

MODULE 4. SYLLABUS

Elaborated by the Balıkesir University, TR

MODULE 4. USE OF DISCARD FISHERIES TO PRODUCE PET FOOD

AUTHORS

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STRUCTURE FOR THE MODULE SYLLABUS DEVELOPMENT

The syllabus will be added to the website as a “preview” of the module, to inform the prospective student/trainee.

MODULE MOTIVATION

The pet dog (*Canis acquaintance*) has been the closest friend of humans for over 12,000 years and the domestic cat (*Felis catus*) for 9000 years. Today, cats and dogs contribute to the mental health and well-being of children and adults, and pet ownership has become increasingly popular all over the world in recent years. Today, pet owners treat pets as their own family members, and pets are treated like humans in Europe. Data for 2021 show that approximately one in four households in Europe owns at least one pet dog. According to the data of FEDIAF, there are 72.708.732 dogs and 83,622,248 in the EU. In the EU, too, the estimated percentage of households owning at least one pet is 46% of all households. The estimated percentage of European households with at least one cat or one dog is 25% for cats.

There is annual sales revenue of €50 billion in 2021 for pet food and related services. The sales value of pet food products in 2021 was €27.7 billion. It can be said that pet ownership has an impact on this, along with the Covid pandemic. The pet industry created 10,000 direct jobs per year with a total of 110,000 employees in 2021. In indirect jobs related to the pet sector, 50,000 people find employment. The pet food industry in Europe provides employment to approximately 100,000 people. It is also estimated to create an additional 900,000 new jobs in related pet care industries.

There is a growing awareness in Europe of pet food, pet equipment and supplies, specialty food products and organic pet food. With the increase in pet ownership, the increase in the pet industry, pet care and feed market continues. In some countries in Europe, pet food is recognized as a premium product segment. Because pet owners are very worried and meticulous about the nutrition of their animals, they prefer to buy quality feeds. The popularity of pet food products is increasing in Europe and manufacturers are seeking to develop new innovative products. In order to provide a better life for pets, pet owners also pay maximum attention to the materials they use. Manufacturers are also trying to offer natural, organic and unprocessed feeds for pet animals in response to this demand. In recent years, the pet feed market in Europe is slowly and gradually shifting towards plant-based feeds and uses animal-derived feeds less.

Dogs and cats are traditionally fed offal that are housed on farms or homes and are not used for human consumption. In the past, dogs were used as guards or for hunting, and cats were used to

control rodents. However, in industrialized countries, dogs and cats are today mainly kept as companion animals and fed commercially produced high-quality feed. Since cats and dogs are carnivores by nature, their feeds consist of high amounts of animal-derived substances that are also used in human nutrition. But in recent years, it raises the question of the impact of animal-derived dog and cat feed on the use of scarce resources and the environmental footprint of meat consumption by cats and dogs. Since the contribution of dog and cat foods to general greenhouse gas production is the subject of public debate, it is taken into account in the nutrition of these animals. For this reason, the use of discarded fish that are not suitable for human consumption may become an important issue for BARF for cats and dogs.

TASK RANGE

The following teaching and learning activities can be adapted and used in this module:

- Presentation
- Case study
- Roundtable
- Questioning
- Formative quizzes
- Problem-solving
- Debates
- Freewriting
- Small group activities
- Social media activities (Facebook, Twitter, YouTube)

LEARNING OUTCOMES

- The learner has knowledge:
 - ✓ About the pet sector in the EU and new trends in pet nutrition
 - ✓ Digestive system, digestion and absorption of the nutrients in dogs and cats
 - ✓ Nutrient requirements of dogs and cats,
 - ✓ Biologically Appropriate Raw Food (BARF) for Cat and Dog Nutrition
 - ✓ *The benefits and the main risks of BARF feeding of pets*
 - ✓ Contents of discard fisheries and fish processing wastes
 - ✓ Production of BARF for pets from discard fisheries
 - ✓ Processing technology for BARF from discard fisheries
 - ✓ Stabilisation of the nutrient content of the BARF
 - ✓ Packaging, labelling, storage and transportation strategies for the BARF
 - ✓ And risk Assessments and Precautions for Pet Owners

