

601293

PDC SEARCH NO. 62-009

293

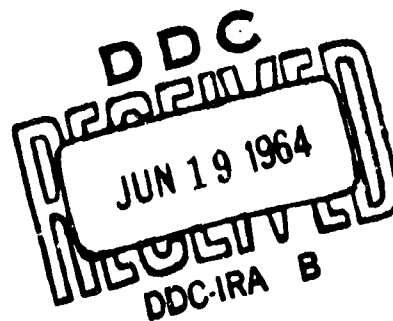
PDL-43106

**PREVENTION OF DETERIORATION CENTER
DIVISION OF CHEMISTRY AND CHEMICAL TECHNOLOGY
NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL**

11-f-1.60

**A PRELIMINARY SURVEY OF
LITERATURE RELATING TO RODENT AND INSECT
REPELLENCY OF WOOD-FIBER INSULATION MATERIALS**

Compiled by
Richard W. H. Lee



March 4, 1962

**2101 Constitution Avenue
Washington 25, D. C.**

**Best
Available
Copy**

The Prevention of Deterioration Center operates with the support of the Army, Navy, and Air Force under contract between the National Academy of Sciences-National Research Council and the Office of Naval Research.

Consulting and advisory services are offered by the Center to U.S. military agencies and their contractors, and to other Federal Government organizations. A library of about 50,000 technical reports, journal articles, and patents on materiel deterioration and its prevention is maintained, and provides the basis for literature searches. Preparation of selected bibliographies on specific subjects in this field represents but one area of service the Center renders. Information regarding library loans, and other PDC services and publications will be furnished upon request.

Prevention of Deterioration Center
Division of Chemistry and Chemical Technology
National Academy of Sciences-National Research Council

A PRELIMINARY SURVEY OF
LITERATURE RELATING TO RODENT AND INSECT
REPELLENCY OF WOOD-FIBER INSULATION MATERIALS

Compiled by
Richard W. H. Lee

March 4, 1962

2101 Constitution Avenue
Washington 25, D.C.

A PRELIMINARY SURVEY OF
LITERATURE RELATING TO RODENT AND INSECT
REPELLENCY OF WOOD-FIBER INSULATION MATERIALS

- F-124 I.G. Farbenindustrie Aktiengesellschaft, Frankfurt, Ger.
[Process for protecting wood against fire and pests].
U.S. Office of technical services. Publication Board Series
PB 53701. Frames 2268-2272. November 1941.
- G-5930(1) Spiller, D.
Toxicity of pentachlorophenol to the common house borer Anobium punctatum De Geer. 1. Residual contact and ovicidal action.
In New Zealand J. Sci. Technol. 30B:142-153. November 1948.
- G-5974 DeWitt, James B., Jack F. Welch and E. Bellack.
Rodent repellency studies identify chemical and physical
deterrents that may be effectively used in packaging
materials. In Modern Packaging 23(9):123-126. May 1950.
- G-6473 Welch, Jack F., James B. DeWitt and Ervin Bellack.
Rat deterrents for paper packages. Reprint Soap Sanit.
Chemicals 26(4):122-124,147; (5):147,149,151,177. April-
May 1950.
- G-6670 Wolcott, George N.
Benzene hexachloride as a termite repellent. Reprint J. Agr.
Univ. Puerto Rico 31:224-225. July 1947.
- G-6770 Chamberlain, W.F. and W.M. Hoskins.
The toxicity and repellence of organic chemicals toward termites,
and their use in termite-proofing food packages. In Hilgardia
19:285-307. November 1949.
- G-6922 Welch, Jack F.
Rat-repellent findings. In Modern Packaging 24(9):138-140.
May 1951.
- G-6996 Block, S.S.
Protection of paper and textile products from insect damage.
In Ind. Eng. Chem. 43:1558-1563. July 1951.
- G-7645 Behr, E.A. and A.J. Hubert.
Preservation of fiber insulating board with copper pentachloro-
phenate. Reprint TAPPI 34:519-523. November 1951.
- G-7731 Welch, Jack F. and R.W. Duggan.
Rodent-resistant vinyl films. Reprint Modern Packaging 25(6):
130-131,182-183. February 1952.

