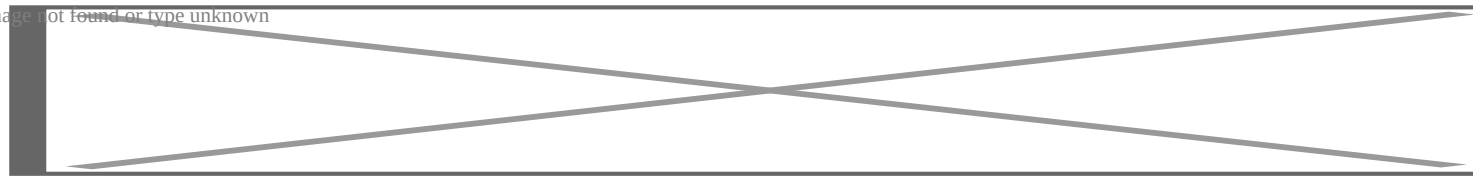
DDT (Dichlorodiphenyltrichloroethane): An experiment on the masses

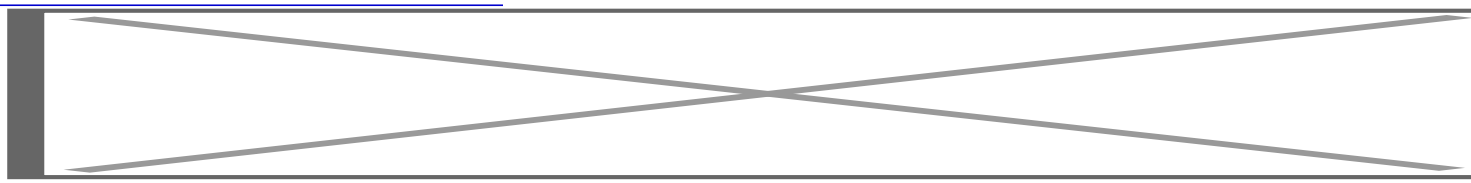
Description

DDT (dichloro-diphenyl-trichloroethane) was developed as the first of the modern synthetic insecticides in the 1940s. It was initially used with great effect to combat malaria, typhus, and the other insect-borne human diseases among both military and civilian populations (including “mass-spraying” on children – see video below). Toxicological studies demonstrate that DDT has numerous adverse effects (see references below).

Image not found or type unknown



https://cognitive-liberty.online/wp-content/uploads/TOXICOLOGY-VS-VIROLOGY-ROCKEFELLER-INSTITUTE-AND-THE-CRIMINAL-POLIO-FRAUD.mp3 Toxicology vs Virology The Rockefeller Institute and the Criminal Polio Fraud



Further References

Epstein, S. S.. (1972). Letters to the Editor. Science, 177(4047), 388–388.

Plain numerical DOI: 10.1126/science.177.4047.388
DOI URL
directSciHub download

Hawkey, A. B., Holloway, Z., Dean, C., Koburov, R., Slotkin, T. A., Seidler, F. J., & Levin, E. D.. (2021). Neurobehavioral anomalies in zebrafish after sequential exposures to DDT and chlorpyrifos in adulthood: Do multiple exposures interact?. Neurotoxicology and Teratology, 87, 106985.

Plain numerical DOI: 10.1016/j.ntt.2021.106985
DOI URL
directSciHub download

Show/hide publication abstract

“A sequence of different classes of synthetic insecticides have been used over the past 70 years. over this period, the widely-used organochlorines were eventually replaced by organophosphates, with

