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EUROPEAN COMMISSION

Brussels, 2.12.2010
COM(2010) 704 final

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT AND THE COUNCIL**

**on the future necessity and use of mechanically separated meat in the European Union,
including the information policy towards consumers**

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1. SUMMARY

In accordance with Article 9 of Regulation (EC) No 999/2001¹ (the TSE Regulation), the Commission is required to present a communication to the European Parliament and the Council on the future necessity and use of mechanically separated meat (MSM) in the EU, including the information policy towards consumers. MSM is produced by removing remaining meat from flesh-bearing bones after the deboning or from poultry carcasses. The production of MSM may be a tool to increase the economic benefit from meat production recovery.

This Communication provides an overview of the specific hygiene and labelling requirements in the EU legislation, the production and the use (including the perception of consumers concerning the use of MSM).

Methodologies used to produce MSM vary a lot, resulting in products which are very different as regards visual and microscopic (histological) aspects and quality parameters.

The total amount of MSM produced is close to 700 000 tonnes per year, in 2007 high pressure MSM represented 77% and low pressure MSM 23%. Regarding the species, 88% of MSM is derived from poultry and 12% from pigs. Production of MSM from ruminants is banned due to the BSE legislation. The total value of the reported MSM production can therefore be estimated between 400 and 900 million Euro per year. 20% of MSM produced in the EU is exported. Import is negligible.

The Commission has no objections against the continued use of MSM, supported in general by Member States and stakeholders organisations. Certain difficulties have been identified during the implementation of the hygiene and labelling requirements laid down in the EU legislation, mainly in relation of the applicable definitions. In order to ensure uniform application of the EU law and fair competition on the EU market the Commission will provide a guidance document to better identify products that need to be considered as MSM or, if appropriate, propose legislative amendments.

In addition, the Commission considers that the current provisions on the labelling of MSM are appropriate and therefore should be maintained.

2. INTRODUCTION

Mechanically separated meat (MSM) is a product, obtained by removing remaining meat from bones or poultry carcasses² using mechanical means, where the normal structure of the muscle fibre is mostly lost or modified in such a way that it is not comparable with regular meat.

MSM is an important raw material used for the manufacturing of meat products and meat preparations and its production can be an important tool to increase the economic benefit from meat production.

¹ Regulation (EC) No 999/2001 of the European Parliament and of the Council of 22 May 2001 laying down rules for the prevention, control and eradication of certain transmissible spongiform encephalopathies, as amended by Regulation (EC) No No 1923/2006.

² Mostly commercialised poultry cuts (e.g. breast, legs, wings) are removed by other means such as cutting before the remaining carcass is subjected to mechanical separation.

However, potential public health concerns linked to the specific production method, including a potential BSE risk, have been identified in the past. The use of ruminant bones as raw material for the production of MSM is banned in the EU since 2001. In 2006, in the framework of the review of the TSE Regulation, the Commission was asked to present a Communication to the European Parliament and the Council on the future necessity and use of MSM in the EU derived from bones from ruminants and other species, including the information policy towards consumers.

Therefore, the purpose of this Communication is:

- To provide an overview of the current EU legal provisions related to MSM;
- To provide an overview and assessment on the production and use of MSM in the EU;
- To evaluate the implementation of the EU provisions for the production and labelling of MSM and to identify if there's a need for their review in the medium term.

3. CONSULTATIONS

This Commission Communication is based on the information submitted by the Member States on the use and production method of MSM in their territory. In order to collect the information in a harmonised way the Commission sent a questionnaire to all Member States. The information requested concerned details on the production methods, parameters used to distinguish MSM produced with different methods, the species from which MSM is produced, the quantities produced, the uses made, the economic value and the intention of continuing with the production. All 27 Member States answered the questionnaires.

In addition, the Commission consulted the main stakeholder organisations in the EU such as UECEV³, AVEC⁴, Clitravi⁵, CIAA⁶ and BEUC⁷.

Additional information on the implementation of EU legal provisions was collected on the basis of reports from missions carried out by the Commission Inspection Services, the Food and Veterinary Office (FVO) of the Health and Consumers Directorate General.

4. EU LEGISLATION IN RELATION TO MECHANICALLY SEPARATED MEAT

4.1. Definition of mechanically separated meat

In accordance with Point 1(14) of Annex I to Regulation (EC) No 853/2004⁸ and Article 3 (1) (n) to the TSE Regulation, MSM is defined as follows:

"Mechanically separated meat" or "MSM": means the product obtained by removing meat from flesh-bearing bones after boning or from poultry carcasses,

³ UECEV – European Livestock and Meat Trading Union.

