

CURRICULUM VITAE

NAME: Professor JOHN FAWELL

PROFESSION: Consultant on drinking water and environment.

PROFESSIONAL BACKGROUND: Biologist/Toxicologist

PRIMARY SPECIALISATION: Assessment and management of risks from drinking water contaminants and from re-use of wastewater. Development of drinking water regulations.

YEAR OF BIRTH; 1945

NATIONALITY: British

HONOURS: MBE
Received the International Society of Regulatory Toxicology and Pharmacology 2013 International Achievement Award

QUALIFICATIONS: BSc Applied Biology University of Bath 1969
MI Biol C Biol 1972 (now C Biol MSB)
M CIWEM 1983 (resigned 2010)
Diploma in Toxicology, Royal College of Pathologists 1986

PROFESSIONAL AFFILIATIONS: Society of Biology
British Toxicology Society
American Water Works Association
Scientific Fellow, of the Zoological Society of London
International Water Association

Appointed visiting professor at Cranfield University May 2011.

WORKING LANGUAGE: English

EXPERIENCE

Prof Fawell has worked on the implications of contaminants in the environment for human health and aquatic life since 1979 and is actively involved at both a national and international level.

Key areas included:

- Closely involved in the WHO Guidelines for Drinking Water Quality as a member of the co-ordinating team since 1988. For the 1993 revision he was co-ordinator for inorganics and substances which affect acceptability to consumers, rapporteur for organics, pesticides and disinfection by-products and organiser of working group meetings on radioactivity and treatment and analysis. Prepared background documents on the toxicology and health risks of a wide range of substances, with proposed guideline values, for 1993 revision and the 1998 addendum. He was coordinator for naturally occurring substances and substances from agriculture, industry and human settlements for the preparation of the third edition of the Guidelines in 2003 for which he also prepared several revised background documents. Actively involved in the rolling revision of the Guidelines he was Chairman of the 1998 Medmenham meeting on Aspects of Protection and Control and of Microbiological Quality. Subsequently he has continued as Co-ordinator for naturally occurring substances and substances from agriculture, industry and human settlements but has added pesticides for use in controlling Denghe fever vectors in drinking water containers. He has continued in that role for the fourth edition of the Guidelines published in July 2011. He was part of the WHO expert group establishing guidelines for the supply of safe drinking water by desalination and a member of the expert group considering the significance of beneficial minerals in drinking water. He was one of the three co-ordinators and one of the authors of the WHO publication "Chemical safety of drinking-water: assessing priorities for risk management". He is coordinator for most of the chemical parameters for the preparation of the fourth edition of the Guidelines and has been closely involved with the preparation of most of the other sections. He is a member of the WHO expert group on pharmaceuticals in drinking water.
- Works closely with WHO regional offices, including liaison between the European Commission and the European Regional Office on water and between WHO HQ and the Commission on re-use of wastewater.
- Member of several IPCS expert groups and author of working documents on chemical contamination for the WHO working group on bathing water quality. He has served on JECFA for substances in which drinking water is a key source of exposure and is a member of the panel of experts.
- Has led programmes of research on the toxicology and health implications of by-products of disinfection for government and water suppliers since 1982. Has acted as external supervisor for two PhD students on the epidemiology of disinfection by-products and adverse reproductive outcomes. He has also carried out research on the risks to health and risk assessments of blue-green algal toxins, polycyclic aromatic hydrocarbons and a wide range of other environmental contaminants.
- Previously chief scientist in the team which provides advice to UK water undertakers and regulators on the risk assessment of contaminants in the environment, particularly for human health, through drinking water, including a 24 hour service for incidents involving drinking water and the aquatic environment. He is currently contracted to provide toxicological and risk assessment advice to the Drinking Water Inspectorate.
- Provided independent advice and reviews on chemicals, which are used in drinking water or which may reach the environment, for chemical companies and groups of chemical companies and provided advice on water contaminants and disinfection processes to the food industry. He has been involved in preparing an ILSI Europe document on the use of water and its treatments in the food industry and this includes food processing. Provides advice on monitoring and assuring water quality for water used in beverage and food manufacturing.

