

PHILIPPINE NATIONAL STANDARD

PNS/BAFPS 86:2010
ICS 67.120.10

Live grading for slaughter carabao



BUREAU OF PRODUCT STANDARDS

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Foreword

The Philippine National Standard (PNS) on Live grading for slaughter carabao is a collaborative effort from the Department of Agriculture (DA) interagency spearheaded by the Bureau of Animal Industry (BAI) and the Bureau of Agriculture and Fisheries Product Standards (BAFPS). Other members are from the National Meat Inspection Service (NMIS), Livestock Development Council (LDC), Philippine Carabao Center (PCC); academe represented by the University of the Philippines, Los Baños-Animal and Dairy Sciences Cluster, private sectors represented by Monterey Foods Corp. and livestock traders represented by the Philippine Livestock and Poultry Multi-purpose Cooperative (PLMPC) created as Technical Working Group (TWG) pursuant to DA Special Order No. 272 Series of 2008.

This PNS was based mainly from the study of BAI-Marketing Development Division and UPLB-ADSC entitled "*Establishment of Grading Standards of Slaughter Carabao for Philippine Use.*" As a result of this study, grade classification was devised using grade factors that can estimate the liveweight of the animal as well as the total value of the carcass. The main objective of this study is to have a fair livestock transaction in the auction market that would encourage farmers to produce more livestock with better quality.

The proposed standard was presented and reviewed during public consultations conducted in the cities of Lipa, Iloilo and Davao representing the island groups of Luzon, Visayas and Mindanao respectively. Comments gathered from various stakeholders in the said consultations were carefully evaluated and included accordingly by the TWG.

1 Scope

This standard applies to carabao intended for slaughter focusing on grade factors related to the carcass yield. Carcass quality parameters such as meat color, marbling and meat firmness are not included as these cannot be predicted from live animal.

2 Reference

The titles of the standard publications referred to in this standard are listed on the inside back cover.

3 Objective

The purpose of this standard is to have a grading system of live carabao intended for slaughter that will serve as instrument to facilitate marketing as well as promote high quality carabao.

4 Definitions

4.1

age

means biological time that a carabao lives which can be determined through records like Certificate of Ownership of Large Cattle (COLC) and Certificate of Transfer of Large Cattle (CTLC) or estimated through dentition. Expressed in years or months

4.2

body scoring (BS)

quantitative score adopted by the standard, ranging from 1 to 3 with one being the highest, which refers to the animal's condition and conformation

4.2.1

condition

overall body state of an animal assessed through visual observation taking into account fat and muscle deposition as it occurs in various places on the animal's body

4.2.2

conformation

symmetry, size, shape and proportion of the various body regions relative to each other or to the general appearance of the animal.

4.3

carcass yield

percentage of carcass weight relative to its liveweight

4.4

live grading standard

a quantitative scoring of 1 to 5 based on age and body score, with PNS 1 as the superior grade

5 Grading parameters affecting carcass yield of slaughter carabao

5.1 Live traits

a. Age

b. Body scoring

Three-point scoring system base on assessment of the following body parts:

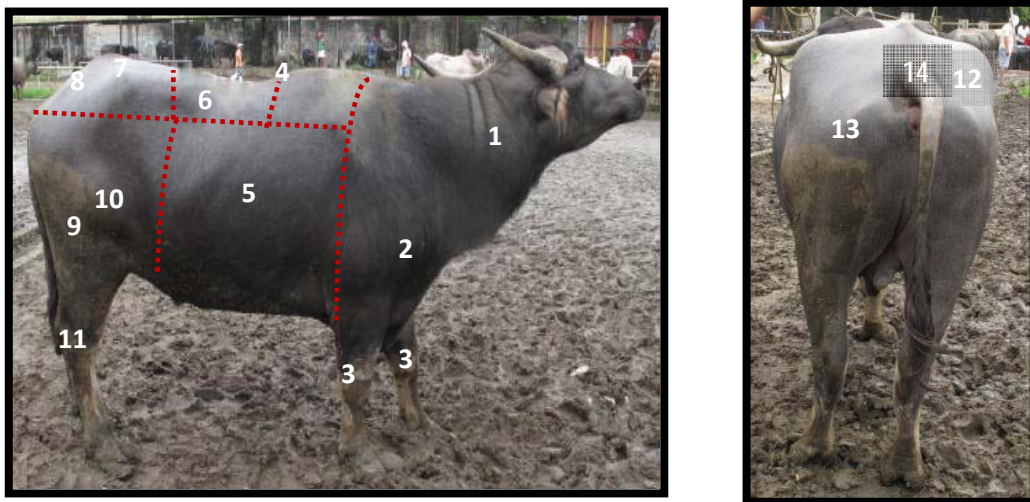


Figure 1 – Showing body parts of carabao being assessed in body score (BS)

