the housewife this is very important and indeed may be the major decision of the day.

It is reckoned that this is influenced some 50% by the housewife, 35% by the children, and only 15% by the male of the household, and of course for the housewife, her whole credibility can possibly depend on the enjoyment of the meal prepared.

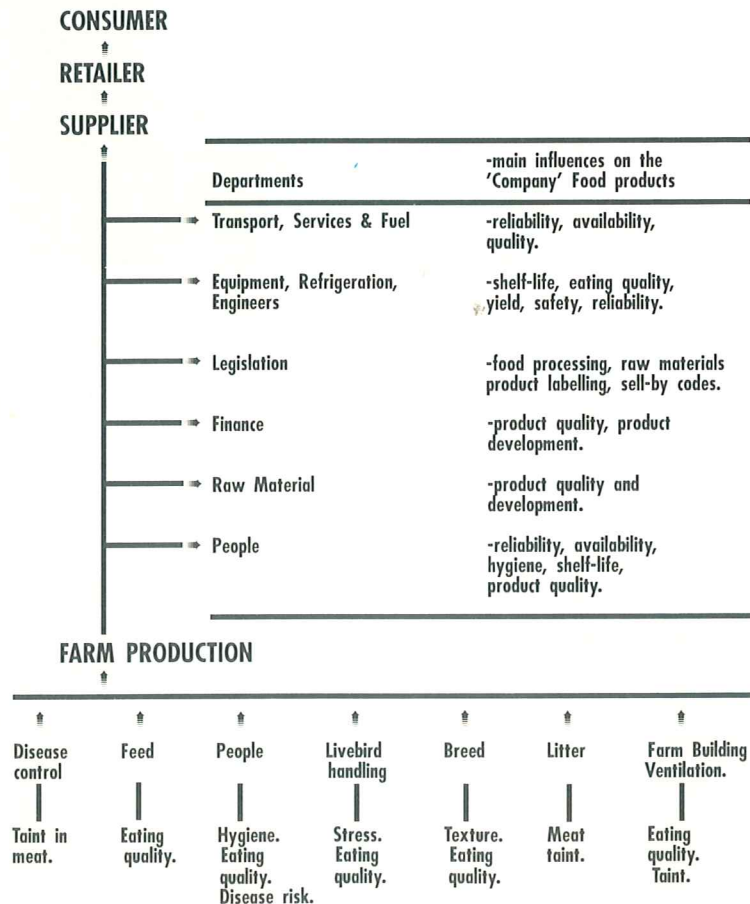
In any affluent society the degree of enjoyment realised from eating food is always assessed whether it is eating for survival or as a luxurious pastime, and therefore for the commercial poultryman the same challenges to product quality equally apply.

In a competitive food industry it is important to provide a raw material that matches the taste palate of as wider percentage of the consuming population as possible.

This establishes a market share and if all products show consistency of good quality and innovative design

FIGURE 1

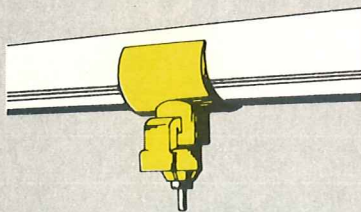
Relationship between the CONSUMER RETAILER and the SUPPLIER (Food Manufacturer). Important factors for Quality Assurance recognition.



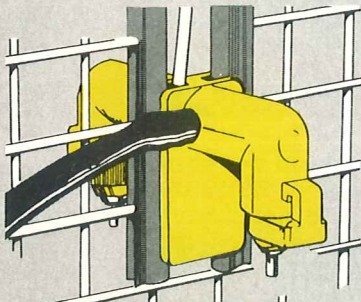
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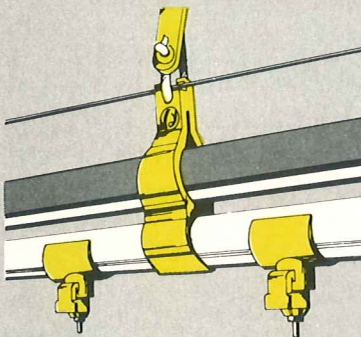
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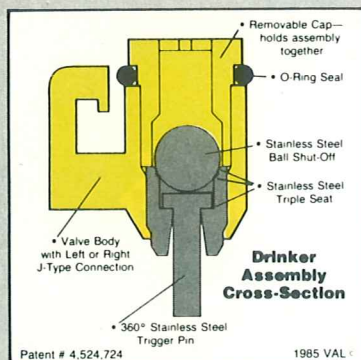


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and enticement, they will ensure the long-term demand from the consuming public.

