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New Legislation and Official Literature Issued during 1981

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Lists are given of some of the documents of 1981 relating to legislation likely to be encountered in public analysts' laboratories; although far from exhaustive, reference is also made to other literature which may be relevant to public analysts and serves as a reminder of how wide-ranging the analysts' interest in official literature must now be.

The need for this separate summary of the past years' legislation does appear to be receding. Butterworth's Law of Food and Drugs is operating a very rapid updating service, a new and pleasantly chatty updating publication by Monitor Press sprang into being in October 1981 with the name *Food Law Monthly*, and it looks as if its coverage may be sufficiently wide-ranging to take in European Community legislation and scraps of significant legislation from USA. So the fact that the European Food Law Association publications have tended to be rather disappointing, may not matter too much. There was a *Noter up to the Comparative Directory of European Community Legislation as Enacted in the United Kingdom* which updated the Trading Standards basic directory to 30 September 1980, and a looseleaf *Encyclopaedia of Consumer Law* (edited by W. H. Thomas) was advertised by Sweet, Maxwell and Green (Publishers) at £78.

In March 1981 the DHSS made it known that the local authorities would not be involved in the administration of Sections 63, 64, 65 and 85 of the Medicines Act. The Association of County Councils (ACC) publication *Minutes of Executive Council* for April confirmed that the local authorities would not be pressing for local involvement, so the customary outline of changes in such documents as the *British Pharmacopoeia* (BP) may no longer be relevant for the analyst. Nevertheless, the following notes may yet prove useful in the phasing-out period.

Medicines

(1) DHSS letter ref. MF93/8016 dated 28 February 1981 to the ACC, placed power (without duty) of enforcement of Medicines Act Sections 63(b) (adulteration), 64 (nature and quality), 65 (compliance with standards) and 85 (labelling) in the hands of the Pharmaceutical Society. It also reminded local authorities of their duties to enforce Sections 53 and 54 as mentioned in *The Medicines (Sale or Supply) (Miscellaneous Provisions) Regulations, 1980.* The ACC made the contents of the letter known to local authorities in a letter

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dated 6 April 1981 and bearing the two references 3A/B1/CS 18 and ACC/118/81.

(2) Legislation changes. A useful summary of changes was given in *Pharmaceutical Journal* for 31 January 1981 at page 104. The most likely residual items to concern public analysts were the changes in control of large packs of analgesics, which has been relaxed. Thus bottles of 100 aspirin tablets may again be obtained from a pharmacy by unsupervised sale, but quantities of aspirin which may be sold from an unregistered pharmacy are limited to packs of 25 (or 30 if of the effervescent kind).

(3) SI 1981, No. 793. *The Medicines (Exemptions from Restrictions on the Retail Sale or Supply of Veterinary Drugs) (Amendment) Order, 1981.*

(4) *British Pharmacopoeia Addendum, 1981.* This addendum, effective from 1 December 1981, is the first of a proposed series of cumulative addenda to the BP 1980. It includes 72 additions and 327 amendments to the two volumes of the BP 1980. Included in the 35 new monographs are the analgesic and anti-inflammatory preparations, aloxiprin and ketopren, the appetite suppressant, diethylpropion hydrochloride, the expectorant, guaiphenesin, and the vasodilator, isosorbide dinitrate (in a diluted form). New pharmaceutical preparations include diethylamine salicylate cream, used as a counter-irritant, aminobenzoic lotion, used as a sunscreen preparation, and xylometazoline hydrochloride drops, used as a decongestant. The addendum also includes new pharmaceutical aids such as dispersible cellulose, and sodium starch glycollate.

Increased use is made in the addendum of instrumental analytical techniques such as HPLC, for example in the assay of steroid preparations containing fluorocortolone and triaminolone, of infra-red spectroscopy especially for purposes of identification, and of TLC for the determination of traces of substances related to the principal drug, which may be present as impurities. An *Infra Red Reference Spectra 1st Supplement BP 1980* was also published in 1981, and this supplements the *Infra Red Reference Spectra BP 1980* which was published in 1980.

(5) *British National Formulary 1981.* Two editions, *number 1* and an updated edition *number 2*, were published in 1981 jointly by the British Medical Association and the Pharmaceutical Society; these editions are essentially guides for prescribers, but they also contain some useful pharmacological information. It is intended that two updated editions shall be published each year.

(6) *British Approved Names 1981*, British Pharmacopoeia Commission. This edition, published on the recommendation of the Medicines Committee, became effective from 1 October 1981. (ISBN 011 320729 8.)

(7) *Pharmaceutical Codex*, 11th edition. A list of amendments and corrigenda, to February 1981, was published in August 1981 and distributed in October 1981. Most of the items included are only minor alterations or corrections, but an amended infra-red spectrum for the anabolic steroid nandrolone phenylpropionate is of importance for identification purposes.

(8) *European Pharmacopoeia.* Two new fascicules of the *European Pharmacopoeia*, 2nd Edition, Part II, were published in 1981. The second fascicule

contained 29 revisions and 17 new monographs. The third fascicule contained eight revisions and 14 new monographs.

(9) *BP Infra Red Reference Spectra—First Supplement.*

Some analysts will have encountered the confusion which exists with regard to preparations sold from "sex shops". Under former legislation, such preparations could be controlled whenever they contained substances listed in the Poisons List, but a new division of authority, namely between the Home Office, which enforces the Poisons Act, and the DHSS, which enforces the Medicines Act, has meant that many such substances slip between the legislation and turn out to be materials permitted in cosmetics. There is a West Indian demand for yohimbine, but perhaps the only control is that its preparations should be labelled in English. In time, the DHSS power to issue licences may remove ineffective materials from sex shop "physiological action" preparations.

The MAFF Information Bulletins 1981

As with most present-day publications the useful *Information Bulletins* tend to run a little behind their declared publication dates. The following issues were received in 1981.

Bulletin number	Topic
53	Method of analysis for cocoa and chocolate products (EEC draft proposals).
54	Methods of sampling for preserved milk products (EEC draft Directive).
55	Results of collaborative trials on the determination of nitrate and nitrite in solution.
56	Results of a collaborative trial on the determination of soya in meat products.
57	Setting up a collaborative trial on dietary fibre (with method of analysis). Methods of analysis, etc., to be used in collaborative trial on metals in milk powder (copper, iron and lead).
58	Confidential results of a collaborative trial on sorbic acid in soft drink, table-spread, and wine.
59	"Simple" method of analysis for dietary fibre. Apparatus illustration omitted from Bulletin 57.
60	Confidential results of a collaborative trial on specific sugars in chocolate.

CHAIS Bulletins (ISSN 0141–5182)

Issue number	Contents
15	Dichlorophen in cosmetic products. Nitromethane in aerosol cosmetic products. Nitrosamine content of babies' dummies, etc.
16	Formaldehyde and hexachlorophene limits in certain approved cosmetics preservatives. Permitted sunscreen agents in cosmetic products. Modified method for boric acid in some cosmetic products. Discussion on toxic metals release from paints.
17	Hexachlorophene in cosmetic products. The determination of fluoride on toothpaste. Draft Toys and Dolls (Safety) Regulations.
18	Chlorates in cosmetics. Organomercurial compounds in cosmetics. Release of phenol from PVC water-wings containing organic phosphite stabiliser.

The Consumer Safety Bulletins

(Issued by the Consumer Safety Unit of the Department of Trade.)

Six issues, numbers 31 to 36, were received in public analysts' laboratories during 1981.

