Commission Decision of 15 April 2004 authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2004) 1340) (Only the English text is authentic) (2004/370/EC)

## **COMMISSION DECISION**

of 15 April 2004

authorising methods for grading pig carcases in the United Kingdom

(notified under document number C(2004) 1340)

(Only the English text is authentic)

(2004/370/EC)

# THE COMMISSION OF THE EUROPEAN COMMUNITIES.

Having regard to the Treaty establishing the European Community,

Having regard to Council Regulation (EEC) No 3220/84 of 13 November 1984 determining the Community scale for grading pig carcases<sup>(1)</sup>, and in particular Article 5(2) thereof,

## Whereas:

- (1) Article 2(3) of Regulation (EEC) No 3220/84 provides that the grading of pig carcases must be determined by estimating the content of lean meat in accordance with statistically proven assessment methods based on the physical measurement of one or more anatomical parts of the pig carcase; the authorisation of grading methods is subject to compliance with a maximum tolerance for statistical error in assessment; this tolerance was defined in Article 3 of Commission Regulation (EEC) No 2967/85 of 24 October 1985 laying down detailed rules for the application of the Community scale for grading pig carcases<sup>(2)</sup>.
- (2) By Decision 88/234/EEC<sup>(3)</sup>, the Commission authorised the use of five methods for grading pig carcases in Great Britain and three methods in Northern Ireland.
- (3) The United Kingdom has requested the Commission to authorise the use of new formulae for the apparata used for grading pig carcases in Great Britain and has submitted the details required in Article 3 of Regulation (EEC) No 2967/85. An examination of this request has revealed that the conditions for using the new formulae are fulfilled.
- (4) Article 2 of Regulation (EEC) No 3220/84 lays down that Member States may be authorised to provide for a presentation of pig carcases different from the standard presentation defined in the same Article where commercial practice or technical requirements warrant such a derogation.

- (5) In the United Kingdom commercial practice does not require that the tongue is removed from the pig carcase; this should be taken into account in adjusting the weight for standard presentation.
- (6) In accordance with Article 2(3) of Regulation (EEC) No 2967/85 and by way of derogation from Article 2(1) and (2) thereof, the weight of the cold carcase may be calculated by reference to pre-determined scales of absolute weight reductions if the reductions for individual weight classes correspond, as far as possible, to the reductions calculated in percentage terms; the United Kingdom has notified the determination of such a scale to the Commission.
- (7) No modification of the apparata or grading methods may be authorised except by means of a new Commission Decision adopted in the light of experience gained; for this reason, the present authorisation may be revoked.
- (8) For the sake of clarity, a new Decision should be adopted and Decision 88/234/EEC should therefore be repealed.
- (9) The measures provided for in this Decision are in accordance with the opinion of the Management Committee for Pigmeat,

## HAS ADOPTED THIS DECISION:

## Article 1

The use of the following methods is hereby authorised for grading pig carcases pursuant to Regulation (EEC) No 3220/84 in the United Kingdom, excluding Northern Ireland:

- the apparatus termed 'Intrascope (Optical Probe)' and assessment methods related thereto, details of which are given in Part 1 of Annex I,
- the apparatus termed 'Fat-O-Meater (FOM)' and assessment methods related thereto, details of which are given in Part 2 of Annex 1,
- the apparatus termed 'Hennessy Grading Probe (HGP 4)' and assessment methods related thereto, details of which are given in Part 3 of Annex I,
- the apparatus termed 'CSB Ultra-Meater' and the assessment method related thereto, details of which are given in Part 4 of Annex I,
- the apparatus termed 'Fully automatic ultrasonic carcass grading' (Autofom) and assessment methods related thereto, details of which are given in Part 5 of Annex I.

As regards the apparatus 'CSB Ultra-Meater' it is laid down that after the end of the measurement procedure it must be possible to verify on the carcase that the apparatus measured the values of measurement  $x_1$  and  $x_2$  on the site provided for in Annex I, Part 4, point 3. The corresponding marking of the measurement site must be made at the same time as the measurement procedure.

