



September 2015 newsletter of Qponics Limited.

## Omega-3 oil and protein from algae planned for Brisbane in 2016

Brisbane-based **Qponics Limited** has formed a collaborative relationship with British company **AlgaeCytes Limited**. It is expected to lead to commercial algae production by Qponics in Brisbane during 2016, subject to finance.

**Dr Graeme Barnett**, Managing Director of Qponics, said the company had been searching the world for a photo-bioreactor system in which to grow algae for food supplements, protected within a warehouse-style building. He said it had to be cost-effective, modular, scalable, and capable of

accepting a continuous inflow of organic nutrients, to grow algae on a commercial scale. "This is why Qponics is now collaborating with AlgaeCytes Limited," Dr Barnett said. "AlgaeCytes has a photo-bioreactor technology matching our specifications and a business model comparable with our world view".

*The AlgaeCytes company logo.*



**Dr Graeme Barnett.**

A letter of intent to form a collaboration between Qponics and AlgaeCytes was signed in April, 2015 in advance of a visit by Dr Barnett, to AlgaeCytes' facility in Sandwich, Kent, in the United Kingdom.

AlgaeCytes has a pilot plant operating successfully at the company's UK research and development facility for the past year, producing algae for the extraction of EPA omega-3 oil.

**Dr Naz Bashir**, CEO of AlgaeCytes, said: "Our larger-scale commercial product module, with greater capacity than the pilot module, is presently being engineered. It is



***Dr Naz Bashir, CEO of AlgaeCytes, who is expected to be in Queensland soon to cement the relationship now maturing with Qponics.***

expected to be available in 2016 for installation in Britain by AlgaeCytes and in Australia by Qponics.”

The AlgaeCytes modular system was specifically designed to accept nutrient-rich process water – especially from industries such as:

- ***Aquaculture,***
- ***Aquaaponics.***
- ***Hydroponics,***
- ***Breweries and distilleries.***

Qponics is focused on the sustainable production of human food supplements from Australian strains of algae. Omega-3 oils – initially eicosapentaenoic acid (EPA) and later docosahexaenoic acid (DHA) – will be early products. The algal biomass remaining after oil extraction will be a valuable

vegetarian high-protein food product.

Dr Barnett said that during his visit to the UK last April he observed the AlgaeCytes modular photo-bioreactor in operation. He confirmed its capability for large-scale, sustainable and organic production of algae and algae-derived products for human consumption.

Dr Bashir said: “A collaboration between AlgaeCytes and Qponics can extend the global market access of both companies for our algae-sourced products.

“Importantly, Qponics has secured a route to the Asia/Pacific market for its algae products and AlgaeCytes is well-placed to produce algal products for distribution throughout Europe,” he said.

“Qponics is focused on the Asia/Pacific region, which is the world’s largest and fastest-growing market for algae-sourced products”.

Dr Barnett said Qponics was accessing this market through its partnership with **Nutrition Care Pharmaceuticals**, a nutraceuticals and food supplements manufacturing company based in Melbourne, Victoria.

“Qponics is entering the rapidly-growing wholesale omega-3 essential oils market at a time in which the traditional marine animal-sourced



***Above: Professor Ian Brighthope, founder of Nutrition Care Pharmaceuticals, which is the major outlet proposed for algal omega-3 oils and algal proteins to be produced by Qponics.***

***Below is the capsule form of algal omega-3 oil, which all animals require for good health – especially mental health.***





**Algae protein powders can also be harvested. Above is one form of high-quality protein for fortifying food. Below is another form – for pastries and biscuits. Humanity has been using algae oils and proteins for food for thousands of years. But wider use is now burgeoning.**



supply-chain is becoming constrained and uncertain, because many oily fish species are in global decline.”

He said that it was a good time for Qponics to invest in the algae food supplement industry because global omega-3 oil prices have been rising - while the Australian dollar was falling. The combination of these factors may significantly increase projected future revenues, he said.

### **About AlgaeCytes Limited**

AlgaeCytes is a product-driven company leveraging proprietary and patentable technology primarily to create, from sustainable proprietary algae sources, and sell high value, vegetarian, health promoting premium ingredients for health care, personal care and pharma products.

AlgaeCytes produces mainly valuable, high purity Omega 3 oils and also Omega-6 oils, antioxidants and proteins.

Those other products and its production technology may be utilized for additional products for other markets.

For more information visit [www.algaecytes.com](http://www.algaecytes.com)



***Professor Peer Schenk, University of Queensland – whose staff under his supervision, have improved, with natural breeding, a fresh-water Queensland Nannochloropsis algae strain to produce just under 40% omega-3 oil. It will be used under license only by Qponics.***

### **Omega-3s may help teenagers stave off schizophrenia**

Finally, a way to stop people progressing beyond the first signs of schizophrenia – omega-3 oil. One small trial has found that when people with early-stage symptoms take omega-3 supplements for three months, they have much lower rates of progression than those who did not.

This was the exciting report

published in *Nature Communications* in August 2015 by researchers at the University of Melbourne led by Professor Paul Amminger. Summarising this report, **Clare Wilson** in *New Scientist* magazine in August, said: "People with schizophrenia are usually diagnosed in their teens or 20s, but may experience symptoms for years beforehand, such as minor delusions or paranoid thoughts. "Only about a third of people with such symptoms do go on to develop psychosis, however, and antipsychotic drugs can cause nasty side effects, so these are rarely given as a preventative. Fish oil supplements (or algae supplements), containing polyunsaturated fatty acids like omega-3, may be a benign alternative. These fatty acids may normally help dampen inflammation in the brain and protect neurons from damage, and lower levels in the brain have been implicated in several mental illnesses. "Tests have found that people with schizophrenia have lower levels of these fatty acids in their blood cells, suggesting the same could be true for their brain cells. Fish oil supplements have been

investigated as a treatment for adults with schizophrenia, but so far results have been mixed – four trials found no benefit while another four found a small reduction in symptoms. "But a study that gave omega-3 fish oil pills to younger people suggests that what matters is catching the condition in time. The trial followed 81 people aged 13 to 25 with early signs of schizophrenia. Roughly half took fish oil pills and half took placebo tablets for three months. A year later, those given fish oils were less likely to have developed psychosis. That was seven years ago." Professor Amminger's team has now followed up 71 of the participants and found that **just 10 per cent of those given fish oils went on to develop schizophrenia, compared with 40 per cent of the placebo group.**

"We may have put them on a different trajectory," said Professor Amminger.

**Further information:**  
<https://www.newscientist.com/article/dn28031-fish-oil-pills-may-help-teenagers-stave-off-schizophrenia/>

## Omega-3 oil price jumps to US\$150/kg

A total shutdown of the Peruvian anchovy fish harvest in October, 2014, has jumped algal omega-3 Asia/Pacific oil prices from about US\$93 per kilogram to more than US\$150/kg. Peru's anchovy fisheries supply about 70% of the world's fish oil. The shutdown was caused by the latest El Niño climate event in the equatorial Pacific. It is feared to be more disruptive than normal. Transparency Market Research reported in August 2015 a 15.2% compound annual growth rate from 2015 to 2021. The market was pegged at US\$2.786 million in 2014 with an estimated valuation of US\$7.499 million in 2021. Qponics Limited and AlgaeCytes Limited will prepare algal omega-3 oil for these expanding world markets.

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