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### Producer attitudes towards value-based marketing

**Definition:** Within the pork sector the concept of value-based marketing must comprise the buying/selling of pig meat not only on the basis of quantities in kg but also on the basis of some quality characteristics of the meat or the manner in which the meat is produced.

**Object:** The object of "value-based marketing at the producer-packer interface" must be to ensure that the correct "market prices" are communicated to the producer so that the resources in the breeding and in the primary production are utilised most efficiently to secure the highest possible profitability. Or in other words "to ensure that no sub-optimising takes place at the cost of the overall business".

**Pre-condition:** The pre-condition for such a situation is the existence of some kind of financial symbiosis between the producer and the slaughterhouse. What is to the benefit of one party should also be to the benefit of the other party to some extent.

Apart from this the concept of "producer attitudes towards value-based marketing at the producer-packer interface" also provides the option of discussing a number of problems such as for instance:

- How to ensure some kind of financial symbiosis/dependency between the producer and the slaughterhouse so that both parties work for their common good and - to some extent - share the resulting profit.
- Should the payment to the producer first and foremost be calculated on the basis of the market value of the pigs or should more slaughterhouse-related costs as for instance capacity utilisation play a decisive part in the pricing?
- How do we ensure in the best possible way that the correct market values are expressed in the classifying of the pigs and the price to producers?
- Should the payment to the producer be made on an average basis or on a marginal basis (what is the value of one more pig)?
- Should the slaughterhouses have a uniform quality payment policy?

I shall not seek to put forward full-fledged solutions to the above problems but instead describe below how we have tackled the problems in Denmark.

## Producer attitudes in Denmark

### Overall view

In the Danish pork sector we have a 100-year old tradition for co-operative movements in which the producers are 100% owners and constitute the Board in the co-operative slaughterhouses. This 100% producer commitment in the slaughtering industry means that the producers have always sought to control the business on the basis of an overall view according to which the principle has been followed that what is to the benefit of the slaughterhouse is also to the benefit of the producer. A cost on the part of the producer is acceptable if the slaughterhouse gains a similar profit as a minimum.

An example of this may be the common Danish payment system which puts an obligation on the pig producer via binding rules between the producer/slaughterhouse not to supply to other parties than his member slaughterhouse. On the other hand the slaughterhouse is always obliged to receive the pigs, and if this is not possible to grant financial compensation for the postponement/advancing of the pig deliveries. The entire delivery system with binding rules between the producer and the slaughterhouse is basically accepted on the part of the producers because they can see that the obvious advantages of the slaughterhouse - due to the planned in-transport and production as well as a constantly high capacity utilisation - are also to the benefit of the producer.

In Denmark some common and for the producers very restrictive weight limits have been set up with the participation of the producers under the common payment system. Thus the producers incur a loss in respect of production of light pigs and experience restricted possibilities of "all in all out production" in that heavy deductions in payments have been implemented for over and under weight in relation to the basic slaughter weight of 64 to 77 kgs. Weight limits and deduction sizes which vary according to the market situation are, however, based on the principle of payment according to value (marginal point-of-view in respect of the value of one more pig) and thus ensure full optimisation for both the slaughterhouse and the producer.

Attempts are also made to update the meat ratio payment on a constant basis regarding the market value.

On the one hand uniform quality payment would give producers a clear indication of the value of each individual quality parameter and thus ensure that both breeding and production adhere to some long-term goals. It may thus turn out to be dangerous where producers base their production system and breeding on the niche sales of one particular slaughterhouse which may not be in the market tomorrow.

On the other hand uniform quality payment may result in the lack of various consumer preferences and market values in the payment. There is thus a risk that a certain type of pig is promoted (and not different pigs for different purposes) and possible niche sales are consequently not explored.

The entire concept of the overall view also implies that the Danish pig producers have always wanted to invest in the best possible classification by the slaughterhouses since such classification is one of the basic conditions for correct payment on the basis of the market value of the pigs.

### Classification procedure

As the first country in the world Denmark introduced in 1975 an objective classification procedure for carcasses according to which the meat ratio was determined on the basis of the meat and fat thicknesses. The Danish classification method was adopted as a standard method in all EU countries in 1989.

In Denmark the classification of pigs serves two main purposes

- precise payment to producers
- sorting in the slaughterhouses

In Denmark the meat ratio is measured automatically today in a classification centre (KC). KC is designed as a rotating wheel to which the carcasses are automatically fastened to fixtures carrying the carcasses through the various stations in the centre. The probes of the KC are set according to the length and height of the legs and the pubic bone. By means of optical probes the fat and meat thicknesses are measured via light reflection. The measurements of meat, fat and overall thicknesses are made by a total of nine probes distributed as follows:

- ham: 2 fat thicknesses
- neck: 3 fat and 3 meat thicknesses
- bacon: 2 fat and 2 overall meat thicknesses
- fore-end: 2 fat thicknesses

By means of neural networks the calculation of the following meat ratios is made:

- total meat ratio
- meat ratio of ham
- meat ratio of middles
- meat ratio of fore-ends

Via automatic stamping of both carcasses and cuts the above measurements and calculations form the basis of sorting criteria for carcasses and cuts to ensure the best possible utilisation of the meat in respect of quality.

