



# PRO-PAK<sup>®</sup>

HIGH QUALITY PROTEIN CONCENTRATE



## **MAXIMIZE POULTRY PERFORMANCE WITH PRO-PAK<sup>®</sup>- FISHMEAL ANALOGUE**

PRO-PAK<sup>®</sup> is a high-quality protein blend designed with amino acid availability that gives you confidence in your animal performance. That's because it's the original fishmeal replacement, made in the USA, available in custom formulation, and backed by over 60 years of trusted experience. It's also mammalian-, antibiotic- and pathogen-free (E-coli, Salmonella, Mycotoxins and Mold) making it safer than your standard fishmeal.

### **NUTRIENT AVAILABILITY**

PRO-PAK<sup>®</sup> gives the same response as a high-quality fish meal, including all essential amino acids. Interval testing results have shown that 98.97% PRO-PAK<sup>®</sup> reaches the accurate protein level.

### **CALCIUM/PHOSPHORUS RATIO**

Twice as much calcium as phosphorus provides the right ratio in diets for animals to reach maximum performance. What this means is that for every gram of phosphorus ingested in the diet, the body must match that with another gram of calcium before the phosphorus can be absorbed through the intestinal wall into the bloodstream.

### **UNIT PROTEIN COSTS**

It is important to look at what product provides the most amount of benefit for the least amount of money. It has always been Ag Pack's goal to provide our customers with the highest quality products. Our products are high end, but they are worth it!

### **INGREDIENT CONSISTENCY**

By using the best ingredients available, we can guarantee the consistency of every PRO-PAK<sup>®</sup> protein concentrate shipment. All finished material is tested and screened. Uniformity eliminates lost production time and the need for costly reformulation.








### **AMINO ACID AVAILABILITY**

The Triple A Formulation Process sets PRO-PAK<sup>®</sup> apart as delivering protein concentrates with accurately measured amino acid availability. Ongoing formulation adjustments are made to ensure proper delivery of these amino acids while new methods of obtaining the most available form are constantly being considered and reviewed.



PRO-PAK® is a uniformly blended protein concentrate formulated to produce the same response as a good quality fish meal including all the essential amino acids.

PRO-PAK® protein concentrate contributes a high level of amino acids, metabolizable energy and digestibility. Its benefits have been successfully proven and affirmed repeatedly through continuous research performed by universities and independent nutritionists.

	PRO-PAK®	Meat & Bone Meal	Fish Meal	Blood Meal	Poultry Meal
Protein Source Comparison		X	X	X	X
Nutrient Availability		X	X		
Calcium/Phosphorus Ratio		X			
Unit Protein Cost			X		
Ingredient Consistency					
Stability				X	
Amino Acid Availability					

## NUTRIENT PROFILE

Crude Protein	60.00% (min)	Valine	3.30%
Crude Fat	8.00%	Glycine	5.50%
Crude Fiber	3.00% (max)	Proline	4.85%
Ash	10.00%	Histidine	1.41%
ME	2,895 Kcal/kg	Calcium	3.30%
Cysteine	1.50%	Phosphorus	1.50%
Methionine	1.50%	Sodium	0.35%
Lysine	4.00%	Chloride	0.28%
Tryptophan	0.40%	Potassium	0.50%
Threonine	2.40%	Magnesium	0.70%
Arginine	3.84%	Linoleic C18:2 n-6	1.22%
Isoleucine	2.32%	Pepsin Digestibility	90.00%
Leucine	8.70%	Moisture	5.00%
Phenylalanine	4.00%		

## LIST OF INGREDIENTS

Premium marine fish meal, veggie protein products, other high quality ingredients supplemented with amino acids, treated with organic acids, and BHT/BH as a preservative

