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- > Quality and colour of SBT muscle flesh is assessed 3 times prior to the sale of a fish
- > A relationship between flesh colour and auction price exists

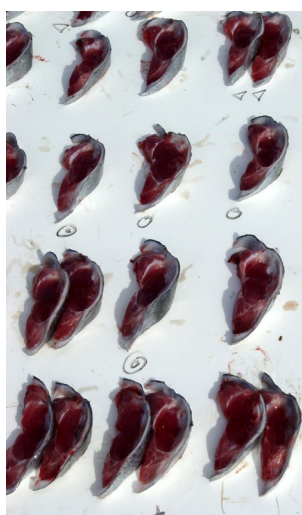
Importance of FLESH COLOUR

Flesh Colour and its Relationship to Auction Price

During the processing of chilled farmed southern bluefin tuna in Port Lincoln, a Japanese technician assesses the quality of individual tuna via a visual inspection of a thin section cut from the tail.

When the fish arrives on the auction floor in Japan a second assessment of quality is made by a grader working for the auctioneering company to decide where the fish should be placed in the auction line-up in order to get the best price for the fish.

On a day-to-day basis this grading system appears to serve the industry adequately, however it does not provide a repeatable measure of flesh quality attributes over time.



ABOVE: Flesh samples from SBT tail cuts made by a Japanese product quality technician.

A third assessment of quality is made when the various wholesalers inspect the fish before bidding. Each of these technicians, trained to look at colour, fat content, carcass conformation, and freshness. They use varied and subjective ranking systems in order to express and communicate quality within their respective companies.

The ability of the Port Lincoln industry to accurately evaluate tuna flesh quality allows the effects of any pre-harvest or post-harvest manipulation on flesh quality between pontoons, between treatments, or indeed from one ranching season to the next.

In the past, industry have used digital image analysis of flesh colour as a tool in the analysis of sashimi tuna flesh quality.



ABOVE: Technician assessing flesh colour of SBT

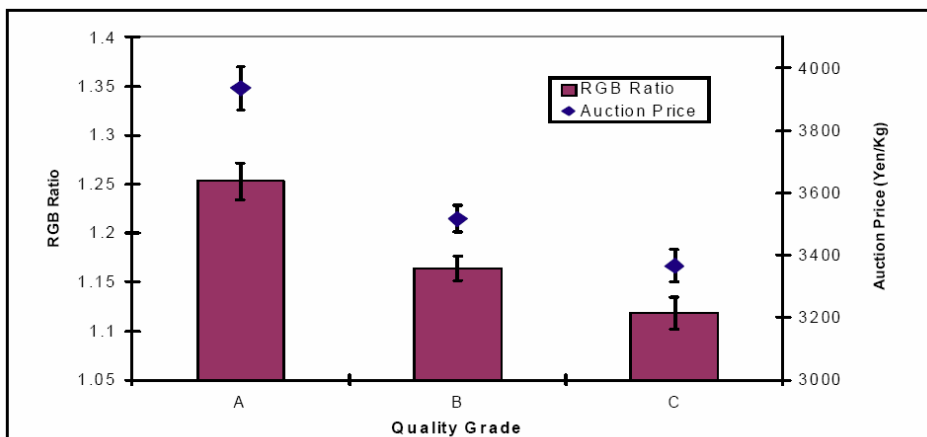


Figure 3: RGB ratio and auction floor price as a function of quality grade (average +/- standard error).

Measuring and comparing the red, green and blue colours in flesh generates a RGB value, used in Fig. 3 to compare flesh colour with auction price.

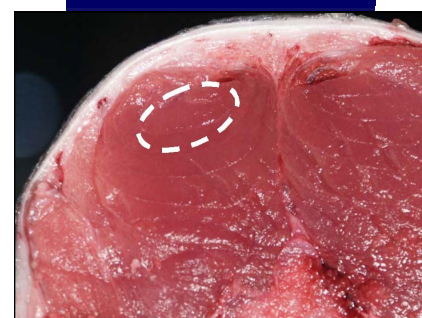


Figure 3. demonstrates a strong relationship between RGB ratio and auction price.