- Prof Fawell provides advice on water contaminants and their management for a number of public drinking water suppliers, including acting as an independent reviewer of water quality of both raw and treated water.
- Has provided advice on the significance and nature of contaminants to large producers of bottled and natural mineral waters. These include both naturally occurring inorganic contaminants/constituents and anthropogenic contaminants from a number of sources, including microbiological contaminants. He has also been involved in the assessment of remineralisation needs for demineralised water processes for desalinated waters.
- Has been a member of committees advising government and regulatory bodies such as the Sub-Committee on Pesticides, The Environment Agency National Advisory Group for Determining Substances for the EC Groundwater Directive and subsequently technical advisor to the Joint Agency Groundwater Directive Advisory Group, The Toxic Algae Task Group and the Steering Group for the Revision of the UK National Environmental Health Action Plan. He was invited to give evidence to the Royal Commission on Environmental Pollution at the beginning of their study on environmental regulations. He has worked closely with the International Life Sciences Institute (ILSI) in the USA and Europe and was previously chairman of the ILSI Europe Task Force on Environment and Health.
- Provides independent advice on regulatory and environmental issues to the drinking water inspectorate in the UK and a variety of industries and government departments, including governments outside the UK. He has provided an independent opinion on the work of the Irish drinking water regulator and the value for money that it provides.
- Closely involved in the development and implementation of water safety plans and their incorporation into regulation both in the UK and in a number of regions of the world, including involvement in advising the Romanian government on establishing drinking water regulations to meet the provisions of the drinking water directive. He has also been closely involved in a WHO initiative to develop advice for member states on developing regulations based on the Guidelines.
- One of the lead members of a team commissioned to prepare proposals for revising the chemicals section of the European Drinking Water Directive taking into account the introduction of water safety plans.

Prof Fawell has been recently involved in research on a number of priority contaminants in the environment and drinking water including endocrine disrupters, disinfection by-products and pharmaceuticals. In this respect he has close ties with The Department of Epidemiology at Imperial College and the Small Area Health Statistics Unit in particular. He has a particular interest in and is actively working in the field of risk assessment of chemicals and microorganisms in the environment. This includes the development of strategies to manage risks and perceived risks in the managed water cycle by early intervention through developments in wastewater and drinking water treatment. He was part of the team, with WCA Environment and Cranfield University, which carried out an assessment of the significance of pharmaceutical residues for drinking water for DWI and is part of a WHO/USEPA joint initiative on pharmaceutical residues.

He worked with CREH Analytical to develop a framework for managing microbial and chemical risks in drinking water (Water safety Plans) and with CREH Analytical and Owen Hydes to develop a framework for developing criteria for the safe reuse of wastewater. He also acts as consultant on projects for reuse of wastewater and the safe implementation of desalination as a drinking water source. In some cases these two are

combined. He has also worked with the Spanish consultancy Eptisa in Romania to assist the Ministry of Health in meeting the requirements of the EU drinking water and bathing water directives, including introducing water safety plans in Romania. He and Owen Hydes have assisted water companies in developing and implementing their strategy for the introduction of drinking water safety plans and he was a consultant to IWA for their outreach programme to water suppliers on drinking water safety plans, including activities in Brazil, India and the Far East.

Prof Fawell has an international reputation and is involved in a number of international forums in addition to WHO, and has close contacts with regulators, industry and researchers in many parts of the world including North America and Japan. In 1998 he carried out a WHO mission to Kuwait to advise on environmental and environmental health issues. He was chairman of the Expert Committee on Health Aspects of Water Supply for KIWA in the Netherlands. He has acted as a consultant on drinking water standards and drinking water related materials to the Canadian Government and has close links with the USEPA Office of Water. He has assisted the USEPA and Health Canada on research requirements for the assessment of disinfection by-products in drinking water.

