

MASTERCUBE IS A SUITABLE PELLET BINDER FOR SHRIMP FEEDS

SUMMARY

- ✓ Aquaculture diets require a pellet binder to maintain feed stability, even when pellets remain submerged in water for long periods of time.
- ✓ Mastercube contains polysaccharide gums which are approved for use in the EU.
- ✓ PMC is not approved for use within the feed industry in the EU.
- ✓ Pellet quality was maintained in feed containing Mastercube following a 2-hour water test.
- ✓ The substitution of polymethyl carbamide (PMC) with Mastercube provided an economical benefit, which supports that Mastercube is a suitable pellet binder for shrimp diets.

COMMERCIAL STUDY DESIGN

A study was carried out to compare the water stability of pellets including either Mastercube or polymethyl carbamide (PMC). PMC was included at 10kg/tonne compared to Mastercube, which was included at 5kg/tonne. Both diets were pelleted to standard conditions. For assessment of water stability, pellets were placed in potable water at ambient temperature (~25°C/~77°F), shaken for two hours at 90 RPM, removed, dried and weighed. Pellet moisture, water stability, pellet fines, hardness (YBD-KQ3 hardness tester), pellet length and pellet durability index (PDI) were all assessed.

RESULTS

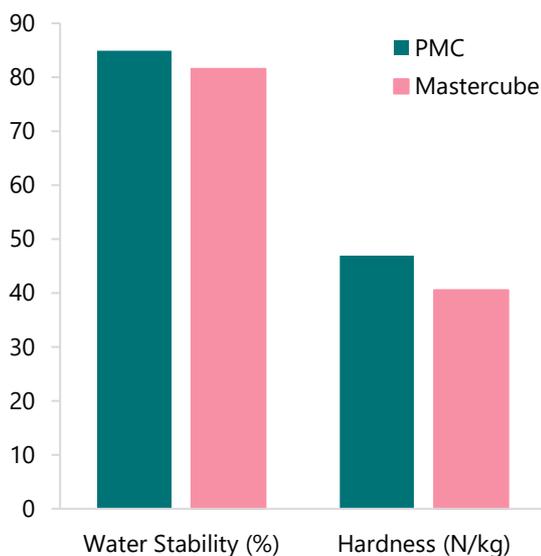


Figure 1. Water stability (%) and hardness (N/kg) of pellets containing either PMC or Mastercube

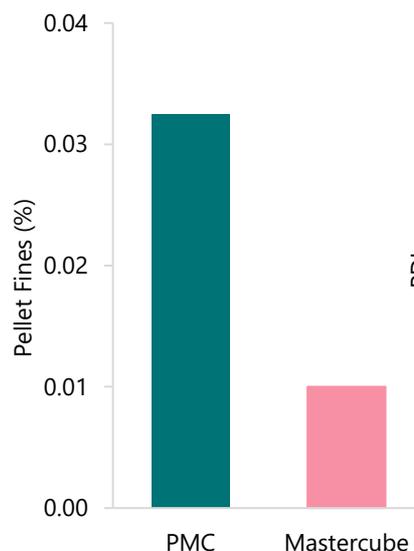


Figure 2. Percentage of pellet fines in pellets containing either PMC or Mastercube

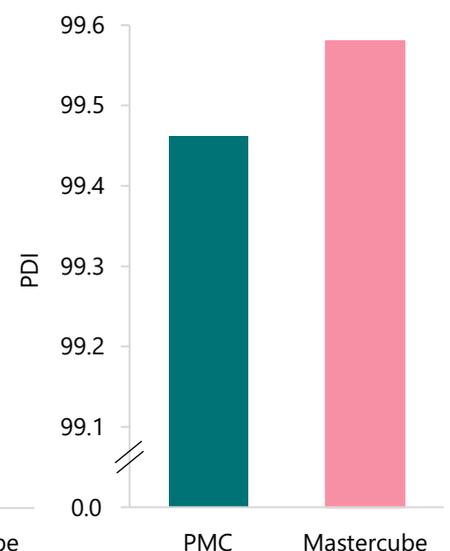


Figure 3. Pellet Durability Index (PDI) of pellets containing either PMC or Mastercube

Substitution of PMC with Mastercube at half the relative inclusion:

- ✓ Did not impact pellet quality, resulting in similar pellet hardness and water stability (Fig.1).
- ✓ Resulted in a reduction in pellet fines (Fig. 2) and an improved pellet durability index (PDI) (Fig.3)
- ✓ Reduced sample variation, indicating improved pellet consistency.

Mastercube is a low inclusion product which aids the formulation process by releasing nutritional space as well as providing an economical benefit as a result of improved pellet quality.

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