Atlantic Canadian Teams Receive $7.6M To Enhance Aquaculture Industry

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Two regional projects will help aquaculture companies compete globally with enhanced breeding programs and improved feed formulas. The projects were among 12 industry-academic partnerships that received funding through Genome Canada's *Genomic Applications Partnership Program* (GAPP), announced by The Honourable Ed Holder, Minister of State (Science and Technology) today in Guelph, Ontario.

"This is great news for the region," says Dr. Steve Armstrong, President and CEO of Genome Atlantic, a not-for-profit corporation that helps the region benefit from genomics. "It's a clear example of how genomics - the powerful combination of biology, genetics and computer science - can provide innovative solutions to some of our most important industry challenges."

The *Salmon and Chips* project, a $3.8-million collaboration between Cooke Aquaculture Inc., Kelly Cove Salmon and the University of Guelph, will employ genomics tools known as SNP chips, along with traditional breeding practises to allow the company to select for salmon that have better flesh quality and are naturally more resistant to parasites and disease. The project sees Cooke´s Dr. Keng Pee Ang, partnering with Dr. Elizabeth Boulding, Professor in the Department of Integrative Biology at the University of Guelph.

"The use of these genomics tools will help us more accurately identify those fish that are naturally more robust, meaning we'll have healthier fish that need less medication," says Ang. "Our competitors around the world are employing these technologies; it's critical for our Canadian operations that we do this as well."

The *Biomarker Platform for Commercial Aquaculture Feed Development* project is a $3.8-million partnership co-led by Dr. Richard Taylor, senior research scientist at EWOS Innovation, the R&D arm of EWOS, the world-leading fish feed producer, and Dr. Matthew Rise, Associate Professor and Tier 2 Canada Research Chair in Marine Biotechnology in the Department of Ocean Sciences at Memorial University. The team will use genomics technologies to assess the effects of various diets on fish health at the molecular level. The highly-detailed information will help EWOS Innovation fine-tune feed formulas that include non-marine products such as land-based plants to maximize fish performance and to develop clinical feeds that will combat disease.

"Fish producers are providing an important source of sustainable protein," says Taylor. "This project will lead to better feeds that will help fish grow faster and with better health, which will improve the bottom line for producers immediately."

Genome Canada's GAPP competition is designed to encourage industry-academic collaborations to increase innovation and competitiveness through genomics. Funding is matched by the industry partners and others on a 1:2 ratio. Genome Canada contributed $1,265,930 to the Salmon and Chips project, matched by Cooke Aquaculture Inc and Kelly Cove Salmon at $2,259,546, and by the National

Research Council of Canada's Industrial Research Assistance Program in the amount of up to $272,263. Genome Canada contributed $1,093,988 to the EWOS Innovation project, which was matched by the company in the amount of $2,710,468.

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Genome Atlantic is a not for profit corporation that helps Atlantic Canada benefit from genomics (and other 'omics) technologies. It initiates, procures funding for, manages and governs both small and large-scale genomics projects. Since its inception in 2000, it has enabled over $75 million in new genomics research and development, working with over 70 public and private sector partners. For more information on Genome Atlantic or its projects, visit www.genomeatlantic.ca

Cooke Aquaculture Inc is a Canadian family-owned company with a head office in Black's Harbour New Brunswick and North American salmon farming operations in Atlantic Canada and Maine. It also owns Salmones Cupquelan, a salmon farming company in southern Chile, Culmarex, a sea bass and sea bream farming company in southern Spain and Cooke Aquaculture Scotland, a salmon farming company in Orkney, Shetland and the mainland of Scotland. Cooke's sales and marketing division, True North Salmon, sells a broad spectrum of fresh, farmed seafood products into the Canadian and US markets. Over the past twenty-eight years Glenn Cooke and his family have built a fully integrated aquaculture company, with nearly $1 billion in annual sales and 2500 employees.

Kelly Cove Salmon is the North American production division of Cooke Aquaculture Inc. including freshwater operations, saltwater operations and fish health. Kelly Cove Salmon operates a series of freshwater hatcheries and juvenile rearing facilities in New Brunswick, Newfoundland and Maine as well as ocean farms in New Brunswick, Nova Scotia, Newfoundland and Maine. The Kelly Cove Salmon fish health team of veterinarians and fish health technicians is based in Blacks Harbour, NB.

The University of Guelph is ranked as one of Canada's top comprehensive universities because of its commitment to student learning and innovative research. U of G is dedicated to cultivating the essentials for quality of life - water, food, environment, animal and human health, community, commerce, culture and learning. The University community also shares a profound sense of social responsibility, an obligation to address global issues and a concern for international development.

EWOS Group is one of the world's largest suppliers of feed and nutrition for farmed fish. The company is owned by the private equity companies Altor Fund III and Bain Capital, and is headquartered in Bergen, Norway. EWOS operates in the world's major salmon farming regions: Chile, Norway, Canada, and Scotland. Operations in Vietnam concerns production of feed for other species. Through our research

and development company, EWOS Innovation, EWOS has supplied some of the most important innovations for the international aquaculture industry.

Memorial University of Newfoundland was founded as a living memorial to those who lost their lives during the First and Second World Wars. It is home to more than 18,000 students, representing 90 countries and over 5,000 faculty and staff. Providing a comprehensive range of undergraduate, graduate and certificate programs, courses at four campuses are enhanced by extensive online learning opportunities. Memorial offers access to the best in research, teaching and learning, and public engagement, providing world-class opportunities and contributing expertise and insight both locally and globally.