

Supplementary Information: Tables and Figures

Table 1: Ingredient Composition of Experimental Diets (g/kg dry matter)

Ingredient	Control (C)	Diet 1 (D1)	Diet 2 (D2)	Diet 3 (D3)
Fish meal	350	400	300	-
Squid meal	-	-	150	-
Soybean meal	250	200	150	400
Wheat gluten	100	100	100	200
Fish oil	80	100	90	-
Vegetable oil	20	-	-	80
Wheat flour	120	120	130	200
Vitamin premix	20	20	20	20
Mineral premix	20	20	20	20
Attractants	10	10	10	30
Binders	30	30	30	50

Table 2: Environmental Impact Metrics per kg of Feed

Parameter	Control (C)	Diet 1 (D1)	Diet 2 (D2)	Diet 3 (D3)
Water usage (L)	2200	2500	2300	1500
Land use (m²)	3.5	3.8	3.6	4.2
Marine resource use (kg)	1.2	1.4	1.3	0.2

Figure 1:

- **Description:** This figure illustrates the percentage of dietary energy converted into biomass (Energy Conversion Efficiency) for each experimental diet.
- **Key Insight:** The D2 diet showed the highest ECE, indicating its superior efficiency in converting dietary energy into growth.

Figure 1: Energy Conversion Efficiency by Diet

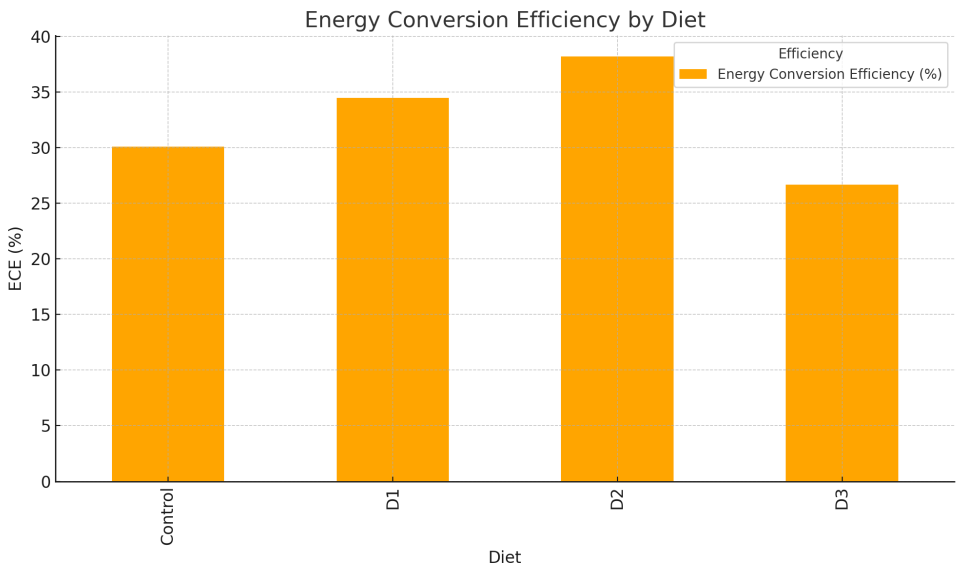


Figure 2:

- **Description:** This figure presents the average number of molts per crab (Molting Frequency) and the molting success rates for the four diets.
- **Key Insight:** The D2 and D1 diets resulted in the highest molting frequencies and success rates, highlighting their role in supporting energy-intensive molting processes.

Figure 2: Molting Frequency and Success by Diet

