COMMISSION REGULATION (EEC) No 1831/76

of 28 July 1976

laying down the method for determining the minimum bread-making quality of common wheat required for intervention in the 1976/77 marketing year

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Regulation (EEC) No 2727/75 of 29 October 1975 on the common organization of the market in cereals (1), as last amended by Regulation (EEC) No 1146/76 (2), and in particular Article 4 (3) thereof,

Having regard to Council Regulation (EEC) No 1621/76 of 22 June 1976 fixing the minimum standards required for intervention in the case of common wheat of bread-making quality (3),

Whereas, for the 1976/77 marketing year, common wheat is regarded as being of minimum bread-making quality when, after milling, mechanical kneading of the dough obtained from such wheat is possible; whereas, in order to assess the behaviour of the dough subjected to mechanical kneading for bread-making purposes, it is sufficient to apply only the first part of the European bread-making test developed at the Commission's request by a group of Community labories;

Whereas the Management Committee for Cereals has not delivered an opinion within the time limit set by its Chairman,

HAS ADOPTED THIS REGULATION:

Article 1

For the 1976/77 marketing year, common wheat shall be regarded as being of minimum bread-making quality when, after milling, the dough obtained from such wheat proves to be non-sticky and machinable. These characteristics shall be assessed by applying the first part of the European bread-making test according to the standard method set out in the Annex hereto.

Article 2

In order to qualify as non-sticky and suitable for bread-making the dough must meet the following requirements:

(a) when the mixer is opened the dough shall form a coherent mass which hardly adheres to the sides of the bowl or spindle of the mixer. It shall be possible to collect the dough by hand and remove it from the mixing bowl in a single motion without appreciable loss;

(b) during moulding the dough shall adhere hardly, or not at all, to the sides of the moulding chamber so that it can freely rotate around itself and form a regular ball; at the end of the operation there shall be no dough adhering to the lid of the chamber when it is raised.

Article 3

By way of derogation from Article 1, the Italian intervention agency may, until 30 September 1976, distinguish between bread-making and non-bread-making common wheat by reference to quality requirement according to variety.

In the event of dispute, only the method for determining the bread-making quality of common wheat defined in this Regulation shall be authentic.

Article 4

The costs regarding the bread-making test shall be borne by the seller. In the event of a dispute, the intervention agency shall submit the common wheat in question to a further bread-making test, the cost of which shall be borne by the losing party.

Article 5

This Regulation shall enter into force on the third day following its publication in the *Official Journal of the European Communities.*

It shall apply with effect from 1 August 1976.

(1) OJ No L 281, 1. 11. 1975, p. 1.
(2) OJ No L 130, 19. 5. 1976, p. 1.
(3) OJ No L 180, 6. 7. 1976, p. 4.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 28 July 1976.

For the Commission

P. J. LARDINOIS

Member of the Commission

ANNEX

PRACTICAL REFERENCE METHOD FOR DETERMINING THE MINIMUM BREAD-MAKING QUALITY OF COMMON WHEAT

1. Title

Method for test baking of wheat flour

2. Scope

The method is applicable to flour, experimentally milled from wheat for the production of yeast raised bread.

3. Principle

A dough is made from flour, water, yeast, salt and sucrose, in a specified mixer. After dividing and rounding, the pieces are given 30 minutes rest; they are moulded, placed on baking sheets and baked after a final proof of fixed duration. Dough handling properties are noted. The loaves are judged by volume, height, crust colour, crumb pore picture, and crumb texture.

4. Ingredients

4.1. *Yeast*

Engedura active dry yeast (Gist-Brocades NV, or a product having the same characteristics).

4.2. *Water*

Tap water.

4.3. *Sugar-salt-ascorbic acid solution*

Dissolve 30 ± 0·5 g of sodium chloride (commercial grade), 30 ± 0·5 g of sucrose (commercial grade), and 0·040 ± 0·001 g ascorbic acid in 800 ± 5 g of water. Prepare fresh daily.

4.4. *Sugar solution*

Dissolve 5 ± 0·1 g sucrose (commercial grade) in 95 ± 1 g of water.

4.5. *Enzyme active malt flour*

Commercial grade.

5. Equipment and apparatuses

5.1. —

5.2. *Refrigerator*

For maintaining a temperature of 4 ± 2 °C.

5.3. *Balance*

Maximum load 2 kg, accuracy 2 g.

5.4. *Balance*

Maximum load 0·5 kg, accuracy 0·1 g.

5.5. *Analytical balance*

Accuracy $0{\cdot}1 \cdot 10^{-3}$ g.

5.6. *Mixer*

Stephan UMTA 10, with mixing arm model 'Detmold' or similar equipment having the same characteristics.

5.7. *Proving cabinet*

Controlled to maintain a temperature of 30 ± 1 °C and a relative humidity of 80 ± 5 %.

5.8. *Moulder*

Brabender Ball homogenizer or similar equipment having the same characteristics.

5.9. —

5.10. —

5.11. —

5.12. —

6. Sampling

According to ICC Standard No 101.

7. Procedure

7.1. *Determination of water uptake*

Determine the water absorption according to the description following this description of the baking test.

7.2. *Determination of malt flour addition*

Determine the 'falling number' of the flour according to ISO 3093-1974. If the 'falling number' is higher than 250, determine the malt flour addition required to bring the 'falling number' within the range 200 to 250, using a series of mixtures of the flour with increasing quantities of malt flour (4.5).