MAFF Press Notices, etc.

One of the problems of bureaucratic economising is that the economies effected in one department so often increase the work of others. The final balance sheet must often ultimately be little changed. Whereas the Ministry of Agriculture Fisheries and Food once selected the Press Notices it sent to laboratories on some obscure basis of usefulness (often causing exasperation by omitting vital ones), they currently appear to incur postal outlay in circulating the laboratories with every notice which includes the word "food". No fewer than 89 of these leaflets ended up in laboratories in 1981, most seeming to advertise the utterances of the Rt Hon. Peter Walker MP. The year started with his thoughts about the British breakfast (Press Notice No. 4) and ended with his excuses for increasing the prices of milk (Press Notice No. 410). The notices which were most helpful among these are shown in the following list.

Notice number	Topic
13	Announced the setting up of a new joint consultative organisation for research and development in agriculture and food.
15	Announced the appointment of Dr Peter Bunyan as the new head of the MAFF Food Science Division (following the retirement of Mr Arthur Hubbard).
57	Invited comment on shortcomings in the *Meat (Sterilization) Regulations, 1969*.
72	Announced proposals for new regulations on the composition and labelling of preserves, to implement EC Directive 79/693/EEC.
143	Announced that Mr Jerry Wiggin MP had launched British Food Week in Preston. (This was the only indication that the local laboratory ever saw that such a function had happened!)
145	Announced the publication of the Food Standards Committee Report on Infant Formulae (Artificial Feeds for the Young Infant).
155	Announced the introduction of *Diseases of Animals (Protein Processing) Order, 1981* and the *Importation of Processed Animal Protein Order, 1981* which provided for the taking of samples for examination for the presence of *Salmonella* bacteria in protein foods intended for livestock and poultry.
180	Announced proposals for further relaxations of the *Skimmed Milk with Non-milk Fat Regulations, 1960* (as amended).
209	Announced the publication of the Fifth Report of the Steering Group in Food Surveillance, Paper No. 5, *Survey of Copper and Zinc in Food.*
217	Announced proposals for amendments to the *Coffee and Coffee Products Regulations, 1978* and to the *Specified Sugar Products Regulations, 1976* to implement EEC Directives on methods of analysis.
231	Announced proposals for new Meat Product Regulations (to reduce the number of compositional standards for meat products from 52 to seven).
232	Announced the Deputy Secretary of the Ministry of Agriculture, Fisheries and Foods approval of an electro-optical method of in-line assessment of meat content of meat products.
244	Made public a new agreement under which school milk receives an additional subsidy from EEC funds.
259	Announced new *Jam and Similar Products Regulations, 1981.*
266	Announced proposals for amendments to food additive regulations which would alter intakes of nitrates and nitrites, proposed changes in the uses of glutamate flavour enhancers and provided for use of the bulking aids, alpha cellulose and polydextrose in "slimming foods".

Note number	Topic
267	Announced further relaxations of the *Skimmed Milk with Non-milk Fat Regulations, 1960* (as amended).
277	Announced that the MAFF publications centre had moved from Pinner to Alnwick, Northumberland NE66 2PF.
278	Announced the re-introduction of a slaughter policy for dealing with Newcastle disease in poultry.
283	Announced three re-appointments to the Food Standards Committee.
287	Described a catechol test for assessing damage to potatoes.
301	Announced proposals for regulations to amend the *Erucic Acid in Food Regulations*.
303	Announced the publication of a Food Standards Committee Report on *Margarine and Other Table-spreads*.
306	Announced proposals for regulations to control slimming and other nutritional claims.
324	Announced proposals to amend the *Condensed Milk and Dried Milk Regulations*.
334	Announced proposals for regulations for flavoured milk and to re-introduce controls on imported cream.
361	Named the members of the Food Additives and Contaminants Committee.
362	Referred to codes of practice for the packaging industry.
393	Referred to the new telephone numbers for making press enquiries. The main switch-board will be 01-233 3000.
399	Announced the publication of MAAF reference book 356 *Report on Research and Development 1980–81* (ISBN 011 241222X).
432	Announced the re-appointment of Professor R. F. Curtis as Chairman of the Food Standards Committee.

Legislative Documents

The most comprehensive checklists of EEC legislation for 1981 are in *British Business* for 9 January, 10 April, and 6 November, the food law harmonisation lists being on pages 71, 709 and 448 respectively in those issues.

The European Food Law Association *Newsletter*, 1980, volume 5, contains a good summary, but, as the date shows, it tends to lag a little behind some of the other present summaries. One such would be the European Information Service of the International Union of Local Authorities Council of European Municipalities.

Actual *Official Journal of the European Communities* references which reached this office in 1981 were the following:

Date	Page	Subject
11 December 1980	L 333/2	Fixing the 1981/2 guideline figure for the fat of imported standardised whole milk at 3·82 per cent. for the UK.
13 December 1980	L 336/42	Changing the dates of authorisation for inclusion of lincomycin, dimetridazole and ronidazol in animal feeds.
18 December 1980	L 343/35	Amended Directive 70/524/EEC with regard to antibiotics, emulsifiers, preservatives, etc., in animal feeds.
19 December 1980	L 344/15	Added synonyms to be used for certain Greek wines when exported to other member states.
31 December 1980	L 383/27	Sampling procedures for certain cosmetic products and methods of analysis for contents of NaOH, KOH, oxalic acid, zinc and phenolsulphonic acid, and a method for chloroform in toothpaste.
14 February 1981	L 43/11	Referred to use of carrageenan gum and gum arabic as dilutants for colouring matters.
17 February 1981	L 44/1	Referred to quotas for isoglucose.
19 February 1981	L 46/33	Amendments to Directive 76/895/EEC (which deals with maximum levels for pesticide residues on fruit and vegetables) with reference to dimethoate and omethoate.
1 April 1981	L 86/1	Extended the 1980/81 milk year.

Date	Page	Subject
24 April 1981	L 112/15	Measures to improve milk quality in Ireland and Italy.
23 May 1981	L 136/11	Fixed a minimum of 45 per cent. fat for certain cheeses.
18 May 1981	L 131/1	Changed Directive 70/524/EEC with regard to permitted carotenoid pigments, etc., permitted in poultry and pet food and added a new coccidiostat. The list of permitted emulsifiers, etc., was replaced.
22 June 1981	C 153/15	Answer to a written question and confirming that the "Cassis de Dijon" decision applies to all products and not solely to alcoholic drinks.
7 August 1981	L 222/32	Directive 81/602/EEC prohibiting administration of hormones or thyrostatic substances to meat animals except in certain circumstances of therapeutic treatment.
15 August 1981	L 231/30	Amending virginiamycin use for piglets and calves.
29 August 1981	L 246/32	Amending sampling procedures and methods of analysis for the official control of animal feeding stuffs.
15 October 1981	L 296/52	Corrections to Directive 80/181/EEC (as given in *O.J.* 15 February 1980, page L39) on SI units.

Other European, etc., Documents

(1) Proposal for a Council Directive (ref. Article 6 of Directive 64/433/EEC) (*O.J.* 29 July 1964) intended to limit residues of antibiotics in meat for human consumption (Article 13 which should give the method of analysis was omitted).

(2) COM(81)247 final. Three proposals for amending wine regulations (permitting an extension to distillation of low-alcohol wines, specifying strengths of concentrated grape musts in terms of refractometer readings and specifying phenol limits, adjusting provisions relating to the raw materials used in "British wines" and re-defining "sparkling wines".