### Payment to producers

The payment to producers in Denmark is based on the following three fundamental principles

- 1) All pig producers obtain the same price (for the same quality) irrespective of which member factory they belong to.
- 2) The price represents the market value of pigs.
- 3) Only quality parameters which may be influenced by the pig producers are used.

### Bonus payment

Regarding principle 1 which contributes to maintaining the bond between the producers and the slaughterhouses and ensures stable deliveries subsequently, the principle is broken once a year, i.e. when the yearly bonus payments are announced. The bonus payment which is an expression of the part of the profit not carried forward to consolidation accounts etc. - will be paid to the producers as a number of øre per kg pig meat supplies in the previous year. And of course this bonus payment varies from one slaughterhouse to another. To obtain additional payment requires that you are a member of the co-operative slaughterhouse which means as already mentioned that the pig producer has to deliver the entire pig production to his co-operative slaughterhouse.

During the last 5 years the bonus payment has amounted to an average 5-9% of payments to producers. Thus it is a substantial amount of the income of the pig producers which depends on the ability of the slaughterhouse to provide competitive bonus payments.

The uniform payment rules and the yearly bonus payments of the various slaughterhouses contribute to clarifying the payment ability of the individual slaughterhouses to the producer. Thus the yearly bonus payments (and to some extent the financial results) determine a wish by producers to change to another co-operative slaughterhouse. One year is the normal term of notice. The entire system including bonus payment contributes decisively to creating severe competition between the Danish businesses and has resulted in the strong structural development among slaughterhouses in Denmark so that there are only four co-operative slaughterhousegroups today handling the slaughtering of some 20 million pigs as opposed to 60 co-operative slaughterhouses 30 years ago slaughtering 10 million pigs.

### Price committee

Regarding principle 2 the weekly quotation fixing is handled by the price committee. This committee consists partly of the board members of the slaughterhouse (pig producers) and partly of market experts (managing directors from the slaughterhouses).

To ensure that the price represents the market value of pigs, the quotation is set weekly and based on prices obtained in the present week on the export markets. Each company reports their current prices obtained for ham, middles and fore-ends every Wednesday, and on this background the total export price obtained for a carcass is calculated. This price is compared with the current quotation and on this background the quotation is fixed for the coming week.

The quotation for the coming week is released on Fridays in the daily press and the trade press as well as in weekly letters edited by the slaughterhouses to their suppliers. In other words: The pig producers know the basic price when the pigs are delivered to the factory.

In order to ensure that the slaughterhouses also have a possibility of utilising alternative selling possibilities the common quotation system also provides facilities for contractual production. In this way the factories have to a limited degree entered into contracts with producers on the delivery of special types of pig for for example the Danish home market.

The payment system offers the producers such contracts. But the price paid to the producer for special hybrid combinations or the like is to be confirmed by the Price Committee and must (in proportion to the national quotation) correspond to the extra costs for the producer of the production in question.

#### Quality parameters

Regarding principles 3 (and 2) the payment to Danish pig producers is made according to two basic quality parameters: slaughter weight and meat ratio.

Apart from this deductions are made in the payment to the pig producers in case of veterinary comments, pigs with coloured hair follicles, full stomachs and the finding of residues.

Furthermore, deductions due to indistinct supplier branding are considered.

Automatic identification procedures in all co-operative slaughterhouses ensure that all information may easily be traced to individual pigs and producers.

#### **Quality assurance**

Through the ages the Danish pork industry has focussed on quality as will continue to do so in one form or another. The concept of quality in respect of pig meat was previously fairly simple in that it mainly consisted in a high meat ratio and an optimal weight. Today quality constitutes a very complex concept which may vary greatly from market to market.

The quality characteristics in demand in various markets are thus:

#### I. Slaughter quality

Weight, meat/fat distribution, dimensions and the like.

#### II. Meat quality

PSE, colour, pH value, intramuscular fat, fat quality, taste and the like.

#### III. Quality in respect of health

- a) Residues such as medicine, hormones, heavy metals, pesticides and the like.
- b) Microbiological quality
- c) Nutritional quality

#### IV. Aesthetic quality

- a) Foreign bodies
- b) Product pollution
- c) Hygiene

#### V. Ethical quality

Animal welfare

Environmental pollution

## Quality committee

The Federation of Danish Pig Producers and Slaughterhouses has chosen to handle the quality problems by setting up a Quality Committee which like the Price Committee consists partly of board members from the slaughterhouses (pig producers) and partly of market experts (managing directors from the slaughterhouses). This Committee is to make the necessary transverse quality co-ordination.

In actual practice the Quality Committee has chosen to formulate this quality policy in the form of the quality action plan of the slaughtering industry.

The quality action plan of the slaughtering industry consists of a number of sub action plans each of which describes the overall goals and the actions which are to lead to the established goals.

The Quality Committee lays down the overall goals whereas specialist committees are responsible for carrying out the goals including the financial control.