# *I<sup>F1</sup>Article 2*

The use of the following methods is hereby authorised for grading pig carcases pursuant to Regulation (EEC) No 3220/84 in Northern Ireland:

- the apparatus termed 'Intrascope (Optical Probe)' and assessment methods related thereto, details of which are given in Part 1 of Annex II,
- the apparatus termed 'Mark II Ulster Probe' and assessment methods related thereto, details of which are given in Part 2 of Annex II,

- the apparatus termed 'Hennessy Grading Probe (HGP 4)' and assessment methods related thereto, details of which are given in Part 3 of Annex II,
- the apparatus termed 'Fully automatic ultrasonic carcass grading (Autofom)' and assessment methods related thereto, details of which are in Part 4 of Annex II.]

## **Textual Amendments**

F1 Substituted by Commission Decision of 3 February 2006 amending Decision 2004/370/EC authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2006) 213) (Only the English text is authentic) (2006/99/EC).

## Article 3

Notwithstanding the standard presentation referred to in Article 2 of Regulation (EEC) No 3220/84, pig carcases may be presented in the United Kingdom of Great Britain and Northern Ireland, with the tongue attached before being weighted and graded. In order to establish quotations for pig carcases on a comparable basis, the recorded hot weight shall be reduced by 0,3 kg.

## Article 4

Notwithstanding the standard presentation referred to in Article 2(1) of Regulation (EEC) No 3220/84, the flare fat, the kidneys and the diaphragm need not be removed from pig carcases before being weighed and graded. In order to establish quotations for pig carcases on a comparable basis, the recorded hot weight shall be reduced:

- for pig carcases up to 56 kg, by 0,7 kg
- for pig carcases from 56,5 to 74,5 kg, by 1,1 kg
- for pig carcases of 75 kg and over, by 1,6 kg.

F2Article 5

# **Textual Amendments**

**F2** Deleted by Commission Decision of 22 May 2006 amending Decision 2004/370/EC authorising methods for grading pig carcasses in the United Kingdom (notified under document number C(2006) 1988) (Only the English text is authentic) (2006/374/EC).

## Article 6

Modifications of the apparata or of the assessment methods shall not be authorised.

Article 7

Decision 88/234/EEC is hereby repealed.

Article 8

This Decision is addressed to the United Kingdom of Great Britain and Northern Ireland.

#### ANNEX I

# METHODS FOR GRADING PIG CARCASES IN THE UNITED KINGDOM (EXCLUDING NORTHERN IRELAND)

## PART I

# **Intrascope (Optical Probe)**

- 1. Grading of pig carcases shall be carried out by means of the apparatus termed 'Intrascope (Optical Probe)'.
- 2. The apparatus shall be equipped with a hexagonal-shaped probe of a maximum width of 12 millimetres (and of 19 millimetres at the blade at the top of the probe) containing a viewing window and a light source, a sliding barrel calibrated in millimetres, and having an operating distance of between 3 and 45 millimetres.
- 3. The lean meat content of the carcase shall be calculated according to the following formula:

$$\hat{y} = 66.5 - 0.95x_1 + 0.068x_2$$

where:

\$\hat{y}\$ = the estimated percentage of lean meat in the carcase,
\$x\_1\$ = the thickness of back-fat (including rind) in millimetres, measured at 6 centimetres off the midline of the carcase at the last rib (measurement known as 'P<sub>2</sub>'),

or

the average thickness of back-fat (including rind) in millimetres measured at 4 and 7,5 centimetres respectively off the midline of the carcase at the last rib (measurement known as  $^{1}/_{2}(P_{1}+P_{3})^{2}$ ),

 $x_2$  = the weight of the cold carcase in kilograms.

The formula shall be valid for carcases weighing between 30 and 120 kilograms.