(3) Commission of the European Communities Report of the Scientific Committee for Food on *Guidelines for the Safety Assessment of Food Additives, 1980* (EUR 6892).

(4) Council of European Communities Press Release 65 (18/19 May 1981) "Meeting of Council Foreign Affairs" *Second Consumer Protection and Information Programme.*

(5) Council of Europe: Legal Affairs. *The legal protection of the collective interests of consumers by consumer agencies.* Recommendation No. R(81)2 (with Explanatory Memorandum).

(6) ECE/AGRI/53. Standards for fresh fruit and vegetables recommended by the working party on standardisation of perishable produce of the Economic Commission for Europe.

(7) Food and Agricultural Legislation. December 1979 (Vol. XXVIII No. 2).

(8) Food and Agricultural Organisations *Codex Alimentarius* CAC/RCP 16–1978 *Recommended International Code of Practice for Frozen Fish.*

(9) Food and Agricultural Organisation *Codex Alimentarius* LAC/REP 19–1979 *Recommended International General Standard for Irradiated Foods.*

(10) Food and Agriculture Organisation *Codex Alimentarius* LAC/RCP 21–1979 *Recommended International Code of Hygienic Practice for Food for Infants and Children.*

(11) Organisation for Economic Co-operation and Development *Food Policy.*

(12) The EEC biotechnology programme known as FAST (Forecasting and Assessment in Science and Technology) announced that the 12 projects it had so far commissioned would be completed in 1982.

Milk

Circular FSH 2/81 (dated 30 April 1981) of the MAAF. The "guideline figure" for fat content of imported standardised whole milk from 6 April 1981 was fixed at 3·82 per cent.

British Standard BS 3095 Part 3: 1981, Determination of the freezing point depression of milk: Part 3, Storage of samples. (See also the article on the three parts of this standard in *BSI News*, March 1981, p. 15). The APA standards and Methods Committee had, in a letter dated 11 March 1981, expressed reluctance to accept the more indulgent values that the BSI had put forward as appropriate for "genuine" milk, but we have entered an era when statistics take over in food law, and the APA's own records show that, in a wide view, some account needs to be taken of the occurrence of "outliers". The British Standard does, in any case, leave scope for fitting individual decisions to the circumstances which are actually found to apply.

Ministry letters: on colour requirements with regard to milk bottle labelling. (a) 15 April 1981. Semi-skimmed pasteurised homogenised milk in glass bottles. The amendment of the *Milk and Dairies* (*Milk Bottle Caps*) (*Colour*) *Regulations, 1976* to embrace the occasional use of caps striped with the appropriate colours is under consideration. (b) 15 October 1981. There is no relationship between the requirements of the *Milk and Dairies* (*Milk Bottle Cap*) (*Colour*) *Regulations, 1976* and *The Milk* (*Special Designation*) (*Amendment*) *No. 2 Regulations, 1980*, so that the apparent limitation on the colours detailed in the former regulations, for markings on bottles, will not apply to the requirements of the latter regulations for such new words as "raw unpasteurised milk" (which may therefore be in any colour). Other wording is permitted (subject to the provisions of Sections 6 and 36 of the *Food and Drugs Act 1955*). This implies that further decisions need not be awaited about the labelling of Sainsbury's "Vitapint" for example, which is a *food* consisting of milk, skimmed milk powder and added vitamins, and yet has been presented as "*new fresh milk*".

House of Commons, First Special Report from the Agricultural Committee on Implications of the CAP on Milk and Dairy Products (ISBN 010 231781X). This report announced a decision not to implement an independent enquiry into UK milk distribution and costs at the present time.

ACC Minutes of Executive Council, 29 April 1981. Consumer Services Committee Minute 11, Antibiotic Residues in Milk. The MMB had increased penalties and had increased sampling with respect to antibiotic residues in milk. Local authorities may be advised on the maximum level of residue which may be regarded as safe.

Food

Perhaps the most important single food item of 1981 was the opinion expressed by Mr John Bamford of MAFF at an OYES Food Seminar, that the

"Cassis de Dijon" case would change the shape of future food law. He expected compositional standards to give way to a form of labelling which was concerned mainly with distinguishing a product from all things resembling it. A *European Communities Commission Background Report* (ISEC/B64/80, issued from 20 Kensington Palace Gardens, London W8) had already said that the case had eliminated the spectre of a need for special "Euro-products".

The next most important document was therefore *Notes for Guidance on the Food Labelling Regulations, 1980* which was produced after a working group had circulated statements in April (ref. NFG/GEN/1), in May (ref. NFG/REC/1), and in June (ref. NFG/REC/2) about areas of ambiguity in the new labelling regulations. It cleared up certain misgivings, particularly about the possibility of a "fancy name" becoming the "customary name" of a food. A copy of the MAFF leaflet *Current Topics* for 5 January 1981 gave a good indication of what the new labelling regulations were intended to achieve, while an article on page 41 of *Food Manufacture* for December 1981 outlined both intent and some criticisms.

An extremely useful summary of legislation governing the labelling, advertising and composition of food was made available by MAFF in February 1981 under the reference number FS 7199.

New Regulations

The Jam and Similar Products Regulations, 1981 (SI 1981, No. 1063). The regulations bring UK jams, etc., into line with European commodities, and therefore provide for higher fruit contents in "extra jam" and "extra jelly", and reduce the requirements for "soluble solids" by refractometer, make standards for chestnut purée and reduced sugar jams, include standards for fruit curds and mincemeat, provide for undeclared use of certain ingredients including preservatives and modify the *Preservatives in Food Regulations, 1979.*

The Skimmed Milk with Non-milk Fat (Amendment) Regulations, 1981 (SI 1981, No. 1174). Provide for further exemptions to the requirements detailed in SI 1960, No. 2331.

The following food regulations contain no compositional standards but may need to be noted:

The Fresh Meat Export (Hygiene and Inspection) Regulations, 1981. Includes definitions of terms such as "viscera" and details the markings which may be found on meat.

The International Carriage of Perishable Foodstuffs (Amendment) Regulations, 1981 (SI 1981, No. 521).

The Aerated Water Regulations (Metrication) Regulations, 1981 (SI 1981, No. 686). Give the maximum pressures in soda syphons in pounds per square inch and in bars.

The Butter and Concentrated Butter Prices (No. 2) Order, 1981 (SI 1981, No. 1019). Defines "butter" and "concentrated butter" and makes some price increases.

The Imported Food (Amendment) Regulations, 1981 (SI 1981, No. 1085). Control the importation of poultry meat.

The Poultry Meat (Hygiene) (Amendment) Regulations, 1981 (SI 1981, No. 1168). Delay the ending of exemptions to provisions relating to slaughter and evisceration of poultry.

The following proposals for regulations were circulated:

(1) *Proposed Amendments to Annex 1 to the Agreement on the International Carriage of Perishable Foodstuffs (Cmnd 8342).*

(2) Proposals for new regulations on the composition and labelling of preserves.

(3) Proposals for amendments to the Coffee and Coffee-products Regulations.

(4) Proposals for new Meat Product Regulations.

(5) Proposals for amendments to Food Additive regulations.

(6) Proposals for amendments to the Erucic Acid in Food Regulations.