Prof Fawell is interested in the public perception of risk and the communication of risks to the public. He has acted as a PhD examiner on this subject and has made numerous radio and television appearances to discuss risks of a wide range of environmental contaminants and issues surrounding environmental contamination.

Prof Fawell is an author of over 90 publications in the open literature and is author of many project and other reports found in the grey literature.

Following a period of 20 years with WRc, he joined Warren Associates (Pipelines) Ltd as a Director of the Environmental Division in January 2000 and transferred to an equivalent position in the Infrastructure and Environment Management Division of FaberMaunsell when Warren Associates (Pipelines) Ltd was acquired by AECOM. He now works independently.

He was non-executive chairman of the board of WCA Environment, stepping down to non-executive board member in 2011 and retiring from the board in January 2013. He was appointed visiting professor in the Water Science Institute at Cranfield University in the UK in May 2011.

EMPLOYMENT EXPERIENCE

December 2002-	Independent consultant
April 2001 – December 2002	Technical Director, Environmental Management Division, Metcalf and Eddy Ltd. Group Leader for Drinking Water and Environmental Toxicology.
Jan 2000 – April 2001	Director, Environmental Division, Warren Associates
May - Dec 1999	WRc-NSF Ltd - Chief Scientist
1979 - April 1999	WRc plc
1988 - 1999	Principal Toxicologist and Chief Scientist of the National Centre for Environmental Toxicology (1995) Principal Scientist for toxicology, advising on the implications and significance of contaminants in drinking water and the aquatic environment. Responsible for the scientific quality of the work of the National Centre for Environmental Toxicology.
1981 - 1988	Head, Toxicology Section Leading a team investigating the significance of organic and inorganic pollutants in drinking water. Investigation of mutagens in drinking water and mutagens formed in drinking water treatment and their significance.
1979 - 1981	Toxicologist, Water Quality and Health Group Primarily assessing the implications for health of organic pollutants in drinking water.
1977 - 1979	RHM Research Ltd Scientist i/c Pathology, Nutrition and Toxicology Department Experimental pathology of novel foods. The effects of nutritional imbalance on kidney pathology .
1972 - 1977	Inveresk Research International, Section Manager, Quantitative Histology and Histochemistry, Pathology Division Experimental pathology of tobacco smoke on respiratory structure and function and of drugs on GI tract, heart and liver. Short term bioassays for predicting carcinogenic potential.
1970 - 1972	Huntingdon Research Centre, Research Officer, Pathology Department Experimental Pathology. Quantification of Experimental Emphysema and Bronchitis in rodents and primates.
1969 - 1970	Lake Mweru Research Unit, Zambia Scientific Officer - Limnology and fish stock assessment.

Selected Publicly Available Contract Reports

C. Jorgensen, H. Buchardt Boyd, DHI. J. Fawell, O.D. Hydes. Independent Consultants. September 2008. Final report on establishment of a list of chemical parameters for the revision of the Drinking Water Directive. European Commission. ENV.D.2/ETU/2007/0077r

Dawn Maycock, John Fawell, Graham Merrington and Chris Watts March 2008. Review of England and Wales Monitoring Data for Which a National or International Standard Has Been Set (Defra Project Code: CEER 0703 DWI 70/2/215 WT1207)

John Fawell et al. April 2008 Considering water quality for use in the food industry. ILSI Europe Report Series.

Chris Watts, Dawn Maycock, Mark Crane and John Fawell; Watts and Crane Associates Emma Goslan; Cranfield University. November 2007. Desk based review of current knowledge on pharmaceuticals in drinking water and estimation of potential levels (Defra Project Code: CSA 7184/WT02046/DWI70/2/213)DWI Pharmaceuticals.

David Kay and John Fawell. December 2007. Standards for recreational water quality. An FWR Guide. FR/G0005. Foundation for Water Research.

John Fawell, February 2007. Drinking water standards and guidelines. An FWR Guide. FR/G0004. Foundation for Water Research.