- G-7864 Cash in keep-aways. In Chem. Week 70(19):49. May 1952.
- G-8247(1) U.S. Fish and Wildlife Service (E.R. Kalmbach, Jack F. Welch and James B. DeWitt).
Rodenticides and rodent repellents. "Supplementary quarterly report, January-March 1952; ... to the Office of the Quartermaster general ...". 1952.
- G-8247(2) U.S. Fish and Wildlife Service. (E.R. Kalmbach, Jack F. Welch and James B. DeWitt).
Rodenticides and rodent repellents. "Supplementary quarterly report, April-June 1952; ... to the Office of the Quartermaster general ...". 1952.
- G-8752 Jones, Howard A., G.F. Kerbey and Eileen J. Incho.
Insect-proofing of paper. Reprint Chem. Specialties Mfrs. Assoc., Proc. Mid-Yr. Meeting 38:94-96. 1952.
- G-9931 Bracey, P. and F. Barlow.
Urea-formaldehyde resin as a vehicle for semi-permanent insecticidal and fungicidal coatings on bookbindings and bookcases. Reprint J. Documentation 9:157-168. September 1953.
- G-10233 Giblin, J.F. and W.T. King.
The damage to lead-sheathed cables by rodents and insects. Reprint Proc. Inst. Elec. Engrs. (London) Part I, 101:123-128. May 1954.
- G-10571 U.S. Fish and Wildlife Service. (Paul Hickie).
Rodenticides, rodent repellents and deterrents. "Supplementary quarterly report, October-December, 1954; ... to the Office of the Quartermaster general ...". 1954.
- G-10747 Welch, Jack F.
Rodent control. A review of chemical repellents for rodents. In J. Agr. and Food Chem. 2:142-149. February 1954.
- G-10786 Harrow, K.M.
Toxicity of Boliden salt B18-8, copper sulphate, and celcure to the common houseborer Anobium punctatum De Geer. Reprint New Zealand J. Sci. Technol. 36(Sec. B): 277-280. November 1954.
- G-10966 Ballack, Ervin and James B. DeWitt.
Rodent repellents. Preparation and properties of thiouronium compounds and cyclic imides. Reprint J. Agr. and Food Chem. 2:1176-1179. November 1954.
- G-11405 Gray, H.E.
Premix food packages and some chemical treatments to reduce penetration by insects. Reprint TAPPI 38:329-333. June 1955.

- G-11407 Laudani, Hamilton, Dean F. Davis and George R. Swank (U.S. Agricultural Marketing Service. Stored-Product Insects Laboratory, Savannah, Ga.).
A laboratory method of evaluating the repellency of treated paper to stored-product insects. Reprint TAPPI 38:336-341. June 1955.
- G-11522 Hitchon, J.L. and M.D. Price (Insecta Laboratories, Ltd., London, Eng.).
Insecticidal resin treatment for ships. In Shipbuilding & Shipping Record 83:407. April 1954.
- G-11744 Wolcott, George N. (Puerto Rico. Agricultural Experiment Station, Rio Piedra).
Organic termite repellents tested against Cryptotermes brevis Walker. Reprint J. Agr. Univ. Puerto Rico 39(3):115-149. July 1955.
- G-11920 U.S. Fish and Wildlife Service. Wildlife Research Laboratory, Denver, Colo. (Jack F. Welch, Jerome Besser and Millard Graham).
Rodent resistance of repellent-treated boxes prepared by the Paulsboro manufacturing company under the auspices of the Quartermaster corps. 15 p. [n.d.].
- G-12016 Ihndria, Ray W., Harry K. Gouck, and C.V. Bowen.
Effect of promising insect repellents on plastics and paints. (U.S. Agricultural Research Service. [Publication] ARS-33-7). 27 p. May 1955.
- G-12522 Da Costa, E.W.B., A.J. Watson (Australia. Commonwealth Scientific and Industrial Research Organization. Division of Forest Products, Melbourne) and W.R. Hindson (Australia. Defence Standards Laboratories. Dept. of Supply, Maribyrnong, Victoria).
Preservatives for rot-proofing paper. In Australian J. Applied Sci. 7:113-118. March 1956.
- G-12754 Davis, Dean F. and Hamilton Laudani (U.S. Agricultural Marketing Service. Stored-Product Insects Laboratory, Savannah, Ga.).
Long-term insecticide tests. In Modern Packaging 29(7):236-240, 332,334,337-338. March 1956.
- G-13397 U.S. Fish and Wildlife Service (Jack F. Welch).
Rodenticides, rodent repellents and deterrents, supplementary quarterly report, October-December, 1956. 25 p. [n.d.].
- P-1664 Carter, William James, Patentee.
Rotproofing of textiles, paper, and other fibrous materials. U.S. Pat. 2,280,477; April 21, 1942. 1 p.
- P-1665 Basling, Newton P., Patentee.
Insectproof paper. U.S. Pat. 2,129,659; September 13, 1938. 1 p.

