Curriculum Vitae
H. A. Tennekes, M.Sc., Ph.D.

Contact

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Education

1968 - 1974	Student at the Agricultural University of Wageningen,The Netherlands. *M.Sc. degree in Human Nutrition* awarded in 1974.
1974 - 1978	Ph.D. Student, *Shell Toxicology Laboratory* in Sittingbourne, United Kingdom
1979	*Ph.D. degree in Agricultural Sciences* awarded by the Agricultural University of Wageningen, The Netherlands, on a thesis entitled *„The Relationship between Microsomal Enzyme Induction and Liver Tumour Formation“* (under supervision of Prof. Dr. J. H. Koeman)

Professional Experience

1978 - 1980	Scientist at the Institute of Toxicology and Pharmacology of the *University of Marburg*, Germany
1980 - 1985	Scientist at the *German Cancer Research Center* in Heidelberg, Germany
1985 - 1986	Senior Toxicologist in the Department of Agrochemical Toxicology of *Sandoz Ltd* in Muttenz, Switzerland
1986 - 1992	Head of the General Toxicology Department and Member of the Directorate at *RCC, Research and Consulting Company Ltd* in Itingen, Switzerland
1992 - present	Independent Consultant in Toxicology in Pratteln, Switzerland (1992 - 1998) and Sissach, Switzerland (1998-2002), now based in Zutphen, the Netherlands

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Achievements

1974 - 1985	Mechanistic research on the induction of mouse liver tumours by non-genotoxic compounds. The organochlorine insecticide dieldrin served as a model substance. The most important results of these investigations were 1. The demonstration in a chronic mouse study of a relationship between dieldrin-induced increases in liver DNA and mouse liver tumour formation [*Cancer Research 41, 3615-3620 (1981)*]; 2. The discovery that the dose-response relationship for liver tumour formation in mice by the *non-genotoxic* carcinogen dieldrin is consistent with Haber's Rule, i.e., the product of exposure concentration [c] and duration [t] produces a constant toxic effect, c t = constant [*Carcinogenesis 6, 1457-1462 (1985)*]; 3. The demonstration of a close association of tumour formation with nuclear polyploidisation in mouse hepatocytes [*Carcinogenesis 8, 265-269 (1987)*].
1985 - 1992	Direction of numerous general toxicity and carcinogenicity studies with pharmaceuticals and agrochemicals. Successful management of the general toxicology department of a major European contract research laboratory leading to rapid expansion of services. First introduction in the world of computerised dosing equipment in general and reproduction toxicity studies in 1988.
1992 - present	Consultancy services to leading companies in the chemical industry with an acknowledged record of achievement. The consultancy offers comprehensive services in product safety assessment including Design of safety evaluation programmes, Human safety assessment, Interaction with regulatory agencies (product defense), Preparation of EU expert reports and US NDAs, Preparation of preclinical assessments, investigator's drug brochures, INDs, Data interpretation and evaluation (report preparation), Design, monitoring and report review of toxicity studies, Preparation of manuscripts for publication in scientific journals (including editorials), Coaching and training of junior toxicologists. The consultancy has sofar been commissioned by the following companies or institutions:

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Achievements – continued

Switzerland	***Germany***
Ciba Geigy Pharma AG	Knoll AG
Sandoz Pharma AG	BASF AG
Sandoz Agro AG	Henkel KGaA
EPS AG	Cognis Deutschland GmbH
F. Hoffmann - La Roche AG	Verband der Chemischen Industrie e.V.
Novartis Pharma AG	***The Netherlands***
Novartis Consumer Health AG	Yamanouchi Europe B.V.
Novartis Crop Protection AG	Shell International B.V.
RCC AG	TNO Pharma B.V.
Permamed AG	NOTOX B.V.
Papiliorama	Solvay Pharmaceuticals B.V.
England	Kinesis Holding B.V.
Zeneca Agrochemicals Ltd	DSM
	Dutch Society for Nature & Environment
Israel	***Belgium***
Makhteshim Ltd	UCB S.A. (Pharma Sector)
Intec Pharma Ltd	***Austria***
	Monsanto GmbH