dichlorodiphenyltrichloroethane (ddt) and chlorpyrifos (cpf) as the principal prototypes. considerable research has characterized the risks of ddt and cpf individually, but little is known about the toxicology of transitioning from one class of insecticides to another, as has been commonplace for agricultural and pest control workers. this study used adult zebrafish to investigate neurobehavioral toxicity following 5-week chronic exposure to either ddt or cpf, to or their sequential exposure (ddt for 5 weeks followed by cpf for 5 weeks). at the end of the exposure period, a subset of fish were analyzed for brain cholinesterase activity. behavioral effects were initially assessed one week following the end of the cpf exposure and again at 14 months of age using a behavioral test battery covering sensorimotor responses, anxiety-like functions, predator avoidance and social attraction. adult insecticide exposures, individually or sequentially, were found to modulate multiple behavioral features, including startle responsivity, social approach, predator avoidance, locomotor activity and novel location recognition and avoidance. locomotor activity and startle responsivity were each impacted to a greater degree by the sequential exposures than by individual compounds, with the latter being pronounced at the early (1-week post exposure) time point, but not 3–4 months later in aging. social approach responses were similarly impaired by the sequential exposure as by cpf-alone at the aging time point. fleeing responses in the predator test showed flee-enhancing effects of both compounds individually versus controls, and no additive impact of the two following sequential exposure. each compound was also associated with changes in recognition or avoidance patterns in a novel place recognition task in late adulthood, but sequential exposures did not enhance these phenotypes. the potential for chemical x chemical interactions did not appear related to changes in cpf metabolism to the active oxon, as prior ddt exposure did not affect the cholinesterase inhibition resulting from cpf. this study shows that the effects of chronic adult insecticide exposures may be relevant to behavioral health initially and much later in life, and that the effects of sequential exposures may b…”
Krzastek, S. C., Farhi, J., Gray, M., & Smith, R. P.. (2020). Impact of environmental toxin exposure on male fertility potential. Translational Andrology and Urology, 9(6), 2797–2813.

Plain numerical DOI: 10.21037/tau-20-685
DOI URL
directSciHub download

Show/hide publication abstract

“Idiopathic infertility is the most common individual diagnosis in male infertility, representing nearly 44% of cases. research studies dating over the last half-century consistently demonstrate a decline in male fertility that is incompletely explained by obesity, known genetic causes, or diet and lifestyle changes alone. human exposures have changed dramatically over the same time course as this fertility decline. synthetic chemicals surround us. some are benevolent; however, many are known to cause disruption of the hypothalamic-pituitary-gonadal axis and impair spermatogenesis. more than 80,000 chemicals are registered with the united states national toxicology program and nearly 2,000 new chemicals are introduced each year. many of these are known toxins, such as phthalates, polycyclic aromatic hydrocarbons, aromatic amines, and organophosphate esters, and have been banned or significantly restricted by other countries as they carry known carcinogenic effects and are reproductively toxic. in the united states, many of these chemicals are still permissible in exposure levels known to cause reproductive harm. this contrasts to other chemical regulatory legislature, such as the european union’s reach (registration, evaluation, authorization and restriction of chemicals) regulations which are more comprehensive and restrictive. quantification of these diverse exposures on an individual level has proven challenging, although forthcoming technologies may soon make this data available to

consumers. establishing causality and the proportion of idiopathic infertility attributable to environmental toxin exposures remains elusive, however, continued investigation, avoidance of exposure, and mitigation of risk is essential to our reproductive health. the aim of this review is to examine the literature linking changes in male fertility to some of the most common environmental exposures. specifically, pesticides and herbicides such as dichlorodiphenyltrichloroethane (ddt), dibromochloropropane (dbcp), organophosphates and atrazine, endocrine disrupting compounds including plastic compounds phthalates and bisphenol a (bpa), heavy metals, natural gas/oil, non-ionizing radiation, air and noise pollution, lifestyle factors including diet, obesity, caffeine use, smoking, alcohol and drug use, as well as commonly prescribed medications will be discussed."
Russell, P. F.. (1972). DDT Toxicology. Science, 177(4047), 387–388.

Plain numerical DOI: 10.1126/science.177.4047.387
DOI URL
directSciHub download

Persson, E. C., Graubard, B. I., Evans, A. A., London, W. T., Weber, J.-P., LeBlanc, A., … McGlynn, K. A.. (2012). Dichlorodiphenyltrichloroethane and risk of hepatocellular carcinoma. International Journal of Cancer, 131(9), 2078–2084.