⁴ AVEC – Association of Poultry Processors and Poultry Trade in the EU countries.

⁵ Clitravi – Liaison Centre for Meat Processing Industry in the European Union.

⁶ Confederation of the Food and Drink Industries in the EU.

⁷ The European Consumers' Organisation.

⁸ Regulation (EC) No 853/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for food of animal origin (OJ L 226, 25.6.2004, p. 22).

using mechanical means resulting in the loss or modification of the muscle fibre structure.

The definition was intended to be a generic one covering all methods of mechanical separation with the aim to differentiate between the MSM and for instance cut meat or minced meat, and lay down food hygiene requirements accordingly. Because of rapid technological developments, a flexible definition was considered appropriate. The following criteria define MSM:

- the nature of the raw material "*flesh-bearing bones after boning or from poultry carcasses*";
- the use of the mechanical means;
- the loss or modification of the muscle fibre structure.

4.2. Provisions on the species of origin

In accordance with the TSE Regulation, the use of bones or bone-in cuts of bovine, ovine and caprine animals is prohibited for the production of MSM in all Member States. In addition, imports of products of bovine, ovine and caprine animal origin should not contain or be derived from MSM obtained from bones of bovine, ovine or caprine animals. The production and import of MSM obtained from other species is allowed under certain hygienic and labelling requirements.

4.3. Requirements for production establishments and raw materials

In addition to the general requirements laid down on Regulation (EC) No 852/2004⁹, the specific requirements for MSM production establishments and the raw materials from which can be obtained are laid down in Annex III, Section V, Chapter I to Regulation (EC) No 853/2004.

4.4. Hygiene requirements during and after production

In addition to the general requirements laid down on Regulation (EC) No 852/2004, Annex III, Section V, Chapter III point 1 to Regulation (EC) No 853/2004 lays down specific hygiene requirements to be complied during and after production of MSM.

Differentiation between MSM obtained using different techniques (e.g. low and high pressure), was considered necessary due to the influence of those techniques in the sensitivity of these products to microbiological contamination during production and further handling.

A comparison of the specific requirements on the production and use of MSM in relation to different techniques are summarised in Annex I.

4.5. Labeling requirements

Mechanically separated meat (also referred to as mechanically recovered meat) differs significantly from "meat" as perceived by consumers. It was therefore excluded from the definition of meat laid down in Commission Directive 2001/101/EC¹⁰ regulating the definition of meat for labelling purposes.

⁹ Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs (OL J 226, 25.6.2004, p. 3).

¹⁰ Commission Directive 2001/101/EC of 26 November 2001 amending Directive 2000/13/EC of the European Parliament and of the Council on the approximation of the laws of the Member States relating to the labelling, presentation and advertising of foodstuffs, OJ L 310, 28.11.2001, p. 19.

Consequently, MSM and the species from which is obtained must be specifically mentioned. This labelling rule applies to the products covered by the above EU definition of “mechanically separated meat”¹¹.

In addition, Regulation (EC) No 853/2004 requires that packages intended for supply to the final consumer containing minced meat from poultry or solipeds or meat preparations containing MSM must bear a notice indicating that such products should be cooked before consumption if required by national legislation.

5. EVALUATION OF PRODUCTION AND USE OF MSM

5.1. Production methods of MSM

The pressure used by the different technologies varies with the machines and parameters used. Member States mostly indicate pressures below 100 bar (as low as a few bar), for the production of low pressure MSM, while pressure most often indicated for the production of high pressure MSM was above 100 bar (up to 400 bar). Some overlaps of pressures between the two methods of production were reported.

In the course of time, new technologies were developed or new uses have been applied to existing machines. Sometimes a combination of different technologies is used.

The quality aspects of MSM vary between the machines used for the production and depend on several parameters (see Annex II).

Visually, high pressure MSM results in a product with a characteristic and particularly pasty texture resulting from the loss or modification of the muscle fibre structure. Other technologies (low pressure MSM), may result in a product that can not or hardly be differentiated visually from minced meat¹².

Microscopically, an evaluation of "the loss or modification of the muscle fibre structure" is possible using microscopic sections of meat. A large variation of the modification of internal structure of the product can be observed depending on the different production parameters used.

5.2. Amounts of MSM produced

Four Member States have no establishments approved for the production of MSM. Some Member States for different reasons have not provided data on production. The data from the Member States in Table 3 are therefore underestimations.