(7) Proposals for amendment to the Food Labelling Regulations to deal with nutritional (and other) claims. (The publication of a new impression of MAFF Reference Book 342 at about the same time, *Manual of Nutrition* (complete with a correction slip which removed recommended intakes of folic acid) tended to emphasise that nothing much is yet known about nutrition (so perhaps no special claims should be permitted until the necessary scientific work has been done).

(8) Proposals to amend the Condensed Milk and Dried Milk Regulations.

(9) Proposals for regulations for the manufacture and sale of cream and flavoured milk.

(10) Proposals to amend the Specified Sugar Products Regulations (to incorporate EEC-specified methods of analysis).

Other food documentation to note would include the following:

The Food and Drugs (Amendment) Act, 1981. Provided for the preparation of food for sale by non-profit premises such as those preparing Women's Institute market foods.

MAFF invitation to comment on use of celluloses in bread (ref. ADF 383).

MAFF letter of explanation (ref. ADF 402) that the flavour enhancer "Seimilacton" is currently acceptable as a flavour and will probably continue in that category even after the *Miscellaneous Additives in Food Regulations 1980* have been amended (as recommended in FAC/REP/28) to include flavour enhancers.

DHSS letter of 24 August 1981 releasing A10 cans of sliced mushrooms on which a food hazard warning had been issued 6 weeks earlier. They were released subject to their use after further cooking.

APA News Sheet. Gave information that canned meats bearing date codes between 323 and 333 were being withdrawn on suspicion of possible inclusion of horsemeat.

Report of the Meat Legislation Review Group of the Institution of Environmental Health Officers on *Changes Needed in Current Legislation to Deal with the Illegal Trade in Unfit Meat for Human Consumption.*

Ingredient and Machinery Survey (Food Manufacture 1981).

Guidance notes on miscellaneous legal points:

MAFF letter confirming a subsequent *Notes for Guidance on the Food Labelling Regulations* recommendation (ref. FS 7288) that foreign names on food labels are only acceptable if they are easily understood in the country where the foods are sold.

The Grocer, 21 March 1981 (p. 5). Sugarless jam *is* jam, Crown Court rules.

The Grocer, 21 March 1981 (p. 6). Technicality stops the ham case and the questions remain unanswered.

The Grocer, 24 October 1981 (p. 10) (letter). Ham producers openly robbing the consumer.

The Pharmaceutical Journal, 20 June 1981 (p. 642). Another hormone ban proposal fails.

Report of the Group of Experts (WG12) on the detection of oestrogens, to the 11th meeting of ISO/TC34/SC6 in London (June 1980). The conclusion was that no currently acceptable analytical method is available, so a delay of 6–8 months was proposed before making a further attempt to draft proposals.

Appeal Case Reports. Justice of the Peace, 22 August 1981, p. 501; ref. *Coldup v John Manson Ltd* (expert opinion that minced beef should contain less than 25 per cent. fat should receive less consideration than whether the purchaser was satisfied; 33 per cent. fat was therefore considered "legal") and ref. *Harper v Wade* (food sold beyond "sell by" dates may still be expected by a customer to be "fresh" enough for normal use, so sale of food beyond its "sell by" date may automatically involve an offence; sale of food which had deteriorated before its "sell by" date would also constitute an offence).

The Pharmaceutical Journal, 28th November 1981 (p. 653). Medicines Act appeal allowed because analyst's report was hearsay evidence.

Chemistry in Britain, November 1981 (p. 502). Toxicology. Spanish oil poisoning. Middlesex Hospital, London, to investigate the toxic effect of 'oleoanilide', and hoping for results in 6 months.

MAFF "Food Facts". The issues sent seem to deal with household food expenditure. Those for 26 January 1981, 30 March 1981, 14 September 1981, and 23 November 1981 dealt respectively with the third quarter of 1980, the fourth quarter of 1980, the first quarter of 1981 and the second quarter of 1981. They appear to show a slow increase in expenditure, corresponding, however, with a small decline in food purchased, because of inflation.

Food Reports, etc.

The following list of reports on food topics is given in the order in which they were received.

(1) DHSS Report on Health and Social Subjects, No. 18. *Artificial Feeds for the Young Infant, 1980.*

(2) DHSS Report on Health and Social Subjects, No. 19. *Rickets and osteomalacia* (Working Party on "Fortification of Food with Vitamin D") (1980).

(3) DHSS Report on Health and Social Subjects No. 20. *Present Day Practice in Infant Feeding, 1980.*

(4) Joint FAO/WHO Expert Committee report on *Evaluation of Certain Food Additives* (24th Report). Technical Report Series No. 653.

(5) Scottish Home and Health Department *Memorandum on the Hygienic Control of Ice Cream, 1980* (1981).

(6) FAO Food and Nutrition Paper No. 17. *Specifications for Identity and Purity of Sweetening Agents, Emulsifying Agents, Flavouring Agents and Other Food Additives.*

(7) DHSS Report on Health and Social Subjects No. 23. *Nutritional Aspects of Bread and Flour (1981).*

(8) *How the British Code of Advertising Practice Affects Advertising for Slimming Products* (Advertising Standards Authority).

(9) National Pharmaceutical Association *Diabetic Products* (SJB/JD 4/81).

Note: These two publications (8) and (9) combined to illustrate a weakness in the present system of control. Page 5 of *Diabetic Products* warns sufferers from diabetes against use of low carbohydrate but high alcohol lager beers, yet in the list which follows, the compiler had not appreciated the difference between "alcohol by volume" and "proof spirit". So, low carbohydrate–high alcohol beers were included in the list. The Advertising Standards Authority Limited, which had endorsed the "low carbohydrate" claim for such beers, said that it had no power to deal with the "suitable for diabetics" claims on *labels*, and because this was a case of tackling an industry as powerful as the brewing industry, it appeared that nobody else was able to deal with it either. The APA is still working on this.

(10) *Cider and Perry Made in the United Kingdom* (HM Customs and Excise. E2–8A(H). Notice No. 163, April 1980). Cider and perry are defined as having an alcoholic strength of less than 8·7 per cent. v/v at 20°C. Cider or perry of greater strength is liable to the rates of duty applicable to "made wine". Cider made in small quantities is not liable for payment of duty.

(11) *Beer. Misdescription, Adulteration, Dilution, etc.* (HM Customs and Excise. E.2–2. Notice No. 22A, August 1980.)

(12) *The Canning of Low-acid Foods* (*A Guide to Good Manufacturing Practice*) DHSS, MAFF, Scottish HHD, Dept of H&SS, Northern Ireland and Welsh Office Food Hygiene Code of Practice No. 10.

(13) Joint FAO/IAEA/WHO Expert Committee report on *Wholesomeness of Irradiated Food.* Technical Report Series No. 659.

(14) MAFF. Fifth Report of the Steering Group on Food Surveillance Working Party on the Monitoring of Foodstuffs for Heavy Metals *Survey of Copper and Zinc in food.*

(15) MAFF Food Standards Committee Report on Infant Formulae (*Artificial Feeds for the Young Infant*) *1981* (FSC/REP/73).

(16) MAFF Food Standards Committee Report on *Margarine and Other Table Spreads* (FSC/REP/74).

(17) MAFF Reference Book 356, *Report on Research and Development 1980–81.*

Control of Pollution

(1) Environmental lead: a response from government (by Dr L. Facer, Senior MO to DHSS) (in *Health Trends*, 1981, Vol. 13). The one-page article summarises the findings and recommendations of the DHSS Report on *Lead in the Environment* (Lawther Report) 1980 and referred to the local environmental health authorities' role in monitoring for sources of environmental lead.