#### PART 2

# Fat-O-Meater (FOM)

- 1. Grading of pig carcases shall be carried out by means of the apparatus termed 'Fat-O-Meater (FOM)'.
- 2. The apparatus shall be equipped with a probe of 6 millimetres diameter containing a photodiode of the Siemens SFH 950/960 type and having an operating distance of between 3 and 103 millimetres. The results of the measurements are converted into estimated lean meat content by means of a computer.
- 3. The lean meat content of the carcase shall be calculated according to the following formula:

$$\hat{\mathbf{y}} = 63.4 - 0.51\mathbf{x}_1 - 0.45\mathbf{x}_3 + 0.18\mathbf{x}_4$$

Changes to legislation: There are currently no known outstanding effects for the Commission Decision of 15 April 2004 authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2004) 1340) (Only the English text is authentic) (2004/370/EC). (See end of Document for details)

where			
	ŷ	=	the estimated percentage of lean meat in the carcase,
	$\mathbf{x}_1$	=	the thickness of back-fat (including rind) in millimetres, measured at 6 centimetres off the midline of the carcase at the last rib (measurement known as 'P <sub>2</sub> '),
	<b>X</b> <sub>3</sub>	=	the thickness of back-fat (including rind) in millimetres, measured at 6 centimetres off the midline of the carcase between the third and fourth last ribs (measurement known as 'rib-fat'),
	X <sub>4</sub>	=	the thickness of muscle in millimetres, measured at the same time and in the same place as $x_3$ (measurement known as 'rib-muscle').

The formula shall be valid for carcases weighing between 30 and 120 kilograms.

#### PART 3

# **Hennessy Grading Probe (HGP 4)**

- 1. Grading of pig carcases shall be carried out by means of the apparatus termed 'Hennessy Grading Probe (HGP 4)'.
- 2. The apparatus shall be equipped with a probe of 5,95 millimetres diameter (and of 6,3 millimetres at the blade of the top of the probe) containing a photodiode (Siemens LED of the type LYU 260-EO and photodetector of the type 58 MR) and having an operating distance of between 0 and 120 millimetres. The results of the measurements shall be converted into estimated lean meat content by means of the HGP 4 itself or a computer linked to it.
- 3. The lean meat content of the carcase shall be calculated according to the following formula:

$$\hat{y} = 62.8 - 0.51x_1 - 0.44x_3 + 0.19x_4$$

where

\$\hat{y}\$ = the estimated percentage of lean meat in the carcase,
\$x\_1\$ = the thickness of back-fat (including rind) in millimetres, measured at 6 centimetres off the midline of the carcase at the last rib (measurement known as 'P2'),

the thickness of back-fat (including rind) in millimetres, measured at 6 centimetres off the midline of the carcase between the third and fourth last ribs (measurement known as 'rib-fat'),

 $x_4$  = the thickness of muscle in millimetres, measured at the same time and in the same place as  $x_3$  (measurement known as 'rib-muscle').

The formula shall be valid for carcases weighing between 30 and 120 kilograms.

#### PART 4

## **CSB Ultra-Meater**

- 1. Grading of pig carcases shall be carried out by means of the apparatus termed 'CSB Ultra-Meater'.
- 2. The apparatus shall be equipped with ultrasound head, ultrasound equipment, image generating board, computer, video recorder and printer.

The apparatus shall be equipped with a Pie Medical Netherlands 3,5 MHz scanner.

The distance from the marking point to the centre of the ultrasonic head shall be 12 cm.

The results of the measurements shall be converted into estimated lean meat content by means of the CSB Ultra-Meater apparatus itself.

3. The lean meat content of the carcase should be calculated according to the following formula:

$$\hat{y} = 65,1 - 1,158x_1 + 0,176x_2$$

where:

\$\hat{y}\$ = the estimated percentage of lean meat in the carcase,
\$x\_1\$ = the thickness of back-fat (including rind) in millimetres, measured at 6 cm off the dorsal midline of the carcase, between the third and fourth last ribs,
\$x\_2\$ = the thickness of muscle in millimetres, measured at the

same time and in the same place as  $x_1$ .

The formula shall be valid for carcases weighing between 30 and 120 kilograms.

#### PART 5

# Fully automatic ultrasonic carcass grading (Autofom)

- 1. Pig carcase grading shall be carried out using the apparatus termed Autofom (Fully automatic ultrasonic carcass grading).
- 2. The apparatus shall be equipped with 16 16,2 MHz ultrasonic transducers (Krautkrämer, SFK 2 NP), with an operating distance between transducers of 25 mm.