Other Member States, could not provide data concerning a differentiation between low and high pressure MSM, and species from which MSM is produced on their territory.

Data from the industry showed a major variation in the estimations on the amount of MSM produced.

¹¹ Paragraph 1.15 of Annex I to Regulation (EC) No 853/2004.

¹² Minced meat is defined in Regulation (EC) No 853/2004 as "boned meat that has been minced into fragments and contains less than 1% salt".

Table 3: Production of MSM during a period 2006-2007 reported by Member States (tonnes)

	Species of Origin				Total
	Poultry	Pigs	Rabbits	Not specified	
High pressure	255 867	13 574	0	200 564	470 005
Low pressure	87 347	18 827	0	30 979	137 153
Not specified	65 000	25 000	73	1 170	91 243
Total	408 213	57 401	73	232 713	698 400

The total amount of MSM produced in 20 Member States is close to 700 000 tonnes per year (2006-2007 period). Where the method of production was specified, high pressure MSM represented 77% and low pressure MSM 23%. Where the species was indicated, 88% of MSM was derived from poultry (mainly broilers, followed by turkeys) and more than 11% from pigs. Production of MSM from other species is currently negligible.

Overall, the value of high pressure MSM, reported by the Member States varied from 0.3 to 0.6 Euro per kg. A value of 0.6 to 1.5 Euro per kg was reported for low pressure MSM. The total value of the reported MSM production can therefore be estimated between 400 and 900 million Euro.

The EU27 produces over 11 million tonnes of poultry meat a year, reporting an estimated annual turnover of around 20 billion euros. MSM production from poultry represents 2 to 4% of this value. The EU27 produces over 22.5 million tonnes of pig meat a year, reporting an estimated annual turnover of around 35 billion euros. MSM production from pigs represents 0.1 to 0.3% of this value. The main part of the production in pig sector is the low pressure MSM.

5.3. Use of MSM

5.3.1. Member States

Low and high pressure MSM is mostly used for food intended for human consumption, a limited amount of high pressure MSM is used for pet food. Most of the Member States have communicated that MSM is used in meat products which have to undergo a heat treatment e.g. frankfurter sausages. Some indicate the use of low pressure MSM for meat preparations (e.g. meat balls). Others indicated that only low pressure MSM is used for the production of meat products, while the high pressure MSM is only used in production of pet food.

23 Member States indicated that they want to continue the production of MSM. Two of these Member States allow only the low pressure method. Four Member States do not produce MSM.

The majority of MS (20) consider that no specific food safety risks are associated with the consumption of food in which MSM is used, as specific food safety

requirements are laid down in the EU legislation. In addition, the risk for BSE is covered due to the ban to produce MSM derived from bones of bovine, ovine and caprine animals from countries or regions with a controlled or undetermined BSE risk.

5.3.2. *Meat Industry*

MSM producing industry expressed their interest in producing both, low pressure and high pressure MSM. There is a big difference in the volume of production, production methods and the use of both types of MSM between Member States.

The interest in producing low pressure MSM depends on the possibility to valorise the higher quality in comparison with high pressure MSM. MSM is used in the production of meat products also because its structure and its binding capacity.

5.3.3. *Consumers*

The quality of meat products is an issue of great interest to consumers and consumers are concerned about the content of meat products on the market. MSM labelled as an ingredient is considered an important indicator of the relative quality of meat products. The use of MSM is often associated with cheap quality products.

Consumers association would be in favour of use of MSM on the condition that its use is properly labelled and clearer rules for its production and use would be laid down.

Therefore, from the consumers' point of view it is unacceptable to include MSM within the definition of meat for the labelling purposes.

5.4. **Intra-EU trade, import and export of MSM**

Intra-EU trade has been reported by the Member States, however, exact data could not be provided.

Main export concerns the high pressure MSM. In 2008, it can be estimated that about 150 000 tonnes of MSM was exported, mainly towards Russia (49%), Ukraine (33%) and other countries from the former Soviet Union. The export in 2008 represented 20% of MSM produced in the EU with a value of 83 million EURO and represented a 32% increase compared to 2007.

Before the adoption of Regulation (EC) No 853/2004, import of MSM was prohibited.

In relation to meat derived from biungulates and since the adoption of the Regulation (EC) No 853/2004, a third country listed for import of fresh meat, may request the listing of an establishment for MSM. Four establishments from New Zealand are listed under the equivalence agreement and allowed to export MSM.

In relation to poultry meat, since no import certificate having been established according Commission Regulation (EC) No 798/2008¹³, imports of poultry MSM is prohibited.

