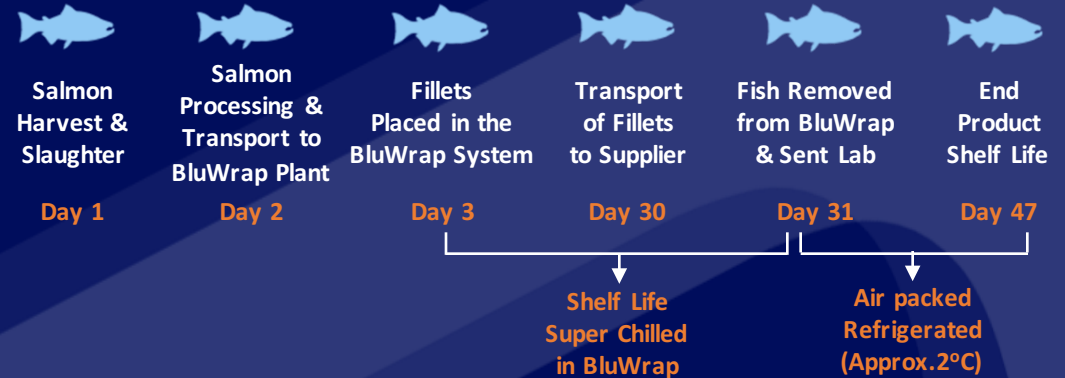


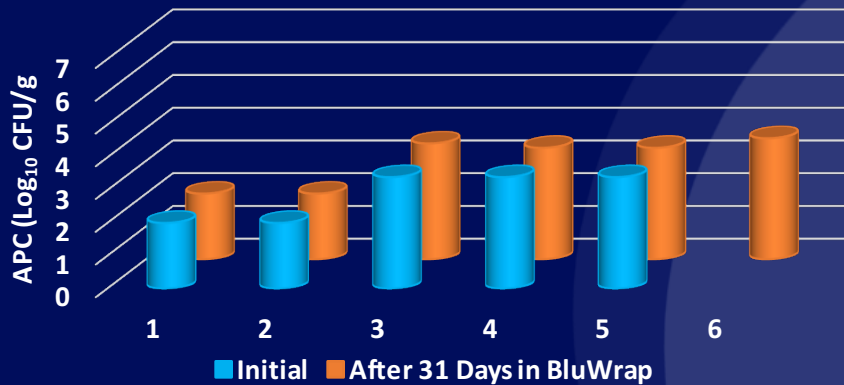
Pin Bone-In Fresh Atlantic Salmon Fillets



Salmo salar fillets were produced by a large salmon supplier in Chile (total product wt. 700 Kg). A third-party accredited laboratory, providing routine analytical services to the supplier, conducted microbial analysis (5 samples) on the day fillets were produced. Product was transported by truck to the BluWrap facility (Talcahuano, Chile) and placed in the BluWrap patent low oxygen management system. Fillets were held superchilled in the system for 31 days. Six boxes, containing 6 fillets each, were sent by the processor to the same service lab. for determination of product shelf life post-system. The laboratory used standard methods for microbial and sensory analysis of raw fish fillets, and fillets were randomly sampled (4 fillets per sampling period) every other day for 15 consecutive days. Microbial analysis comprised of aerobic plate counts, and tests for *Listeria monocytogenes*, *Salmonella* spp., *Staphylococcus aureus* and Total coliforms. Sensory analysis included evaluation of odor, color, texture and overall product appearance.



Aerobic Bacteria



MICROBIOLOGICAL RESULTS

- ✓ *Listeria monocytogenes* and *Salmonella* spp. were not detected in any fillets post-BluWrap.
- ✓ Coliform counts were less than 3.0 NMP/g and *Staphylococcus aureus* less than 10 cfu/g in fillets during the post-BluWrap shelf life study.
- ✓ After 31 days in the BluWrap system, APC values did not differ from those determined initially.
- ✓ The BluWrap system's bacteriostatic effect on the natural microflora of fish is well demonstrated by the microbiological results presented.

SHELF LIFE RESULTS

- ✓ Sensory evaluation graded color at 24, texture as 'good' and appearance as 'normal' for all samples analyzed from Day 0 to 47. For odor, all samples were considered 'normal' except 2 of 4 samples graded 'poor' at Day 47.
- ✓ The shelf life of PBI fillets post-BluWrap System was 16 days based on sensory analysis, while microbial counts never reached 10 million CFU/g.
- ✓ Salmon fillets can be safely transported in the BluWrap System while maintaining the desirable fresh product characteristics through the entire cold-chain.

