

SEA FISH INDUSTRY AUTHORITY
Industrial Development Unit

QUALITY EVALUATION OF FRESH FISH AT RETAIL LEVEL

Technical Report No. 231

December 1983

M. Myers

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SUMMARY

This report presents the findings of a survey of fresh-fish quality and availability at retail outlets conducted during the months of July-August 1983 in the U.K.

The report comments on the average standard of freshness which was found to be low, on regional differences, and on differences in standards achieved by the various types of outlet (e.g. supermarkets, mongers, mobile traders, etc.).

Recommendations are made for continued technical investigation and development with emphasis on implementation for the purpose of quality enhancement, and for improvements in the fields of education and training.

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1 INTRODUCTION

Prior to recent survey by the SFIA little published data has been available on the overall quality of fresh fish reaching the consumer. Much work has previously been undertaken on aspects of quality enhancement in the catching, processing and distribution chain but without a knowledge of the final quality against which the significance of specific practices might be considered. During the months of February/March 1983 the SFIA conducted an initial assessment of quality at retail outlets in the U.K. (Reference 1). Results of that survey were disappointing, with low overall standards of freshness that gave rise to concern for standards during summer months in higher temperatures.

During the months of July/August 1983 a second and more widespread survey was conducted throughout the U.K. (with the exception of Northern Ireland). This report presents the findings of the second retail survey. Within the context of the report quality is defined as the quality of eating. The quality assessment undertaken in these surveys was restricted to the two major species of wet fish available, cod and haddock.

EXPECTATIONS OF FISH QUALITY AT RETAIL OUTLETS

From the moment fish are caught they start to spoil. The rate of spoilage is dependent on temperature; the higher the temperature the faster the spoilage. White fish kept on ice near zero degrees centigrade will remain acceptable for about ten days. During that time the taste of the cooked fish progressively deteriorates from fresh sweet flavours to blandness. Thereafter sour then bitter and later putrid flavours develop. For fish kept at temperatures above that of melting ice the shelf life is significantly less than ten days: for example fish held at 10 deg. C will remain acceptable for only three days.

The quality of fish on offer at retail outlets depends on both its temperature and time history.

Appendix 1 provides an analysis of the age of fish on landing (from capture) by vessel classes at the principal U.K. fishing ports. The average delay between capture and landing is probably about three days with maximum delay in the order of sixteen or seventeen days as shown in Figure 1. If we assume it takes two to three days to reach the retailer the average age of fish, from capture, would be in the order of five or six days. If held at the temperature of melting ice both at sea and on shore fish of this age would have a sweet flavour on consumption.

Deterioration of fish can be assessed organoleptically assigning a value or score to quantify freshness; the commonly accepted method of evaluation being the Torry Taste Panel System which is detailed in Appendix 2. Quality in relation to flavour is scored by trained tasters on a scale of 0 to 10, with a generally accepted lower limit of acceptability of 6. Fish scoring 6 on the scale tastes bland and uninteresting. Below the score of 6 sour flavours are experienced. Previous study has shown (Reference 2) that a high consumer rejection rate results from the serving of fish below a quality score of 6.

There is a correlation between Torry Freshness Score and the number of days fish is held at the temperature of melting ice. Fish held on ice for five or six days would typically score 7.5 or 8. During the winter survey (Reference 1) of fish quality at retail outlets it was found that the average level of fish quality measured on the Torry Freshness Scale was 6.5, although regional differences and differences between types of outlet were marked.

3 RETAIL ASSESSMENT

To assess the freshness quality of fish at retail outlets, unannounced and undisclosed visits were made to shops and purchases were made of fresh cod and haddock fillets. On purchase the samples were stored in a chilled and insulated container, and later assessed for freshness at a mobile laboratory or other base of operation. Over 900 samples were collected from 490 outlets by two teams each consisting of two trained and experienced staff members. An indication of geographic coverage is given in Appendix 3 which lists the areas visited by the teams.

The survey concentrated on the traditional fishmonger, supermarkets and grocer/mongers, although market stalls, mobiles and frier/mongers were included where they were encountered.

Note was made during each visit of the range of species or products on offer and of shop appearance and hygiene. Further note was made of standards of icing, type of display facility and temperature of fish (which is reported on separately in Reference 3). For purpose of analysis species/product range or availability was considered separately for; chilled fish (excluding fresh-water species), smoked fish, shellfish/crustacea and freshwater species.

