Extrusion of Plant-Based Meat Analogues Training Course

Professional Development Training Course Outline

Category	Food processing and Technology	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The global demand for sustainable and nutritious food solutions has driven rapid growth in the plant-based meat industry. Extrusion technology has emerged as a leading method for producing meat analogues that replicate the texture, taste, and sensory experience of traditional meat. Extrusion of Plant-Based Meat Analogues Training Course provides in-depth knowledge of extrusion processes, raw material selection, equipment handling, and innovative approaches to meet the rising consumer demand for healthy, eco-friendly, and protein-rich alternatives.

Participants will gain a strong foundation in the principles of high-moisture and low-moisture extrusion, formulation optimization, and quality assurance for plant-based meat analogues. With a combination of theoretical insights and practical case studies, the course empowers food technologists, R&D professionals, and industry leaders to create products that align with consumer trends, environmental sustainability, and market competitiveness.

Programme Curriculum

Extrusion of Plant-Based Meat Analogues Training Course

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Course Objectives

1. Understand fundamentals of extrusion technology in plant-based meat production.
2. Explore raw material functionality and protein sources for meat analogues.
3. Analyze high-moisture extrusion techniques for fibrous textures.
4. Evaluate process parameters for achieving meat-like sensory properties.
5. Gain insights into extrusion equipment design and maintenance.
6. Learn strategies for product innovation and scalability.
7. Study market trends and consumer preferences in plant-based proteins.
8. Apply quality control and food safety measures in extrusion operations.
9. Investigate protein structuring and fiber alignment during extrusion.
10. Assess sustainability benefits and challenges in plant-based meat.
11. Examine regulatory frameworks and labeling requirements.
12. Design prototypes for plant-based meat analogues using extrusion.
13. Enhance problem-solving skills with real-world industry case studies.

Organizational Benefits

1. Enhanced product innovation capabilities.
2. Improved understanding of consumer-driven market demands.
3. Increased efficiency in extrusion operations.
4. Development of competitive plant-based meat products.
5. Strengthened R&D capacity for sustainable solutions.
6. Improved compliance with international food standards.
7. Optimized use of raw materials for cost-effectiveness.
8. Increased organizational reputation in the alternative protein sector.
9. Expanded market opportunities in global food industries.
10. Strengthened workforce skills and technical knowledge.

Target Audiences

1. Food technologists and R&D scientists
2. Extrusion equipment engineers and operators
3. Quality assurance and food safety professionals
4. Product developers and formulation experts
5. Nutritionists and dieticians focusing on plant-based diets
6. Food business entrepreneurs and startups
7. Sustainability and environmental officers
8. Academic researchers and students in food technology

Course Duration: 5 days

Course Modules

Module 1: Fundamentals of Plant-Based Extrusion

- Principles of extrusion technology
- Protein structuring in extrusion processes
- High-moisture vs. low-moisture extrusion
- Equipment overview and operational basics
- Industrial applications in plant-based meat
- Case Study: Soy protein extrusion for meat substitutes

Module 2: Raw Material Functionality and Selection

- Plant proteins: soy, pea, wheat gluten, faba bean
- Role of starches, fibers, and fats
- Functional ingredients for texture and flavor
- Ingredient interactions in extrusion
- Nutritional considerations in formulation
- Case Study: Pea protein blends for texture optimization

Module 3: High-Moisture Extrusion Technology

- Process parameters for fibrous texture
- Moisture content and structuring effects
- Cooling die design and its role
- Protein alignment and fiber formation
- Texture and sensory evaluation methods
- Case Study: High-moisture extrusion of pea protein

Module 4: Low-Moisture Extrusion Technology

- Differences between low- and high-moisture extrusion
- Expansion and texturization principles
- Applications in dry textured vegetable protein (TVP)
- Storage and rehydration characteristics
- Use in ready-to-cook applications
- Case Study: Wheat gluten-based TVP production

Module 5: Process Optimization and Scale-Up

- Key extrusion parameters and adjustments
- Scale-up challenges and solutions
- Energy efficiency in extrusion operations
- Industrial vs. pilot-scale considerations
- Troubleshooting common extrusion issues
- Case Study: Scaling up plant-based chicken analogue

Module 6: Quality Assurance and Food Safety

- HACCP in extrusion facilities
- Microbial safety of plant-based meats
- Allergen management strategies
- Texture and flavor consistency control
- Regulatory compliance in food safety
- Case Study: Quality assurance in pea protein extrusion

Module 7: Innovation and Product Development

- Emerging trends in plant-based meat innovation
- Use of flavoring systems and binders
- Consumer-driven product design
- Advanced protein blends and new raw materials
- Texture and flavor masking techniques
- Case Study: Development of plant-based beef burgers

Module 8: Sustainability and Market Outlook

- Environmental benefits of plant-based meats
- Carbon footprint reduction strategies
- Circular economy in plant protein sourcing
- Market trends and growth opportunities
- Future challenges in plant-based extrusion
- Case Study: Sustainability analysis of soy protein extrusion

Training Methodology

- Interactive lectures with multimedia presentations
- Hands-on case study discussions
- Group problem-solving and brainstorming exercises
- Practical demonstrations of extrusion principles
- Knowledge assessments through quizzes and activities

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Key

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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