EVMarineGro™ (P) Shows Promising Early Results in Commercial Bullfrog Broodstock Evaluation in Malaysia

Collaboration with an experienced commercial bullfrog farm highlights the potential of palm phytonutrients in broodstock nutrition and early tadpole survival

Perak, Malaysia – 06 October 2026 – A commercial bullfrog farm evaluation in Perak, Malaysia has produced promising early findings on the application of EVMarineGro™ (P) in bullfrog broodstock nutrition, with the first spawning evaluation showing substantially higher early tadpole survival in supplemented groups.

The evaluation was conducted in collaboration with Vincent Teoh, a commercial bullfrog farming practitioner in Malaysia, who supervised the farm trial and provided the practical farming expertise behind the evaluation.

Working together with ExcelVite Sdn. Bhd., the project explored whether supplementation of broodstock feed with EVMarineGro™ (P) — a functional palm-derived phytonutrient ingredient containing mixed carotenes and a mixed tocotrienol/tocopherol vitamin E complex — could support reproductive performance and early offspring outcomes under commercial farming conditions.

Approximately 30 breeding pairs were included in the initial evaluation, with six dietary treatments ranging from 0 to 5 g EVMarineGro™ (P)/kg feed. Parameters monitored included egg characteristics, hatch rate and 7-day tadpole survival.

"Broodstock management is one of the most important but challenging aspects of commercial bullfrog production. Our interest was to determine specific nutritional enrichment of the broodstock and its contribution to better reproductive outcomes and stronger early-stage survival under actual farm conditions."

— Vincent Teoh, Ranidae Fisheries Sdn Bhd, Perak, Malaysia

More Than 90% Mean 7-Day Tadpole Survival at 3–5 g/kg

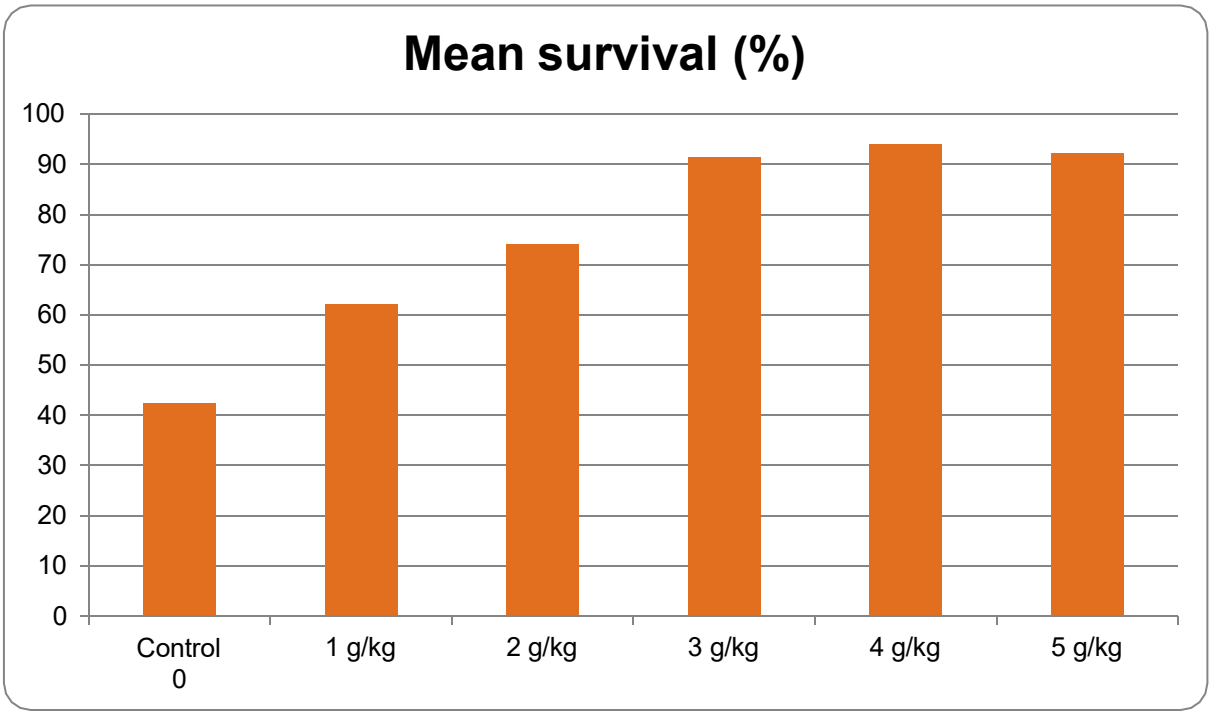
The clearest observation from the first spawning evaluation was seen in 7-day tadpole survival.