Returns from the field survey were stored and processed by computer.

4 RESULTS

4.1 Quality results, Tables 1-4, from the quality assessment are analysed with respect to; type of outlet, geographic region, and day of purchase. In each case the average quality score and range of scores is given. Additionally the percentage below a quality score of 6, and the percentage above a score 7.5 is given. The significance of these scores being that 6 is the lower level of acceptability below which sour flavours develop, and 7.5 approximating to the minimum score at which sweet flavours are experienced.

The combined results of freshness quality (all outlets, regions and day of purchase) are given in Table 1A. The average of all quality scores is 6.6 with 20% of the total being below the acceptable limit of 6. Table 1B shows the quality results for the species cod and haddock independently.

Table 2 presents the results of the quality assessment with reference to type of outlet. Fishmongers are defined as traditional mongers whose trade is predominately chilled fish with possibly some trade in game, eggs, dairy or frozen products. Supermarkets are classified as having either the traditional monger type fish bar or those handling controlled-atmosphere-packaged fish (C.A.P.). Market stall outlets are defined as non-permanent outlets often open only one or two days per week on the same site. Stalls of a more permanent nature, often found within a covered market, are classified with mongers. Frier-mongers are defined as retailers whose trade is predominately fish and chips but who also deal in chilled fish.

Table 3 and Table 4 present the results by geographic region and by day of purchase respectively. The regions described in Table 3 are shown in Appendix 4. It should be noted that small discrepancies in the totals of either samples or outlets are the result of a small number of incompletd returns by field staff.

4.2 Availability. The availability of a range of species or products is given in Tables 5 and 6 by outlet and region respectively for chilled species (excluding freshwater), smoked products, shellfish/crustacea, and freshwater species.

TABLE 1A
Overall Quality Results (Cod & Haddock)

Average Quality Score	=	6.6
Range of Scores	=	2.0 - 9.0
Percentage Below 6.0	=	20%
Percentage Above 7.5	=	13%

TABLE 1B
Overall Quality Results - Species

		Cod	Haddock
Average Quality Score	=	6.4	6.7
Range of Scores	=	3.0 - 8.75	2.0 - 9.0
Percentage Below 6.0	=	20%	20%
Percentage Above 7.5	=	8%	17%

TABLE 2
Quality With Reference to Outlet

<u>Outlet</u>	<u>Average Quality Score</u>	<u>Range of Quality Scores</u>	<u>Percentage Below 6</u>	<u>Percentage Above 7.5</u>	<u>Number of Fish Samples</u>	<u>Number of Outlets</u>
Mobile	7.3	6.50-8.00	0	25	12	8
Frier-Monger	6.7	5.00-8.25	11	5	37	20
Market Stall	6.7	5.25-8.00	14	17	36	18
Fishmonger	6.6	3.50-8.75	19	14	572	298
Grocer-Monger	6.5	3.00-9.00	22	13	158	100
Supermarket-Traditional Type	6.5	5.25-8.00	22	6	32	17
Supermarket-C.A.P. Fish	6.1	2.00-8.25	35	5	79	27

TABLE 3 Quality with Reference to Region (All outlets, both species)

Region	Average Quality Score	Range of Quality Scores	Percentage Below 6.0	Percentage Above 7.5	Number of Fish Samples	Number of Outlets
Scotland & Border	7.2	5.00-8.50	7	36	88	47
Tyne Tees & Yorkshire	6.6	4.25-9.00	24	14	271	139
Midlands & Anglia	6.5	2.00-8.00	16	8	154	85
London	6.5	4.00-8.25	19	10	150	78
Wales & Westward	6.4	4.00-7.50	14	0	104	59
Lancashire	6.4	4.00-8.75	37	17	86	45
Southern	6.3	3.75-8.00	23	3	74	35

TABLE 4 Quality with Reference to Day of Purchase (All outlets, both species)

Day of Purchase	Average Quality Score	Range of Quality Scores	Percentage Below 6.0	Percentage Above 7.5	Number of Fish Samples	Number of Outlets
Tuesday	6.5	2.00-8.25	21	9	279	150
Wednesday	6.6	4.00-8.75	17	12	292	156
Thursday	6.5	3.50-9.00	24	14	315	161
Friday	7.1	5.00-8.50	6	29	35	18

