

Conditions for mixing, drying and storage of microparticulated feed for Giant Tiger prawn (Penaeus monodon Fabricius) larvae were studied. Initially, two mixing methods comprising mixing of the vitamin mix with other ingredients before heating at 85°C to dissolve the carrageenan and mixing of the vitamin mix with the liquid feed which previously be heated at 85°C and cooled to 60°C were compared. It was found that both methods produced feeds with homogeneously distributed micronutrients but the higher vitamin C retention was observed in the sample mixed at 60°C ( $P < 0.05$ ). However, since the feasibility of the process at 60°C was rather unlikely, the mixing at 85°C was selected for the subsequent study.

Appropriate conditions for the four drying methods, comprising cabinet drying, vacuum drying, freeze drying and spray drying were determined. The optimum drying conditions found were : 60°C, 320 minutes for the cabinet drying; 50°C, 545 minutes for the vacuum drying at 30 lb/in<sup>2</sup> pressure; water sublimation at 32°C for the freeze drying and 14 % total solid spray drying at the air temperature of 120°C.

The qualities of feeds produced at their optimum drying conditions were compared. Samples dehydrated by the spray drying and the freeze drying retained higher vitamin C than those produced by the cabinet drying and the vacuum drying. Significantly different in the proximate composition also observed among the experimental feeds and the commercially produced feed. Feeding study on Giant Tiger prawn from stages Zoea3 to Postlarva2 revealed that the freeze drying and the vacuum drying feeds provided larvae with comparable survival rate to that fed with natural feed and superior to that reared by the commercial feed. No significant differences were found among growth rate of the larvae fed with all six samples of feeds. Feeds can be stored at 4-10°C, under N<sub>2</sub> atmosphere in laminated bags or in Eval film, for at least 4 months.