
History of pesticides

BC	
1200	Biblical armies salt and ash the fields of the conquered; first reported use of nonselective herbicides.
1000	Homer refers to sulfur used in fumigation and other forms of pest control.
100	The Romans apply hellebore for the control of rats, mice and insects.
25	Virgil reports seed treatment with “nitre and amurca.”
AD	
70	Pliny the Elder reports pest control practices from Greek literature of the preceding three centuries; most practices based on folklore and superstition.
900	Chinese use arsenic to control garden insects.
1300	Marco Polo writes of mineral oil being used against mange of camels.
1649	Rotenone used to paralyze fish in South America.
1669	Earliest mention of arsenic as insecticide in Western world, used with honey as an ant bait.
1690	Tobacco extracts used as contact insecticide.
1773	Nicotine fumigation by heating tobacco and blowing smoke on infested plants.
1787	Soap mentioned as insecticide.
	Turpentine emulsion recommended to kill and repel insects.
1800	Persian louse powder (pyrethrum) known to the Caucasus. Sprays of lime and sulfur recommended in insect control. Whale oil prescribed as scalecide.
1810	Dip containing arsenic suggested for sheep scab control.
1820	Fish oil advocated as insecticide.
1821	Sulfur reported as fungicide for mildew by John Robertson in England.
1822	Mixture of mercuric chloride and alcohol recommended for bedbug control.
1825	Quassia used as insecticide in fly baits.
1842	Whale-oil soap mentioned as insecticide.
1845	Phosphorus paste declared as official rodenticide for rats by Prussia; by 1859 it was used in cockroach control.
1848	Derris (rotenone) reported being used in insect control in Asia.
1851	Boiled lime-sulfur employed at Versailles by Grison.
1854	Carbon disulfide tested experimentally as grain fumigant.
1858	Pyrethrum first used in the United States.
1860	Mercuric chloride solutions applied to destroy soil-inhabiting forms such as earthworms.
1867	Paris green used as an insecticide.
1868	Kerosene emulsions employed as dormant sprays for deciduous fruit trees.
1877	Hydrogen cyanide (HCN) first used as fumigant, to fumigate museum cases.
1878	London purple reported as a substitute for Paris green (both are arsenicals).
1880	Lime-sulfur used in California against San Jose scale.
1882	Naphthalene cakes used to protect insect collections.
1883	Millardet discovers the value of Bordeaux mixture in France.
1886	Hydrogen cyanide used for citrus tree fumigation in California. Resin fish-oil soap used as scalecide in California.
1890	Carbolineum, a coal-tar fraction, used in Germany on dormant fruit trees.

- 1892 Lead arsenate first prepared and used to control gypsy moth in Massachusetts. First use of a dinitrophenol compound, the potassium salt of 4,-6-dinitro-*o*-cresol, as insecticide.
- 1896 Copper sulfate used selectively to kill weeds in grain fields. British patent refers to inorganic fluorine compounds as insecticides.
- 1897 Oil of citronella used as a mosquito repellent.
- 1902 The value of lime-sulfur as apple scab control discovered in New York.
- 1906 Passage of Federal Food, Drug and Cosmetic Act (Pure Food Law). Lubricating oil emulsions first applied to citrus trees.
- 1907 Calcium arsenate in experimental use as an insecticide.
- 1909 First tests with 40 % nicotine sulfate made in Colorado.
- 1910 Passage of Federal Insecticide Act.
- 1911 First publication of the use, outside the Orient, of derris as an insecticide, in British patents.
- 1912 Zinc arsenite first recommended as insecticide. *p*-Dichlorobenzene applied in the United States as a moth fumigant on clothes.
- 1917 Nicotine sulfate first used in a dry carrier for dusting.
- 1921 Airplane first used for spreading insecticide dust for catalpa sphinx at Troy, Ohio.
- 1922 Calcium cyanide begins commercial use. First aerial application of an insecticide to cotton, Tallulah, La.
- 1923 Geraniol discovered to be attractive to the Japanese beetle.
- 1924 Cubé (derris) first tested as insecticide in the United States. First tests of cryolite against Mexican bean beetle.
- 1925 Selenium compounds tested as insecticides.
- 1927 Tolerance established for arsenic on apples by U.S. FDA. Ethylene dichloride discovered to have fumigant value.
- 1928 Pyrethrum culture introduced into Kenya. Ethylene oxide patented as insect fumigant.
- 1929 Alkyl phthalates patented as insect repellents. *n*-Butyl carbitol thiocyanate produced commercially as a synthetic contact insecticide. Cryolite introduced as an insecticide.
- 1930 First fixed nicotine compound, nicotine tannate, used as a stomach poison.
- 1931 Anabasine isolated from plants and synthesized in the laboratory. Thiram, first organic sulfur fungicide, discovered.
- 1932 Methyl bromide first used in France as fumigant. Ethylene and acetylene discovered to promote flowering in pineapples; first plant growth regulators.
- 1934 Nicotine-bentonite combination, first dependable nicotine dust, developed.
- 1936 Pentachlorophenol introduced as wood preservative against fungi and termites.
- 1938 TEPP, first organophosphate insecticide, discovered by Gerhardt Schrader. Passage of pesticide amendment to Pure Food Law (1906), preventing contamination of food. *Bacillus thuringiensis* first used as microbial insecticide. DNOC, first dinitrophenol herbicide, introduced to United States from France.
- 1939 Rutgers 612, first good insect repellent, introduced. DDT discovered to be insecticidal by Paul Müller in Switzerland.
- 1940 Sesame oil patented as synergist for pyrethrin insecticides.
- 1941 Hexachlorocyclohexane (BHC) discovered in France to be insecticidal. Introduction of aerosol insecticides propelled by liquified gases.
- 1942 First batch of DDT shipped to United States for experimental use. Introduction of 2,4-D, the first of the hormone (or phenoxy) herbicides.
- 1943 First dithiocarbamate fungicide, zineb, introduced commercially.
- 1944 Introduction of 2,4,5-T for brush and tree control and warfarin for rodent control.
- 1945 Early synthetic herbicide, ammonium sulfamate, introduced for brush control. Chlordane, the first of the persistent, chlorinated cyclodiene insecticides introduced. The first carbamate herbicide, protham, becomes available.
- 1946 Organophosphate insecticides, TEPP and parathion, developed by the Germans, made available to U.S. producers. First resistance in houseflies to DDT observed in Sweden.