

Title Stress-relaxation test to evaluate textural quality of frozen stored Cape hake
 (*M. capensis* and *M. paradoxus*)

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Abstract

A stress-relaxation test was developed for frozen stored Cape hake (*M. capensis* and *M. paradoxus*) to be used as a quality assessment tool. Fish was compressed by 5% and deformation was kept constant for 60 s. The resulting relaxation curves were fitted to different multiexponential regression models. A three-term exponential fit without a residual term was chosen as the best model. Relaxation parameters from this test correlated well with sensory texture attributes derived from the quality index method (QIM). The high degree of correlation (0.90) suggests that these relaxation parameters could be used as markers for evaluating textural quality of frozen Cape hake, replacing sensory assessment. The regression model was: $STA = 0.117 + 0.967 RP$ (where STA = PC1 from sensory texture attributes and RP = PC1 from relaxation parameters), with $P < 0.001$.