EVMarineGro™ (P) inclusion	Mean 7-day tadpole survival
Control (0 g/kg)	42.44%
1 g/kg	62.17%
2 g/kg	73.97%
3 g/kg	91.33%
4 g/kg	94.00%
5 g/kg	92.22%

Mean 7-day tadpole survival increased from 42.44% in the untreated control to above 90% in the 3–5 g/kg groups, with the highest mean survival of 94.00% at 4 g/kg.

The first-spawning findings likely indicates a strong treatment-associated increase in early tadpole survival and provide a basis for further evaluation across additional spawning cycles and commercial farming conditions.

Mean 7-Day Tadpole Survival by EVMarineGro™ (P) Inclusion



Tadpole survival observations



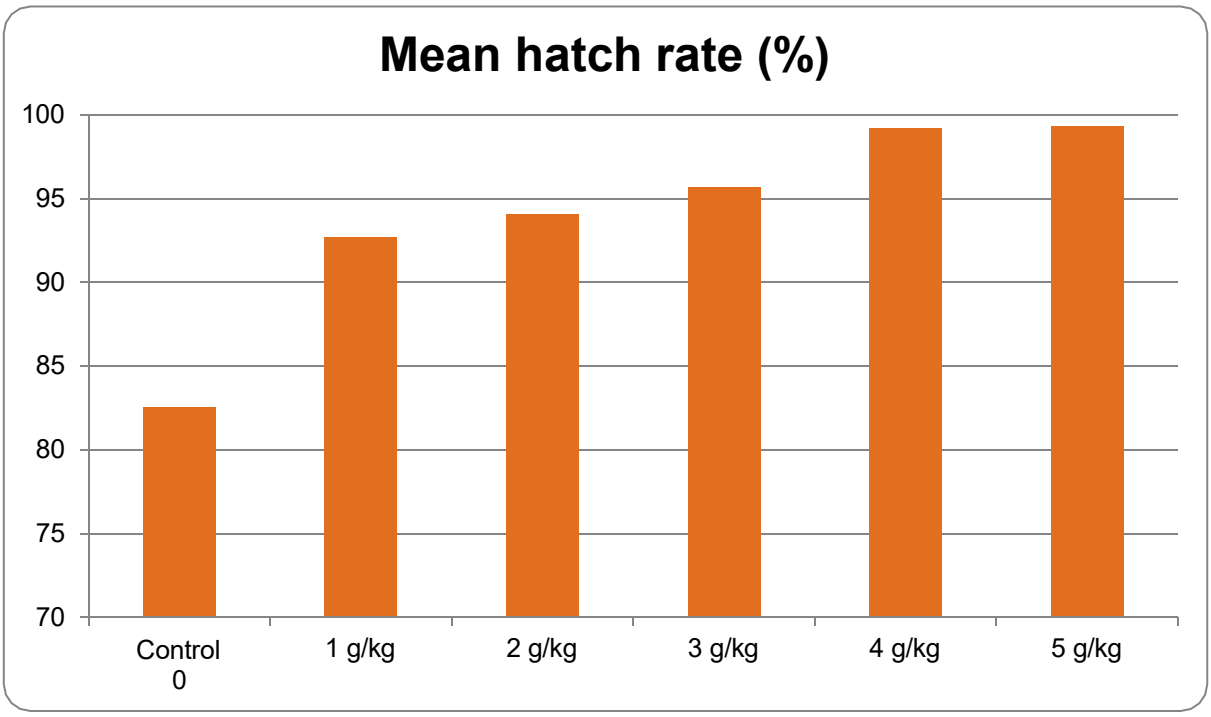
Encouraging Numerical Trend in Hatch Rate

Hatchability showed another encouraging pattern. Mean hatch rate increased numerically from 82.56% in the control to 99.22% and 99.33% in the 4 and 5 g/kg groups, respectively.

Preliminary analysis indicated that this response approached, but did not reach, the conventional threshold for statistical significance. It should therefore be interpreted as a positive numerical trend requiring further confirmation, rather than a confirmed treatment effect.

Overall egg diameter remained relatively consistent among treatment groups. Yolk diameter showed an exploratory numerical increase at higher supplementation levels, although further evaluation is required to establish whether this observation is biologically meaningful.

Positive Numerical Trend in Hatch Rate



Bringing Farm Expertise and Nutritional Science Together

For ExcelVite, the collaboration demonstrates the importance of combining ingredient science with the experience of commercial producers.