Chris Watts and John Fawell; Watts and Crane Associates, David Sartory; SWM Consulting, John Leaman and Adam Tuffin; Ipsos MORI. July 2006. Evaluation of the Drinking Water Quality and Health (DWQH) Research Programme (1996-2004) for Defra. (Defra Project Code: DWI 70/2/188)

John Fawell, John Watkins, Owen Hydes, Lorna Fewtrell and Peter Wynn-Jones. 2005. Framework for Developing Water Reuse Criteria with Reference to Drinking Water Supplies UKWIR/AwwaRF/WateReuse Foundation (05/WR/29/1)

J Fawell, J Littlejohn, J Watkins 2005 Development of Drinking Water Safety Plans in Scotland. Scottish Executive Project No: ENV3/04/03

John Fawell and John Watkins 2003. Managing Microbial and Chemical Risks from Source to Tap: Report and Toolbox UKWIR (03/DW/02/31)

J Fawell, L Fewtrell, J Watkins, O Hydes January 2002. Future regulatory Parameters: Implications for the UK Final Report for Phase 1. DWI 70/2/145

John K Fawell 2002 Asbestos cement drinking water pipes and Possible health risks. A review for DWI. Report for Contract 70/2/135

PUBLISHED WORK:

1. Hrudey S.E. and Fawell J. (2015) 40 years on: what do we know about drinking water disinfection by-products (DBPs) and human health? *Water Science and Technology*; *Water Supply* (In Press).
2. Fawell J. (2015) Emerging contaminants, source water quality and the role of standards. *Water Practice and Technology* 10(3):432-437
3. Hess, T., Aldaya, M., Fawell, J., Franceschini, H., Ober, E., Schaub, R., Schulze-Aurich, J. (2014) Understanding the impact of crop and food production on the water environment-using sugar as a model. *J Science of Food and Agriculture* 94(1): 2-8
4. Fawell J.K. (2014) Drinking water quality and health. Chapter 3 In: *Pollution: Causes, Effects and Control*. Fifth Edition. Ed RM Harrison. The Royal Society of Chemistry.
5. Fawell J. (2012) Chemicals in the water environment. Where do the real threats lie? *Ann Ist Super Sanita* 48(4):347-353.
6. Fawell J. and Ong CN. (2012) Emerging contaminants and the implications for drinking water. *International Journal of Water Resources Development*. 28(2): 247-263.
7. Bull, R.J., Cotruvo J.A., Fawell, J. and Hrudey, S.E. (2012) Re: Chowdhury et al. 2011. J. Hazard. Mater. Disinfection byproducts in Canadian provinces: Associated cancer risks and associated medical expenses. 187: 574-584. **J. Hazard. Mater.237-238:384-385.**
8. Hrudey, S.E., B. Conant, I.P. Douglas, J. Fawell, T. Gillespie, D. Hill, W. Leiss, J.B. Rose & M. Sinclair. (2011). Managing uncertainty in the provision of safe drinking water. *Water Sci. Technol.: Water Supply*. 11(6): 675-681.
9. Fawell J, Abduraheem MY, Cotruvo J, Al-Awadh F, Magara Y, and Ong CA. (2010) Chemical aspects of desalinated water. In *Desalination Technology*. Eds J Cotruvo, N Voutchkov, J Fawell, P Payment, D Cunliffe, S Lattemann. CRC Press and IWA Publishing
10. Fawell J (2010) **Drinking Water Safety and Standards for Drinking Water**. In *Textbook of Environmental Medicine*. Eds J Ayres, R Harrison, R Maynard and G Nichols. Hodder Arnold.
11. Gore F, Fawell JK and Bartram J. (2009) Too much or too little? A review of the conundrum of selenium. *Journal of Water and Health* Vol 08 No 3 pp 405-416
12. Fawell JK. (2009) Alternative hypotheses and knowledge gaps. In: *Calcium and magnesium in drinking-water. Public health significance*. Pp145-153. World Health Organization, Geneva.