Plain numerical DOI: 10.1002/ijc.27459
DOI URL
directSciHub download

Show/hide publication abstract

"Dichlorodiphenyltrichloroethane (p,p'-ddt), an organochlorine pesticide known to have deleterious health effects in humans, has been linked to hepatocellular carcinoma (hcc) in rodents. a recent study has reported that p,p'-ddt and its most persistent metabolite, dichlorodiphenyldichloroethylene (p,p'-dde), may also be associated with hcc in humans. to examine whether there is an association between p,p'-ddt and/or p,p'-dde in a population at high-risk of developing hcc, a nested case-control study was conducted within the 83,794 person haimen city cohort in china. sera and questionnaire data were collected from all participants between 1992 and 1993. this study included 473 persons who developed hcc and 492 who did not, frequency matched on sex, age and area of residence. p,p'-ddt and p,p'-dde levels were determined by mass spectrometry. hepatitis b viral infection status (based on hepatitis b virus surface antigen; hbsag) was also determined. p,p'-ddt and/or p,p'-dde serum levels were significantly associated with sex, area of residence, occupation, alcohol consumption and cigarette smoking. adjusting for age, sex, area of residence, hbsag, family history of hcc, history of acute hepatitis, smoking, alcohol, occupation (farmer vs. other) and levels of p,p'-ddt or p,p'-dde, odds ratios (or) and 95% confidence intervals (ci) were calculated via unconditional logistic regression. overall, the highest quintile of p,p'-ddt was associated with an increased risk of hcc, or = 2.96 95% ci; 1.19-7.40. there were no statistically significant associations with p,p'-dde. overall, these results suggest that recent exposure to p,p'-ddt may increase risk of hcc. copyright © 2012 uicc."
Oliver, S. V., & Brooke, B. D.. (2013). The effect of larval nutritional deprivation on the life history and DDT resistance phenotype in laboratory strains of the malaria vector Anopheles arabiensis. Malaria Journal, 12(1), 44.

Plain numerical DOI: 10.1186/1475-2875-12-44
DOI URL
directSciHub download

Show/hide publication abstract

“Background: anopheles arabiensis is a major malaria vector in africa. it thrives in agricultural areas and has been associated with increased malaria incidence in areas under rice and maize cultivation. this effect may be due to increased adult size and abundance as a consequence of optimal larval nutrition. the aim of this study was to examine the effect of larval nutrition on the life history and expression of insecticide resistance in adults of laboratory reared an. arabiensis. methods. larvae drawn from an insecticide susceptible an. arabiensis strain (senn) as well as a ddt-resistant strain (senn-ddt) were subjected to three fasting regimes: 1 mg of food per larva offered once per day, once every second day and once every third day. control cohorts included larvae offered 1 mg food thrice per day. the rate of larval development was compared between matched cohorts from each strain as well as between fasted larvae and their respective controls. the expression of ddt resistance/tolerance in adults was compared between the starved cohorts and their controls by strain. factors potentially affecting variation in ddt resistance/tolerance were examined including: adult body size (wing length), knock-down resistance (kdr) status and levels of detoxification enzyme activity. results and conclusion. anopheles arabiensis larval development is prolonged by nutrient deprivation and adults that eclose from starved larvae are smaller and less tolerant to ddt intoxication. this effect on ddt tolerance in adults is also associated with reduced detoxification enzyme activity. conversely, well fed larvae develop comparatively quickly into large, more ddt tolerant (senn) or resistant (senn-ddt) adults. this is important in those instances where cereal farming is associated with increased an. arabiensis transmitted malaria incidence, because large adult females with high teneral reserves and decreased susceptibility to insecticide intoxication may also prove to be more efficient malaria vectors. in general, larval nutrient deprivation in an. arabiensis has important implications for subsequent adults in terms of their size and relative insecticide susceptibility, which may in turn impact on their malaria vector capacity in areas where insecticide based control measures are in place. © 2013 oliver and brooke; licensee biomed central ltd.”
Turusov, V., Rakitsky, V., & Tomatis, L.. (2002). Dichlorodiphenyltrichloroethane (DDT): ubiquity, persistence, and risks.. Environmental Health Perspectives, 110(2), 125–128.