(2) ACC Minutes of Executive Council, 5 August 1981, p. 82. *Lead Pollution (23/1).* Responded to DOE proposed establishment of a Steering Committee to produce a circular of advice on aspects of lead pollution, with a resolution that local authority officers contribute to the preparation of the circular.

(3) *Public Health. The Motor Fuel (Lead Content of Petrol) Regulations, 1981* (SI 1981, No. 1523). Reduce the lead content of petrol from the present 0·4 gram per litre to 0·15 gram per litre on and after 31 December 1985. The method of test is prescribed as the iodine monochloride method of BS 5657: 1978.

(4) *Further Review of the Safety for Use in the UK of the Herbicide 2,3,5-T* (Advisory Committee on Pesticides report dated December 1980). Reaffirms that 2,4,5-T is safe to use.

Water

The Water Act, 1981 (consists mainly of provisions for charges).

Methods for the examination of waters and associated materials:

International Standard Book Number	Title
0 11 751491 8	*General Principles of Sampling and Accuracy of Results, 1980*
0 11 751493 4	*Chemical Disinfecting Agents in Water and Effluents, and Chlorine Demand 1980*
0 11 751528 0	*Chromium in Raw and Potable Waters and Sewage Effluents*
0 11 751529 9	*A Survey of Multi-element and Related Methods of Analysis for Waters, Sediments and Other Materials of Interest to the Water Industry 1980*
0 11 751741 8	*Zinc in Potable Waters by AA Spectrophotometry 1980*
0 11 751542 6	*Copper in Potable Waters by Atomic Absorption Spectrophotometry 1980*
0 11 751543 4	*Bromide in Waters. High Level Titrimetric Method 1981*
0 11 751544 2	*Chloro and Bromo Trihalogenated Methanes in Water, 1980*
0 11 751545 0	*Dissolved Potassium in Raw and Potable Waters. Tentative Methods 1980*
0 11 751546 9	*Dissolved Sodium in Raw and Potable Waters. Tentative Methods 1980*

Institute of Geological Sciences Report 80/5 *Methods for the Chemical Analysis of Groundwater 1980* (ISBN 0 11 884183 1) Natural Environmental Research Council.

DOE Standing Technical Advisory Committee on Water Quality, Subcommittee on the Treatment of Water of Swimming Pools. *Swimming Pool Disinfection Systems Using Sodium Hypochlorite and Calcium Hypochlorite: A Survey of the Efficacy of Disinfection* (ISBN 0 11 751550 7).

DHSS letter (ref. FLU/3/5), 8 May 1981, changed the operational readings for individual determinations of fluorine in water to 1·0 $\pm$ 0·2 p.p.m. for

90 per cent. of readings with the maximum for a single reading of 1·5 p.p.m. (the average for a calendar month remains at 1·0 ± 0·1 p.p.m.).

DOE letter of 3 November 1981 on implementation of Council Directive 76/160/EEC on the quality of bathing water. (No diagnostic single tests available. Monitoring by repeated examinations for coliforms and thermotolerant coliforms, carried out by the water authorities.)

North West Water letter of 13 November 1981 confirming DOE letter. "Eurobeaches" tested by enumeration of faceal indicator bacteria by recommended standard techniques including membrane filtration techniques. Water authorities have been declared the national competent bodies for implementing the UK interpretation of Directive 76/160/EEC. "One off" samples are of little or no value. The MRC (1959) *Sewage Contamination of Bathing Beaches in England and Wales* and HMSO Memorandum 37 *Sewage Contamination of Coastal Bathing Waters in England and Wales* concluded that only grossly contaminated beaches hold any health risk.

Agriculture

The most important Agriculture publication is MAFF *The Analysis of Agricultural Materials* RB 427 (replacing Technical Bulletin 27) (ISBN 0 11 280352 2).

The range of determinations tends to take one by surprise, the methods including aflatoxin B_1, boron, carbohydrate, cobalt, divalent ion deficit in soils, dry matter in silage, fibre in feeding stuffs (alternative methods), iodine in biological materials, lactic acid in silage juice, organic matter in soil, particle distribution in soil, "true" protein by copper precipitation, selenium in plant material, uric acid in poultry waste, zinc, and much besides. A real "A to Z" of agricultural analysis.

After that, much more pedestrian, are the BSI *Methods of Analysis of Animal Feeding Stuffs*, which in 1981 got as far as No. 5. To the present, BS 5766 comprises:

Part 1. *Determination of Crude Ash*
Part 2. *Determination of Ash Insoluble in hydrochloric acid*
Part 3. *Determination of Total Phosphorus*
Part 4. *Determination of Nitrogen and Crude Protein*
Part 5. *Determination of Water-soluble Chlorides*

Occasionally public analysts may become involved in rates of loss of lime from soils. A wider consideration of the subject may be gained from the Department of Agriculture and Fisheries for Scotland's Scottish Standing Committee leaflet for the calculation of *Residual Values of Fertilisers and Feeding Stuffs* (the values are financial ones) (ISBN 0 11 491695 0).

Guide to Good Feed Supplement Manufacturing Practice (British Association of Feed Supplement Manufacturers Ltd, Cranbrook). This is not of great value to an analyst.

STATUTORY INSTRUMENTS

The Diseases of Animals (*Approved Disinfectants*) (*Amendment*) *Order 1981* (SI 1981, No. 7).

The Diseases of Animals (*Approved Disinfectants*) (*Amendment*) *No. 2 Order 1981* (SI 1981, No. 1050).

The Fertilisers and Feeding Stuffs (*Amendment*) *Regulations 1981* (SI 1981, No. 10). Prohibits the importation of groundnut or cotton-seed if they contain a detectable level of aflatoxin.

The Diseases of Animals (*Therapeutic Substances*) (*Amendment*) *Order 1981* (SI 1981, No. 555).

The Diseases of Animals (*Protein Processing*) *Order 1981* (SI 1981, No. 676).

The Importation of Processed Animal Protein Order 1981 (SI 1981, No. 677).

The Agriculture (*Metrication*) *Regulations 1981* (SI 1981, No. 1414). These relate mainly to machinery.

The Brucellosis (*England and Wales*) *Order 1981* (SI 1981, No. 1455). The whole of England and Wales becomes an attested area.

Safety

The Health and Safety (*First Aid*) *Regulations 1981* (SI 1991, No. 917). Provide that employers shall make first aid arrangements for employees.

First Aid at Work (Health and safety series booklet HS(R)11). Includes the code of practice mentioned in SI 1981, No. 917.

Managing Safety. A review of the role of management in occupational health and safety, by the Accident Prevention Advisory Unit of HM Factory Inspectorate. (Page 16 calls for management training, and where ionising radiations are used the regulations require the appointment of a "competent person".)

Guidance Notes of the Health and Safety Executive. These notes come in different series, namely, Environmental Hygiene (coded EH), Medical (coded MS), and Chemical Safety (coded CS). Those which arrived in the laboratories in 1981 were the following:

Toxic substances: a precautionary policy (EH 18, November 1978)
Threshold limit values 1980 (EH 15/80)
Control of lead: air sampling techniques and strategies (EH 28, August 1981)
Biological monitoring of workers exposed to organo-phosphorus pesticides (MS 17, December 1980)
The storage and use of LPG on construction sites (CS6, June 1981).

Health and Safety Commission Guidance Note and Approved Code of Practice "Work with asbestos insulation and asbestos coating" (ISBN 0 11 883439 8).