TABLE 5

a) Availability of Wet Species - Percentage in Each Category by Outlet

Outlet	No. of Species or Products (12+)	(9-11)	(6-8)	(5 and less)
Supermarket- Traditional Type	23	38	38	0
Market Stall	17	28	39	17
Fishmonger	14	33	34	18
Grocer-Monger	3	6	22	68
Supermarket-C.A.P.	0	9	26	65
Frier-Monger	0	7	21	71
Mobile	0	0	13	88

b) Availability of Smoked Species - Percentage in Each Category by Outlet

Outlet	No. of Species or Products (7+)	(6-5)	(4 and less)
Supermarket- Traditional Type	15	62	23
Fishmonger	9	41	50
Market Stall	6	39	56
Supermarket-C.A.P.	4	0	96
Grocer-Monger	2	11	86
Frier-Monger	0	21	79
Mobile	0	0	100

c) Availability of Shellfish/Crustacea - Percentage in Each Category by Outlet

Outlet	No. of Species or Products (4+)	(1-3)	(None)
Supermarket- Traditional Type	38	62	0
Market Stall	28	28	44
Fishmonger	21	58	21
Grocer Monger	5	43	52
Supermarket-C.A.P.	0	68	32
Mobile	0	50	50
Frier-Monger	0	43	57

d) Availability of Freshwater Species - Percentage by Outlet

Outlet	(1 or more)
Supermarket- Traditional Type	100
Supermarket-C.A.P.	83
Fishmonger	74
Market Stall	56
Mobile	38
Grocer-Monger	40
Frier-Monger	29

TABLE 6

a) Availability of Wet Species - Percentage in Each Category by Region

Region	No. of Species or Products (12+)	(9-11)	(6-8)	(5 and less)
Wales & Westward	17	17	19	47
Southern	16	26	32	26
London	14	35	35	16
Lancashire	9	44	27	20
Midlands & Anglia	9	24	39	28
Tyne Tees and Yorkshire	9	18	25	48
Scotland & Border	4	15	36	45

b) Availability of Smoked Species - Percentage in Each Category by Region

Region	No. of Species or Products (7+)	(5-6)	(4 and less)
Southern	16	32	52
London	11	31	58
Wales & Westward	10	26	64
Midlands & Anglia	6	34	60
Scotland & Border	4	40	55
Tyne Tees and Yorkshire	3	24	73
Lancashire	2	42	56

c) Availability of Shellfish/Crustacea - Percentage in Each Category by Region

Region	No. of Species or Products (4+)	(1-3)	(None)
Southern	32	52	16
London	19	50	31
Midlands & Anglia	18	54	28
Wales & Westward	16	66	19
Tyne Tees and Yorkshire	13	51	36
Scotland & Border	13	38	49
Lancashire	11	61	27

d) Availability of Freshwater Species - Percentage by Region

<u>Region</u>	(1 or more)
London	78
Southern	77
Midlands & Anglia	71
Lancashire	70
Scotland & Border	68
Wales & Westward	64
Tyne Tees and Yorkshire	45

4.3 Appearance and Cleanliness

Each shop visited was graded on a simple scale of 1 to 3 as to standard of appearance (appeal) and of cleanliness. Such grading is subjective and more an appreciation of image than of absolute standard of hygiene or presentation. Nonetheless it is the image that is presented to the customer. The classification 'Good' was given to shops being clean and tidy, well lit, with good displays and having staff of smart appearance. 'Poor' was classified as untidy, unhygienic, poorly displayed (excess drip or fish dumped in piles instead of being laid out), inadequate insect control, staff of scruffy appearance, fish waste on view, etc. 'Average' was a standard between that of 'Good' and 'Poor'. The results of the grading are shown in Table 7.

TABLE 7

Shop Appearance and Cleanliness

Outlet	Good	Average	Poor
Supermarkets C.A.P.	96	4	-
Supermarkets-Traditional	78	22	-
Type			
Market Stalls	41	30	29
Mongers	38	54	8
Frier-Mongers	26	74	-
Grocer-Mongers	17	74	9
Mobile	12	88	-

The percentage of outlets in each category using anti-insect devices is shown in Table 8.

