

February 28, 2008

In regards to: Fish meal alternatives

Attn: Alternative Feed Initiative  
NOAA Aquaculture Program  
1315 East-West Hwy  
Room 13117  
Silver Spring, MD 20910

While reviewing periodicals, I read the article entitled “Fish Meal Alternatives Being Sought” in Renderer Magazine (Feb 2008) and it peaked my interest. As an employee of a company that manufactures feed ingredients, I felt that we have a great alternative to fishmeal. The product is called PRO\*CAL®, which is comprised of recovered poultry nutrients and poultry blood that will directly address the need for an alternative fat and protein source being fed to fish. PRO\*CAL is a feed ingredient that is dry/free flowing with a protein content of 50% and a fat content of 34%. Protein composition is similar to that of bloodmeal with a fatty acid profile similar to poultry fat, as a result making PRO\*CAL an energy dense ingredient with outstanding handling properties. PRO\*CAL is manufactured to be environmentally proactive utilizing materials from poultry rendering. In addition, due to the highly valued quantities of fat and protein, the final product has a surprising low phosphorus concentration (~0.30 %).

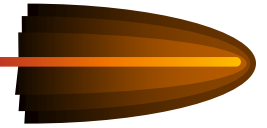
PRO\*CAL’s nutrient profile (enclosed) when compared to fishmeal is superior in fat, has improved phosphorus digestibility, and is competitive on ammo acids at 50% protein. PRO\*CAL’s formulation will in most cases contain significantly more energy for growth than competitive ingredients used for aqua-feeds. While PRO\*CAL’s data only briefly looks at the comparison, it however becomes apparent that it can be an alternative source to fishmeal, thus meriting further exploration by NOAA. Therefore, to show our enthusiasm, I would be willing to provide product for research evaluating the efficacy of PRO\*CAL. I strongly feel that PRO\*CAL can be competitive both economically and in performance given the increasing liabilities of price, availability, and nutrient loading associated to fishmeal.

If you have any question, please do not hesitate to contact me via the information below. I look forward to hearing from you and the opportunity to be an active member for your initiative.

Regards,

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Enclosures: 1



## *Spec Information*

### Typical proximate analysis (AS-Fed) for PRO\*CAL

Moisture.....	6%
Protein.....	50%
Phosphorus.....	0.30%
Fat.....	34%
Ne <sub>L</sub> .....	3.24 Mcal/kg
DE.....	5.50 Mcal/kg (NRC 2001)
TDN.....	118% DM (NRC 2001)

### Typical amino acid and fatty acid profiles for PRO\*CAL

Amino Acid	% CP	Fatty Acid	% Fat
Taurine	0.14	c6:0	2.04
Hydroxyproline	0.04	c8:0	0.07
Aspartic Acid	9.28	c10:0	0.07
Threonine	4.95	c11:0	0.02
Serine	4.14	c12:0	0.07
Glutamic Acid	10.68	c14:0	0.73
Proline	3.90	c14:1	0.19
Lanthionine	0.00	c15:0	0.11
Glycine	4.15	c16:0	23.14
Alanine	7.39	c16:1	6.39
Cysteine	1.58	c18:0	6.93
Valine	6.96	c18:1 et.al.	38.51
Methionine	1.53	c18:2 et.al.	17.15
Isoleucine	4.15	c18:3	1.02
Leucine	11.13	c22:0	0.22
Tyrosine	3.42	c22:1	0.59
Phenylalanine	6.04	other	2.72
Hydroxylysine	0.04		
Ornithine	0.07		
Lysine	8.52		
Histidine	5.21		
Arginine	5.59		
Tryptophan	1.08		