¹³ Commission Regulation (EC) No 798/2008 laying down a list of third countries, territories, zones or compartments from which poultry and poultry products may be imported into and transit through the Community and the veterinary certification requirements (OJ L 226, 23.8.2008, p. 1).

6. IMPLEMENTATION OF THE HYGIENE AND LABELLING REQUIREMENTS ON MSM

6.1. Official controls

The evaluation of the system of official controls carried out by the competent authorities in establishments producing, handling and using MSM is part of the FVO missions in Member States and third countries. Certain shortcomings have been identified (e.g. quality of raw material, compliance with microbiological criteria) however, in general the reports concluded that conditions of production, handling and use of MSM generally complied with EU requirements.

As regards official controls in Member States, visual or microscopic indicators can be used at the level of production of MSM or when MSM is used as a raw material. However, at the retail level, where official controls focus, among others, on proper labeling of final products containing MSM, the use of such indicators is limited, in particular when low pressure MSM is used.

6.2. Food safety aspects

In general, MSM can only be used in heat treated meat products produced in approved establishments. However, low pressure MSM may be, under certain conditions, also used in meat preparations which are not intended to be consumed following heat treatment.

Taking into account experience with the application of current hygiene rules, it can be concluded that risks to public health associated with the consumption of meat preparations and meat products, when MSM was used as a raw material, can be considered negligible. Therefore, continuation of production of MSM, when carried out in accordance with the current hygiene provisions, is not supposed to pose a risk to public health and therefore any change of the relevant legal provisions would not be necessary.

Data on compliance with microbiological criteria such as the absence of *Salmonella* in MSM are summarised in the annual EU summary report on trends and sources of zoonoses and zoonotic agents and food-borne outbreaks in the EU drafted by the European Food Safety Authority (EFSA) and the European Centre for Disease Prevention and Control (ECDC). The most recent data from 2008¹⁴ indicate an increasing trend of compliance of MSM with the *Salmonella* criterion since 2006. In 2008

- 1.6% of MSM samples did not comply with the criterion which is similar to the percentage of non-compliance with the *Salmonella* criteria in samples of minced meat, meat preparations and meat products.
- 2.7% of batches of MSM did not comply, which was slightly higher than batches of the other products. This percentage is higher than the percentage of positive samples because a batch was considered positive if one of the samples from a batch were positive.

¹⁴ The EFSA Journal (2010), 1496.

6.3. Implementation of the definition of MSM

Some difficulties concerning the implementation of the definition of MSM have been reported since Regulation (EC) No 853/2004 became applicable. For instance, not only "flesh-bearing bones after boning or poultry carcasses" are used as a raw material to produce MSM but for instance also de-boned meat.

If a technology for mechanical separation has been used in certain Member States, the product is considered as MSM, even if the raw material contains no flesh-bearing bones after boning or from poultry carcasses or if there is no clear loss or modification of the muscle fibre structure. In other Member States, the product is only considered as MSM if all the elements in the definition of MSM are complied with. Meat Industry supports the second view indicating that the final product should be considered meat or a separate category of meat, regardless of the method of production.

Rapid technological developments in this area resulted also in the situation that some technologies, using method of mechanical separation of meat, are able to provide final product with characteristics close or similar to those of minced meat. The Commission considers that, according to the current legislation, such product is covered by the definition of MSM and must be, therefore, labelled accordingly.

In addition to that, methods used by food business operators to produce MSM are also used for the removal of meat from bones after heat treatment. However, only fresh meat as defined in Annex I to Regulation (EC) No 853/2004 is considered to be a raw material for the production of MSM. Uncertainty, whether the resulting product should be considered as MSM (and labelled accordingly), was noticed. Methods for official laboratory testing of products used in order to ascertain the presence of MSM in meat products are not able to distinguish if a raw material was MSM or product obtained from bones after heat treatment resulting in difficulties during official controls in some Member States.

These differences in the implementation of the definition of MSM may result in unfair competition as the same product, when used for the production of meat products, can be labelled as a meat in some Member States and as MSM in the others.

6.4. Labelling requirements for the two categories of MSM

Apart from the harmonised EU criterion on calcium content, variable criteria are used by the Member States to differentiate between low and high pressure MSM. These criteria are based on the method of production, the pressure and filter size used, visual evaluation of the MSM produced, the protein and fat content and the histological examination in order to assess the loss or modification of the muscle fibre structure.

Both low and high pressure MSM are covered by the definition of MSM and must be labelled accordingly (see above). As regards high pressure MSM, all consulted bodies agreed to comply with current labelling rules.