Dr. Sien-Yei Liew of ExcelVite, who coordinated the technical and application-development aspects of the project, said that practical collaboration with experienced farmers is essential when translating nutritional concepts into commercially relevant applications.

"The value of this project goes beyond testing an ingredient. Vincent's practical knowledge of bullfrog reproduction allowed us to evaluate the nutritional concept within the realities of commercial farming. The encouraging first-spawning results give us a foundation to continue refining the application together and, ultimately, to explore how this approach could be translated into formulated broodstock feed."

— Dr. Sien-Yei Liew, ExcelVite Sdn. Bhd.

This division of expertise is important: the farm contributes practical knowledge of bullfrog breeding, reproductive management and commercial production, while ExcelVite contributes expertise in palm phytonutrients, nutritional application development and ingredient formulation.

From Initial Evaluation to Commercial Farm Application

Following the encouraging first-spawning observations, particularly the early tadpole survival response, the use of EVMarineGro™ (P) was subsequently expanded to approximately 300 broodstock at the participating farm.

The scale-up has provided further practical experience in areas such as inclusion level, feeding frequency, palatability, overall nutrient supplementation, and feed quality.

The farm and ExcelVite are continuing to evaluate the application, with the objective of understanding the reproducibility of the initial observations and developing a practical nutritional approach suitable for commercial bullfrog broodstock management.

Toward Specialized Bullfrog Broodstock Nutrition

The collaboration also highlights a broader opportunity for the bullfrog feed industry.

Conventional feeding programmes are often developed primarily around growth and grow-out performance. Broodstock, however, have a different production objective: successful reproduction and the production of viable offspring.

Greater specialization in broodstock nutrition may therefore warrant consideration, including reproductive-stage nutrient requirements, antioxidant nutrition, functional feed ingredients, palatability, nutrient balance, and feed quality.

The current commercial farm findings provide preliminary evidence supporting further evaluation of EVMarineGro™ (P) as a functional ingredient in formulated bullfrog broodstock feeds.

Commercial farm evaluation → Repeated biological validation → Application optimization → Feed formulation and processing evaluation → Specialized bullfrog broodstock feed

Looking Beyond Malaysia

The collaboration also provides a platform for evaluating the concept with other commercial bullfrog producers and feed manufacturers in markets where bullfrog production is well established.

ExcelVite welcomes collaboration with bullfrog farmers, hatchery operators, feed manufacturers, feed formulators, distributors, and aquaculture nutrition specialists interested in evaluating EVMarineGro™ (P) in broodstock feeding programmes.

Such collaborations may include feed formulation, inclusion-level evaluation, processing compatibility, commercial farm validation and assessment of reproductive and early offspring performance.

From Palm Phytonutrients to Practical Animal Nutrition

EVMarineGro™ forms part of ExcelVite's development of palm phytonutrient applications for animal nutrition.

The bullfrog collaboration represents another step in connecting ingredient science, commercial farming expertise and practical feed applications.

Learn More

Read the Technical Bulletin:
Palm Phytonutrients for Bullfrog Broodstock Nutrition – Commercial Farm Evaluation of EVMarineGro™ (P) on Reproductive Performance and Early Tadpole Survival

Interested in collaborating with the bullfrog farm?
Contact Ranidae Fisheries Sdn Bhd at farm@ranidae.co to discuss commercial visits, frog supply, and technical collaboration.

Interested in collaborating on bullfrog broodstock nutrition?
Contact ExcelVite Sdn Bhd at info@excelvite.com to discuss commercial farm evaluation, feed formulation and technical collaboration opportunities.

About the Farm Collaboration

The commercial farm evaluation was conducted and supervised by Vincent Teoh at a commercial bullfrog farming operation in Perak, Malaysia. Vincent contributed the practical farming knowledge, trial implementation, and commercial observations supporting the project.

About ExcelVite

ExcelVite Sdn. Bhd. is a Malaysia-based producer of palm-derived phytonutrients. Through its animal nutrition activities, the company explores practical applications of palm mixed carotenes, tocotrienols, tocopherols, and other palm phytonutrients across aquaculture, livestock, and companion animal nutrition.

Study Disclosure

EVMarineGro™ (P) used in this commercial farm evaluation was supplied by ExcelVite Sdn. Bhd. The field evaluation was conducted and supervised by the participating commercial bullfrog farm.

The findings presented here represent results from the first spawning of an ongoing commercial farm evaluation and should be interpreted within the biological and environmental variability associated with commercial bullfrog reproduction. Additional spawning cycles and further commercial validation are required before establishing generalized application recommendations.

Farm data and photographs are presented subject to permission from the participating farm and farm manager.