Health and Safety Commission Approved Code of Practice "Control of lead at work".

Health and Safety Commission Consultative Document "Notification of new substances" (draft regulations and approved codes of practice) (includes a reprint of Directive 79/831/EEC which amended Directive 67/548/EEC on classification, packaging and labelling of dangerous substances).

Health and Safety: The Packaging and Labelling of Dangerous Substances (Amendment) Regulations, 1981 (SI 1981, No. 792).

Health and Safety: The Dangerous Substances (Conveyance by Road in Road Tankers and Tank Containers) Regulations 1981 (SI 1981, No. 1059).

Health and Safety: The Safety Signs Regulations 1981 (SI 1981, No. 1471).

The Approved List. Health and safety series booklet HS(R)10 (approved substance identification numbers, emergency action codes, and classifications for dangerous substances conveyed by road).

A Guide to The Safety Signs Regulations 1980. Health and Safety series booklet HS(R)7.

Waste Disposal, etc.

DOE Circular 4/81 "Control of Pollution Act 1974 and Control of Pollution (Special Waste) Regulations 1980 (with Guidance Notes)".

The Control of Pollution Act 1974 (Commencement No. 14) Order 1981 (SI 1981, No. 196). Repeals the *Deposit of Poisonous Waste Act 1974*, which becomes superseded by *The Control of Pollution (Special Waste) Regulations, 1980* (SI 1980, No. 1709). *Note:* The *County Councils Gazette* for February 1981 contained criticisms of the change, saying that two-thirds of the wastes which were notifiable under the 1972 Act will no longer be notifiable to waste disposal authorities, and the need to indicate that a particular waste is "dangerous to life" rather than a threat to water supplies will make it more difficult to require a carrier to remove it to a waste disposal site.

House of Lords Select Committee on Science and Technology *Hazardous Waste Disposal Report.* The report is summarised in *Chemistry in Britain* for November 1981, page 500. Two *Minutes of Evidence* papers were received, that for Thursday 11 December 1980 (25–ii) and that for Thursday 9 April 1981 (25–ix).

House of Lords Select Committee on European Community's *Draft Directive on the Discharge of Cadmium into the Aquatic Environment* (August 1981). The committee was critical of the draft.

House of Lords Select Committee on European Community's *Draft Directive on Methods for Surveillance and Monitoring of Environments Effected by Waste from the Titanium Dioxide Industry.* The committee was critical of the extent of monitoring the low emissions of sulphur dioxide, and noted that the solid wastes were generally regarded as being harmless.

EURO Reports and Studies No. 42, *Health of Treated Sewage Re-use*, Report on a WHO Seminar (ICP/BSM 003(5)).

Building and Reclaimed Land

Building Research Establishment Digest No. 250, *Concrete in Sulphate-bearing Soils and Groundwaters.* Replaces Digest No. 174.

Rag Flock

The Rag Flock and Other Filling Materials Regulations 1981 (SI 1981, No. 1218). The regulations supersede the regulations of 1971.

Radiation

Dosimetric Quantities and Basic Data for the Evaluation of Generalised Derived Limits NRPB–DL3 (ISBN 085951 146 4). Includes appropriate intake rates for adults and children.

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Harmonisation of European Law and the Effects of "Cassis de Dijon"

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The Cassis de Dijon case has been said to mark a turning point in the European Communities Food Law Harmonisation Programme. Some argue that it opens the way to increasing trade in food products while others argue that it will tend to introduce standards related to the lowest common denominator. The following article argues that very little has been changed by the ruling but points to the fact that informative labelling will, as a result of the case, become more important in future food legislation.

Introduction

Article 30 of the Treaty of Rome states that quantitative restrictions on imports and all measures having equivalent effect shall, without prejudice to the following provisions, be prohibited as between Member States. Article 36, on the other hand, does not preclude prohibitions or restrictions on imports, exports or goods in transit, justified on the grounds of public morality, public security, the protection of health and life of humans, animals or plants, the protection of national treasures, possessing artistic, historic or archeological value, or the protection of industrial and commercial property. Such prohibitions or restrictions shall not, however, be used as a means of arbitary discrimination or as a disguised restriction on trade between Member States.

In 1979, the European Court of Justice ruled on a case affecting the free movement of goods enshrined in Article 30. This case has now given its name to the entire subject and, since it was, effectively, the first of its kind, it is worth considering the facts and the court judgement before proceeding to consider the likely effect this will have on legislation and trade throughout Europe.

Cassis de Dijon is a fruit liqueur produced in France with an alcohol content of 15 to 20 per cent. A regulation of the Federal German Republic prevented all such fruit liqueurs from being marketed in that country unless they had an alcohol content of at least 25 per cent. The German Government sought to justify the prohibition on grounds of public health and protection of the consumer. They stated that the purpose of fixing minimum alcohol content by national legislation was to avoid the proliferation of alcoholic beverages on the national market, particularly alcoholic beverages with a low alcohol content, thus avoiding inducing a tolerance towards alcohol. In relation to protection of the consumer, they claimed that the fixing of a lower limit for

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the alcohol content of certain liqueurs was designed to protect the consumer against unfair practices on the part of producers and distributors. This argument was based on the opinion that the lowering of the alcohol content secures a competitive advantage over beverages with a higher alcohol content since alcohol constitutes by far the most expensive constituent of beverages by reason of the high rate of tax to which it is subject.

The European Court rejected these arguments. It concluded that the requirement did not serve a purpose which was in the general interest such as to take precedence over the requirement of the free movement of goods which constituted one of the fundamental rules of the Community. The Court therefore judged the German requirement to be incompatible with Article 30 and in its Decision stated, *inter alia*, "There is therefore no valid reason why, provided they have been lawfully produced and marketed in one of the Member States, alcoholic beverages should not be introduced into any other Member State."

This principle has been reiterated (but not extended) in another case, No. 788/79 (Gilli), concerning vinegar. There is a considerable volume of related case law and other similar cases are pending.

The Court also made a general statement on obstacles to free movement of goods as follows:

> "Obstacles to movement within the Community resulting from disparities between the national laws related to the marketing of the products in question must be accepted in so far as those provisions may be recognised as being necessary in order to satisfy mandatory requirements relating in particular to the effectiveness of fiscal supervision, the protection of public health, the fairness of commercial transactions and the defence of the consumers."

As regards the fairness of commercial transaction, the Court commented that it is "a simple matter to ensure that suitable information is conveyed to the purchaser by requiring the display of an indication of origin and of the alcohol content on the packaging of products".

Action by the Commission

On 12 September 1980 the European Commission wrote to Member States outlining its view of the Cassis judgement and this letter was published in the *Official Journal* on 3 October. In their letter, the Commission extrapolated the Court Decision and stated that "any product lawfully produced and marketed in one Member State must, in principle, be admitted to the market of any other Member State". Acting on this premise, they drew the following conclusions from the Judgement which may be briefly described as follows:

(a) Member States may in general set their own standards for the marketing of domestic products but they must have regard to legitimate requirements of other Member States and imports therefrom.

(b) Derogations from this principle will be permitted only according to certain strict criteria; i.e. in those cases where such national legislation is necessary (defined as "appropriate and not excessive") to satisfy

mandatory requirements (public health, protection of the consumer, fairness of commercial transaction) and to serve a purpose which is in the general interest (compelling enough to override the fundamental rules of free movement of goods) and for which there are an essential guarantee (i.e. the means which are the most appropriate and at the same time least hinder trade).