- P-1766 Baumgartner, Luther L., Patentee.
Rodent and deer repellents. U.S. Pat, 2,510,367; June 6, 1950.
3 p.
- P-1767 Baumgartner, Luther L., Patentee.
Rodent repellent. U.S. Pat, 2,510,366; June 6, 1950. 5 p.
- P-1837 Fiero, George W., Howard F. Seeland and George H. Batt, Patentees.
Insecticidal paper-coating compositions. U.S. Pat, 2,534,008;
December 12, 1950. 3 p.
- P-2084 Mavfield, Paul, Patentee.
Processes for making paper having insecticidal properties and
products resulting therefrom. U.S. Pat, 2,566,092; August
28, 1951. 3 p.
- P-2087 Jones, Leonard Ellwood, Patentee.
Manufacture of insect-repelling amides of chlorobenzoic acid
and composition prepared therefrom. Gt. Brit. Pat. Specifica-
tion 653,027; May 9, 1951. 11 p.
- P-2180 Stewart, William D. and John H. Standen, Patentees.
Complex amine products with dialkyl zinc dithiocarbamates as
pesticides. U.S. Pat. 2,588,428; March 11, 1952. 4 p.
- P-2229 Ralston, Anderson W., John P. Barrett and Ervin W. Segebrecht,
Patentees.
Rodent repelling binder cord and process of making same. U.S.
Pat. 2,578,595; December 11, 1951. 2 p.
- P-2295 Bauer, Oscar W. and John W. Teter, Patentees.
Insect repellents containing a chlorobutyrosamide. U.S. Pat.
2,587,957; March 4, 1952. 1 p.
- P-3011 Dalmar, Gesa S. and Ernest Neil Macallum, Patentees.
Anticoagulant rodenticide. U.S. Pat. 2,651,591; September 8,
1953. 1 p.
- P-3255 Link, Karl Paul, Patentee.
Warfarin rodenticide bait composition and process of making same.
U.S. Pat. 2,687,365; August 24, 1954. 4 p.
- P-3630 Newcomer, Jack S., Patentee.
Pesticidal compositions and their use. U.S. Pat. 2,722,497;
November 1, 1955. 4 p.
- P-4043 Fredenburg, Robert H. and William E. Bissinger, Patentees.
Method of rendering material rodent repellent by isopropyl
pentachlorophenyl carbonate. U.S. Pat. 2,754,229; July 10,
1956. 2 p.
- P-4096 Berona, Morton, Patentee.
3,4-methylenedioxycyclohexyl ethers as synergists for pyrethrins.
U.S. Pat. 2,764,517; September 25, 1956. 2 p.