TABLE 8

Outlet	Percentage of Outlets Using Anti-Insect Device
Supermarket-Traditional Type	61%
Mongers	34
Frier-Mongers	26
Grocer-Mongers	20

5 DISCUSSION

The respective numbers of outlets sampled within each category reflects both the prominence of that kind of outlet in the market and the methods of the survey. Traditional fish-mongers and grocer-mongers, who jointly handle a large percentage of chilled-fish sales, were more readily identified from telephone listings for the purpose of planning visits. Mobile traders, market stalls and frier-mongers were included where they were encountered. Consequently the numbers of some outlets, particularly the mobiles are not statistically significant.

The measured overall quality standard of 6.6 on the Torry Freshness Score was not significantly different to that of 6.5 found during the earlier winter survey (Reference 1), and is again regrettably lower than it need or ought to be. The similarity in the averages is surprising considering the high summer temperatures in 1983. If however the suggestion in Table 4, of improved quality on Fridays (possibly also Saturdays?) although based on very small numbers, is correct then the overall measured standard could be possibly slightly understated. The overall failure rate of 20% (less than Torry Score 6) at retail outlet is put into perspective by comparison with the quality of frozen supplies (at a much lower cost) to hospitals and which for 1982/3 was 10% (Reference 4). The bulk of the fresh fish, 67%, was of bland flavour between Torry Scores 6 and 7.5, and only 13% had the sweet flavours associated with higher Torry scores. A survey of frozen food quality carried out in 1982/83 (yet to be published) has indicated an average freshness of 7.5 on the Torry score for frozen fillets. Analysis of the overall quality of Cod and Haddock species individually suggests a slightly higher standard in favour of haddock; possibly a reflection of the shorter trip lengths of Scottish boats that land a high proportion of haddock landings.

Comparison of the quality standards achieved by the various types of outlet (Table No. 2) is not possible with any confidence because of the low numbers of some of the outlets. Of great

concern however is the evidence of the very poor quality of controlled-atmosphere-packaged fish handled by supermarkets, of which 35% had a Torry score of less than 6, with a minimum Torry score of 2.0. This would suggest that either the estimation of shelf-life was over-optimistic or that the temperature control in the subsequent handling and display was inadequate, or possibly both, as all fish were sampled within the stated sell-by date on the pack. Whether or not the problem is technical or educational, it requires immediate attention if the consumer is not to be disappointed with C.A.P. fish and supermarkets start to lose interest in retailing chilled fish. The advantages inherent in C.A.P. packaging of no drip and no taint are obvious, but if the product is no good it will not survive. The concept that date-stamping chilled fresh fish will enable fish to be marketed like canned foods without great care in handling is destined to fail.

The, admittedly few, mobile retailers that were encountered achieved good standards of freshness, consistent with the results of the previous study, contrary to the pre-conceived ideas of some. It is quite possible that a higher sample number would have revealed problems, but the very nature of the active sales technique has benefit compared to the passive nature of shop sales (salesperson to customer rather than customer to salesperson). The sales of mobile traders are therefore less likely to be influenced by bad weather when shoppers might stay at home and prepare some alternative meal. Successful mobile traders get to know their customers and their requirements and can reasonably accurately predict sales so that carry-over on a daily basis is minimised.

Analysis of quality standards on a regional basis (Table 3) suggests that quality suffers the further south one travels, possibly reflecting problems of handling, delay and temperature control in the distribution of fish from the principal U.K. ports in Scotland to the southern markets. Lancashire however was particularly poor with a 37% failure rate, although Southern region had a lower average quality score.

Analysis of quality standards with regard to the day of the week of purchase (Table 4) shows no great difference Tuesday to Thursday but with a marked improvement on Friday (although sample numbers for Friday were far fewer than on other days). If this is so it might be explained by the tendency of the fleet for increased landings towards the end of the week (which itself is, in part, a reflection of shopping and ordering patterns) and for some of this fish to be offered in the shops on Friday.

The greatest variety or range of products/species at retail outlets (Table 5) was found to be offered by traditional-type supermarkets, by fishmongers and market stalls. Only a very limited range was offered by supermarkets handling C.A.P. fish, mobiles and frier-mongers. Analysis of the availability of a variety or range of products/species on a regional basis shows a far greater selection in the south.

