

**SALMON DON'T GRAZE**

**BRAD HICKS**

**TAPLOW FEEDS**

- **ENERGY TRANSFER IN TERRESTRIAL SYSTEMS DEPENDS PRIMARILY ON CARBOHYDRATES**
- **BECAUSE CARBOHYDRATES ARE THE PRIMARY ENERGY SOURCE PRODUCED BY PRIMARY PRODUCTIVITY IN TERRESTRIAL SYSTEMS**
- **ENERGY TRANSFER IN AQUATIC SYSTEMS IS DEPENDS PRIMARILY ON OIL AND PROTEINS**
- **BECAUSE OILS AND PROTEINS ARE THE PRIMARY ENERGY SOURCES PRODUCED BY PRIMARY PRODUCTIVITY IN AQUATIC SYSTEMS**

**WHAT DOES THIS MEAN FOR SALMON DIETS ?**

**REQUIRE HIGH LEVELS OF PROTEIN**

**REQUIRE HIGH LEVELS OF OILS**

**CANNOT CONTAIN HIGH LEVELS OF  
CARBOHYDRATES**

- WHICH INGREDIENTS ARE HIGH IN PROTEIN AND OILS?
- FISH MEAL AND FISH OIL
- FOR SUBSTITUTES WILL NEED TO SOURCE INGREDIENTS HIGH IN PROTEINS AND OIL
- OR
- CREAT INGREDIENTS HIGH IN PROTIENS AND OILS



- OIL SEED PLANTS (SOYA AND CANOLA)
- HIGH IN OIL CONTENT AND HIGH IN PROTEIN BUT CONTAIN ANTI-NUTRIENT FACTORS AND NOT A COMPLETE BALANCE OF AMINO ACIDS
- GRAIN PROTEIN CONCENTRATES (CORN GLUTEN MEAL) BUT THESE DO NOT CONTAIN A COMPLETE BALANCE OF AMINO ACIDS
- CAN HAVE LOW DIGESTIBILITY

- NUTRITIONAL SCIENCE HAS COME TO THE RESCUE
- WE CAN NOW FEED SALMON DIETS WHICH ARE HIGH IN PROTEIN AND FAT SOURCES WHICH DO NOT ORIGINATE FROM FISHMEAL AND FISH OIL.

The background of the image is a light blue surface covered with numerous small, clear water droplets of varying sizes. The droplets are densely packed and create a textured, glistening effect. In the center of the image, the words "THANK YOU" are written in a bold, black, sans-serif font.

THANK YOU

# COMPARISON OF MAJOR TERRESTRIAL AND AQUATIC TROPHIC LEVELS

AQUATIC TROPHIC LEVELS	TERRESTRIAL TROPHIC LEVELS
<p>Piscivorous mammals and birds (whales, seals, bears , osprey) <i>(Aquatic carnivores)</i></p>	<p>Carnivorous mammals and birds (tigers, lions, wolves, eagles)</p>
<p>Piscivorous fishes      omnivorous fishes (tuna, salmon)      (tilapia, carp)</p>	<p>Omnivores      Herbivores Chicken, pig      Cattle, sheep</p>
<p>Planktivorous fishes  Aquatic invertebrates  zooplankton phytoplankton</p>	<p>Terrestrial invertebrates   Grasses, grains and Oil seeds</p>