- P-4190 Zakheim, Murray, Patentee.
Composition comprising copper salts of fluorine and arsenic
and fibrous materials containing same. U.S. Pat. 2,772,199;
November 27, 1956. 4 p.
- PDL-30904 Gilbert, I.H., H.K. Gouck and Carroll N. Smith (U.S. Agricultural Research Service. Entomology Research Division).
New insect repellent. In Soap Chem. Specialties 33(5):115-117,
129,131,133. May 1957.
- PDL-30924 Shearer, Newton H., Jr. and Harry W. Coover, Jr., Patentees.
Amide rodent repellent compositions. U.S. Pat. 2,790,745;
April 30, 1957. 1 p.
- PDL-30925 Shearer, Newton H., Jr. and Harry W. Coover, Jr., Patentees.
Amide rodent repellent compositions. U.S. Pat. 2,790,744;
April 30, 1957. 2 p.
- PDL-31571 Yanko, William H., Patentee.
Morpholine derivative. U.S. Pat. 2,774,758; December 18, 1956.
2 p.
- PDL-31693 Manzelli, Menlio A. and Charles L. Harovitz, Patentees.
Methods for repelling rodents with an alkyl 2-furoate tetra-
chloride. U.S. Pat. 2,811,478; October 29, 1957. 3 p.
- PDL-32134 Barrett, John P. and Ervin W. Segebrecht, Patentees.
Rodent repellent cordage impregnated with dodecyl alcohol. U.S.
Pat. 2,822,295; February 4, 1958. 7 p.
- PDL-32135 Barrett, John P. and Ervin W. Segebrecht, Patentees.
Rodent repellent material containing dodecylamine acetate. U.S.
Pat. 2,822,296; February 4, 1958. 8 p.
- PDL-32314 U.S. Fish and Wildlife Service (Cecil S. Williams).
Rodenticides, rodent repellents and deterrents, supplementary
quarterly report, January-March 1958. [1958]. 26 p.
- PDL-32766 Jezl, James L. and Samuel E. Jolly, Patentees.
Rodent repellent methods and compositions employing imidazoles.
U.S. Pat. 2,832,715; April 29, 1958. 4 p.
- PDL-32781 Jolly, Samuel E., Patentee.
Rodent repellent methods and compositions employing naphthenyl
amines. U.S. Pat. 2,832,714; April 29, 1958. 3 p.
- PDL-32930 Katsaros, Constantine and Andrew A. Baldoni, Patentees.
Protecting objects from rodent attack. U.S. Pat. 2,824,826;
February 25, 1958. 5 p.
- PDL-33013 U.S. Fish and Wildlife Service (Cecil S. Williams).
Rodenticides, rodent repellents and deterrents, supplementary
quarterly report, April-June 1958. 1958. 22 p.

- PDL-33704 Fisher, R.C. (Gt. Brit. Forest Products Research Laboratory, Princes Risborough, Eng.).
Current problems in woodworm control. A survey of recent developments. In Ann. Applied Biol. 46:111-117. March 1958.
- PDL-34047 Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Ger.,
Patentec. (Inventor: Winfried Kruckenberg).
[Mite repellents]. Ger. Pat. 895671; November 5, 1953.
1 p.
- PDL-34168 Pray, Elaine O. and William E. Bissinger, Patentees.
Methods of repelling rodents employing chlorinated phenol
derivatives. U.S. Pat. 2,862,849; December 2, 1958. 2 p.
- PDL-34174 Jucaitis, Pranas, Patentee.
Rodent repellent binder cord comprising naphthenic acid stabilized
quinaldine. U.S. Pat. 2,864,727; December 16, 1958. 2 p.
- PDL-34707 Jucaitis, Pranas, Patentee.
Rodent repellent binder cord. U.S. Pat. 2,868,674; January 13,
1959. 2 p.
- PDL-34934 Harker, Robert J., Patentee.
Method of repelling rodents by treating with a composition com-
prising an aryl nitroolefin. U.S. Pat. 2,889,246; June 2,
1959. 2 p.
- PDL-35026 Goodhue, Lyle D., Patentee.
Dithiocarbamate rodent repellent compositions and methods. U.S.
Pat. 2,862,850; December 2, 1958. 3 p.
- PDL-35757 U.S. Fish and Wildlife Service (Cecil S. Williams).
Rodenticides, rodent repellents and deterrents, supplementary
quarterly report, July-September 1959. [1959]. 8 p.
- PDL-36253 Weeks, James R. (Drake University, Des Moines, Iowa).
Quantitative evaluation of repellency of chemical coatings on
paperboard. In J. Agr. and Food Chem. 7:193-196. March 1959.
- PDL-36336 Pest infestation research, 1958. In Nature 185:78. January 1960.
- PDL-37215 Bottoms, Robert R., Patentee.
Preservation of cellulosic materials against organic agents of
decay. Can. Pat. 573,290; March 31, 1959. 7 p.
- PDL-37452 Goodhue, Lyle F. (Phillips Petroleum Company, Bartlesville,
Okla.) and D.E. Howell (Oklahoma State University of
Agriculture and Applied Science, Stillwater).
Repellents and attractants in pest control operations. In Pest
Control 28(8):44,46,48,50. August 1960.

