

Fish Smoking

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Fish Smoking

Fish Smoking
An Open Learning Module for the
Seafish Open Learning Project.

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Contents

Page

AUTHORSHIP	iii
Acknowledgements	iii
GENERAL GUIDE	v
INTRODUCTION	xi
Pre-Entry Requirements	xi
Equipment Required	xi
OBJECTIVES	xiii
SEGMENT ONE - FISH SPOILAGE	
Introduction	1
Aims of the Segment	2
Fish Spoilage	2
Limiting Spoilage	5
Summary	8
SEGMENT TWO - PRESERVATIVE ACTION BY SALTING AND SMOKING	
Introduction	9
Aims of the Segment	9
Water Content	10
The Action of Salt	10
The Action of Smoking	11
Summary	16
SEGMENT THREE - RAW MATERIAL SELECTION AND PREPARATION	
Aims of the Segment	17
Raw Material Quality	18
Grading	18
Selecting the right species	21
Preparation of the raw material	24
Summary	30

SEGMENT FOUR - SALTING, BRINING AND SMOKING PROCESSES

Aims of the Segment	31
Dry Salting	32
Brining	32
Brine Solution	34
Brining Time	37
Automatic Briner	38
Hanging and Draining	39
Hot Smoking	43
Cold Smoking	44
Weight Loss	45
Quality Control	46
Processing of Individual Products	48
Summary	56

SEGMENT FIVE - SMOKING KILNS

Introduction	57
Aims of the Segment	57
Mechanical Kilns	58
Smoke Production	62
Traditional Chimney Kilns	65
Making Smoke	68
Summary	71

SEGMENT SIX - PRODUCT HANDLING AND PACKAGING

Introduction	73
Aims of the Segment	73
Spoilage after Smoking	74
Packaging	77
Bulk Packaging	77
Individual Product Packaging	78
Display of Smoked Products	81
Summary	83

RESPONSE TO SELF ASSESSMENT QUESTIONS	85
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Authorship

This module has been compiled and authenticated by the Training Division of the Sea Fish Industry Authority.

Special acknowledgement is given to the following:

Torry Research Station, particularly for the information on the preparation and processing of the individual species.

Afos Ltd, in particular for the information on automatic kilns and briners.

Bill Horner of the Humberside College of Higher Education who provided original material some of which has been adapted for inclusion in the module.

Authorship

This resource has been compiled and authorised by the
Industry Division of the Sea Fish Industry Authority.

Support is provided and is given to the following:

For research studies, particularly for the information on the
status and processing of the individual species.

Also for information for the information on aquaculture and
fisheries.

All those of the Inshore and Offshore College at higher education who
provide or have provided some of which has been subject for
protection in the industry.

A Guide for Open Learners

This will help to explain what open learning is all about. It will help you to make the best use of your open learning module.

WHAT'S SO GOOD ABOUT OPEN LEARNING?

Open learning gives you freedom to choose.

You study:-

- What you like;
- Where you like;
- When you like;
- At a pace to suit you.

You can pick the subjects you want. You don't have to be in a certain classroom at a certain time. You won't be bored because the teaching is too slow, or lost because it's too fast.

You seldom need any qualifications before you are allowed to study.

All this freedom lets you fit your studying into your daily routine.

The best thing about it for most people is that they can study without taking valuable time off work.

Modules are written in a way that allows you to study without help. However, it is expected that you will need assistance from time to time, this can normally be provided.

THINGS YOU SHOULD KNOW ABOUT YOUR MODULES

What is a module?

A module is the name we have given to a study package. It will have a printed text. In a few of them there will be audio or video tapes as well.

Each module will be divided into segments. You could think of each segment as a lesson.

Before you begin

Each module will have a short introduction. You will be given a list of things you will need. For some modules, special equipment will be needed. We can supply most of this. This section will also tell you if you need any knowledge or experience before you begin. Check that you have everything you need.

Objectives

Modules are based on objectives which tell you what you will be able to do when you have finished. These are clearly stated. You should check that the module objectives match your own reasons for studying. You will be told when you have achieved each one of the objectives. In this way you can easily keep track of your own progress.

S.A.Q.'s

This is short for **self assessment questions**. These questions are carefully designed to help you. They let you know how you are getting on. They help you to find out any problems that you may be having with the material and help you to put them right.

Don't be tempted to skip these questions. Don't look at the answers before you try them! You will only be cheating yourself.


Where you are expected to write an answer, a space will be left in the text. Remember the module is your learning tool, not a textbook, so go ahead and write on it. **Don't** try to keep an answer in your head until you have checked it. **Always write down your answer first**. Writing the full answer down is very important, it makes you really think about what you are doing. The wide margins are also there for you to make notes in.

You will notice that the numbers given to the S.A.Q.'s are out of order. We did this on purpose. This is to stop you from accidentally seeing the answer to the second S.A.Q. when you are looking at the response to the first. The responses to the S.A.Q.'s are at the back printed on yellow paper. They are in the correct number order. I have called them responses because they are usually more than just answers. It is a good idea to read the whole response every time. It usually helps to know about common mistakes even though you got the right answer.

S.A.Q.'s are shown by a box with a question mark and the number of the question.