1992 - 1998	Secretary of the Toxicology Section of the Swiss Society of Pharmacology and Toxicology
1996 - 2000	Member of the Board of Directors of the Swiss Register of Toxicologists.
1995	Chairman of the Task Force of the Swiss Society of Pharmacology and Toxicology on Guidelines for Training and Registration of Toxicologists in Switzerland. The recommendations of the Task Force were adopted by the Society for the establishment of a Swiss Register of Toxicologists (with EUROTOX certification) and a post-graduate training programme for toxicologists in Switzerland.
2002 - 2004	The demonstration in outbred and inbred rat strains that (spontaneous) carcinogenesis is genetically determined and that non-genotoxic carcinogens operate by facilitating the expression of tumour predisposition in target cells [*Regulatory Toxicology and Pharmacology,* 36, 86-95; 40, 18-27; 40, 293-304].
2009 - 2011	Discovery that the Druckrey-Küpfmüller equation $d\ t^n$ = constant (where d= daily dose and t = exposure time to effect, with $n \geq 1$) for chemical carcinogens also applies to the toxicity of neonicotinoid insecticides to arthropods (*Toxicology,* 276, 1-4), which provides a plausible explanation for cumulative toxicity that may result in colony collapse disorder (CCD) of honeybees. Publication of a book on the hazards of neonicotinoid insecticides to insects and birds.

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Scientific Publications

1979 H. A. Tennekes. Ph.D. Thesis
The relationship between microsomal enzyme induction and liver tumour formation.
Agricultural Research Report 890, Centre for Agricultural Publishing & Documentation, Wageningen

1978 H. A. Tennekes and A.S. Wright.
The relationship between biotransformation pathways of chemicals and hepatic tumorigenesis in various strains and species.
In: Primary Liver Tumours, pp. 305-318, MTP Press (UK)

1979 H. A. Tennekes, A. S. Wright and K.M. Dix.
The effects of dieldrin, diet and other environmental components on enzyme function and tumor incidence in livers of male CF-1 mice.
Arch. Toxicology Suppl. 2, 197-212

1981 H. A. Tennekes, A. S. Wright, K. M. Dix, and J. H. Koeman.
Effects of dieldrin, diet and bedding on enzyme function and tumor incidence in livers of male CF-1 mice.
Cancer Research 41, 3615-3620

1982 H. A. Tennekes, L. Edler, and H. W. Kunz
Dose-response analysis of the enhancement of liver tumor formation in CF-1 mice by dieldrin.
Carcinogenesis 3, 941-945

1982 W. Kunz, G. Schaude, M. Schwarz, and H. A. Tennekes. *Quantitative aspects of drug-mediated tumor promotion in liver, and its toxicological implications*
In: Carcinogenesis 7, 111-125, Raven Press, New York

1982 D. Schrenk, M. Schwarz, H. A. Tennekes, and W. Kunz.
A novel pathway of nitrosamine metabolism in liver microsomes: denitrosation of nitrosamines by cytochrome P-450.
In: Biological Reactive Intermediates II, pp. 1157-1163, Plenum Publishing Corporation, New York

1982 D. Kitta, M. Schwarz, H. A. Tennekes, H. Uehleke and W. Kunz.
Covalent binding of CCl_4-intermediates to reduced pyridine nucleotides in mouse liver.
In: Biological Reactive Intermediates II, pp. 769-777, Plenum Publishing Corporation, New York

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Scientific Publications - continued

1983 H. W. Kunz, H. A. Tennekes, R. E. Port, M. Schwarz, D. Lorke, and G. Schaude
Quantitative aspects of chemical carcinogenesis and tumor promotion in liver
Env. Health Persp., 50, pp. 113-122

1985 H. Tennekes, B. van Ravenzwaay, and H. W. Kunz.
Quantitative aspects of enhanced liver tumour formation in CF-1 mice by dieldrin.
Carcinogenesis 6, 1457-1462

1985 H. W. Kunz, M. Schwarz, H, Tennekes, R. Port, and K. Appel.
Mechanism and dose-time response characteristics of carcinogenic and tumor promoting xenobiotics in liver.
In: Tumorpromotoren, BGA Schriften 6, pp. 76-97, MMV Medizin Verlag, München

1987 B. van Ravenzwaay, H. Tennekes, M. Stöhr, and W. Kunz.
The kinetics of nuclear polyploidisation and tumour formation in livers of CF-1 mice exposed to dieldrin.
Carcinogenesis 8, 265-269

2002 B. van Ravenzwaay and H. Tennekes.
A Wistar rat strain prone to spontaneous liver tumor development. Implications for carcinogenic risk assessment
Regulatory Toxicology and Pharmacology 36, 86-95

2004 H. Tennekes, C. Gembardt, M. Dammann and B. van Ravenzwaay.
The stability of historical control data for common neoplasms in laboratory rats: adrenal gland (medulla), mammary gland, liver, endocrine pancreas and pituitary gland.
Regulatory Toxicology and Pharmacology 40, 18-27