(c) Products which satisfy rules laid down in an exporting Member State to achieve a permitted purpose may not be excluded from sale in an importing Member State merely on the grounds that it has different rules to achieve the same purpose.

(d) The Commission will "have to tackle" and presumably intend to commence proceedings for infringements of Article 30 against those rules which do not meet the criteria and will restrict its Article 100 Harmonisation programme to those sectors where the rules do meet the criteria laid down by the Court as justifying restrictions on trade.

(e) The Commission will tighten up existing procedures designed to forestall the introduction of new national rules which do not satisfy the criteria.

In an article published in *British Business* on 17 July 1981 the Department of Trade pointed out that it had to be borne in mind that the Commission's views as expressed in the *Official Journal*, although important, are not judicially authoritative. Whether they accurately predict future decisions of the court has still to be tested and they are open to test in this way in further cases initiated either by the Commission or by some other party.

The Department of Trade therefore concluded that traders should continue to be guided by their own legal advisers when deciding what requirements must be complied with when marketing their products in different Community states and when considering the possibility of legal proceedings for the enforcement of local technical regulations. The Department of Trade concluded by saying that pending further case law, it seems that in the absence of a specific finding to the contrary by the European Court of Justice, each Member State of the Community may still have the right to prevent the sale of goods that do not comply with its own regulations on national health, safety, consumer protection and environmental protection even if those goods have been approved by the national approving body in the exporting country.

It is worth noting that the Department of Trade article drew attention to the fact that the European Court of Justice had ruled in two *particular* cases relating to an alcoholic beverage and vinegar. This is a clear warning that the Commission may well have generalised too much in seeking to apply specific rulings to all production and trade in the Community.

Other Developments

Two other rulings by the European Court have indicated how difficult it is to draw sweeping conclusions on the basis of one case alone. First, the Fietje case (No. 27/80) concerns a Dutch law that requires that alcoholic beverages of a certain strength and description should be labelled or bear the description

"liqueur". The European court said that the law in question was to be considered a measure having an effect equivalent to a quantitative restriction "in so far as the details given on the original label supply the consumer with information on the nature of the product in question which is equivalent to that in the description prescribed by law". Whether the original label supplied such equivalent information was held to be a matter for the national court to determine. In another part of the judgement the Court made it clear that such equivalent information must be "just as capable of being understood by consumers in the importing state as the description prescribed by the rules of that state" in order for the national law to be inapplicable. That would seem to mean that in deciding whether a national requirement can be applied to a particular label on an imported product the national court must take into account the language of the label and, if the language is foreign to the importing state, the likelihood that consumers in the importing state will be able to understand the particular words in the particular foreign language concerned. It should be noted that the Court recognised, in paragraph 11 of its judgement, that in principle labelling requirements can constitute an exception to the general rule that national laws must not impede free movement of goods within the Community. The exception is justified on the grounds of consumer protection.

However, the Eyssen case (No. 53/80) concerned itself with the addition of nisin to processed cheese. Here, the European court concluded that the existence of Council Directive No. 64/54/EEC of 5 November 1963 concerning preservatives authorised for foodstuffs intended for human consumption provided that the Directive should not affect the provisions of national laws concerning nisin and thus by implication allowed Member States—as regards the matter at issue—to retain a discretionary power within the limits laid down by the general provisions of Article 36 of the Treaty. From this they concluded that whilst prohibition had the effect of hindering trade between Member States in the product concerned, national legislation such as that prohibiting the use of nisin as a preservative was included amongst the measures which Article 36 of the Treaty permits Member States to adopt on grounds of the protection of the health of humans and for that reason it escapes the prohibitions resulting from Articles 30 and 34 of the Treaty. A reference to *Commission v. Ireland*, No. 113/80, might be useful to show the difference in the approach of the Court according to whether the national law in question is discriminatory (i.e. applies only to imported products) or non-discriminatory (i.e. applies to domestic and to imported products). In that case the Court recognised explicitly in paragraph 11 of its judgement, I believe for the first time, that there is such a difference of approach. Where a national law applies only to imported products, Article 36 will be applied strictly and, if the law constitutes a barrier to trade, it will fall unless it can be justified under Article 36. However, where a national law applies equally to domestic and imported products, it has the benefit of the wider range of exceptions to Article 30 recognised in *Casses de Dijon*, *Gilli*, *Fietje*, *Eyssen* and *Kelderman*. Other judgements are pending and it will be interesting to see the way in which case law will develop.

Implications for National Standards

The use of national standards as a device to protect national manufacturers is contrary to the provisions of the Treaty of Rome. The Commission's attitude shows that they will be vigilant to prevent this sort of infringement of the Treaty in future. National standards always constitute restrictions on the import of goods from other Member States which do not comply with the standards. They are therefore not permissible unless they fall within one of the exceptions to the general principle that import restrictions between Member States are contrary to Community law. The statement contained in the Court's judgement of the Cassis de Dijon case contains examples of the grounds that are regarded as such exceptions and the most usual grounds on which a food standard might be justified are protection of the public health and defence of the consumer.

It is therefore essential in future that any standards envisaged by Member States in the Community could be justified before the European Court on one of these grounds. The Court will clearly be sceptical of any standards that are markedly higher than a standard applied by another Member State and it will therefore be necessary to take into account the legislation of other Member States in formulating recommendations for standards. However, this does not mean that the law must become one of the lowest common denominator.

One likely effect of the Commission's approach is a change in emphasis in food law from compositional requirements to labelling requirements. Administrators will have to bear in mind in considering labelling that it should do no more than discharge the obligation that the description used is sufficiently precise to inform the consumer of the nature of the product and enable it to be distinguished from products with which it might be confused.

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Note on the Determination of Rapeseed Oil in Mustard Oil

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A possible explanation of disappointing results in the method for detecting Rapeseed oil in Mustard oil is advanced, and an alternative procedure to that which has been suggested for estimating the amount of admixture by Critical Solution Temperature is described.

E. R. Pike's interesting paper[1], "The impact of the Asian community upon the work of the Public Analyst" has shown that some regard must be paid to the traditional foodstuffs offered to certain groups of people who now live in Britain, but availability of these is apt to vary widely. The experience in this area (Lancashire), for example, has been that mustard oil products have tended to be sold correctly labelled as mixtures. Nevertheless the thin layer method of investigating mustard oils, which Datta and Goswami described in 1980[2] was tried, unfortunately with somewhat disappointing results.

The subsequent paper of Datta[3] was felt to be worth investigation, and reasonable agreement with his findings was recorded, at least in so far as a linear relationship between critical solution temperature and percentage of rapeseed oil was confirmed, but the temperatures were found to be appreciably lower than those recorded in the original paper.

It was then considered that since rapeseed oil is a relatively rare commodity in Britain, the specimen with which we had been supplied might be the low erucic acid grade from Canadian sources which complies with the Erucic Acid in Food Regulations, 1977. Gas/liquid chromatographic examination of this specimen of oil then confirmed that the specimen we were using contained about 0·7 per cent. of erucic acid. The oil available in India may be much nearer the traditional composition.

With interest stimulated, the unusual choice of measurement of critical solution temperature on an upward temperature gradient led to a consideration of the possiblity of obtaining much the same information as that recorded by Datta by means of the old Valenta test as described by Nicholls[4]. In that method, due precautions being taken to exclude moisture, one measures the critical solution temperature of the oil and acetic acid using nothing but a test tube and a thermometer, and by taking the temperature as one cools the mixture one obtains a somewhat sharper endpoint than by using an upward temperature change.