- | | | | |
|------------------|-------------|-------------------|--------------|
| 1. Neck | 5. Ribs | 9. Thigh | 13. Round |
| 2. Chest/Brisket | 6. Loin | 10. Stifle Region | 14. Tailhead |
| 3. Front legs | 7. Hip bone | 11. Hind legs | |
| 4. Backbone | 8. Pin bone | 12. Rump | |

- i. **BS 1** – is characterized by good fat and muscle covering indicated by a smooth rounded appearance throughout the body. Rump is plump and stifle region is bulging with wide, thick and convex thigh. Chest/Brisket is wide and tightly muscled. The tailhead is filled with fats. Round, loin and neck are heavily muscled giving short appearance to the latter. The front and hind legs are set wide apart. The backbone, ribs, hip and pin bone are not prominent.



Side view



Rear view

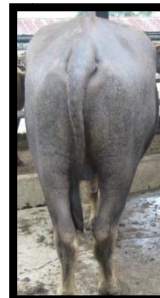


Top view

- ii. **BS 2** – has a moderate fat and muscle covering, indicated by angular and more irregular appearance than BS 1. Rump is slightly sloping, stifle region is slightly prominent, and with slightly wide, moderately thick and flat thigh. Chest/brisket is moderately wide and muscled. The tailhead has moderate fat covering beside the tail. Round, loin and neck are moderately muscled. The front and hind legs are slightly wide apart. The backbone, ribs, hip and pin bone are slightly prominent.



Side view



Rear view



Top view

- iii. **BS 3** – has lesser fat and muscle covering than BS 2 indicated by prominent bony structures. Rump is indented, stifle region is sunken, and thigh is pointed and thin. Chest/brisket is narrow with loose skin. The tailhead is unfilled or sunken. Round and loin are thinly muscled with neck appearing long due to thin muscling. The front and hind legs are very close to each other. The backbone, ribs, hip and pin bone are prominent.



Side view



Rear view



Top view

6 Specific body parts used as criteria for judging BS of carabao

A. Side view

6.1 Chest/Brisket



BS 1- Wide and tightly muscled



BS 2 – Moderately wide and muscled



BS – Narrow and loose skin

6.2 Ribs



BS 1- not prominent

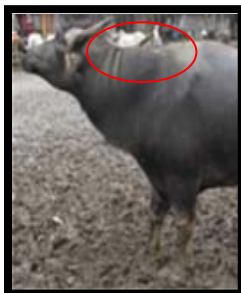


BS 2 – slightly prominent



BS 3 – prominent

6.3 Neck



BS 1 – heavily muscled

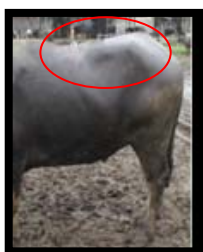


BS 2 – moderately muscled



BS 3 – Thinly muscled

6.4 Loin



BS 1 – heavily muscled



BS 2 – moderately muscled



BS 3 – thinly muscled

6.5 Backbone



BS 1 – Not prominent

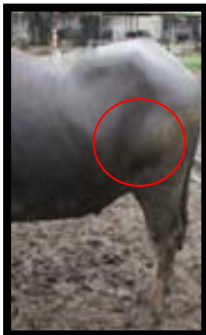


BS 2 – Slightly prominent



BS 3 - prominent

6.6 Stifle region



BS 1- bulging

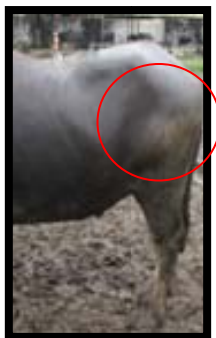


BS 2- slightly prominent



BS 3- sunken

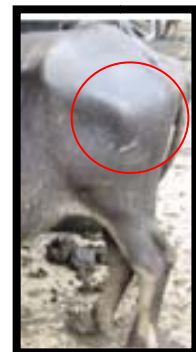
6.7 Round



BS 1- heavily muscled



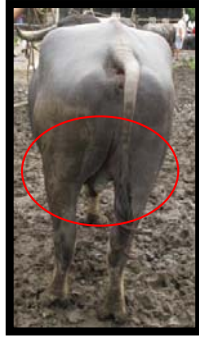
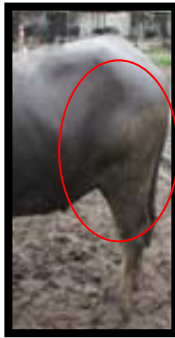
BS 2- moderately muscled



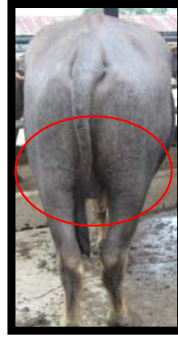
BS 3- thinly muscled

B. Rear view

6.8 Thigh



BS 1- convex (side view) wide and thick (rear view)



