LOMO EMBUCHADO: COLOUR PARAMETERS EVOLUTION DURING PROCESS.

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S-VIA.23

SUMMARY.

The "lomo embuchado" or "caña de lomo" is a typical Spanish dry cured meat product. CIEL*a*b* and reflectance ratios: R560/R500, R650/R570, R630/R580, during whole "lomo embuchado" process were analized. All of the parameters showed stadistical differences with process time, except a* during whole process. Hue reduces its values until red hue. Excellent cured colour was obtained at the end of the process.

INTRODUCTION.

The "lomo embuchado" or "caña de lomo" is a typical Spanish dry cured meat product, which is characterized by an "adobado" and ripening.

There are two types of "lomo embuchado": one from Iberian porks ("lomo embuchado ibérico") and the other from white porks ("lomo embuchado")(Flores, 1989).

The "lomo embuchado ibérico" has a special flavour and taste which determine its own market. Nowadays it is the meat product which has the highest commercial price in the Spanish market (Hernández Crespo et al., 1991). In 1992, the production was 22680 Tm and is ranked in the fifth place of Spanish processed meat production. Due to its low consumption few scientifical works have been carried out (Bello, 1990). The "lomo embuchado" process usually consist of the following stages: raw meat arrangement (the trimming off external fat of the *longissimus dorsi* muscle), salting, "adobado", stuffed in natural or artificial permeable casing and dry maturation (Sanz Egaña, 1967; Yagúe, 1992; Madrid, 1986; M.A.P.A., 1983).

One of the main objetives of the dry cured process is to develop desirable organoleptic properties (colour and flavour) in the meat (Andújar and Tarrazo, 1981). The aim of this work was to study the colour parameter evolution during the "lomo embuchado" process.

MATERIALS AND METHODS.

The present study was carried out with four batches of "lomo embuchado" of white pork made in a pilot plant according to the following procedure: a mixture of common salt, cured agents, paprika, garlic and water were added to the following procedure: a mixture of common sait, cured agents, papints, garanteed agents, g at 3+-1°C. Then the pieces were cleaned and filled in equine natural casing, washing them previously to avoid possible. Possible smells and strange flavors in the final product. Finally they passed to a drying area.

The samples were taken at 0, 24, 48,54, 72, 78,312, 384, 456, 720 and 864 h, after the beginning the of the process. To the colour measurements, slices with 20 mm of thickness and 250 g approximately were obtained.

Each sample was split up into three zones: zone 1 (t), zone 2 (m) and zone 3 (b). The color

The colour parameters under study were: CIE L* a* b* 1976 notations (10°, D 65), L* (lightness), a* (redness), the colour parameters under study were: CIE L* a* b* 1976 notations (10°, D 65), L* (lightness), a* (redness), b* (yellowness), C* (chroma), h° (hue) and reflectance ratios: R560/R500 (IN), R630/R580 (ITP), R650/R570 (Vellowness), C* (chroma), h° (hue) and reflectance ratios: R560/R500 (IN), R630/R580 (ITP), R650/R570 (ID). All of these parameters were measured by a Minolta CM1000 spectrophotometer were measured measured. The stadistical analyse was made with Stadistical Software BMDP ver 9.0 and 9D, 2V program.

RESULTS AND DISCUSSION.

Significant stadistical differences (P<0.01) were found in lightness between zones and processing time. L* parameter was highest during the "adobado" process and its values decreased during the dry cured process (tables I and II). This decrease could be due to the loss of moisture, being higher in zone 1.

For redness (a*) no significant stadistical differences were found between zones and times under the study. A similar evolution was observed by Gago et al. (1992) in "salchichon". The a* values are shown in tables I and II.

No significant atadistical differences were found for yellowness among zones but were found with the processing time (P<0.01). b* parameters decreased during the process (tables I and II). This evolution agrees with other dry cured meat products (Gago et al., 1992; Pagán et al., 1992; Tajahuerce et al., 1994; Ruiz et al., 1994).

Colour tone (figure 1) at the beginning of "adobado" presents a similar evolution like other meat products with added paprika (Pagán et al., 1992; Tajahuerce et al., 1994). Then, the whole all process has a behaviour like other dry cured products (Gago et al., 1992; Ruiz et al., 1994). At the end of the process red-grayish tones were obtained (Minolta, 1993). And hue reduces its values from orange to red (Instituto de Racionalización, 1981). This reduction can be observed in tables I and II.

Reflectance ratios under study can be observed in tables I and II. IN reflectance ratio shows significant stadistical differences (P<0.01) between zones and processing time. In figure 2, the evolution of IN reflectance ratio is shown. The lowest values were found in the "adobado" stage; this can be due to the diffusion of salt and cured agents. During this stage all trensformations from Mb to NOMb (nitrous myoglobin) take place. During the dry cured process, nitrouspigments has a retrogression as was described by Giddey (1966).

At the dry cured process, ID reflectance ratio has values of excellent cured colour.

During the "adobado" stage, ITP reflectance ratio decreases (tables I and II), its values correspond to the MetMb (met myoglobin). This can be explained by the formation of NOMetMb (nitrousmetmyoglobin) to NOMb (nitrousmyoglobin).

CONCLUSIONS.

• All colour parameters during "lomo embuchado" process showed stadistical differences with process time, except to a*.

- During the dry cured process b* values decrease.
- Red hue was obtained at the end of the process.
- · Paprika influence affects the first stage of the "adobado".
- Excellent cured colour was obtained at the end of the process.

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