As regards low pressure MSM, the meat industry is however of the opinion that when, based mainly on visual evaluation, the product can not be differentiated from minced meat, it could be labelled as meat (meat or specific category of meat), regardless of the method of production. Their arguments are based on the quality of low pressure MSM compared to high pressure MSM.

The consumer's organisation and most Member States, that expressed their views on this issue, prefer not to differentiate between two types of MSM for labelling purposes since there is a doubt that consumers would understand the difference between low pressure and high pressure MSM.

For the consumer's organisation, it is most important that the consumers are correctly informed on the ingredients and their quality. From their perspective, the obligation to label the use of MSM must be maintained and no MSM in products should be hidden because MSM significantly differs from "meat" as perceived by consumers.

Another interest of consumers is that the obligation to label MSM should not be limited to pre-packed food only.

7. POSITION OF THE COMMISSION

As an outcome of these consultations, the Commission takes the following position.

- There are no objections on the continued use of MSM from pigs and poultry:
Member States and stakeholders' meat organisations support the continued use of MSM. Only a few Member States prefer to use only low pressure MSM. This general support is partly due to the economic benefit from such production.
In addition the level of compliance with the hygiene requirements, including microbiological criteria, would not indicate reasons to further restrict current production of MSM. It can be concluded that risks to public health associated with the consumption of meat preparations and meat products, when MSM was used as a raw material, can be considered negligible. Therefore, any change of the relevant legal provisions would not be necessary.
- The Commission does not support the reintroduction of MSM from bovine, caprine and ovine animals.
- It recognises to better define in a harmonised way products that need to be defined as MSM. In order to ensure uniform application of the EU law and fair competition on the EU market the Commission will provide a guidance document to better identify products that need to be considered as MSM or, if appropriate from a legal point of view, propose legislative amendments.
- Considers that the obligation to label the use of any MSM should be maintained to ensure that consumers are informed about the use of MSM in general. In addition, the Commission does not support a differentiation of labelling provisions for low and high pressure MSM. Therefore, the Commission is of the opinion that the current labelling provisions are appropriate and therefore should not be changed.

ANNEX I

Specific hygiene requirements on MSM (Regulations (EC) No 853/2004 and 2074/2005)

Table 1: Comparison of hygiene requirements of **raw material** for MSM

	"Low" pressure MSM	"High" pressure MSM
Poultry carcasses	Max 3 days old	Max 3 days old
Other raw material from on-site slaughterhouse	Max 7 days old	Max 7 days old
Other raw material from other site	Max 5 days old	Max 5 days old
Mechanical separation	Immediately after de-boning	If not immediately after de-boning, storage and transport at < 2°C or freezing at < -18°C of the bones (no refreezing)

Table 2: Comparison of hygiene requirements of MSM **after production**

	"Low" pressure MSM	"High" pressure MSM
Storage if not immediately used	Wrapped and packaged, chilling at max 2°C or frozen at an internal T of < -18°C	Wrapped and packaged, chilling at max 2°C if processed within 1 to 24h; if not, frozen within 12 h after production, reaching at an internal temp of < -18°C within 6 h. Maximal storage of frozen MSM of 3 months at < -18°C.

Use	<p>If the food business operator has carried out analyses demonstrating that MSM is complying with the microbiological criteria for minced meat¹⁵:</p> <ul style="list-style-type: none"> • in meat preparations which are clearly not intended to be consumed without first undergoing heat treatment • in meat products <p>If the MSM is not complying with microbiological criteria: only in heat-treated meat products produced in approved establishments</p>	Only for heat-treated meat products produced in approved establishments
Calcium content ¹⁶	Max. 0.1% (= 100 mg/100g or 1000 ppm) of fresh product	Not defined

¹⁵ Absence of Salmonella in 25 g (5 samples) if intended to be eaten raw or of from poultry meat. Absence of Salmonella in 10 g (5 samples) if from other species than poultry and intended to be eaten cooked.

¹⁶ In accordance with Article 4 and Annex IV to Commission Regulation (EC) No 2074/2005 of 5 December 2005 the calcium content of MSM not exceeding 0.1% (100mg/100g or 1000 ppm) and determined by the standardised method is not considered significantly higher than that of minced meat.

ANNEX II

Examples of parameters important for the quality aspects of MSM depending on the differences of machines used for the production

- Discharge plate hole diameter
- Drum perforation diameter
- Machine speed
- Machine tension
- Pressure in various modules
- Pressure time yield
- Meat cut fed in