13. Matthiessen P, Babut M, Batley G, Douglas M, Fawell J, et al. (2009) Water and sediment EQS derivation and application. In Derivation and use of environmental quality and human health standards for chemical substances in water and soil. Eds Crane M et al. Setac Press, Belgium.
14. Fawell J and Hulsmann AD. (2009) Health effects of chemical contamination of drinking water supplies. In Encyclopedia of Life Support Systems. UNESCO.
15. Fawell JK. (2008) Health risks of micropollutants – the need for a new approach. *Water Science and Technology* 57(2):183-7
16. Nieuwenhuijsen MJ. Toledano MB. Bennet J. Best N. Hambly P. de Hoogh C. Wellesley D. Boyd PA. Abramsky L. Dattani N. Fawell J. Briggs D. Jarup L. Elliott P. (2008) Chlorination disinfection by-products and risk of congenital anomalies in England and Wales. *Environmental Health Perspectives*. Feb;116(2):216-22
17. Fawell J. (2007) Chemical contaminants of concern for drinking water. In: *Global Change: Enough Water for all?* Eds. José L. Lozán et al. *Wissenschaftliche Auswertungen in cooperation with GEO*.
18. Thompson T. Fawell J. Kunikane S. Jackson D. Appleyard S. Callan P. Bartram J. Kingston P. (2007) *Chemical safety of drinking-water: Assessing priorities for risk management*. World Health Organization, Geneva.
19. Fawell J. (2007) MTBE: WHO Guidelines and Taste and Odour Issues for Drinking Water. In *Fuel Oxygenates*. Ed D. Barceló. *The Handbook of Environmental Chemistry 5-R*, Springer, Berlin.
20. Fawell, J (2007) Chemical contaminants of concern for drinking water. In **GLOBAL CHANGE: Enough Water for all?** Eds. J. Lozán, H. Graßl, P. Hupfer, L. Menzel & Chr. Schönwiese. *Wissenschaftliche Auswertungen/GEO*
21. Fawell, J. Bailey, K. Chilton, J. Dahi, E. Fewtrell, L. Magara, Y. (2006) *Fluoride in Drinking-water*. WHO Drinking-water Quality Series. IWA Publishing, London.
22. Fawell J. and Walker M. (2006) Approaches to determining regulatory values for carcinogens with particular reference to bromate. *Toxicology* Vol 221, Iss 2-3, pp 149-153.
23. Fawell J. (2005) Keynote Lecture: Emerging contaminants and problems – looking to the future. Proceedings of the conference on Developments in water treatment and supply. 5-6 July 2005. EPSRC. Organised by School of Water Sciences, Cranfield University. ISBN 1 861941 19 6
24. Toledano M.B., Nieuwenhuijsen M.J., Best N., Whitaker H., Hambly P., de Hoogh C., Fawell J., Jarup L. and Elliott P. (2005) Relation of trihalomethane concentrations in public water supplies to still birth and birth weight in three water regions in England. *Environmental Health Perspectives*. 113, (2), <http://www.ehponline.org/members/2004/7111/7111.html>
25. Whitaker H., Best N., Nieuwenhuijsen M.J., Wakefield J., Fawell J. and Elliott P. (2004) Modelling exposure to disinfection by-products in drinking water for an

