

# CASE STUDY 8 – IMPROVED NUTRITIONAL VALUE OF WHITELEG SHRIMP, *Penaeus vannamei*- MALAYSIA



## Challenge:

- Improving phytonutrients in the meat of *Penaeus vannamei*
- Understanding quantitative improvement of functional phytonutrients (Beta-Carotene and Vitamin E) nutritional value of *Penaeus vannamei* upon DOC 30 of treated vs control pond
- Understanding if functional phytonutrients can be transferred to the meat of *Penaeus vannamei*

## JF Nutritech Solution: Engineered solutions to maximize value and efficiency for customer's asset.

- Perfat Ruby 2500 is proposed as a solution to improve phytonutrient content in *Penaeus vannamei*
- Control vs treated shrimp with Perfat Ruby 2500 is tested and considered

## Results (DOC 30)

- 3<sup>rd</sup> party test confirms that phytonutrient concentration can be improved in whiteleg shrimp, *Penaeus vannamei*
- Perfat Ruby improved Beta Carotene (pro Vitamin A) concentration by 60% in treated shrimp
- Perfat Ruby improved Vitamin E concentration mainly on tocotrienol by 88% in treated shrimp



Alpha Testing Labs (SA0375373P)

## Certificate of Analysis

Sample	Test Parameter	Test Method	Unit	Result
Control				
1	Beta Carotene	HPLC	ppm	0.41
2	Vitamin E (tocopherol)	HPLC	ppm	6.5
3	Vitamin E (tocotrienol)	HPLC	ppm	3.3
Treated with Perfat Ruby 2500				
1	Beta Carotene	HPLC	ppm	0.64
2	Vitamin E (tocopherol)	HPLC	ppm	6.9
3	Vitamin E (tocotrienol)	HPLC	ppm	6.2

Improvement of Beta-Carotene (pro Vitamin A) by ~60%, improvement of Vitamin E (tocopherol) by ~6%, improvement of Vitamin E (tocotrienol) by ~88%

**Improved nutritional value, marketability for customer**