- PDL-37531 Manzelli, Manlio A., Virgil H. Young, Jr. and Charles L. Harowitz, Patentees.
Method of repelling rodents with furan compounds. U.S. Pat. 2,924,544; February 9, 1960. 3 p.
- PDL-38004 Price, Miles D. (Disinfestation Ltd., Sussex, Eng.).
Insecticidal resins. A new concept in residual insect control. In Pest Control 28(10):47,50,52,54,56-58. October 1960.
- PDL-38216 Jucaitis, Prancas, Patentee.
Rodent repelling binding cord incorporating a nitroso-aniline stabilized by an organic acid. U.S. Pat. 2,935,446; May 3, 1960. 2 p.
- PDL-38246 Wicker, Thomas H., Jr. and Newton H. Shearer, Jr., Patentees.
Method of repelling rodents comprising applying a member of the group consisting of an ethylene dinitrile and ethylene dicarboxylic acid esters. U.S. Pat. 2,933,429; April 19, 1960. 2 p.
- PDL-38660 National Pest Control Association, Elizabeth, N.J.
Survey of organic phosphate insecticides used by PCOs. (Its Technical Release 26-60). December 1960. 16 p.
- PDL-40062 Virginia-Carolina Chemical Corporation, Richmond, Va., Patentee.
(Inventors: Manlio Arthur Manzelli, Virgil Hjalmar Young, Jr. and Charles Lichtenberg Harowitz).
Means for protection of foodstuffs and other materials from depredation by rodents. Gt. Brit. Pat. Specification 841,720; July 20, 1960. 4 p.
- PDL-40346 Jezl, James L., Patentee.
Phenol salts of polyesteramines and their use as fungicides or rodent repellents. U.S. Pat. 2,957,850; October 25, 1960. 2 p.
- PDL-40552 Bruce, Willis Nels, Patentee.
Insecticidal repellent. U.S. Pat. 2,981,654; April 25, 1961. 2 p.

NATIONAL ACADEMY OF SCIENCES NATIONAL RESEARCH COUNCIL

The National Academy of Sciences-National Research Council is a private, nonprofit organization of scientists, dedicated to the furtherance of science and to its use for the general welfare.

The Academy itself was established in 1863 under a Congressional charter signed by President Lincoln. Empowered to provide for all activities appropriate to academies of science, it was also required by its charter to act as an adviser to the Federal Government in scientific matters. This provision accounts for the close ties that have always existed between the Academy and the Government, although the Academy is not a governmental agency.

The National Research Council was established by the Academy in 1916, at the request of President Wilson, to enable scientists generally to associate their efforts with those of the limited membership of the Academy in service to the nation, to society, and to science at home and abroad. Members of the National Research Council receive their appointments from the President of the Academy. They include representatives nominated by the major scientific and technical societies, representatives of the Federal Government, and a number of members-at-large. In addition, several thousand scientists and engineers take part in the activities of the Research Council through membership on its various boards and committees.

Receiving funds from both public and private sources, by contributions, grant, or contract, the Academy and its Research Council thus work to stimulate research and its applications, to survey the broad possibilities of science, to promote effective utilization of the scientific and technical resources of the country, to serve the Government, and to further the general interests of science.

The Prevention of Deterioration Center, organized in 1945, resides within the Division of Chemistry and Chemical Technology. Formed originally at the request and with the support of the Departments of Navy and Army, and later the Air Force, it was a continuation of the wartime OSRD-NDRC Tropical Deterioration Information Center. The Center is charged with responsibility to assist the U.S. Department of Defense and other authorized agencies interested in combating the impairment and deterioration of materials and equipment, due to effects of the environment.