- The learner has skills of being able to:
 - ✓ Know the pet sector needs for pet foods,
 - ✓ Basic pet nutrition skills and skills to calculate pets' nutrient requirements for basic nutrients,
 - ✓ Describe BARF, contents, benefits, main risks and *the legal limitations for BARF feeding of pets in the EU.*
 - ✓ Evaluate the the discard fisheries and fish processing wastes for value added products and BARF,
 - ✓ Know MARI PET BARF processing technology steps and BARF production from discarded fisheries,
 - ✓ *Formulate, stabilise, packaging, labelling, storage and transportation strategies for the MARI PET BARF diets,*
 - ✓ *Define the risk assessments procedures of BARF diet and some precautions for pet owners.*
- The learner has competence of:
 - ✓ Feeding pets (cat and dog),
 - ✓ Finding the best pet food and BARF for their pet's health,
 - ✓ Using discarded fisheries wastes for pet's BARF production,
 - ✓ Processing steps of the discarded fisheries for pet's BARF production,
 - ✓ Formulation of a BARF from discarded fisheries by using some other nutrients and food additives, stabilisation, packaging and labelling procedures,
 - ✓ Describing *the European BARF risk assessments procedures for pets and pet owners*

MODULE CONTENTS

The module starts with an introductory part describing the pet (dog and cat) sector in Europe. The module's content addresses definition of the basic nutrition procedures and nutrient requirements of the pets. The module will contain with the description of the biologically appropriate raw food (BARF) for cat and dog nutrition, definition of the BARF, contents of the BARF, *the benefits and the main risks of BARF feeding, and the legal limitations for BARF feeding in the EU.* The module's also addresses the contents of discard fisheries and fish processing wastes and all aspects of the production of BARF for pets from discard fisheries including processing technology steps:

- *Selection of discarded fish,*

- *Preserving discard fish on board, transporting the discard fish from the port to the production unit,*

- *Internal cleaning and trimming of discarded fish,*

-Decontamination of discard fish, -Mixing with other ingredients to form MARIPET BARF, -Adding food additives,

- Grinding and mixing in a meat grinder, Portioning and Packaging of MARIPET BARF and Freezing and freeze preservation.

Finally, the module will be ended by the description of stabilisation of the nutrient content of the BARF and packaging, labelling, storage and transportation strategies for the BARF:

- Freezing and frozen storage,

- Transfer of MARIPET BARF to pet owners.

The module will also contain a Risk Assessment Strategies and Precautions for Pet Owners.

MODULE INCLUDES

Module includes:

- An overview of the pet (dog and cat) sector in Europe
- Basic knowledge about pet nutrition and nutrient requirements of cats and dogs,
- Presentation of the Biologically Appropriate Raw Food (BARF),
- Production of BARF for pets from discard fisheries
- Processing technology for BARF from discard fisheries
- Risk Assessments and Precautions for Pet Owners
- Forums for discussions and structured debates regarding BARF production from discarded fisheries
- Inspiration for further action and how to implement the knowledge about BARF from discarded fisheries into the real world through use of case studies.

RECOMMENDED AND/OR REQUIRED READING

Recommended:

- Guide to Good Practice for the Manufacture of Safe Pet Foods. FEDIAF, The European Pet Food Industry, February, 2018.
- Nutritional needs of cats and dogs, FEDIAF Fact Sheet 2018
- Raw meat-based diet (BARF) in dogs and cats nutrition. Brozic et al., 2020. Veterinary Journal of Republic of Srpska, 19(2):314-321.

- Annual Report 2022. FEDIAF.

ASSESSMENT FORMAT

Quiz assessment to be taken on Moodle

GLOSSARY

BARF: Biologically Appropriate Raw Food

Discarded fish: Discarding is a term specifically used for catches of species which are not kept, but returned to the sea.

MARIPET BARF: BARF specialized for MARIPET project formulated for cats and dogs by using discarded fisheries.

Pet: A pet, or companion animal, is an animal kept primarily for a person's company or entertainment rather than as a working animal, livestock, or a laboratory animal.

LINKS TO USEFUL WEBSITES

- <https://europeanpetfood.org/>
- https://oceans-and-fisheries.ec.europa.eu/fisheries/rules/discarding-fisheries_en
- <https://www.amazon.com/European-Landing-Obligation-Multi-Species-Multi-Jurisdictional/dp/3030033074>
- <https://www.fao.org/documents/card/en/c/48cdfd10-6a79-58e6-8985-97784133eaa5>
- <https://europeanpetfood.org/self-regulation/nutritional-guidelines/>



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