

ProFloc™

The Future of Animal Nutrition



Nutrinsic Technology

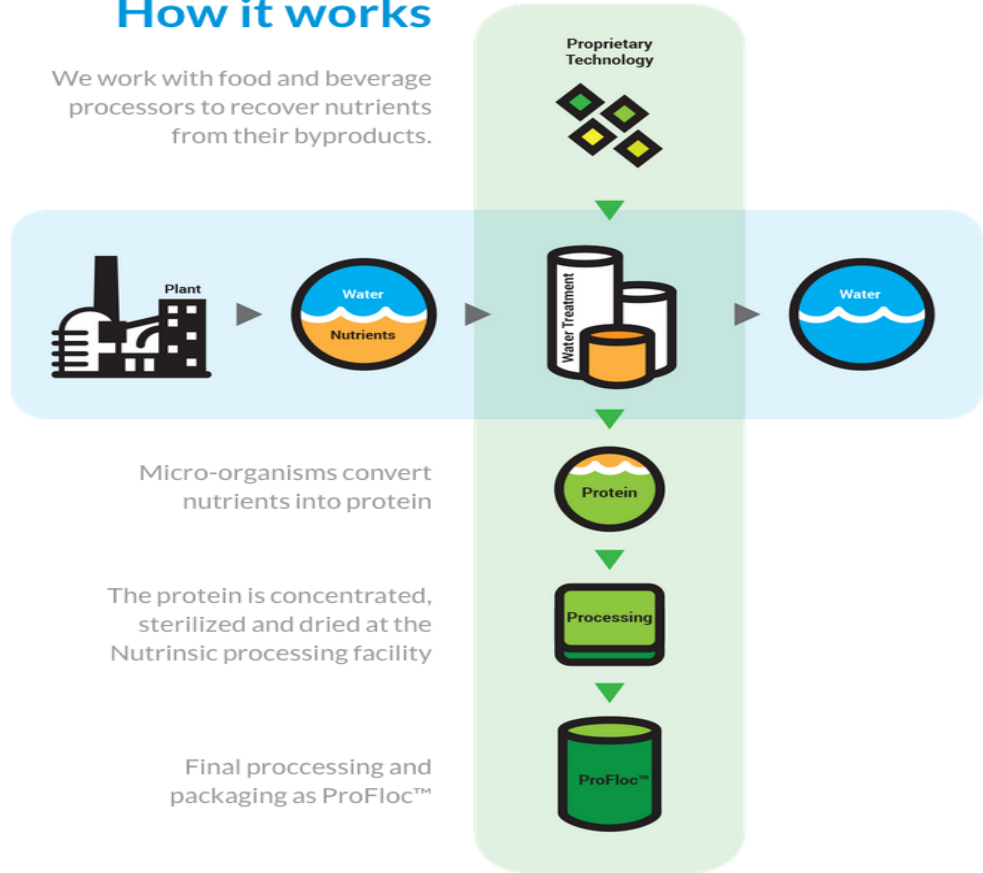
Nutrinsic is a pioneer in providing commercial nutrition solutions through the upcycling of unused nutrients.

By recovering nutrients, we help food and beverage processors deliver clean water to the environment and eliminate the need to dispose of waste. This process creates an environmentally and economically sustainable source of premium protein for animal nutrition.

Our Patented Process

How it works

We work with food and beverage processors to recover nutrients from their byproducts.



ProFloc™ Attributes

- Superior Quality
- Sustainable
- Functional
- Cost Effective
- Versatile — can replace any protein source in animal nutrition applications

ProFloc™ – Superior Quality

- Proximate Analysis (typical)

Constituent (%)	
Crude Protein (min)	60
Carbohydrate	12
Oil	4
Moisture	8
Ash	12

ProFloc™ – Superior Quality

- Amino Acid Profile (typical, % of crude protein)

AA	%	AA	%	AA	%
Alanine	8.71	Leucine	7.35	Taurine	0.33
Arginine	6.44	Lysine	6.62	Threonine	6.90
Aspartic Acid	10.57	Methionine	2.82	Tryptophan	Pending
Glutamic Acid	9.22	Cysteine	2.23	Tyrosine	4.24
Glycine	7.15	Phenylalanine	5.14	Valine	6.75
Histidine	2.51	Proline	4.60		
Isoleucine	4.50	Serine	4.25	Total	100

ProFloc™ – Superior Quality

- High digestibility as tested by the Novus Immobilized Digestive Enzyme Assay which is well correlated to in vivo digestibility

Percent digestibility of amino acids as measured by IDEA

AA	%	AA	%	AA	%
Alanine	88	Isoleucine	92	Serine	93
Arginine	93	Leucine	92	Threonine	90
Aspartic acid	90	Lysine	90	Tryptophan	98
Cystine	92	Methionine	92	Tyrosine	96
Glutamic acid	93	Phenylalanine	93	Valine	90
Histidine	92	Proline	94		

ProFloc™ – Superior Quality

- Microbiological Analysis (typical)