2004 H. Tennekes, W. Kaufmann, M. Dammann and B. van Ravenzwaay.
The stability of historical control data for common neoplasms in laboratory rats and the implications for carcinogenic risk assessment.
Regulatory Toxicology and Pharmacology 40, 293-304

2004 A.O. Gamer, E. Leibold, K. Deckardt, B. Kittel, W. Kaufmann, H.A. Tennekes, and B. van Ravenzwaay.
The effects of styrene on lung cells in female mice and rats. Food Chem Toxicol. 42(10),1655-67

2007 K. Deckardt , I. Weber, U. Kaspers, J. Hellwig, H. Tennekes, and B. van Ravenzwaay.
The effects of inhalation anaesthetics on common clinical pathology parameters in laboratory rats.
Food Chem Toxicol. 45(9),1709-18

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Scientific Publications - continued

2009 G. Coelho Palermo Cunha, B. van Ravenzwaay, H. A. Tennekes, W. Mellert, S. Schulte and S. Burkhardt
Effects of an ultraviolet B radiation absorber on photocarcinogenesis in hairless albino mice
Skin Pharmacology and Physiology 22, 166-176

2010 H. Tennekes, V.A. Gretton, and T. Stedeford.
Hazard and risk assessment of chemical carcinogenicity within a regulatory context.
In: Cancer Risk Assessment: Chemical Carcinogenesis, Hazard Evaluation, and Risk Quantification (Edited by Ching-Hung Hsu and Todd Stedeford), pp. 37-65. John Wiley and Sons, Hoboken, NJ 07030-5774

2010 H. A. Tennekes
The significance of the Druckrey-Küpfmüller equation for risk assessment - The toxicity of neonicotinoid insecticides to arthropods is reinforced by exposure time
Toxicology 276, 1-4

2010 H. A. Tennekes
The Systemic Insecticides: A Disaster in the Making
ETS Nederland BV, Zutphen, The Netherlands

2011 H. A. Tennekes
Das Ende der Artenvielfalt – Neuartige Pestizide töten Insekten und Vögel
Bund fuer Umwelt und Naturschutz Deutschland (BUND) – Friends of the Earth Germany, Berlin

2011 H. Tennekes
The significance of the Druckrey-Küpfmüller equation for risk assessment - The toxicity of neonicotinoid insecticides to arthropods is reinforced by exposure time: Responding to a Letter to the Editor by Drs. C. Maus and R. Nauen of Bayer CropScience AG
Toxicology 280, 173-175

2011 H. A. Tennekes and F. Sánchez-Bayo
Time-Dependent Toxicity of Neonicotinoids and Other Toxicants: Implications for a New Approach to Risk Assessment
J Environment Analytic Toxicol S4:001. doi:10.4172/2161-0525.S4-001

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Unpublished Study Reports now in the Public Domain

1987 Tennekes, H., Horst, K., Luetkemeier, H., Vogel, W., Schlotke, B. & Terrier, C.H.
Triazophos. Subchronic oral toxicity, 13 week feeding study in rats.
Unpublished report No. 071818 from RCC Research & Consulting Company AG, Itingen, Switzerland, 10 December 1987. Aventis document A37398. Submitted to WHO by Aventis CropScience, Frankfurt am Main, Germany.

1987 Tennekes, H., Horst, K., Luetkemeier, H., Wilson, J., Vogel, W., & Terrier, Ch.
Thirteen week oral toxicity (feeding) study with Bentazone Technical (ZNT No. 86/48) in the rat.
Unpublished report by RCC Research & Consulting Company AG, Itingen, Switzerland, submitted to WHO by BASF, Limburgerhof, Germany.

1989 Tennekes, H., Stucki, P., Luetkemeier, H., Biedermann, K., Bloch, M., Chevalier, H., Vogel, O. & Terrier, C.
Chronic toxicity and oncogenicity (feeding) study with CME 134 in the rat.
Project 064192. Document No. 134AB-437-009. Unpublished report from RCC Research & Consulting Company AG, Itingen, Switzerland. Submitted to WHO by Shell International Chemical Co. Ltd, London, United Kingdom.

1989 Tennekes, H., Horst, K., Luetkemeier, H., Vogel, W., Vogel, O., Armstrong, J., Ehlers, H.A., Muller, E., Terrier, C.
TPTH-technical (Code: HOE 029664 OF ZD97 0004: Oncogenicity 80-week feeding study in mice.
Unpublished report 047002 (A40467) from RCC Research & Consulting Company AG, Itingen, Switzerland. Submitted to WHO by Hoechst AG, Frankfurt-am-Main, Germany.