- epidemiological study of adverse birth outcomes. *J Expo Anal Environ Epidemiol.* May.
26. Fawell J. and Nieuwenhuijsen M.J. Contaminants in drinking water. In: Impact of environmental pollution on health. Balancing risks, Elliott P and Briggs D (eds). *British Medical Bulletin* 2003, volume 67.
 27. Fawell J. (2004) Metals in Perspective. Metals in water. *Journal of Environmental Monitoring* 6. 104-107.
 28. Fawell J. (2003) A perspective on drinking water standards in different parts of the world. In *Water Resources and Water Supply in the 21st Century*. Eds Watanabe and Funamizu. pp 49-59. Hokkaido University Press.
 29. Whitaker H., Nieuwenhuijsen M.J., Best N., Fawell J., Gowers A. and Elliott P. (2003) Description of trihalomethane levels in three UK water suppliers. *J. Expo Anal Environ Epidemiol.* 13(1): 17-23
 30. BARTH, F., and FAWELL, JK., (2001) The water framework directive and European water policy. *Ecotoxicology and Environmental Safety* 50 103-105.
 31. FAWELL, J.K. (2001) Balancing the chemical and microbial risks. In: *Microbial Pathogens and Disinfection By-products in Drinking Water. Health Effects and Management of Risks*. Eds. G.F. Craun, F.S. Hauchman and D.E. Robinson. ILSI Press. Washington D.C. pp503-513.
 32. FAWELL, J.K., and STANFIELD, G., (2001) Drinking Water Quality and Health. In *Pollution Causes, Effects and Control* Fourth Edition. Ed. Roy M. Harrison. The Royal Society of Chemistry. 59-81
 33. KEEGAN, T., WHITAKER, H., NIEUWENHUIJSEN, MJ., TOLEDANO, MB., ELLIOT, P., FAWELL, JK., WILKINSON, M., BEST, N. (2001) Use of routinely collected data on trihalomethanes in drinking water for epidemiological purpose. *Occupational and Environmental Medicine* 58 447-452
 34. FAWELL, J.K. and CHIPMAN, K.J. (2001) Potential endocrine disrupting substances from materials in contact with drinking water. *Journal of the Chartered Institute of Water and Environmental Management* 15 (2) 92-96
 35. FAWELL, J.K, SHEAHAN, D, JAMES, H.A, HURST, M. and SCOTT, S. (2001) Assessment of oestrogens and oestrogenic activity in raw and treated water in Severn Trent Water. *Water Research* 35 (5) 1240-1244
 36. Toledano M.B., Elliott P., Nieuwenhuijsen M.J., Whitaker H., Best N.G., Cockings S., Jarup L. and Fawell J. (2000) A retrospective cohort study of water disinfection by-products and adverse human birth outcomes in Great Britain. *Frontiers in Fetal Health* 2(9-11):38
 37. FAWELL, J., and CHIPMAN, K., (2000) Endocrine disrupters, drinking water and public reassurance. *Water and Environmental Manager.* 5 (6) 4-5
 38. FAWELL, J.K. (2000) Pharmaceuticals in drinking water – Issue or scare story. *Water and Health* 29/00, March 2000. North West Water Public Health Section Newsletter.