The ultrasonic data shall comprise measurements of back-fat thickness and muscle thickness.

The results of the measurements are converted into estimated lean meat content using a computer.

3. The carcase's lean meat content shall be calculated on the basis of 108 measurement points using the following formula:

Changes to legislation: There are currently no known outstanding effects for the Commission Decision of 15 April 2004 authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2004) 1340) (Only the English text is authentic) (2004/370/EC). (See end of Document for details)

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\begin{array}{l} 0,034093x_{34} \ -\ 0,037165x_{35} \ -\ 0,027871x_{36} \ -\ 0,029070x_{37} \ -\ 0,028929x_{38} \ -\ 0,028884x_{39} \ -\ 0,028174x_{40} \ -\ 0,023148x_{41} \ -\ 0,025299x_{42} \ -\ 0,035816x_{43} \ -\ 0,044413x_{44} \ -\ 0,044408x_{45} \ -\ 0,034309x_{46} \ -\ 0,029252x_{47} \ -\ 0,018420x_{48} \ -\ 0,008756x_{49} \ -\ 0,012405x_{50} \ -\ 0,016834x_{51} \ -\ 0,019488x_{52} \ -\ 0,021442x_{53} \ -\ 0,023237x_{54} \ -\ 0,022466x_{55} \ -\ 0,033462x_{56} \ -\ 0,031548x_{57} \ -\ 0,031020x_{58} \ -\ 0,030049x_{59} \ -\ 0,029518x_{60} \ -\ 0,030063x_{61} \ -\ 0,049797x_{62} \ -\ 0,050145x_{63} \ -\ 0,049625x_{64} \ -\ 0,049249x_{65} \ -\ 0,047528x_{66} \ -\ 0,045669x_{67} \ -\ 0,026058x_{68} \ -\ 0,025250x_{69} \ -\ 0,023297x_{70} \ -\ 0,022976x_{71} \ -\ 0,022032x_{72} \ -\ 0,022040x_{73} \ -\ 0,015719x_{74} \ -\ 0,028318x_{75} \ -\ 0,017586x_{76} \ +\ 0,007988x_{77} \ +\ 0,008649x_{78} \ +\ 0,009642x_{79} \ +\ 0,009355x_{80} \ +\ 0,008768x_{81} \ +\ 0,006580x_{82} \ +\ 0,006580x_{82} \ +\ 0,008768x_{81} \ +\ 0,006580x_{82} \ +\
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where:

 $\hat{y}$  = the estimated lean meat content of the carcase,

 $x_1, x_2... x_{108}$  are the variables measured by Autofom.

4. Descriptions of the measurement points and the statistical method can be found in Part II of the United Kingdom protocol forwarded to the Commission in accordance with Article 3(3) of Regulation (EEC) No 2967/85.

The formula shall be valid for carcases weighing between 30 and 120 kilograms.

## ANNEX II

#### METHODS FOR GRADING PIG CARCASES IN NORTHERN IRELAND

#### PART 1

# **Intrascope (Optical Probe)**

- 1. Grading of pig carcases shall be carried out by means of the apparatus termed 'Intrascope (Optical Probe)'.
- 2. The apparatus shall be equipped with a hexagonal shaped probe of a maximum width of 12 millimetres (and of 19 millimetres at the blade at the top of the probe) containing a viewing window and a light source, a sliding barrel calibrated in millimetres and having an operating distance of between 3 and 45 millimetres.
- [F13. The lean meat content of the carcase shall be calculated according to the following formula:

$$\hat{y} = 71,4802 - 0,83659 \text{ x}$$

where:

 $\hat{y}$  = the estimated lean meat percentage in the carcase,

x = the thickness of the backfat (including rind) in millimetres measured at 6 centimetres off the midline of the carcase at the last rib (known as 'P2')

The formula shall be valid for carcases weighing between 50 and 140 kilograms.]

