# Feed Alternatives for Litopenaeus vannamei

Marek, Stephanie

The purpose of this research was to compare the weight gain of Litopenaeus vannamei, (White leg shrimp), when fed alternative diets. The industry standard is to feed these prawns a formulated 35% protein shrimp diet. It was hypothesized that if two different foods, each containing equal amounts of protein are fed to two groups of prawns, there will be no significant difference in weight gain. The control group was fed Ziegler HI 35% protein, a specifically formulated diet for prawns. In the experimental group, the regular diet was replaced with Sportsman's Choice Trophy Fish Food, a pond fish food with 36% protein. The first hypothesis was not supported by the data, which showed that the Ziegler HI 35% protein formula had a larger sustained weight gain. In the second experiment, 50% of the feed was replaced with alfalfa pellets, containing natural sugars that feed the non-pathogenic bacteria found in heterotrophic aquaculture systems that serve as a food source for the prawns. It was hypothesized that if alfalfa is substituted for 50% of the diet, it will result in a significant increase in weight gain. This is based upon increased dependence upon bacterial food sources. The substitution of alfalfa replaces the addition of costly commercial products that are used to support bacterial growth. The prawns also consumed some of the alfalfa, which contained carbohydrates and 16%protein. In both combinations of formulated food and alfalfa, the tanks supplemented with alfalfa showed an increase in weight, which supported the hypothesis.

**Awards Won:**