

PIONEERING a PRISTINE PRODUCT

Bell Huang searched across tropical Asia and Australia to find a pristine environment free of environmental pollution. His company manufactured a product that is fatally susceptible to any form of air or water pollution. It's a microscopic, spiral-shaped algae called *Spirulina* that Bell's company makes into a mega-healthy dietary supplement, but it refuses to grow if conditions are not 100 percent pure. Bell's search ended when he discovered Darwin – the new-found Spirulina Paradise. "We chose Darwin for two reasons," explains Mr Huang. "Its pollution-free environment is the major reason and also we have very good quality of water here. It's very sweet and that makes a big difference."



Left > Spirulina in pill form aimed at the Australian market.



Above > Bell Huang at the Spirulina algae production facility

Bell is now manager of TAAU Australia, the company based at its new \$7 million Spirulina manufacturing facility just outside Darwin. There the microscopic algae are grown to maturity, harvested from their series of growing ponds and dried for export in powder form. It's an operation that makes full use of Darwin's pollution-free environment, as well as its close proximity to Asia.

Spirulina tablets or powder are commonplace in East Asia, especially Japan, where the dietary additives supply almost all the nutrients humans need to survive – vitamins, minerals, and protein content three times higher than meat or fish. In Japan some adherents have existed

on only Spirulina and water for more than 20 years, eating nothing else.

However, industrial pollution made it increasingly difficult to produce Spirulina in Taiwan, home of its Asian manufacturing company. They needed to find a new manufacturing base. In 1996, the company sent Bell to Darwin after identifying the Territory capital as the ideal site to grow Spirulina.

The Manager of the Darwin Aquaculture Centre, Murray Barton, was enlisted to help find a site in the rural area that had suitable water quality. The Old Bynoe Road site was located, offering pure, mineralised water that entered the

water table 20,000 years ago, minimising pollution problems for algae production.

The greatest obstacle for TAAU to overcome was the importation of the species of algae suitable for producing Spirulina after the local species turned out to be unsuitable. After long discussions with AQIS and the Darwin Aquaculture Centre, a test tube of the live culture was imported from Taiwan but had to spend a year in quarantine in Tasmania. Bell credits Mr Barton with helping make it all happen. "I assisted the company by finding and reporting that the algae was microscopically identical to the Australian model," says Mr Barton, "so it posed no threat to any Australian species. That was backed up by an expert from South Australia as well."

After 12 months, Bell Huang took possession of one test tube full of algae to start his business.

Growing the Asian species under Australian conditions would require nearly ten years of research to develop the right technology. "We had to ignore everything we already knew," recalls Mr Huang. "We had to start over, trying to find the best way to grow them in the local conditions." By 1999 positive success began to appear and the first Australian Spirulina was exported on a trial basis in 2001.

The company then invested in a drying silo that has now helped them reach full capacity. They now export 95 percent of the manufactured product, with only five percent earmarked for Australian consumption. Containers of Spirulina are normally exported by ship to Singapore, where the company now enjoys a weekly service, before being transferred to other Asian ports.

The company is now trying to develop the local market but must overcome competition from cheaper imports that are not 100 percent Spirulina. "The reason that Japan and Taiwan is our major markets is because the people there have used our product for a long time. They know to compare the difference. They are willing to pay more for high quality," says Mr Huang.

TAAU is now trying to develop the Australian market by educating customers as to the high quality of its product. He wants them to compare products before they buy because the competition sells its Spirulina for less than half of the TAAU price. "We've done our own research and developed the product in our own way," says Bell. "Our product is often used for anti-cancer medical applications or as a liver detoxicant. In our operation here, we can proudly say we produce the best quality in the world."

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Below > Spirulina in powder form for export.