#### PART 2

# **Mark II Ulster Probe**

- 1. Grading of pig carcases shall be carried out by means of the apparatus termed 'Mark II Ulster Probe'.
- 2. The apparatus shall be equipped with an oval-shaped probe of a maximum width of 11 millimetres containing an infra-red light-emitting photodiode (TFK type TS-US 5402) with a peak wave-length frequency of 950 nm and a matching infra-red photodetector (TRW Optron type OP 500) and having an operating distance of between 0 and 50 millimetres. The results of the measurements shall be converted into estimated lean mean content by means of a computer.
- [F13. The lean meat content of the carcase shall be calculated according to the following formula:

$$\hat{y} = 71,4384 - 0,84119 \text{ x}$$

where:

 $\hat{y}$  = the estimated lean meat percentage in the carcase,

the thickness of the backfat (including rind) in millimetres measured at 6 centimetres off the midline of the carcase at the last rib (known as 'P2')

The formula shall be valid for carcases weighing between 50 and 140 kilograms.]

# [F1PART 3

# **Hennessy Grading Probe (HGP 4)**

- 1. Grading of pig carcases shall be carried out by means of the apparatus termed 'Hennessy Grading Probe (HGP 4)'.
- 2. The apparatus shall be equipped with a probe of 5,95 millimetres diameter (and of 6,3 millimetres at the blade of the top of the probe) containing a photodiode (Siemens LED of the type LYU 260-EO and photodetector of the type 58 MR) and having an operating distance of between 0 and 120 millimetres. The results of the measurements shall be converted into estimated lean meat content by means of the HGP 4 itself or a computer linked to it.
- 3. The lean meat content of the carcase shall be calculated according to the following formula:

$$\hat{y} = 71.5278 - 0.86638 \text{ x}$$

where:

 $\hat{y}$  = the estimated lean meat percentage in the carcase,

x = the thickness of the backfat (including rind) in millimetres measured at 6 centimetres off the midline of the carcase at the last rib (known as 'P2')

The formula shall be valid for carcases weighing between 50 and 140 kilograms.

Changes to legislation: There are currently no known outstanding effects for the Commission Decision of 15 April 2004 authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2004) 1340) (Only the English text is authentic) (2004/370/EC). (See end of Document for details)

# F<sup>3</sup>PART 4

# Fully automatic ultrasonic carcass grading (Autofom)

- 1. Pig carcase grading shall be carried out using the apparatus termed Autofom (Fully automatic ultrasonic carcass grading).
- 2. The apparatus shall be equipped with 16 16,2 MHz ultrasonic transducers (Krautkrämer, SFK 2 NP), with an operating distance between transducers of 25 mm.

The ultrasonic data shall comprise measurements of back-fat thickness and muscle thickness.

The results of the measurements are converted into estimated lean meat content using a computer.

3. The carcase's lean meat content shall be calculated on the basis of 127 measurement points using the following formula:

$$\hat{\mathbf{y}} = \mathbf{b}_0 + i\mathbf{p}_1\mathbf{b}_1 + i\mathbf{p}_2\mathbf{b}_2 + i\mathbf{p}_3\mathbf{b}_3 + \dots i\mathbf{p}_{127}\mathbf{b}_{127}.$$

where:

ŷ = the estimated lean meat content of the carcase, ip<sub>1</sub>-ip<sub>127</sub> = Input parameters of Autofom image analysis

 $b_0$ - $b_{127}$  = Constants from the model calibration

The 127 *b*-coefficients are, in order *IP1-IP127*:

- -1,6866978E-002
- -2,7395384E-002
- -1,9907279E-002
- -8,5862307E-003
- -1,7233329E-002
- -1,2928455E-002
- -7,2069578E-003
- 0,0000000E+000
- 0,0000000E+000
- 9,9210571E-003
- -2,7280254E-002
- -1,1866679E-002
- -1,6877903E-002
- -3,3714309E-002
- -2,2873893E-002
- -1,2976709E-002
- -1,9736953E-002
- 0,0000000E+000
- -1,0441692E-002
- -2,6023159E-002
- -1,6019909E-002
- -1,2085976E-002
- -2,0802582E-002
- -1,2004912E-002

