



IDENTIFYING DATA

Quality of Fishery and Aquaculture Products

Subject	Quality of Fishery and Aquaculture Products			
Code	V11M085V01302			
Study programme	(*)Máster Universitario en Ciencia e Tecnoloxía de Conservación de Produtos da Pesca			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	2nd	1st
Teaching language	Spanish			
Department				
Coordinator	Tovar Rodríguez, Clara Asunción			
Lecturers	Barros Velázquez, Jorge García Cabado, Ana Losada Iglesias, Vanesa Sotelo Sesto, Pablo Tovar Rodríguez, Clara Asunción			
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General description	In this area, the modifications of the organoleptic characters that occur after the capture of the fish and the effects of the refrigeration and freezing on the loss of freshness of the fishery products, as well as the methods of determining freshness exist. Methods for recognizing food alterations during storage and for detecting biochemical changes subsequent to capture and during storage shall be studied. Microbiological criteria and procedures for analyzing fish quality and related legislation will also be addressed. In addition, rapid recognition tests and specific techniques for the alterations of frozen and preserved foods in the frozen state will be studied.			

Competencies

Code	
B1	
B2	
B3	(*)Que os estudantes desenvolvan as habilidades para realizar traballos experimentais, manexo de elementos materiais e biolóxicos e programas relacionados.
B4	(*)Que os estudantes desenvolvan as capacidades de traballo en equipo, enriquecidas pola pluridisciplinariedade.
B5	(*)Que os estudantes desenvolvan a habilidade de elaboración, presentación e defensa de traballos ou informes.
B6	
B7	
B8	(*)Que os estudantes posúan as habilidades de aprendizaxe que lles permitan continuar estudando dun modo que haberá de ser en gran medida autodirigido ou autónomo.
C11	(*)Determinar os criterios e procedementos para o control da calidade dos produtos da pesca e dos envases e embalaxe utilizados no seu circuíto comercial. Coñecer os procedementos para o seu control analítico e detección de defectos.
C12	(*)Aproximación ao control de calidade de cada unha das liñas de produción dos produtos pesqueiros. Coñecementos básicos da xestión da calidade de produto.

Learning outcomes

Expected results from this subject	Training and Learning Results
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To know the basic aspects of the quality control of fishery and aquaculture products (PPAs)	B1 B2 B3 B4 B5 B6 B7 B8 C11 C12
Know the general aspects of quality control: packaging and packaging.	B1 B2 B3 B4 B5 B6 B7 B8 C11 C12
Know the specific and operational aspects of quality control.	B1 B2 B3 B4 B5 B6 B7 B8 C11 C12

Contents

Topic	
SUBJECT 1. Basic aspects of the control of Quality of fishery products and the Aquaculture (PPAs)	- organoleptic and biochemical changes subsequent to capture. - Effects of refrigeration on loss of freshness. - Modifications of the constituents of fish during the Processing and storage. - Abiotic pollutants
SUBJECT 2. Microbiological aspects related With the conservation of the fish.	- Marine biotoxins. - Legislative progress and alternative methods.
SUBJECT 3. Physical Methods of quality control of Fishery products	Rheology of gels for the determination of physical properties: 1) Oscillatory methods (test in tension sweeps and sweep of frequency; 2) Static methods (load-recovery test, temperatura Constant: determination of gel strength, exponent of relaxation and relax time.
SUBJECT 4. Quality control in packaging. Defects. More common in packaged products.	- Know the methods of recognition of defects. - Know the guidelines of action in the daily practice of the industry.
SUBJECT 5. Practical classes	- Determination of sensory, chemical and microbiological parameters of the quality. - Nutritional composition, presence of additives and contaminants.

Planning

	Class hours	Hours outside the classroom	Total hours
Master Session	32	56	88
Group tutoring	3	2	5
Laboratory practises	25	25	50
Multiple choice tests	2	5	7

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Master Session	Exposition by the teacher of the contents on the subject of study. bases. Theoretical and exercises of projects to be developed by the student.
Group tutoring	Resolution of doubts and queries, both in the individual level and in small group.
Laboratory practises	Determination of sensory, chemical and microbiological parameters of the quality, composition. Nutritional, presence of additives, contaminants

Personalized attention**Methodologies Description**

Group tutoring The student will be guided in the acquisition of basic skills and related problem solving With the subject matter of study. The student's progress will be tracked.

Assessment

	Description	Qualification	Training and Learning Results	
Master Session	Master session Problem solving and case studies will be evaluated. So Like, the autonomous work of him student.	20	B1 B2 B7 B8	C11 C12
Laboratory practises	The performance and results of the Practice memory.	20	B3 B4 B5 B7 B8	C11 C12
Multiple choice tests	Test of test type The theoretical knowledge acquired in this subject will be evaluated, Through a test with test questions.	60	B1 B2 B7 B8	C11 C12

Other comments on the Evaluation**Sources of information****Basic Bibliography**

A. O. A. C., **Official Methods of Analysis (14th edn)**. Association of Official Analytical Chemist, Ariington, USA,
 FAO/DANIDA, **El pescado fresco: su calidad y cambios de calidad**,
 FARBER J., DODOS K., **Principles of modified-atmosphere and sous vide product packaging**., A technopnic Publishing Company Inc,
 HEBARD, D. E., Flick G. J. , Martin R. E., **Occurrence and significance of trimethylamine oxide and its derivates in fish and shellfish. Chemistry and biochemistry of marine food products**, Avi Publishing Co. Conneticut,
 GOULD, **New methods of preservation P.**, Blackie Academic and Professional,
 Jae W. Park, **Surimi and surimi sea food**, 2nd edition,

Complementary Bibliography

BEATTY S. A.; N. E. GIBBONS, **The measurement of spoilage of fish**, J. Fish Res. Bd. Can 3 (1): 79-9 1.,
 BEATTY S.A., **Studies of fish spoilage. I The trimethylamine oxide content of the muscle of fish of Nova Scotia.**, J. Fish Res. Bd. Can. 4 63-68,
 CASTELL, C. H.; B. SMITH Y N. NEAL., **Production of dimethylamine in muscle of several species of gadoid fish during frozen storage, especially in relation to presence of dark muscle**, J. Res. Bd Can., 28 (1): 1-5,
 CASTELL, C. H.; SMITH B. Y DYER, W. J., **Simultaneous measurements of trimethylamine and diniethyiarnine in fish, and their use for estimating quality of frozen storage gadoid fish.**, Fish Res. Bc/. Can., 31: 383-389,
 COLLINS y. K., **Studies of fish spoilage. VIII: Volatile acid of cod muscle pressjuice**, J. Fish. Res. Bd. Can., 5 (3): 197-202,
 DYER W. J., **Ainines ín fish muscle. 1 .Colorimetric determiration of trimethylainine as the picrate salt.**, 1 Fish res. Bd. Can., 6 (5): 351,
 DYER W. J., **Amines in fish Muscle. VI. Trimethyiamine Oxide Content of Fish and Marine Invertebrates**, J. Fish. Res Rd. Can., 8 (5).,
 GILL, T. A.; THOMPSON, J. W., **Rapid, automated analysis of amines in seafood by ion-moderated position I-IPLC.**, 1. Food Sci., 49: 603-606.,

Recommendations