The image that a shop presents to a customer in terms of attractive appearance and standards of cleanliness was not found to reflect standards of quality of product. In fact Table 7 shows almost the reverse. Supermarkets that handle C.A.P. fish products which were inferior to most others in terms of quality were rated highly although the mobile operators that set the highest standards of quality were rated poorly.

6 CONCLUSIONS

6.1

The average standard of quality (freshness) of chilled cod and haddock fillets retailed in the U.K. (6.6 Torry Score) is lower than it need or ought to be and significantly lower than the known average standard of frozen fillets (7.5 Torry Score). The bulk of the fresh fish (67%) was of bland flavour between Torry scores 6 and 7.5. 20% of the fish was below the generally accepted minimum Torry score of 6, below which sour and bitter flavours are present, and only 13% had the sweet flavours associated with Torry scores above 7.5

6.2

Surprisingly no significant difference in quality was observed in the results of the summer survey (average 6.6 Torry Score) and the previous winter survey (average 6.5 Torry Score).

6.3

Comparison of average quality standards achieved by the various kinds of retail outlet is not possible with confidence because of the low sample numbers for some outlets. The standard of quality set by supermarkets retailing C.A.P. fish however must be commented on as being particularly poor (average 6.1 Torry Score) and with 35% below the Torry score 6. Mobile traders, consistent with the previous survey, achieved the highest standard of freshness (average 7.3 Torry Score) although sample numbers were again low.

6.4

Notable differences in standards of freshness exist on a regional basis particularly between Scotland and Border regions (7.2 Torry Score) and the other regions of England and Wales (6.3 to 6.6 Torry Score) almost on a north-south scale of reducing freshness and probably resulting from quality losses in the distribution chain.

6.5

Analysis of quality by reference to day of purchase shows no significant difference Tuesday to Thursday (6.5 to 6.6 Torry Score) but a suggestion of improved quality on a Friday (7.1 Torry Score). Sample numbers for purchases on a Friday however were low and Mondays and Saturdays were not covered by the survey.

6.6

The greatest variety or range of products/species available at retail outlets was found to be offered by traditional type supermarkets, by fishmongers and market stalls. Only a very limited range was offered by supermarkets handling C.A.P. fish, mobiles and frier-mongers. On a regional basis far greater selection was generally available in southern regions.

6.7

There would appear, surprisingly, to be little correlation between the image presented by a shop and the quality of its product. Good standards of housekeeping, hygiene, presentation and service are no guarantee of high quality of product. Supermarkets retailing C.A.P. fish for example presented an excellent image associated with a generally poor quality product whereas mobile traders who were considered to present a poor image achieved high standards of quality.

7 RECOMMENDATIONS

7.1

Continued technical investigation and development, with the emphasis on implementation of improved methods of temperature control in the processing, distribution and sale of chilled fish is required to upgrade the generally poor quality standards at retail outlets.

7.2

That producers, distributors and retailers of C.A.P. fish products urgently review their techniques of handling, temperature control and means of predicting shelf-life in an effort to improve the very poor quality of C.A.P. fish. The SFIA has produced a draft code of practice for the production, distribution and retailing C.A.P. fish, and has formed an industrial panel with the objective of finalising that code early in 1984.