- 4,9544591E-003
- 2,1012272E-003
- 3,5626963E-003
- 5,4210355E-003
- 2,8231265E-003
- 0,0000000E+000
- 3,4462682E-003
- 4,9613826E-003
- 3,1486694E-003
- 0,0000000E+000
- 3,3405393E-003
- 0,0000000E+000
- 0,0000000E+000
- 1,0592665E-003
- 0,0000000E+000
- 0,0000000E+000
- 0,000000E
- 2,3835478E-003
- 0,0000000E+000
- -2,3957171E-002
- -1,6251475E-002
- 0,0000000E+000
- 2,1446949E-002
- 0,0000000E+000
- -2,4741126E-002
- -2,2376098E-002
- -1,6962735E-002
- -2,8594572E-002
- -1,9001560E-002
- -2,7471537E-002
- -3,2565221E-002
- -3,1170983E-002
- -2,9708274E-002
- -2,7283320E-002
- -2,5577871E-002
- -3,2280222E-002
- -3,1662315E-002
- -3,3039205E-002
- -3,2290529E-002
- 3,0902216E-002 - 2,9116826E-002
- -2,5646536E-002
- -2,3514079E-002
- -2,7472775E-002
- -2,6122212E-002
- -2,3694078E-002

Changes to legislation: There are currently no known outstanding effects for the Commission Decision of 15 April 2004 authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2004) 1340) (Only the English text is authentic) (2004/370/EC). (See end of Document for details)

- -2,7969513E-002
- -2,8660055E-002
- -2,8413385E-002
- -3,2624107E-002
- -3,2517981E-002
- -3,1576648E-002
- -3,1543616E-002
- -3,1162977E-002
- -3.0734278E-002
- -3,4127805E-002
- -3,4164313E-002
- -3,4327772E-002
- -3,4017213E-002
- 3,1017213E 002
- 3,3313580E-002
- -3,3459395E-002
- -2,4075206E-002
- -2,5336761E-002
- -2,6048595E-002
- -2,6499119E-002
- -2,6947299E-002
- -2,7433341E-002
- -3,1328205E-002
- -3,1818397E-002
- -2,7329659E-002
- 6,0837399E-003
- 6,8703182E-003
- 7,7951970E-003
- 8,3265398E-003
- 7,6311678E-003
- 6,6542262E-003
- 5,8027613E-003
- 8,4376512E-003
- 8,3114961E-003
- 8,2320096E-003
- 8,0569442E-003
- 7,7763004E-003
- 7,6648975E-003
- 7,3420489E-003
- 7,2652618E-003
- 7,1755257E-003
- 7,1458751E-003
- 7,1670651E-003
- 6,9467919E-003
- 7,0396927E-003
- 7,2869365E-003

5,7384889E-003 7,6241307E-003 7,3343012E-003 6,9868541E-003 6,6073379E-003 6,9390922E-003 6,3295597E-003 6,0446505E-003 1,0994689E-002 9,2938738E-003 4,4189114E-003 4,3836362E-003 4,6389205E-003

The  $b_0$ -coefficient is 6,3457577E+001

4. Descriptions of the measurement points and the statistical method can be found in Part II of the United Kingdom protocol forwarded to the Commission in accordance with Article 3(3) of Regulation (EEC) No 2967/85.

The formula shall be valid for carcases weighing between 50 and 140 kilograms.]

## **Textual Amendments**

F3 Inserted by Commission Decision of 3 February 2006 amending Decision 2004/370/EC authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2006) 213) (Only the English text is authentic) (2006/99/EC).

# F2ANNEX III

[F2]

- (1) OJ L 301, 20.11.1984, p. 1. Regulation last amended by Regulation (EC) No 3513/93 (OJ L 320, 22.12.1993, p. 5).
- (2) OJ L 285, 25.10.1985, p. 39. Regulation amended by Regulation (EC) No 3127/94 (OJ L 330, 21.12.1994, p. 43).
- (3) OJ L 105, 26.4.1988, p. 15. Decision last amended by Decision 2003/750/EC (OJ L 271, 22.10.2003, p. 24).

# **Changes to legislation:**

There are currently no known outstanding effects for the Commission Decision of 15 April 2004 authorising methods for grading pig carcases in the United Kingdom (notified under document number C(2004) 1340) (Only the English text is authentic) (2004/370/EC).