

Ensuring Trout Quality Through Animal Management and Product Technology



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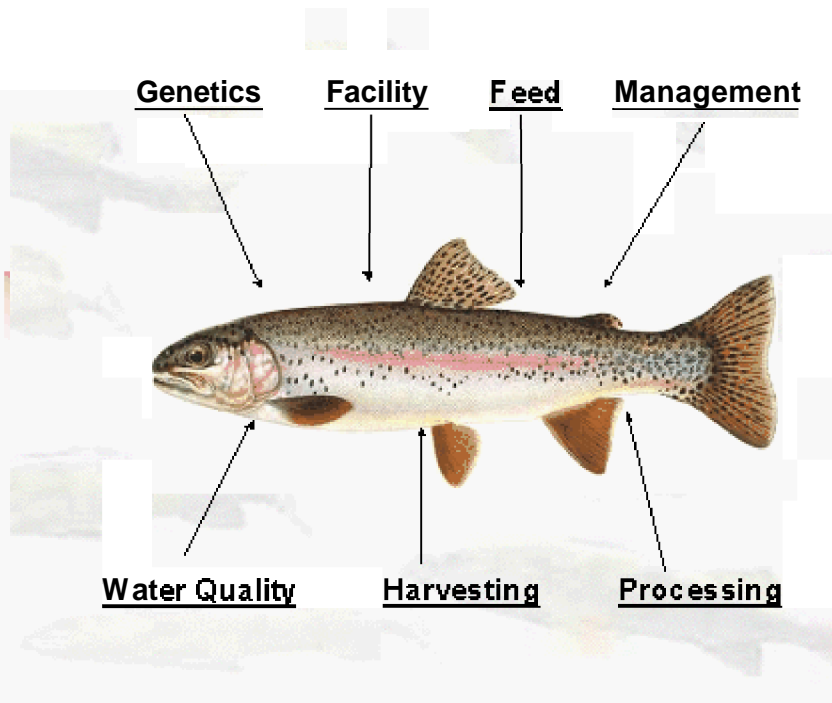
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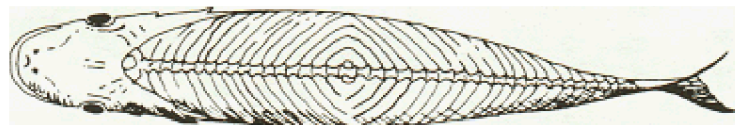
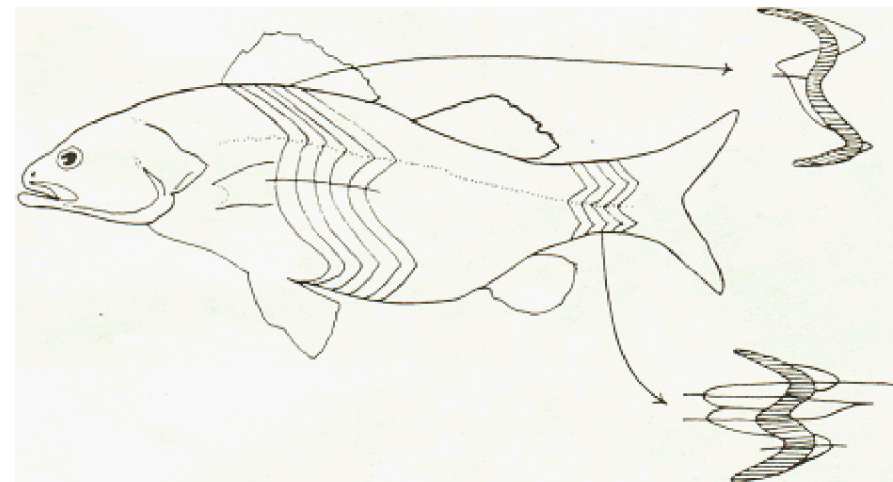
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Conversion of muscle to meat is determined by how much residual energy **the** fish has in its muscle at harvest and by postmortem handling. Lactic acid accumulates and autolysis begins (**pH and temperature**).

Live animal factors such as feeding, water quality, management, “stress”, and type of fish may affect level of energy in muscle at harvest.





What are we doing?

- Cryoprotection of trout fillets
- Manipulation of water velocity and feeding rate
- Optimization of smoked trout processing
 - Brine concentration and time
 - Direct salting or brining with vacuum tumbling



Findings/Implications

- Cryoprotection of trout fillets
 - Use of sodium lactate or sucrose/sorbitol
 - Cryoprotectant minimizes negative effects of frozen storage.



Findings/Implications

- Manipulation of water velocity and feeding rate
 - Fillet moisture and fat were not affected by feeding rate and water velocity. Tendency for fish fed at a higher rate to be fatter (6.7 v 6.4%).
 - At the lower water velocity, a higher feeding rate resulted in a softer fillet.



Findings/Implications

- Optimization of smoked trout processing
 - Brine concentration and time
 - 8.7% (w/v) brine concentration and 90-min brining time caused maximum texture development in achieving FDA salt requirements.



Findings/Implications

- Optimization of smoked trout processing
 - Direct salting or brining with vacuum tumbling (See poster)
 - Direct salting and VT followed by direct salting resulted in product closest to the FDA, WPS requirement ($\geq 3.5\%$) with direct salting producing the most consistent WPS.