BEEF AND PORK CARCASS GRADING SYSTEMS IN BRAZIL

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BEEF

The Brazilian beef carcass grading system was established by a regulation published by the Ministry of Agriculture in October 10th, 1989 (Pardi et al., 1996). It is based on the following parameters evaluated at the kill floor: sex (M=entire male; C=castrated male; F=female), maturity (milk teeth; 2; 4; 6; 8 permanent incisors), conformation (five scores, from convex to concave) and fat cover (five scores, from absent to excessive). Six grades (B; R; A; S; I; L) are then formed in which teeth maturity and sex combinations are the most restrictive criteria, followed by minimum carcass weights. Visual evaluations of fat cover excludes the lower and higher extremes from grades B and R only, and that of conformation excludes the two lower scores from grade B, and the worst (concave), from R, A, S, and I. In the meat industry routine, only B is graded, with specific purposes, as in programs to incentive Young Steer production, and in meat for export, mostly Hilton Quota. The B grade, which is considered to be the best of all, although there is no scientific evidence for that, fits both purposes with a little difference: B for Hilton Quota, named B ball, does not include young bulls, neither fat cover score four (uniform), which are acceptable for B in Young Steer (Novilho Precoce) programs.

The problem with this system is that it has never been a common language for the entire beef chain, probably because it has ignored the consumer since the beginning. One of us (Felício, 1999) has critically analyzed this matter and proposed for discussion a very simple classification, to be reinforced by government regulations, based on a few sex/maturity categories, plus fatness scores and weight ranges, to be applied in paying producers for cattle or warm carcasses, and a voluntary chiller evaluation of meat quality and yield indicators to be used before processing and marketing primal and sub-primal meat cuts.

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PORK

The Brazilian four largest pork processing companies decided to implement an objective grading of carcasses in 1991. Those companies have their slaughtering plants located in the State of Santa Catarina, where pig production is concentrated. They had already being paying producers based on backfat thickness and carcass weight combinations for several years. But although they were equipped with probes and data acquiring systems, it took them four year before they started payments based on lean meat percentage. For the intense competition among companies, the new methodology of grading by electronic means was soon implemented in 45 plants in the three Southern States.

Hennessy Grading Systems Automatic Probes is the most used equipment in Brazil. The estimated lean meat content is derived from one or two off the midline backfat (last rib and between the third and fourth last ribs) and one loin muscle thickness measurements.

Considering that there is no official regulation regarding to electronic grading, each company makes its own rules. More recently a grading committee has been formed to standardize the methodology applied in the State of Santa Catarina. And in the State of São Paulo it has been proposed to apply only one lean meat equation (%CM = 57.456 – 0.596*F + 0.103*M, where F is the backfat thickness and M is the loin muscle thickness) to all abattoirs (Silveira, In press). The "100 Index Table" will be applied.

REFERENCES

FELÍCIO, P.E. de. Perspectivas para a tipificação de carcaça bovina [Beef carcass grading perspectives]. Simpósio Internacional sobre Tendências e Perspectivas da Cadeia Produtiva da Carne Bovina (SIMPOCARNE)... Proceedings. São Paulo, SP, 1999. (electronic midia).

PARDI, M.C.; SANTOS, I.F. dos; SOUZA, E.R. de & SANTOS, J.C. A epopéia do Zebu. Um estudo zootécnico-econômico [The Zebu cattle epopee. An economic and production study]. Ed. Universidade Federal de Goiás, Goiânia, Go, 1996.

SILVEIRA, E.T.F. Avaliação instrumental da qualidade de carcaça suína no Estado de São Paulo [Instrumental evaluation of pork carcass quality in the state of São Paulo]. (In press).