1989 Tennekes, H., Horst, K., Luetkemeier, H., Vogel, W., Schlotke, B., Vogel, O., Ehlers, H.A., Muller, E., Terrier, C.
TPTH-technical (Code: HOE 029664 OF ZD97 0007): Chronic toxicity/oncogenicity 104-week feeding study in rats.
Unpublished report 046980 (A40468) of RCC Research & Consulting Company AG, Itingen, Switzerland. Submitted to WHO by Hoechst AG, Frankfurt-am-Main, Germany.

1990 Tennekes, H., Janiak, T., Probst, D., Luetkemeier, H., Vogel, O., Westen, H., Biedermann, K. & Heusner, W.
Triazophos. Chronic toxicity/oncogenicity feeding study in rats.
Unpublished report No. 071537 from RCC Research & Consulting Company AG, Itingen, Switzerland, 24 December 1990. Aventis document A44716. Submitted to WHO by Aventis CropScience, Frankfurt am Main, Germany.

Unpublished Study Reports now in the Public Domain - Continued

1991 Tennekes, H., Janiak, T., Probst, D., Luetkemeier, H., Vogel, O., Schlotke, B., Biedermann, K., & Heusner, W.
Pyrazophos substance technical. Chronic toxicity/oncogenicity feeding study in rats.
Unpublished report No. 071526 from RCC Research & Consulting Company AG, Itingen, Switzerland. Submitted to WHO by Hoechst.

1991 Tennekes, H., Janiak, T., Probst, D., Luetkemeier, H., Vogel, O., Schlotke, B., Biedermann, K., & Heusner, W.
Pyrazophos substance technical. Chronic toxicity addendum to RCC project 071526 satellite feeding study in rats with a supplementary test concentration.
Unpublished report No. 209226 from RCC Research &Consulting Company AG, Itingen, Switzerland. Submitted to WHO by Hoechst.

1991 Tennekes, H., Janiak, T., Stucki, H.P., Probst, D., Luetkemeier, H., Vogel, O., Schlotke, B., Biedermann, K. & Heusner, W.
28-Day range-finding (feeding) study with chlorfenvinphos in the mouse.
RCC Project No. 243202. Unpublished report from RCC Research & Consulting Company AG, Itingen, Switzerland. Submitted to WHO by American Cyanamid Co., Princeton, NJ, USA

1992 Tennekes, H., Schmid, H. & Probst, D.
Sub-chronic oral toxicity 13-week feeding study in mice with Hoe 099730 substance, technical.
RCC Research & Consulting Company Ltd, Itingen, Switzerland. Report No. 291025. A48186. Unpublished report submitted to WHO by Hoechst Schering AgrEvo GmbH, Germany.

1992 Tennekes, H., Probst, D. & Luetkemeier, H.
Sub-chronic oral toxicity 13-week feeding study in rats with Hoe 099730 substance, technical.
RCC Research & Consulting Company Ltd, Itingen, Switzerland. Report No. 291093. A48187. Unpublished report submitted to WHO by Hoechst Schering AgrEvo GmbH, Germany.

1992 Schmid, H., Tennekes, H., Janiak, T., Probst, D., Leutkemeier, H., Pappritz, G., Marki, U., Vogel, O., Heusner, W.
Ethylenethiourea 104 week chronic toxicity (feeding) study in rats.
Unpublished study No. 256803 from RCC Research & Consulting Company Ltd, Itingen, Switzerland.. Submitted to WHO by Rohm and Haas Company, Spring House, Pennsylvania, USA.

1994 Tennekes, H.
The genetic toxicology of captan.
Unpublished review commissioned by Zeneca Agrochemicals. Submitted to U.S. EPA.

Unpublished Study Reports now in the Public Domain - Continued

1995 Tennekes, H.
The genetic toxicology of folpet.
Position paper commissioned by Makhteshim Chemical Works Ltd, Beer-Sheva, Israel. Submitted to WHO.

Memberships

Dutch Society of Toxicology

Swiss Society of Pharmacology and Toxicology

British Toxicology Society

Association of European Toxicologists and Toxicological Societies (EUROTOX)

International Union for the Conservation of Nature (IUCN)/Commission on Ecosystem Management (CEM)

Certifications

Registered Toxicologist in Switzerland and the Netherlands (with EUROTOX certification)