7.3

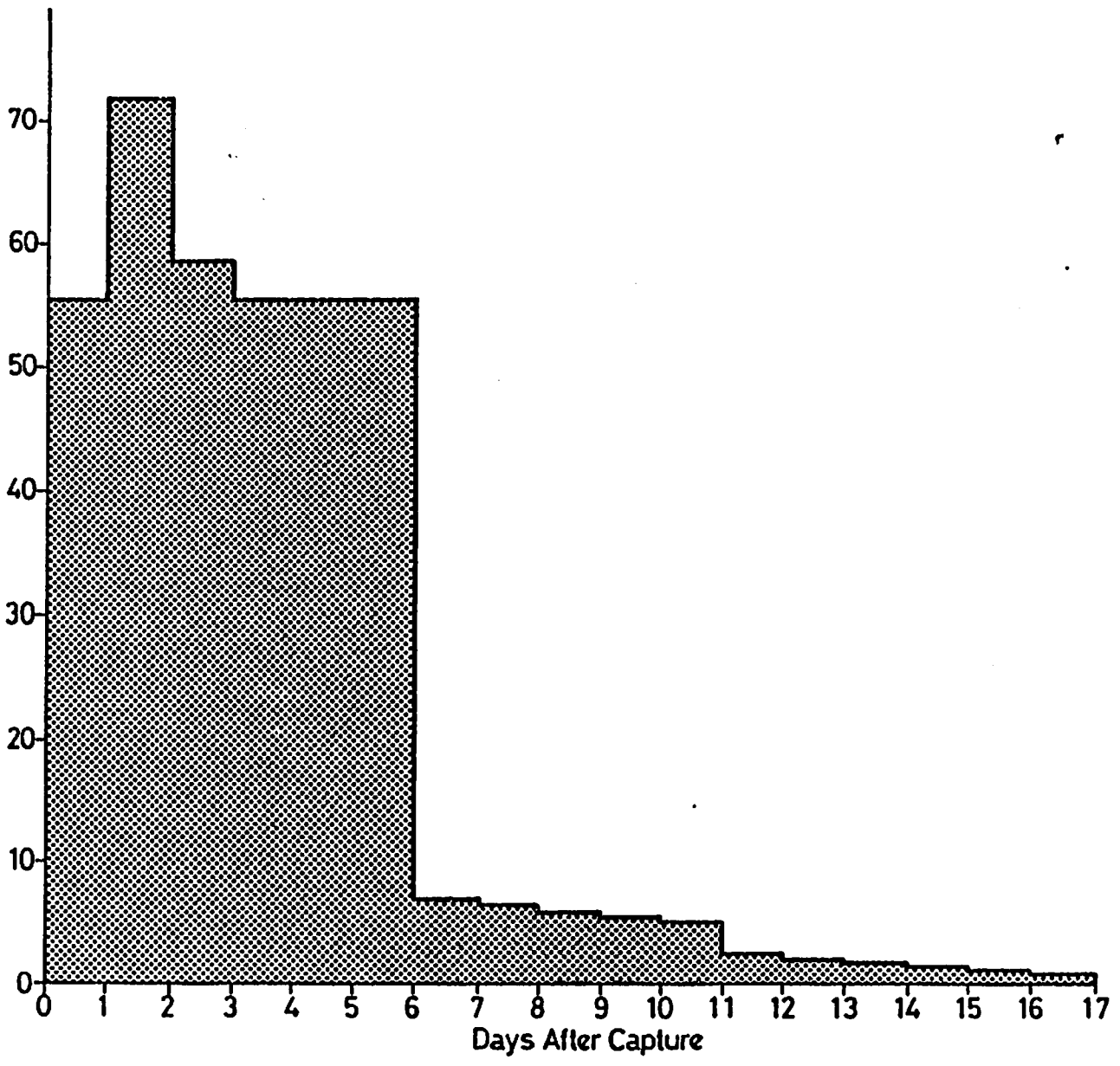
That the Advisory and Inspection Service of the SFIA be extended as soon as possible to cover retail outlets, particularly and most importantly the supermarkets.

7.4

There is an obvious requirement for the SFIA to expand its activities in the fields of codes of practice, education and training to cover processing and retailing. These have already been targeted for action by the SFIA during 1984.

7.5

That monitoring of retail fish quality should continue and be extended to cover other fish species and products e.g. smoked fish.



Annual Landings
'000 tonnes

Days After Capture

Delay Between Capture and Landing for British Iced Demersal Fish Landings
(From 1981 Statistics : Total Landings 357,000 tonnes) Source: SFIA