BS 2- flat (side view) slightly wide and thick (rear view)



BS 3 – pointed (side view) thin (rear view)

6.9 Hind legs



BS 1 – Wide apart

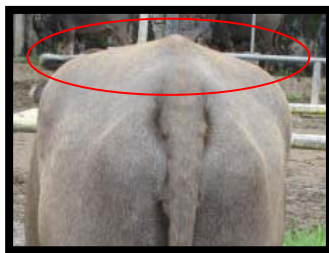


BS 2- Spaced

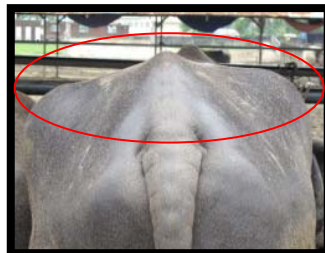


BS 3 – Very close to each other

6.10 Hip bones



BS 1 – not prominent

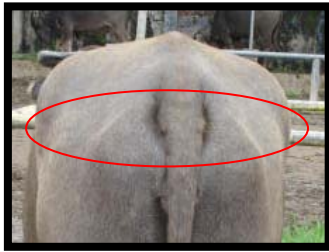


BS 2- slightly prominent

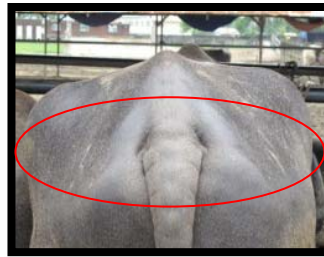


BS 3 – prominent

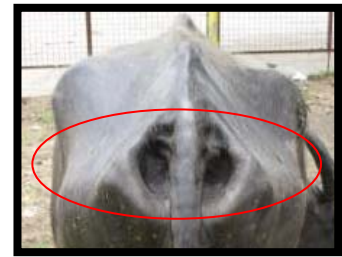
6.11 Pin bone



BS 1 – not prominent



BS 2- slightly prominent

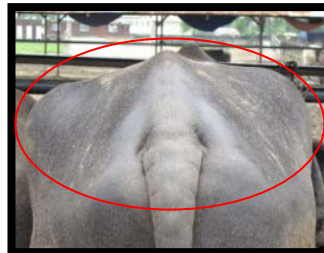


BS 3 – prominent

6.12 Rump



BS 1 – plump



BS 2- slightly sloping

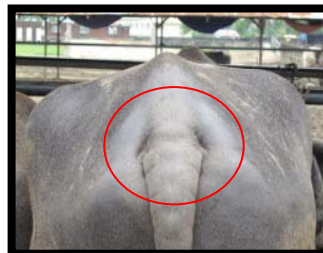


BS 3 – indented

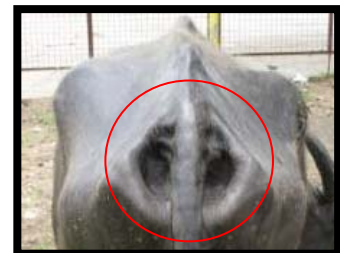
6.13 Tail head



BS 1 – filled



BS 2- moderately filled



BS 3 – sunken

Table 1 – Shows different body parts of carabao used as basis in body scoring

Body parts	BS 1	BS 2	BS 3
Front view			
Chest / Brisket	Wide and tightly muscled	Moderately wide and muscled	Narrow and loose skin
Front legs	Wide apart	Spaced/Slightly wide apart	Very close to each other
Side view			
Loin	Heavily muscled	Moderately muscled	Thinly muscled
Stifle region	Bulging	Slightly prominent	Sunken
Round	Heavily muscled	Moderately muscled	Thinly muscled
Neck	Heavily muscled	Moderately muscled	Thinly muscled
Backbone	Not prominent	Slightly prominent	Prominent
Ribs	Not prominent	Slightly prominent	Prominent
Rear view			
Thigh	Convex, wide and thick	Flat, slightly wide and thick	Pointed and thin
Rump	Plump	Slightly sloping	Indented
Hind legs	Wide apart	Spaced/slightly wide apart	Very close to each other
Tailhead	Filled	Moderately filled	Sunken
Hip bone	Not prominent	Slightly prominent	Prominent
Pin bone	Not prominent	Slightly prominent	Prominent
Whole body			
Muscling	Heavily muscled	Moderately muscled	Thinly muscled

7 Live grading standard

Table 2 – Shows established grading standard based on age and BS

Grade designation	Grade factors	
	Age / Maturity ¹	BS ¹
PNS 1	≤ 42 mos.	1
PNS 2	≤ 42 mos.	2
PNS 3	> 42 mos.	1
PNS 4	> 42 mos.	2
PNS 5	Regardless of age	3

References

PNS/BAFPS 86:2010

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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