Plain numerical DOI: 10.1289/ehp.02110125
DOI URL
directSciHub download

Show/hide publication abstract

“Due to uncontrolled use for several decades, dichlorodiphenyltrichloroethane (ddt), probably the best known and most useful insecticide in the world, has damaged wildlife and might have negative effects on human health. this review gives a brief history of the use of ddt in various countries and presents the results of epidemiologic and experimental studies of carcinogenesis. even though its use has been prohibited in most countries for ecologic considerations, mainly because of its negative impact on wildlife, it is still used in some developing countries for essential public health purposes, and it is still produced for export in at least three countries. due to its stability and its capacity to accumulate in

adipose tissue, it is found in human tissues, and there is now not a single living organism on the planet that does not contain ddt. the possible contribution of ddt to increasing the risks for cancers at various sites and its possible role as an endocrine disruptor deserve further investigation. although there is convincing experimental evidence for the carcinogenicity of ddt and of its main metabolites dde and ddd, epidemiologic studies have provided contrasting or inconclusive, although prevailingly negative, results. the presence and persistence of ddt and its metabolites worldwide are still problems of great relevance to public health. efficient pesticides that do not have the negative properties of ddt, together with the development of alternative methods to fight malaria, should be sought with the goal of completely banning ddt."
Booij, P., Holoubek, I., Klánová, J., Kohoutek, J., Dvorská, A., Magulová, K., … ?upr, P.. (2016). Current implications of past DDT indoor spraying in Oman. Science of The Total Environment, 550, 231–240.

Plain numerical DOI: 10.1016/j.scitotenv.2015.12.044
DOI URL
directSciHub download

Show/hide publication abstract

"In oman, ddt was sprayed indoors during an intensive malaria eradication program between 1976 and 1992. ddt can remain for years after spraying and is associated with potential health risk. this raises the concern for human exposure in areas where ddt was used for indoor spraying. twelve houses in three regions with a different history of ddt indoor spraying were chosen for a sampling campaign in 2005 to determine p,p'-dichlorodiphenyltrichloroethane (p,p'-ddt), p,p'-dichlorodiphenyldichloroethylene (p,p'-dde) and p,p'-dichlorodiphenyldichloroethane (p,p'-ddd) levels in indoor air, dust, and outdoor soil. although ddt was only sprayed indoor, p,p'-ddt, p,p'-dde and p,p'-ddd were also found in outdoor soil. the results indicate that release and exposure continue for years after cessation of spraying. the predicted cancer risk based on concentrations determined in 2005, indicate that there was still a significant cancer risk up to 13 to 16 years after indoor ddt spraying. a novel approach, based on region-specific half-lives, was used to predict concentrations in 2015 and showed that more than 21. years after spraying, cancer risk for exposure to indoor air, dust, and outdoor soil are acceptable in oman for adults and young children. the model can be used for other locations and countries to predict prospective exposure of contaminants based on indoor experimental measurements and knowledge about the spraying time-schedule to extrapolate region-specific half-lives and predict effects on the human population years after spraying."
Rosner, D., & Markowitz, G.. (2013). Persistent pollutants: A brief history of the discovery of the widespread toxicity of chlorinated hydrocarbons. Environmental Research, 120, 126–133.

Plain numerical DOI: 10.1016/j.envres.2012.08.011
DOI URL
directSciHub download

Show/hide publication abstract

"Rachel carson's silent spring is often depicted as the beginning of a broad societal concern about the dangers of ddt and other pesticides. attention to the other chlorinated hydrocarbons, specifically pcbs, is seen as an outgrowth of the late 1960s environmental movement. carson's work was clearly critical

in broadening the history to include the environmental impact and set the stage for the path breaking work decades later by theo colburn and others on endocrine disruptions associated with other synthetic chemicals. this article reviews the development of the understanding the dangers of the chlorinated hydrocarbons in the decades preceding carson's book. although little noticed, rachel carson makes this observation herself. © 2012 elsevier inc."

Category

1. General

Tags

1. Polio fraud
2. Rockefeller Institute

Date Created
16. July 2022
Author
web45