39. FAWELL, J.K. and YOUNG, W.F. (2000) Hormonally active chemicals in water. Proceedings of the Conference on Research Needs on Water, Environment and Health in Europe. <http://www.who.it/docs/Water/Procresonwat/procresonwat.htm>
40. FAWELL, J.K. and GOWERS, A.M. (2000) Chlorinated solvents in groundwater. Proceedings of the Conference on Research Needs on Water, Environment and Health in Europe. <http://www.who.it/docs/Water/Procresonwat/procresonwat.htm>
41. FAWELL, J. (2000) Risk Assessment case study - Chloroform and related substances: *Food Chem Toxicology* 38, Suppl 1(2-3):S91-S95.
42. NIEUWENHUIJSEN, M.J, TOLEDANO, M.B, EATON, N.E, FAWELL, J, ELLIOTT, P. (2000) Chlorination disinfection byproducts in water and their association with adverse reproductive outcomes: a review: *Occupational & Environmental Medicine* 57, 73-85.
43. FAWELL, J.K., MITCHELL, R.E., EVERETT, D.J. and HILL, R.E. (1999) The toxicity of cyanobacterial toxins in the mouse: I Microcystin-LR. *Human and Experimental Toxicology* 18, 162-167.
44. FAWELL, J.K., MITCHELL, R.E., HILL, R.E. and EVERETT, D.J. (1999) The toxicity of cyanobacterial toxins in the mouse: II Anatoxin a. *Human and Experimental Toxicology* 18, 168-173.
45. Hart, J., Fawell, J. K. and Croll, B. (1998) The fate of both intra- and extracellular toxins during drinking water treatment. *Water Supply* 16(1/2) , 611-616
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47. CHIPMAN, J.K., DAVIES, J.E., PARSONS, J.L., NAIR, J., O'NEILL, G. and FAWELL, J.K. (1998) DNA oxidation by potassium bromate; a direct mechanism or linked to lipid peroxidation? *Toxicology* 126, 93-102.
48. FAWELL, J.K. *et al* (1997) Disinfection by-products in drinking water: Critical issues in health effects research. *Environmental Health Perspectives* 105 108-109
49. FAWELL, J.K. and HEDGECOTT, S. (1996) Derivation of acceptable concentrations for the protection of aquatic organisms. *Environmental Toxicology and Pharmacology* 2 115-120.
50. FAWELL, J.K. (1996) Allotropes versus polymorphisms. Comment on the paper 'A unique metabolism of inorganic arsenic in native Andean women' by Vahter *et al*. *Human and Experimental Toxicology* 15, 698-699.
51. FAWELL, J.K. (1995) Physiological factors and environmental carcinogenesis. Comment on the paper 'Multiple risk factors associated with arsenic-induced skin cancer: effects of chronic liver disease and malnutritional status' by Hsueh *et al*. *Human and Experimental Toxicology* 14, 464-465
52. FAWELL, J.K. and O'NEILL, G. (1995) Toxicity and risk assessment of bromate. *Water Supply* 13, 29-33.
53. FAWELL, J.K. (1995) Environmental Risk Management. *BIRA Journal* 14, 8-9.

54. FAWELL, J.K. (1995) Hazards and benefits of drinking water chlorination. *Proceedings of the Toxicology Forum conference on Chlorinated Organic Chemicals. Their Effect on Human Health and the Environment*. Berlin 1994. The Toxicology Forum, 1995.
55. FAWELL, J.K. (1995) Chemical associated waterborne diseases. *Microbiology Europe* 3, 8-12.
56. FAWELL, J.K., O'NEILL, G. and YOUNG, W. (1995) Regulation of disinfection by-products - a need for careful consideration. In: *Assessing and managing health risks from drinking water contamination: Approaches and Applications*. Eds. E.G. Reichard and G.A. Zapponi. IAHS Publication No. 233, pp15-21.
57. EVANS, D.P., HIGHAM, A.T., IRVINE, L.F., FAWELL, J.K. AND WROATH, A.S. (1995) Microcystin-LR: toxicological assessment of a toxin derived from blue-green algae. *Toxicologist*, Mar; 15(1): 169.
58. FAWELL, J.K. (1994) Setting drinking water standards in Europe. In: *Proceedings of the American Water Works Association Annual Conference*, June 1994. pp739-747.
59. FAWELL, J.K. and MILLER, D.G. (1994) UK Drinking Water - a European comparison. *Journal of the Institution of Water and Environmental Management* 8, 76-83.
60. FAWELL, J.K. and WILKINSON, M.J. (1994) Oestrogenic substances in water: a review. *J. Water SRT - Aqua*
61. FAWELL, J.K. (1993) The impact of inorganic chemicals on water quality and health. *Anneli d'Instituto Superiore di Sanita* 29, 293-303.
62. FAWELL, J.K., HART, J., JAMES, H.A. and PARR, W. (1993) Blue-green algae and their toxins-analysis, toxicity, treatment and environmental control. *Water Supply* 11, Nos 3/4, 109-121.
63. FAWELL, J.K. and YOUNG, W.F. (1993) Assessment of the human risk associated with the presence of carcinogenic compounds in drinking water. *Anneli d'Instituto Superiore di Sanita* 29, 313-316.
64. PIKE, E.B., FAWELL, J.K. and MILLER, D.G. (1993) Economic factors in balancing chemical and microbial risks. In: *Safety of Water Disinfection: Balancing chemical and microbial risks*. Ed. G.F. Craun. ILSI Press, Washington D.C.
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