

SECTION 5

GRADING OF
BIGEYE AND YELLOWFIN TUNA

5.1 INTRODUCTION

There is a need of establish the proper standards for the grading of tuna.

Tuna must be graded before it is shipped to the end user. By using the system which has been adapted by the countries which process tuna, we will attempt to set up a set of guidelines for the proper quality grading standards for bigeye and yellow fin tuna.

There are separate standards for the colour of bigeye and yellowfin tuna. In regards to the condition of both types of fish there is only one set of standards.

5.2 NOMENCLATURE

ABRASIONS	Scratching of the skin
BLEACHING	Whitening of the skin surface
DISTORTION	Improper shape
GLOSSY	The meat is shining
INGRESO	Entering
OPAQUE	Cannot see through
STAINING	Skin or flesh is discoloured
TRANSLUCENT	Shining throughout
TRANSPARENT	Very clear

5.3 A POINT SCORE SYSTEM FOR GRADING TUNA

5.3.1 Colour

The natural colour of tuna is affected by many factors. The most important one being the freshness, fat content, and time of exposure to the air. Freshly cut surface of tuna meat are dark, and become bright red as the tissues take up oxygen. It is important to remember this factor when grading, you must wait 30 minutes after the notches are cut.

To inspect colour, remove the tuna from the ice and cut off from the fifth and sixth caudal finlet. Cut a notch about 3 to 4 cm in from this cut.

Remove the piece of meat, and wait 30 minutes before comparing with the descriptions in Sections 5.4 and 5.5.

Inspection is done for colour to determine whether it is for sashimi, loins, canning, and or other markets, depending on the buyer.

5.3.2 Condition

Condition has two aspects: carcass and flesh condition. Carcass condition is assessed in terms of damage of the exterior damage to the skin; for example rips, cuts and tears. Flesh condition is done by assessing the meat at the tail cut to see if there is gaping, parasites and disease, and also along the exterior surface of the carcass damage which can be felt with the fingers. Bruising is one example.

The table presented in Section 5.6 is for assessing and scoring carcass condition. It is also important that the characteristics described in the table can occur in various combinations, and therefore a judgement must be made. For example, you can have a tuna which has a good fat content but is not very fresh. This tuna may be considered the same as a tuna that is very fresh but has a very little or no fat.

5.3.3 Grading

A flowchart for sizing and tuna grading at sea and on shore is given in Section 5.9.

5.4 COLOUR SCORES FOR BIGEYE TUNA

5.4.1 Very Good (Score 50)

- i) Meat is transparent, glossy.
- ii) Colours are bright.
- iii) Large amounts of fat present, penetrating into the inner muscles layers.

5.4.2 Good (Score 40)

- i) Meat is a little translucent, and less glossy.
- ii) Colours are less bright.
- iii) Large amounts of fat present, penetrating into the inner muscle layers, note some carcasses are too fat.

5.4.3 Medium (Score 30)

- i) Meat is translucent, and has lost its gloss.
- ii) Colours are a little dull.
- iii) Fat is present, but with little or no penetration to the inner muscles.
- iv) Meat colour may appear a little brownish.

5.4.4 Poor (Score 20)

- i) The meat is almost opaque.
- ii) The colour of the meat is distinctively brownish, and dull.
- iii) There is no visible fat in the outer layers, the meat is the same colour throughout.

5.4.5 Very Poor (Score 10)

- i) The meat is opaque.
- ii) The colour of the meat is brown, whitish or grey.
- iii) Little or no fat visible in the outer layers.

5.5 COLOUR SCORES FOR THE YELLOWFIN TUNA

5.5.1 Very Good (Score 50)

- i) Meat is transparent, glossy.
- ii) Colours are bright.
- iii) Fat is clearly visible.

5.5.2 Good (Score 40)

- i) Meat is a little translucent, and less glossy.
- ii) Colours are less bright.
- iii) Fat just visible in outer layers.

5.5.3 Medium (Score 30)

- i) Meat is translucent, and has lost its gloss.
- ii) Colours are a little dull, a little brownish.
- iii) No fat visible in outer layers.

5.5.4 Poor (Score 20)

- i) The meat is almost opaque, no gloss.
- ii) Colours distinctively brownish and dull.
- iii) No fat visible in outer layers.

5.5.5 Very Poor (Score 10)

- i) The meat is opaque.
- ii) The colour is brown, whitish, or grey.
- iii) No fat visible in outer layers.

5.6 CONDITION SCORES FOR YELLOWFIN AND BIGEYE TUNA

5.6.1 Very Good (Score 50)

- i) No apparent defects/damage (no rips, tears, cuts and abrasions).
- ii) Scales intact.
- iii) Fish looks as though it has just been lifted from the water, natural body colours bright.
- iv) Flesh at notch very firm, springs back quickly on pressing lightly with fingertips. No soft spots present on carcass surface.

5.6.2 Good (Score 40)

- i) Slight defects/damage, there are a few minor rips, tears, cuts,

- abrasions.
- ii) Some scales loss.
- iii) Body colours are a little dull.
- iv) Flesh at notch, springs back slowly on pressing lightly with fingertips. One or two very small soft spots present on carcass surface.

5.6.3 Medium (Score 30)

- i) Noticeable defects/damage, a maximum of two rips, tears, cuts, abrasions which could affect the meat yield.
- ii) Small patches of scales lost.
- iii) Body colours dull/dark.
- iv) Flesh at notch less firm, does not spring back fully on pressing lightly with the finger tips several small spots present on carcass surface.

5.6.4 Poor (Score 20)

- i) More than two rips, tears, cuts or abrasions which could affect meat yield.
- ii) Large patches of scales lost.
- iii) Body colours dark.
- iv) Bleaching, red staining very apparent.
- v) Flesh at notch soft, does not spring back at all on pressing lightly with fingertips. Large soft areas on carcass surface .

5.6.5 Very Poor (Score 10)

- i) Severe body damage, distortion.
- ii) Severe scale loss.
- iii) Body colours dark.
- iv) Severe bleaching, staining.
- v) Flesh at notch very soft, falling apart. Carcass surface breaking up.
- vi) Meat has evidence of parasites or disease.

**QUALITY GRADING FORM
FOR THE INSPECTION OF CONDITION**

Name of Vessel: _____

Date Landed: _____

Description	Very Good	Good	Medium	Poor	Very Poor
Scales					
Skin Surface					
Body Colour					
Texture					
Bleaching					
Staining					
COMMENTS					
SIGNATURE					
POSITION					

5.9 Flowchart for Tuna Grading

1. AT SEA