7.3. *Reactivation of active dry yeast*

Adjust the temperature of the sugar solution (4.4) to 35 ± 1 °C. Pour one part by weight of the active dry yeast into four parts by weight of this tempered sugar solution. *Do not stir.*

Allow to stand for 10 ± one minute, then stir until a homogeneous suspension is obtained. Use this suspension within 10 minutes.

7.4. *Temperature adjustment of the flour and the dough liquid*

The temperature of the flour and the water must be adjusted to give a dough temperature of 27 ± 1 °C after mixing.

7.5. *Dough composition*

Weigh, with a relative precision of 0·2 %, 10 y/3 g flour on as-is moisture basis (corresponding to 1 kg flour on a 14 % mb), in which 'y' is the quantity of flour used in the farinograph test (see description of the 'Method for using the Brabender farinograph', clause 9.1).

Weigh, with a precision of 0·2 g the quantity of malt flour necessary to bring the 'falling number' within the range 200 to 250 (7.2).

Weigh 430 ± 5 g sugar-salt-ascorbic acid solution (4.3) and add water to a total mass of (x-9) · 10/3 g (see 10.2) in which 'x' is the quantity of water used in the farinograph test (see description of the 'Method for using the Brabender Farinograph', clause 9.1). This total mass (usually between 450 and 650 g) must be achieved with a relative precision of 0·3 %.

Weigh 90 ± 1 g yeast suspension (7.3).

Note the total mass of the dough (P), which is the sum of the masses of flour, sugar-salt-ascorbic acid solution plus water, yeast suspension, and malt flour.

7.6. *Mixing*

Before starting, bring the mixer to a temperature of 27 ± 1 °C by use of a suitable quantity of tempered water.

Place the liquid dough ingredients in the mixer and place the flour plus malt flour on top.

Start the mixer (speed 1, 1 400 rpm) and allow to run for 60 seconds. Scrape down the walls of the mixer 20 seconds after the start of mixing, by turning the scraper attached to the lid of the mixing bowl two revolutions.

Measure the temperature of the dough. If it is outside the range 26 to 28 °C, discard the dough and mix a new one after adjustment of ingredient temperatures.

Note dough properties using one of the following terms :

— Non-sticky and machinable : After opening the mixer the dough should form a coherent mass which hardly adheres to the sides of the bowl and spindle of the mixer. It should be possible to collect the dough by hand and remove it from the mixing bowl in a single motion without noticeable loss.

— Sticky and non-machinable : After opening the mixer the dough sticks to the sides of the bowl and tends to wrap around the mixer spindle. It is practically impossible to collect the dough by hand and remove it in one motion, a considerable portion adhering to the sides of the mixing bowl and spindle.

7.7. *Dividing and rounding*

Weigh, with a relative precision of 0·5 %, three pieces of dough according to the formula : $p = 0{\cdot}25 \cdot P$ where :

p = mass of scaled dough piece ;
P = total mass of dough.

Immediately round the pieces for 15 seconds in the moulder (5.8) and place them for 30 ± two minutes on a suitable support in the proving cabinet (5.7).

7.8. *Moulding*

Re-round the dough balls for 15 seconds in the moulder (5.8).

Note dough properties again, using one of the following definitions :

— Non-sticky and machinable : During operation of the machine the dough adheres hardly, or not at all, to the sides of the chamber so that it can freely rotate around itself and form a regular ball. At the end of the operation the dough should not stick to the sides of the dough-moulding chamber when the lid of the chamber is raised.

— Sticky and non-machinable : During operation of the machine the dough sticks to the sides of the chamber so that it cannot readily rotate and no regular ball can form. At the end of the operation dough sticks to the lid, to the chamber, and to the plate. In extreme cases the dough extends in fibre-like form between the plate and the chamber.

7.9. —

7.10. —

8. —

9. —

10. **General remarks**

10.1. The English description of the method for using the Brabender farinograph, following this description of the baking test, is identical with ICC Standard No 115. As the French and German ICC publications are not in conformity with the authentic text, they shall not be used.

10.2. —

10.3. The method is not directly applicable to wheat. The procedure to be followed for characterizing the baking properties of wheat is as follows :

Clean the wheat, and determine the moisture content of the cleaned wheat. If the moisture content is within the range 15 to 16 %, do not temper the wheat. If the moisture content is outside this range, adjust the moisture content to 15·5 ± 0·2 %, at least three hours prior to milling.

Mill the wheat into flour using a Bühler laboratory mill MLU 202 or a Brabender quadrumat senior mill of similar equipment having the same characteristics.

Choose a milling procedure that yields a flour of minimum 72 % extraction, with an ash content of 0·50 to 0·60 % on dry matter basis. Determine the ash content of the flour according to the Annex to Regulation No 162/67/EEC of 23 June 1967, and the moisture content according to Annex II to Regulation (EEC) No 2731/75 of 29 October 1975. Calculate the extraction rate by the equation :

$$E = \frac{(100 - f)\ F}{(100 - w)\ W} \cdot 100\ \%$$

in which :

E = extraction rate ;
f = moisture content of the flour ;
w = moisture content of the wheat ;
F = mass of flour produced with moisture content 'f',
W = mass of wheat milled with moisture content 'w'.

Note : Information concerning the ingredients and equipment to be used is published in Document 76/399 of 31 May 1976 from the TNO-Institut voor graan, meel en brood, Lawickseallee 15, Postbus 15, Wageningen (Nederland).