Fig.1

APPENDIX 1
ANALYSIS OF TRIP LENGTHS AND AGE OF FISH ON LANDING

Port	Type of Fishing	Stowage	Trip Length (Days)	Min/Max Age On Landing (Days)
GRIMSBY	Danish seining	Bulked	13-19	1 -17
	Pair trawling			
	- winter	Blkd or	10-14	2 -12
	- summer	Boxed	4- 6	0.5 - 5
	Gill netting	Shelved	4- 6	1 -4.5
	Middle water Trawlers			
		Blkd	10-18	1.5 -16
PETERHEAD	Fly dragging			
	40ft - 60ft	Box	1- 2	0.5 - 1
	80ft	Box	4- 7	1.5 -5.5
	Pair Trawlers	Box	4- 8	1 - 7
ABERDEEN	Middle Water			
	Trawlers 100ft+	Blkd	10-12	1.5 - 9
	Near Water	Box or		
	Trawlers	Blkd	4- 8	1 - 6
	Fly dragging			
	- large	Box	6- 8	1 - 6
	-small and	Box	1- 4	0.5 - 3
	Inshore trawl			
	Great line	Blkd	12-17	2.5 -12.5
LOWESTOFT	Middle water	Part Box		
	Trawling	Bulk	12-14	2 -12
	Beam Trawlers	Box	2- 8	0.5 - 6
	Small Lines	Box	1- 2	0.5 - 1
BRIDLINGTON	Inshore Trawling	Box	1- 2	0.5 -1.5
SCARBOROUGH + WHITBY	Inshore Trawling	Box	1	0.5
	+ Fly dragging	Box	2- 4 (summer)	0.5 - 3
EYEMOUTH	Inshore Trawling + Fly dragging	Box	1- 4	0.5 -3.5
BUCKIE	Inshore Trawling + Fly dragging	Box	1- 2	0.5 -1.5
KINLOCHBERVIE + LOCHINVER	Inshore Trawling + Fly dragging	Box	1- 2	0.5 -1.5
MILFORD HAVEN	Near Water Trawling	Blkd	3-12	1 -11

APPENDIX 1 CONT'D

Port	Type of Fishing	Stowage	Trip Length (Days)	Min/Max Age on Landing (Days)
FLEETWOOD	Middle Water Trawlers	Blkd	8-12	1 -10
	Near Water Trawlers and Inshore	Box	1- 4	0.5 - 3
NEWLYN BRIXHAM PORTSMOUTH	Beam Trawlers	Box	2- 5	0.5 - 4
Above plus other inshore ports	Inshore gill trammel nets and trawlers	Box	1	0.5
NEWLYN	Great liners	Box	4- 8	1 - 6
NORTH SHIELDS	Fly draggers - large	Box	4-10	0.5 - 8
	- small	Box	1- 2	0.5 - 1
	Inshore trawl	Box	1- 2	0.5 - 1
FRASERBURGH	Inshore trawl and Fly draggers	Box	1- 4	0.5 -3.5
CO. DOWN N.IRELAND	Pelagic (white fish) boats 80ft	Box	2- 3	0.5 - 2
	Demersal Trawl 50ft -60ft	Box	1	0.5

APPENDIX 2

TORRY TASTE PANEL SYSTEM FOR ASSESSING FRESHNESS

PREPARATION OF SAMPLE: Fish to be tested must be steamed in a closed dish over boiling water for 25-35 minutes, depending on size of sample. The dish should remain covered and be kept in a water bath of 60 deg. C during testing.