Type (CFU/g)	
Aerobic Plant Count	< 100,000
Coliform	< 10
E. Coli	< 10
Salmonella (per 25 g)	Negative
Staphylococcus aureus	< 10
Yeast and Mold	< 100

ProFloc™ – Superior Quality

- Vitamin and Mineral Content (typical)

Vitamins (mg/100g)		Minerals (mg/100g)	
Niacin (B3)	20	Calcium	2500
Thiamine (B1)	1.5	Potassium	275
Riboflavin (B2)	4	Magnesium	200
Vitamin B12	450	Phosphorous	1700
Vitamin E (IU/kg)	30	Iron	70

ProFloc™ – Superior Quality

- Heavy Metal Content (typical)

Heavy Metal	
Arsenic	< 1.5 mg/kg
Cadmium	< 0.2 mg/kg
Lead	< 2.0 mg/kg
Mercury	< 0.2 mg/kg

ProFloc™ – Superior Quality

- Pesticide Content (typical)

Type	
Organo Halogens	Non-detect (< 0.200 mg/kg)
Organo Nitrogen	Non-detect (< 0.100 mg/kg)
Organo Phosphates	Non-detect (< 0.050 mg/kg)
N-Methyl Carbamates	Non-detect (< 0.100 mg/kg)

ProFloc™ – Superior Quality

- Mycotoxin Content (typical)

Type	
Aflatoxin	< 4.0 ppb
Ochratoxin	< 0.5 ppb
Zearalenone	< 20 ppb
DON	< 200 ppb
Fumonisin	< 200 ppb

ProFloc™ – Superior Quality

- Non-GMO
- Long shelf life, > 12 months (in packaging)
- Low odor/flavor profile
 - Highly palatable to animals
- Produced daily, always fresh
- Light tan color, granular, non-dusty

ProFloc™ – Sustainable Nutrition

- ProFloc™
 - Is produced from food and beverage nutrients that would otherwise be lost
 - The process decreases GHG emissions relative to traditional water treatment
 - Is a sustainable alternative to other plant and animal sources of protein

ProFloc™ – Functional

- ProFloc™ has been tested with a number of aquatic and terrestrial animal species with positive results. More studies are underway.
- In each case, the animals grew and thrived
- Economic parameters, such as feed conversion and mortality, were also positive
- Following are a few examples

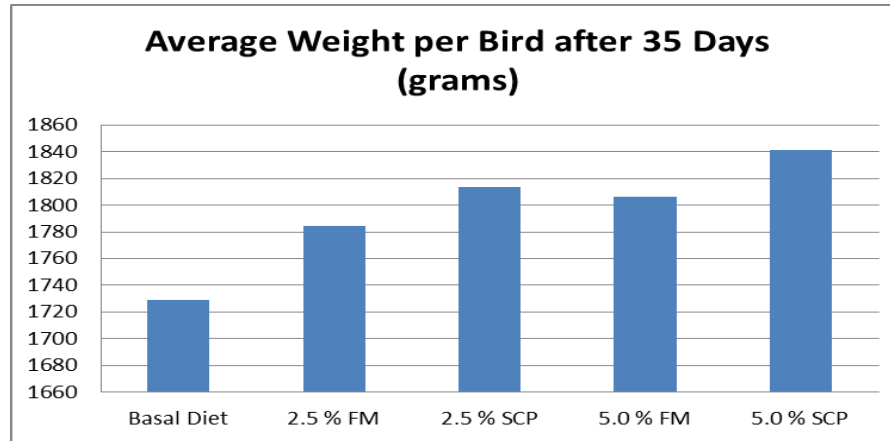
ProFloc™ – Functional

- White Shrimp Study at Texas A&M Mariculture Lab
- Equivalent weight shrimp placed on either 8 % fish meal or 8 % ProFloc™ diets
- ProFloc™ fed shrimp exhibited higher survival, faster growth and better feed conversion

	8 % Fishmeal	8 % ProFloc™
Survival	87.50 %	91.67 %
Weight gain (7 weeks)	7.62 g	8.23 g
Growth rate	1.52 g/week	1.65 g/week
Total biomass (7 weeks)	1,599 g/m ³	1,786 g/m ³
Feed conversion	1.84	1.54

ProFloc™ – Functional

- Poultry feeding trial conducted at Instituto Internacional De Investigacion Animal in Mexico
- Equivalent weight 10 day old broilers were put on one of 5 diets including a basal control diet (soymeal) and 2.5 % or 5.0 % fishmeal (FM) or ProFloc™ (SCP)
- All birds thrived and weight gain was faster with ProFloc™



ProFloc™ – Cost Effective Nutrition

- Highly digestible
- Favorable amino acid profile
- Studies suggest faster growth and better feed conversion
 - Must be determined case by case
- Highly palatable and readily consumed
- We can provide fixed pricing to mitigate exposure to commodity price fluctuations seen in other feed proteins
- We can also provide pricing indexed to commodity movements
- Locally produced so freight cost may be reduced

ProFloc™

The Future of Animal Nutrition

- Superior Quality, Sustainable, Functional, Cost Effective, Versatile
- For more information contact:
info@nutrinsic.com