## HOW TO USE

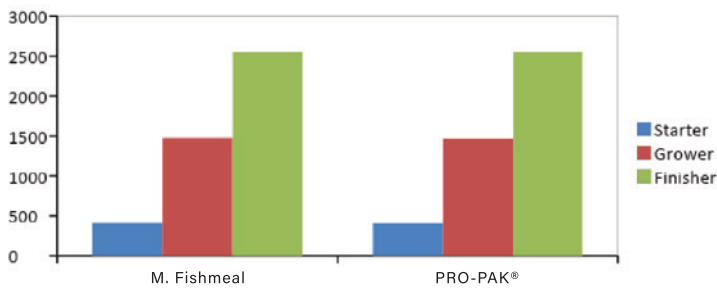
- Add 5-7% (50-70 KG per MT of feed) in Starter Chicks Feed
- Add 2-5% (20-50 KG per MT of feed) in Layers Feed
- Add 4-6% (40-60 KG per MT of feed) in Broiler and Breeder Feed
- Add 5-9% (50-90 KG per MT of feed) in Fish Feed

## BENEFITS

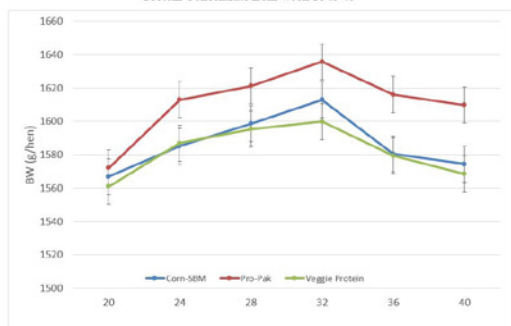
- Improves overall bird performance
- Increases total carcass weight and parts value
- Improved egg production and quality
- Improves overall fish performance
- Provides high digestible protein and amino acids source in feed
- Reduces variability
- Egg production started earlier with PRO-PAK® supplementation
- Mammalian- and Antibiotic-free



100% replacement of high quality fishmeal with PRO-PAK® gave same broiler performance in starter, grower, and finisher phases.



Body weight (g/hen) of laying hens fed either a corn/soybean meal-based diet, diet with Pro-Pak, or diet with Veggie Protein Concentrate from week 18 to 40



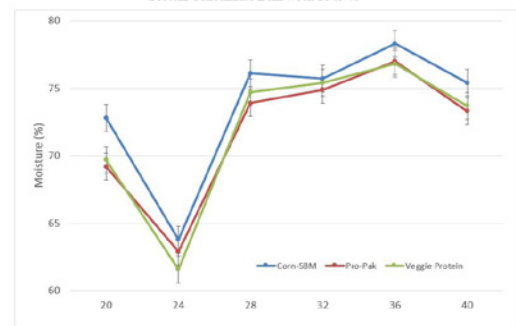
Layers fed on PRO-PAK® tend to have higher body weight.

PRO-PAK® lowered FCR by 2.5 points compared to fishmeal.

Treatment	Starter FCR	Grower FCR	Finisher FCR	Cumulative FCR
M. Fishmeal	1.20	1.51	2.05	1.68 (1.72)
PRO-PAK®	1.21	1.50	1.99	1.65 (1.70)
P Value	0.36	0.66	0.10	0.078

FCR: Feed Conversion Ratio (Feed Weight/Body Weight)  
Mortality Corrected FCR  
( ) BW Adjusted FCR

Excreta moisture (%) of laying hens fed either a corn/soybean meal-based diet, diet with Pro-Pak, or diet with Veggie Protein Concentrate from week 18 to 40



Lower excreta moisture when layers fed on Pro-Pak diet (2.5% reduction using Pro-Pak).

### Apparent digestibility coefficients (%) for dry matter in fish

Product	DM %	Protein %	Energy %	Lys %	Met %	Thr %	Arg %
PRO-PAK®	90.7	90.4	95.1	91.0	92.0	94.5	92.1
MFM	88.2	91.0	94.1	92.8	95.4	94.9	95.4



### FISH PERFORMANCE STUDY

Average Final BW (g)