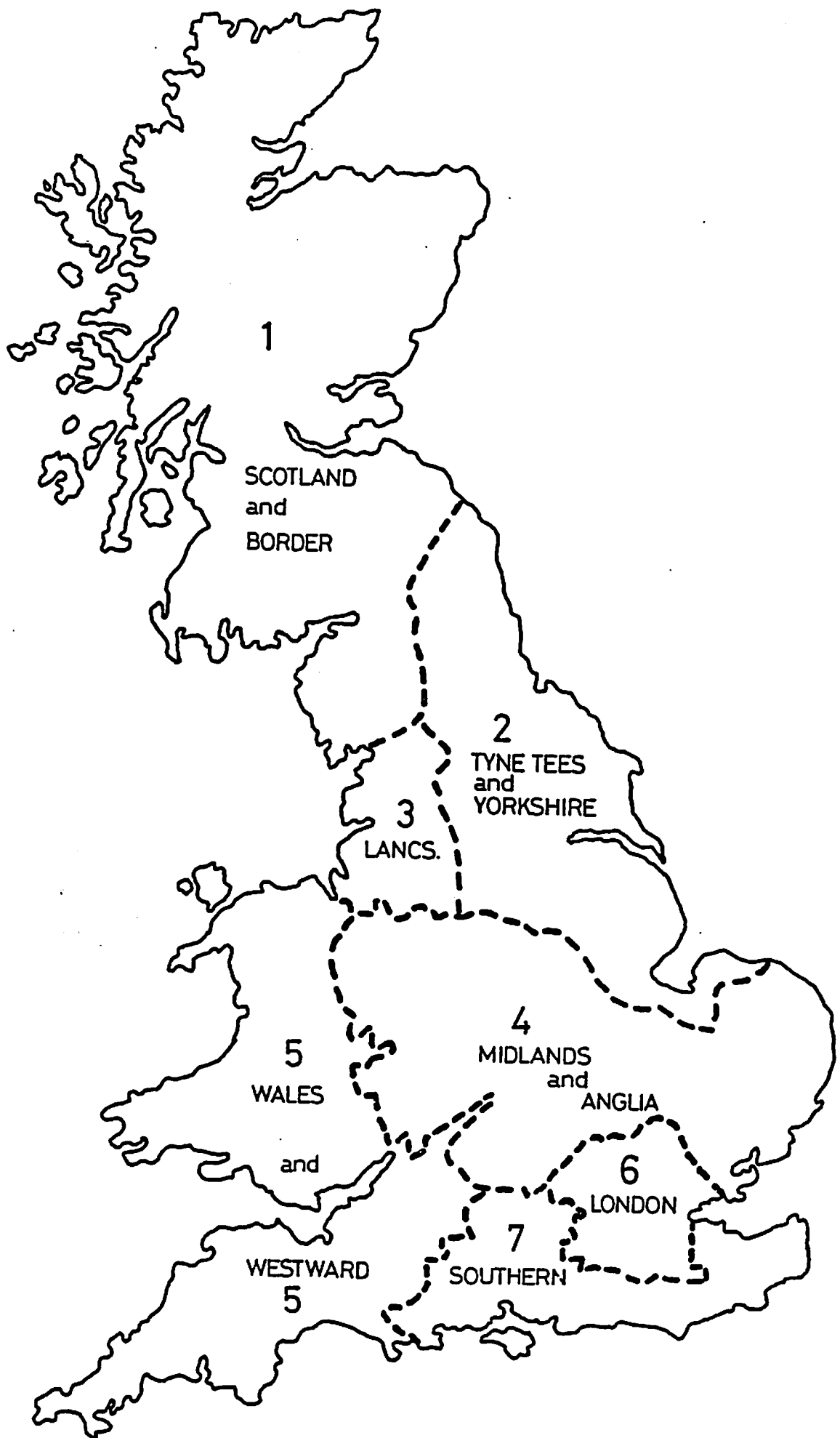
SCORING SYSTEM, COD, HADDOCK

Fresh, sweet flavours characteristic of the species	10
Some loss of sweetness	9
Slight sweetness and loss of the flavour characteristic of the species	8
Neutral flavour, definite loss of flavour but no "off" flavours	7
Absolutely no flavour, as if chewing cotton wool	6
Trace of "off" flavours, some sourness but no bitterness	5
Some "off" flavours and some bitterness	4
Strong bitter flavours, rubber-like flavour, slight sulphide-like flavours	3
Strong bitterness but not nauseating	1
Strong "off" flavours of sulphides, putrid, tasted with difficulty	0-1

APPENDIX 3

TOWNS COVERED BY QUALITY SURVEY

Abertillery	Fareham	Portsmouth
Abingdon	Featherstone	Port Talbot
Altingham	Gateshead	Prestwich
Alvechurch	Glasgow	Reading
Banbury	Gloucester	Redcar
Barnsley	Goldthorpe	Redditch
Barry	Gosport	Redland
Bath	Grimsby	Rochdale
Birmingham	Hartlepool	Romsey (Hants)
Blackwood	Hessle	Rotherham
Bolton	Huddersfield	St. Helens
Boscombe	Hull	Sheffield
Bournemouth	Hungerford	Shipston on Stour
Bradford	Knowle	Southampton
Bristol	Leeds	Southsea
Broadstone	Leicester	South Shields
Bury	Liverpool	Southwick
Cardiff	Llanelli	Stockport
Castleford	London	Sunderland
Chapletown	Maltby	Swansea
Cheedale	Manchester	Swindon
Cheltenham	Middlesborough	Totton
Chipping Norton	Newcastle	Wakefield
Cleethorpes	Newport (Gwent)	Wallingford
Clevedon	North Shields	Wantage
Derby	Nottingham	Warrington
Dewsbury	Oxford	Warwick
Didcot	Paisley	West Bromwich
Doncaster	Parkstone	Weston-S-Mare
Dudley	Penarth	Wickham
Durham	Pocklington	Wimborne
Eastliegh	Pontefract	Woodstock
Edinburgh		York



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