One thing is certain, that the food business is about pleasing the consumer and without satisfied people there is no repeat business.

This obviously requires those involved in commercial food production to clearly define the 'product quality' which generates that all-the-year-round customer purchase.

This will mean one thing to one customer and another to someone else but if money has exchanged hands there is a basis to start a business.

The definition of 'quality' therefore is that which generates a repeat business.

Actual eating quality is the combination of texture, succulence and flavour.

Texture is defined as being tender or tough at the two extremes. It is the first appraisal on placing any food into ones mouth. The sensation of tenderness is obviously a complicated physical process since chewing not only involves cutting and grinding, but also squeezing, shearing and tearing.

Succulence is the degree of dryness through to wetness. Dry meat is often unpalatable but, yet, when measured for a tenderness score is not so. Succulence is really related to the fat content of the meat. It is

generally accepted that the presence of fat around and particularly within the muscle increases the succulence of the meat.

Flavour is a mixed sensation of aroma and taste by which individual foods are identified.

In general, the order of thought process during eating follows the above sequence of texture, succulence and then flavour, however with any 'off taint' or 'very dry meat' the sequence is obviously disrupted:

This information can then be used to determine a target standard for all concerned with the production and processing of poultry which of course must be to grow and finish birds in a manner that produces meat that is:

- well fleshed and wholesome
- tender, succulent and of good flavour
- blemish free
- free from any foreign taint, flavour or safety hazard.

This target can then directly relate to the consumer where in truth the final arbiter for the housewife are the daily answers to such questions as:

- is the product tender?
- has it a good flavour?
- is it succulent?
- did the family enjoy it?
- would I buy it again?

The relationship between these

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factors and modern commercial poultry production are well appreciated but it is widely recognised that greater effort is still needed to more fully understand the specific interactions between eating quality and agriculture and especially the more sophisticated techniques of food processing.

I started looking at this subject specifically related to poultry in the mid-1960's but on joining a retail company had the opportunity to literally examine the factors involved from 'day-old' to 'on-the-table'.

The first important decision was that of method of appraisal for any particular meat. Many descriptions of taste panel technique are presented in the literature but I wanted one that fully represented what the housewife actually did at home when feeding the family.

Obviously when taking this approach it was necessary to fully replicate each treatment to ensure adequate samples have been used in preparation for analysis.

The procedure used a series of domestic ovens, common cooking instructions, usually oven-ready roast but, latterly, more portions, no seasoning or spices, with the cooked meat then eaten completely on its own to ensure no distortion of the true poultry scores.

From this approach it was possible to fully replicate the domestic kitchen and thereby to judge what the customer found.

I suppose that the standard of cooking, type of oven, time and temperatures selected can all affect the product. Whilst this is scientifically correct the housewife will rightly reserve her prerogative and expect any chosen food line from the supermarket to cook perfectly in her own 'pet oven'.

If there is any doubt of this being possible in a particular food line, it is then necessary for 'technology' to build a margin of safety into the final product so that however well or badly it is cooked it still eats well when presented to the family.

At the end of the day, the family will not criticise the quality of 'mothers' cooking, but they are more likely to suggest a change in product, meat or retail store.

The whole principle of Quality Assurance Programmes is that they are designed to prevent this situation from happening. — Peel Holroyd.

Food Quality Research Needed

More research is needed on food quality, according to Dr Chris Belyavin of the Harper Adams Poultry Research Unit, UK. In this respect there may be problems with alternative egg production systems.

There is already some evidence that eggs from alternative systems are inferior. Scientific comparison of layers on free-range, deep-litter and in cages indicated the quality of eggs was best from caged birds. The shells were better. The quality of albumen was superior and egg weights similar.

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111 12.0
113 6.5
114 4.0
115 2.5
116 1.3
117 666 cc

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