



SEA-LAC™ RUMINANT GRADE MENHADEN FISH MEAL

"Sea-Lac" Ruminant Grade by-pass meal differs from conventional commodity fish meal in the quality of the raw material and accompanying processing techniques. "Sea-Lac" is produced from a single species of fish, the Menhaden. The Menhaden are delivered chilled and whole to the processing facility in modern refrigerated vessels where they are immediately processed. Special processing techniques allow OPI to optimize the quality of the meal through temperature, drying conditions, and stabilization at the time of manufacture. The product is therefore of high protein quality, showing enhanced digestibility and ruminal undegradability.

TYPICAL ANALYSIS

PROXIMATE COMPOSITION:

	As Fed	DM
CRUDE PROTEIN	63.2	70.1
FAT	7.5	8.3
MOISTURE	9.7	0.0
ASH	19.5	21.6
DIGESTIBILITY (Regular)	97.5	97.5
DIGESTIBILITY (Modified)	90.9	90.9
Rumen Undegradability	70.0	70.0
NEL (Mcal/LB)	0.7	0.8
Omega 3 Fatty Acids	2.0	2.2

AMINO ACIDS % OF SAMPLE:

	As Fed	DM
LYSINE	5.2	5.7
METHIONINE	2.1	2.4
CYSTINE	0.7	0.8
ASPARTIC ACID	5.6	6.2
THREONINE	2.9	3.2
SERINE	2.5	2.8
GLUTAMIC ACID	8.6	9.5
PROLINE	3.0	3.4
GLYCINE	4.3	4.8
ALANINE	4.0	4.4
VALINE	3.2	3.6
ISOLEUCINE	2.9	3.2
LEUCINE	4.8	5.3
TYROSINE	2.2	2.5
PHENYLALANINE	2.6	2.9
HISTIDINE	1.7	1.9
ARGININE	4.1	4.5
TRYPTOPHAN	0.7	0.7
TAURINE	0.2	0.3
HYDROXYPROLINE	1.0	1.1

MICRO AND MACRO MINERALS:

	As Fed	DM
CALCIUM, %	5.6	6.2
PHOSPHORUS, %	3.3	3.7
POTASSIUM, %	0.6	0.7
MAGNESIUM, %	0.2	0.2
SODIUM, %	0.5	0.5
MANGANESE, PPM	50.7	56.2
IRON, PPM	807.4	894.3
BORON, PPM	5.0	5.5
COPPER, PPM	5.2	5.8
ZINC, PPM	109.4	121.2
CHROMIUM, PPM	4.1	4.6
SELENIUM, PPM	1.8	1.9
STRONTIUM, PPM	78.4	86.8
BARIUM, PPM	19.5	21.6
ALUMINIUM, PPM	848.2	939.5

VITAMINS, MG/LB., LITERATURE VALUES:

	As Fed	DM
BIOTIN	0.1	0.1
CHOLINE	1360.0	1506.4
FOLIC ACID	0.1	0.1
NIACIN	25.0	27.7
PANTOTHENIC ACID	4.0	4.4
VITAMIN B1 - THIAMINE	0.3	0.3
VITAMIN B2 - RIBOFLAVIN	2.2	2.4
VITAMIN B6 - PYRIDOXINE	2.7	3.0
VITAMIN B12	0.1	0.1
a-TOCOPHEROL (IU/#)	9.5	10.5