

Marinova receives national award for its noxious weed turned treasure chest of the sea

» By Jan Nary

RESEARCH LITERATURE makes it sound like a silver bullet for almost any medical complaint – a natural product that has anti-inflammatory, anti-coagulant, anti-viral and immunomodulating properties, with applications for inflammatory bowel disease, arthritis, blood clotting, HIV, herpes simplex, cancer, blood cholesterol levels, digestion, liver and stomach function, skin and cellular growth, Alzheimer's disease, chronic fatigue, chronic allergies and diabetes.

All this from a brown seaweed that arrived as a noxious weed on the Tasmanian coast in the 1970s – possibly in the bilge water of Japanese ships – and found the conditions to its liking. It could have remained an introduced noxious pest but for the foresight and business instincts of Paul Garrott, Managing Director and CEO of biotechnology company Marinova.

The seaweed species, *Undaria Pinnatifida*, is a storehouse of a group of polysaccharides (complex carbohydrates) known as fucoidans. While it is still largely unknown in the Western world, Paul knew of the seaweed's status in such countries as Japan and Korea, where tradition prizes it for its medicinal properties. Marinova was granted an exclusive license to harvest the seaweed and a fascinating new industry was born.

Antoine Valterio, Marinova's Business Development Manager, says that the latest findings from Marinova's clinical trials demonstrated the efficacy of its fucoidan extract as an immune system support and as a treatment for osteoarthritis.

"The primary measurement outcome of this study was changes in the comprehensive osteoarthritis test (COAT). Whereas other treatments can take up to three months to



Marinova receives the Technology & Innovation Award. Left to Right: Bill Lewis, Director, The Australian Institute of Agricultural Science & Technology; Paul Garrott, Managing Director, Vicki Anne-Gardiner & Helen Fitton, Marinova Pty Ltd.

become effective, we found that patients taking our product reported a reduction in osteoarthritis symptoms within a week, with absolutely no side-effects," he says.

Participants were put through stringent overall health checks during the trial and a recurring unexpected observation as a result was enhanced blood cholesterol balance. Conveniently for future applications, all observed benefits were dependent on the size of the dose.

Marinova has also developed a range of fucoidan extract for the skincare sector. There is growing demand for safe and organic skincare products, including lighteners that combat hyper-pigmentation (dark patches on the skin) and cosmetic formulations that reduce facial wrinkles and signs of ageing.

The anti-viral properties of Marinova's fucoidans have attracted the attention of the USA's National Institute of Allergy and Infectious Disease, who have included them into a research program for new therapies against flu and other viral diseases. Marinova also produces a highly-purified form of fucoidan suitable for pharmaceutical applications.

"All our seaweed is hand harvested by divers," Antoine says, "and we can demonstrate full traceability from harvest to final product as required by pharmaceutical standards."

Environmentally sustainable harvesting has other benefits; it enables monitoring of the seaweed's growth and reproduction and

ensures that no collateral damage is done to the surrounding environment, an undertaking that reflects Marinova's "green" ethos. Marinova uses an environmentally-friendly solvent-free extraction method, is a participant in the Greenhouse Challenge Program and was recently awarded Cleanbiz Funding by the Tasmanian government.

It's not only people who can benefit from fucoidan. While Marinova undertakes no testing on animals, fucoidans success in human trials has prompted Marinova to explore its use as a supplement for companion animals and as an immune agent in aquaculture feeds.

Antoine points out that while the Tasmanian harvest is small by international standards, Marinova is the only fresh seaweed harvesting business in Australia, and has the capability of producing seaweed extracts that are certified organic (ACO), halal and kosher.

The company has recently received well deserved national recognition having been awarded the 2009 NAB Agribusiness Award for Excellence for Technology and Innovation.

"The NAB award is a great joy," says Antoine. "We're a small team – about twenty of us – but being small allows us to be flexible in a fast-paced and global marketplace. As my businessman grandfather used to say; 'there are always going to be sharks out there looking to bite you – so you just have to swim faster!'"



The seaweed species, *Undaria Pinnatifida* is being recognised for its many and varied medicinal benefits