

Insects Innovation in Gastronomy

COURSE SUPPORT



Module 4 Unit 2:

Insect products in the athlete's kitchen

Disclaimer:

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Introduction: Why Do Athletes Need Specialized Nutrition?

Sports nutrition is a critical component of athletic performance, muscle recovery, endurance, and injury prevention. The World Health Organization (WHO) and leading sports science institutions emphasize that athletes have higher protein, vitamin, and mineral requirements than the general population.

- Protein for Muscle Growth & Recovery
- Essential Vitamins & Minerals for Performance Optimization
- Sustainable & Functional Food Options

Traditional sports nutrition has relied heavily on whey protein isolates, meat, chicken, and fish as primary protein sources. However, diversification is necessary to meet growing nutritional demands, sustainability concerns, and convenience factors.

Insect Protein: A scientifically backed next-generation protein source that offers high bioavailability, sustainability, and functional benefits for sports nutrition.

Key Insights & Takeaways:

➤ The Science Behind Insect Protein in Sports Nutrition

- **The World Health Organization (WHO)** has confirmed that insect protein contains all essential amino acids required for human nutrition.
- Studies show that insect protein has **higher protein** content than meat, chicken, and fish and is richer in iron, zinc, magnesium, calcium, and omega-3 fatty acids.

Comparing Protein Sources

Protein Source	Protein Content (%)	Key Benefits
Beef	25-30%	Rich in iron but requires cooking
Chicken	27-33%	Lean protein but lacks essential omega-3s
Fish	25-32%	Omega-3 rich but has sustainability concerns
Crickets	60-70%	High protein, omega-3, iron & calcium
Mealworms	50-60%	High digestibility & fiber content
Grasshoppers	65-70%	Superior mineral profile & complete amino acids

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Insect protein is higher in protein and micronutrients than traditional animal sources and requires minimal processing and cooking—a major advantage for athletes looking for quick, functional nutrition.

➤ Functional Advantages of Insect Protein for Athletes

Why Do Athletes Need More Protein?

- **Supports Muscle Repair & Growth** – Intensive training increases muscle breakdown.
- **Enhances Performance & Endurance** – Prevents fatigue by maintaining energy metabolism.
- **Aids Digestive Health** – Less bloating and gut discomfort compared to some plant-based proteins.

Digestibility & Gut Health

Athletes often experience intestinal sensitivity, which affects performance. Insect protein has a high digestibility rate (90%), making it an ideal option for those who experience bloating and gas from traditional proteins.

➤ Culinary Innovations in Sports Nutrition: Insect-Based Foods

Building a High-Performance Sports Kitchen

The modern sports kitchen must provide nutrient-dense, high-protein meals that are:

- Convenient & Ready-to-Eat
- Nutritionally Balanced
- Environmentally Sustainable

Applications of Insect Protein in Sports Nutrition

Protein-Packed Powdered Drinks & Shakes

- Easily digestible, high-protein shakes with cricket flour, grasshopper flour, or mealworm powder.
- Comparable to whey protein isolate but with added vitamins and minerals.

High-Protein Energy Bars

- Insect flour & insect oil replace conventional flour and fats for protein-enriched snacks.
- Adds antioxidants & omega-3 fatty acids to fuel recovery.

Insect-Enriched Pasta & Pizzas

- Cricket flour pasta & pizza dough for a functional meal option.
- Higher protein than traditional wheat-based alternatives.

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Sports Recovery Breads

- Fortified with high-protein insect flour & essential minerals.
- Ideal for post-workout glycogen replenishment.

Conclusion

- **Insect protein is an elite performance fuel**—higher in protein, iron, and omega-3s.
- **Athletes need functional, digestible proteins**—insect protein provides an edge.
- **Sports nutrition innovation is shifting**—sustainability is a driving factor.

The sports kitchen of the future embraces high-protein, nutrient-dense, and sustainable alternatives—and insect protein is at the forefront.