The quality action plan comprises the following areas at present:

1. Functional qualities
2. Microbiology
3. Residue
4. Biotechnology
5. Quality control
6. Nutritional information/policy

The various subjects are described in detail in the quality action plan and comprise the following areas:

### I. Functional qualities

This plan comprises the work with the following basic qualities:

1. Meat ratio
2. Slaughter weight
3. PSE
4. Colour/pigment
5. pH value
6. Intramuscular fat
7. Taste

The overall goal of the action plan is to obtain the meat quality required by the market.

### II. Microbiological action plan

The overall goal of the microbiological action plan is:

that meat and meat products used in accordance with the prescriptions are safe in respect of pathogenic micro organisms.

to be able to control the micro flora and thus the keeping qualities of meat and meat products.

The pre-conditions for meeting the overall goals are:

- that the microbiological quality of the raw meat is known.
- that the presence of pathogenic bacteria is minimised.
- that the influence of the various processes on the microbiological quality is known.

Via research into the spreading and the propagation possibilities of bacteria it is sought to secure an improvement of the microbiological quality of the meat and meat products. On this background it would be possible to:

- make proposals for the improvement of flow and technique.
- find the relevant points of control for the necessary surveillance.

Special action plans have been made for the fight against Salmonella and Listeria bacteria.

### III. Action plan for unwanted chemical substances (residues) in meat

The existing public control of residue is primarily based on a small number of random samples with analysis methods which lack specifics or sensitivity in some cases. As a consequence of a trend in several countries in the world towards a certain self-performed control under the supervision of the relevant authorities, the pork industry has set the following goal:

- to contribute to the preservation of the good reputation of Danish meat by enabling the control of residues to be used as a new competition parameter.

This is done by developing suitable analysis methods and by defining which market reactions should be observed in respect of residues. The Danish Meat Research Institute is close to having developed analysis methods for 14 different groups of residue.

### IV. Action plan for biotechnology in the slaughtering industry

A number of growing areas of research within the biotechnological field are relevant to the industry. The areas in question are:

- DNA technology of importance to breeding.
- Biotechnology of importance to breeding.
- Biotechnological production of feedstuffs and feedstuff supplements.
- New means of regulating and increasing growth.
- Combating of diseases and health control.
- Diagnostics and analysis of meat and meat products.
- Fermentation of meat products.
- Application of enzymes in the meat industry.
- Environmental activities in the slaughtering industry.

The industry monitors developments within all of the above areas and in certain special areas projects have been implemented.

The projects are carried out as independent projects or as joint projects together with for instance the Royal Veterinary and Agricultural College of Denmark.

## V. Quality control

Within this area evaluations are made of the advantages and disadvantages of certification according to the ISO 9000 standard in the primary production, the slaughtering sector and the processing sector.

In addition to this two special industry systems have been made for our two major markets Great Britain and Germany.

For the British market a Meat Safety Assurance Scheme has been made the aim of which is to ensure that all meat products exported to the UK meet the requirements of the British Food Safety Act.

For the German market a description has been made of Good Manufacturing Practice from pen to plate in Denmark. The system is summed up in a "Qualitäts Sicherungs Garantie". Semilar schemes are being implemented in Japan and Korea.

Finally, internal control systems based on HACCP have been developed on an industry-wide basis. In these internal control systems the interaction between the self-performed control of the various businesses and the public control is laid down.

## VI. Nutritional information/policies

The object of this action plan is:

- to provide information on the most recent knowledge within human nutrition.
- to inform consumers of the aspects of pork in relation to health and nutrition in order to further healthy eating habit and maintain the role of pork in the Danish diet.
- to achieve the best possible composition of Danish pork in respect of health and nutrition via breeding and feedstuffs.

We seek to achieve the above goal via research projects, newsletters and other information material.

The present control of the efforts of the industry in the quality area is the result of developments over the last five years.

## Conclusion

In the light of the importance it has to the Danish pig production to focus on the "right" quality development and the substantial costs involved it will be necessary to control the quality efforts even further.

The future co-operation/payment system between the pig producer and the slaughterhouse should secure this development. In my opinion the future quality work in the Danish pig production will comprise the following

elements/requirements/documentation primarily:

- Breeding:
- breeding system
  - meat ratio
  - cross breeding
  - PSE
  - intramuscular fat
  - pigment



Nutrition:

- unwanted substances in the feedstuffs
- additives - control
- nutrients
- guidelines concerning the use of feedstuffs

Health:

- stock guidance
- zoonoses

Pens/environment:

- animal welfare
- production systems
- pollution

Delivering of pigs:

- delivering rooms
- prevention of dissemination

Transportation and penning:

- transportation
- penning

Documentation:

- certified systems

Traceability:

- all quality errors should be traceable down to the level of the stock.

The requirements to the pig producers will thus grow considerably which points towards an integrated system between slaughterhouses and producers.

Thus, in the future, further quality parameters may be included in our payment system and our Meat Research Institute (Roskilde) has already developed a number of measuring systems for such purposes.

Finally, it should, however, be pointed out that only some 50% of the quality deficiencies may be related to the primary production. The rest may be referred to the care for quality in the slaughterhouses and the meat processing.