 SAQ1

Important information

Other boxes are used to show different types of information. This box with the  in the top left corner contains important information.



Warnings

This box with the warning sign gives information about possible dangers, health hazards, etc.



Definitions

A box with smaller print is used for definitions and extracts from documents.

smaller print

Other emphasis

Shading like this is used to pick out important sentences and paragraphs.

Bold type is used to make **important words** or **numbers** stand out.

HELP IF YOU GET STUCK

At the time of obtaining your module you will be told of any support which can be arranged.

This might be through one of the following:

- Telephone
- Face to face meeting
- Letter
- Tutor marked assignment

Questionnaire

Some modules will be accompanied by questionnaires. The questionnaire is your chance to help us. Your answers are our way of finding out if any changes are needed. If there is one, please remember to fill it in and return it.

HINTS ON STUDYING

When?

Try to get into a regular study routine. Set aside times for study but be ready to give and take a bit. Miss one of your planned sessions if you must, but try to make it up later.

Set yourself realistic targets such as 'I will finish segments one and two by this weekend' and **stick to them!**

Grab the chance to study at odd moments. You'll be amazed how much you can learn in fifteen minutes. It's difficult for the average person to really concentrate for more than 20 minutes at a time anyway. A word of warning – don't think you can learn anywhere. You need to be able to concentrate, there are often distractions which prevent this.

- Time spent just **reading** a module is not the same as time spent **learning**.
- You must become involved, the best learning happens when you're active, e.g. answering questions and making notes.
- Don't study too long without a break.

This module will remind you of suitable places to stop for a while, but if you need a break earlier, take one. It's entirely up to you.

Where?

Try to find somewhere where you will not be distracted. Almost anywhere will do. It all depends on how you are placed at home and at work. Don't forget your local library. Fishermen might find their local mission is able to help, especially with video equipment.

The secret is, **be flexible**. If the kids are having a party, go to Auntie's. If she's not in, go to the library. All you need is somewhere where you can get on with it and not be disturbed.

Carry your module with you when you can. Try to find gaps in your normal routine when you could do some useful work.

Now that you've decided to have a go, **stick with it!** Don't give up. Most people find studying hard at times, this is quite natural. It is also quite natural to need help with parts that you find especially difficult. I'm sure you'll find it worthwhile.

...not learning

You don't become involved, the best learning happens when you're asked a question and need to think about it.

Don't say you don't know a thing

The mistake we found you in various places to stop for a moment, but it's not a time to stop, take a break, it's a time to

When?

Try to find somewhere where you can sit down. Avoid distractions and be in a room where you can focus on the task at hand. Don't let your phone ring. It's important that your attention is on the task at hand and not on the phone.

The internet is useful, but it's not a good way to learn. It's a good way to find information, but it's not a good way to learn. You need to be able to think for yourself and not just rely on what you see on the internet.

Don't just read what you see on the internet. It's important that you can think for yourself and not just rely on what you see on the internet. You need to be able to think for yourself and not just rely on what you see on the internet.

How do you know what you're learning? It's important that you can think for yourself and not just rely on what you see on the internet. You need to be able to think for yourself and not just rely on what you see on the internet.

Introduction

This module covers the basic principles of fish smoking. It is a useful guide for those who are either working in fish smoking premises or who are considering entering the industry.

The module emphasises smoking for presentation rather than for preservation. Nevertheless the first two segments deal with fish spoilage and the preserving properties of smoke.

The bulk of the module is devoted to the choice of raw material, its preparation, processing and packing.

It deals with the preparation of the more popular fish species and the smoked products obtained from them.

There is also a segment on types of kilns and fire boxes in use in the UK industry.

PRE-ENTRY REQUIREMENTS

No previous knowledge is assumed although experience gained from working in the industry is an advantage.

EQUIPMENT REQUIRED

No special equipment is required. You will need a pen or pencil to complete the Self Assessment Questions which can be answered in the spaces provided.

Introduction

The industry covers the vast majority of fish smoking. It is a highly skilled industry with a long history of excellence in fish smoking. The industry is a highly skilled industry with a long history of excellence in fish smoking.

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THE SEAFISH REQUIREMENTS

The industry is a highly skilled industry with a long history of excellence in fish smoking. The industry is a highly skilled industry with a long history of excellence in fish smoking.

ASSESSMENT QUESTIONS

The industry is a highly skilled industry with a long history of excellence in fish smoking. The industry is a highly skilled industry with a long history of excellence in fish smoking.

Objectives

When you have completed this module you should be able to:

1. State the main causes of fish spoilage.
2. Describe how smoking fish helps to reduce spoilage.
3. Explain the need to choose and correctly prepare, good quality raw material for smoking.
4. Describe salting, brining and hot and cold smoking processes and relate these to individual fish species.
5. State the basic principles of fish smoking kilns including the production of smoke.
6. Explain the sources of spoilage of smoked products and state the advantages of modern packaging methods.

Objectives

After you have completed this module, you should be able to:

1. Explain the main causes of fish mortality.
2. Describe the water quality parameters that affect fish health.
3. Explain the need for disease control in aquaculture and the role of vaccines.
4. Describe the signs and symptoms of disease in fish and the methods of diagnosis.
5. Explain the importance of disease control in aquaculture and the role of vaccines.