For those who do not possess a copy of Nicholl's book, his method is as follows:

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To 3 ml of oil in a dry test tube add 3 ml of glacial acetic acid (A.R.). Gently warm the mixture, stirring vertically with a thermometer until a clear homogeneous mixture is obtained. Continue the vertical stirring as the temperature is allowed to fall and note the temperature when turbidity is first noticed as a tail following the thermometer bulb.

With the specimens of oil available, we obtained a straight line graph from 100 per cent. rapeseed oil at 57°C to 100 per cent. mustard oil at 97°C, but variations could occur if the particular grades of acetic acid used contained more or less moisture, or if the rapeseed oil differed in composition from our specimen.

Such a test gives no information about the identity of the mixture of oils being tested, of course, but under the circumstances that Datta describes it would appear that the Valenta test still has much to offer.

The author thanks BOCM–Silcock for providing a sample of rapeseed oil, low in erucic acid and Mr A. C. Bushnell, Public Analyst for Lancashire and Cumbria, for encouragement with this work.

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J. Assoc. Publ. Analysts, 1982, **20**, 25–29

Food Microscopy

(An Annotated Bibliography)

Part III F. Fruit and Nuts

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A wide range of fruits have been examined microscopically, including citrus fruits, hard fruits (apples and pears), stone fruits (peaches, apricots, plums and cherries), berries and soft fruits (strawberries, raspberries, loganberries, blackberries, gooseberries, mulberries, cranberries, redcurrants and blackcurrants), tropical and sub-tropical fruits (bananas, grapes, pineapples, melons, dates, figs, olives, passion fruit and loquats). Manufactured fruit products of interest microscopically comprise jams, marmalades, curds, fruit concentrates and beverages. The varieties of nuts most commonly investigated microscopically include walnuts, hazelnuts, almonds, cashews, brazils, peanuts (groundnuts), coconuts and chestnuts.

The structure and development of fruit tissue have been investigated using light and electron microscopy. The light microscope has been applied in studying starch synthesis, the structure of the parenchyma cell and cell wall development, whilst scanning electron microscopic (SEM) techniques have been used in determining the ultrastructure of cuticular surfaces, stomata, chloroplasts and pectin fibrils. The microscopical characteristics of many fruits have been described, including the morphology of cell walls, juice sacs and plastids. Also the distribution of components such as polyphenols, water-soluble and fat-soluble materials, stomata and oil glands have been studied. The diagnostic features of fruit tissue form the basis of identification of fruit components in manufactured products such as jams, marmalades and fruit beverages, and microscopical techniques have been applied in following the degradation of fruit tissue and in assessing factors influencing the stability of fruit beverages during storage.

Histological changes occurring during processing of fruit are of major significance and much work has been done to correlate the effects of processing and preservation on resultant fruit characteristics. The influence of freezing and thawing conditions on cellular and textural changes has been investigated

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in detail and preservation treatments such as freeze-drying, irradiation, and storage in carbon dioxide enriched atmospheres have also been studied. Defects and diseases in fruit tissues which have been investigated microscopically include freezing injury, bruising, callose formation, water spot, white centre in cherries and water core and bitter pit in apples.

Microscopical examination of nuts has been used chiefly as a diagnostic aid to characterise the different varieties and in quality control work to identify defects and diseases.

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Book Reviews

WATER REUSE: PROBLEMS AND SOLUTIONS. By Robert B. Dean and Ebba Lund. Academic Press, New York, 1981. 264 pp. Price £18.40.

The foreword to this book states that "millions of humans have been exposed to such waters for well over 50 years". The waters are surface ones containing domestic and industrial wastes. I would take issue with the period of 50 years as I think that man has consumed surface waters for millenia and doubtless these waters have often suffered from organic pollution but natural self-purification has assisted in preventing public health risks.

The preface describes the book as intended for use in interdisciplinary courses at graduate level and also for use by informed citizens and others without advanced scientific or engineering knowledge.

There are twenty-three chapters, each being followed by a list of useful references in turn divided into General References, which are mostly to books, and Specific References which refer to papers in various world-wide journals. The work is completed by an index.

The technology is available to reduce any pollutant to an acceptable level, thus *Water Reuse* reviews the problems of water supply with emphasis on pollutants which pose the greater risk. These pollutants cover bacteria and other microbiological agents, and inorganic and organic substances; carcinogenic chemicals are not overlooked.

The book is simply and clearly written and has been made understandable to students and others of non-specialist origin, which is exactly what its authors set out to do.

It is well printed and I do not consider the price too high in view of the cost of other books at present. It can be recommended, but I doubt if many Public Analysts will find it as useful as their *alter ego*, the Scientific Adviser, will do.

G. V. JAMES

METAL CONTAMINATION OF FOOD. By Conor Reilly. Applied Science Publishers, London, 1980. 235 pp. Price £19.00.

Many books and reviews have been published concerning metallic contamination of food, and practising food analysts—with insufficient time to sift through all the available information—must often wish for a handbook to which they can turn for a "state of the art" summary not only of the ways in which metals contaminate foods and their toxic effects, but also of legal controls and methods of analysis. Such a guidebook is now available in the form of

the present volume by Dr Reilly, who is Head of the Department of Public Health and Nutrition at the Queensland Institute of Technology, Australia.

There are twelve chapters and nearly five hundred references, the latter appearing at the end of the book and arranged by chapter. An index completes the book.

The first chapter reviews the properties of the metals and includes several useful tables; one, for example, details levels of dietary intake and concentrations in urine, sweat and hair for twenty-three metals of importance.

Chapter 2 reviews the various ways in which metals get into food, dealing with such sources as soil, sewage sludge and other fertilisers, metal-containing water and food-processing operations. Metallic contamination from cooking equipment, including glazed ceramic ware and enamelled utensils, and from food packaging and metal containers, is also well reviewed. There is additionally a useful section on contamination of food by radioactive materials.

The third chapter begins with an historical survey of the general development of food law, particularly in the UK, and outlines the move to international standardisation represented by organisations such as WHO, *Codex Alimentarius* and the EEC. The chapter concludes with a brief review of legal limits operating for metals in foods in the English-speaking countries. Here one may be surprised to read that the general limit for selenium in food operating in Australia and New Zealand at the time of publication was as high as 2 mg/kg, and that the general limit for mercury in food in Australia was likewise 5·5 mg/kg!

In Chapter 4 is presented a review of the general methods available for sample preparation and analysis, relevant to the determination of trace metals in foods. Obviously one would not expect a great deal of detail in the twenty pages devoted to this chapter, but the discussion presents a useful overview and points to the more detailed references.

The second half of the book deals with the individual metals, presenting information for each of twenty-two metals at varying lengths, depending on their present importance and likelihood of being contaminants: thus nineteen pages are devoted to lead, ten to mercury and seven to cadmium, whereas strontium receives just over one page. The information includes chemical and physical properties, production and uses, occurrence in foods and beverages, absorption and biological effects, and methods of analysis. Following the treatment of these metals there is a very brief review of other metals of somewhat less importance.

The book is clearly printed and easy to use. It will be of particular use as a textbook and can certainly be recommended as a good source of information to students preparing for the Mastership in Chemical Analysis examination. The book will be a welcome addition to the shelves of those analysts requiring a good, reliable digest of the voluminous information currently available on the subject of metallic contamination of food.

P. M. HOLROYD