ıe a higher uptake than those of the alkaline range. A translocaıwithin the plant body is predominantely apoplastic in nature. The ıs of photosynthesis in influenced by Pb ions. The carbon dioxide ion of isolated chloroplasts is reduced. The electron transport ıotosystem II is most likely inhibited between the site of primary ion donor and water oxidation. The inhibition of photosystem ınsiderably smaller than that of photosystem II. The inhibitory ı of Pb ions on the activity of enzymes is due to the blocking ıthydryl groups of the proteins and probably due to a change of ıhate levels in the living cells.

047
ıtructural changes in rat hepatocytes following acute methyl ıry intoxication.
Desmoyers (Univ. of Wisconsin, Dept. of Pathology, Madison, 1706), L. W. Chang.
VIRONMENTAL RESEARCH, 9(3):224-239, June 1975.
bs., illus., refs., from AA.
rats were given daily s.c. injections of methylmercuric chloride ıoage of 10 mg/kg body wt for 4 d. The earliest ultrastructural es consisted of dilatation of the rough endoplasmic reticulum, transformation of the mitochondrial membranes, and occasional ıulation of liposomes. Focal areas of cytoplasmic degradation observed 1 d after the initial injection. An increased number of ımes, swelling, and floccular degeneration of the mitochondria frequently observed at 2 d. Sequestration of cytoplasmic elles in the hepatocytes, extrusion of degenerated hepatic organand cytoplasmic debris into the sinusoid were observed 24 hr the initial administration and became a frequent finding after intoxication.

048
ıses of rats and nonhuman primates 2,5,2',5'-tetrachlorobiphenyl.
Allen (Univ. of Wisconsin, Medical School, Dept. of Pathology, on, WI 53706), L. A. Cartens, L. J. Abrahamson, R. J. Marlar.
VIRONMENTAL RESEARCH, 9(3):265-273, June 1975.
ıs., illus., refs., from AA. Grants: NIH ES-00472 and ES-00167. Also in: Wisconsin. University. Primate Center blication 14-004.
le oral dose of 2,5,2',5'-tetrachlorobiphenyl (TCB) >1.5 g/kg wt produced heavy mortality of rats in 2-3 d. The rats receiving <1.0 g/kg were free of gross abnormalities. Animals pretreated henobarbital survived without obvious ill effects when given /kg of TCB. Those given SKF 525A were dead in 4 d, thus ıg metabolism with toxicity of the compound. Rats given 100 TCB in the diet for 3 wk showed less liver hypertrophy and fewer ımical changes than rats given a similar dose of Aroclor 1248. monkeys were given a single dose of 18 mg/kg of TCB/kg body % of the unmetabolized compound was excreted in the feces in At the dose employed, TCB caused only a slight proliferation in patic endoplasmic reticulum and minimal changes in the activities hepatic microsomal enzymes.

049
ometric method for the determination of residues of 1-naphthalıtamide and 1-naphthaleneacetic acid on apples.
ist, A. Temperli, J. Hurter (Federal Research Station, Bio- ıtry Section, CH-8820 Waedenswil, Switz.).
URNAL OF AGRICULTURAL AND FOOD CHEMISTRY, (4):568-570, July-Aug. 1974. Abs., illus., refs., from AA.
ıthaleneacetamide (NAAamide) and 1-naphthaleneacetic acid ı were applied to apple trees 4 wk before harvest to prevent rop. The maximum residues detected by fluorescence ıphotometry were <0.049 ppm for NAAamide and <0.012 ppm ıA on a whole fruit, fresh wt basis. The toxicologically permitted ıs are 1.5 ppm. The sensitivities of the assay for NAAamide and n apple extracts are 0.025 and 0.01 ppm, respectively; recoveries th growth regulators are 90%-103%. No chromatographic steps ıuired for the procedure.

75-05050
Metabolic transformations of diwgran by rumen fluid of sheep maintained on dissimilar diets.
G. W. Ivie (ARS, Veterinary Toxicology and Entomology Research Lab., College Station, TX 77840), D. E. Clark, D. D. Rushing.
JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, 22(4):632-634, July-Aug. 1974. Abs., illus., refs., from AA.
Diwgran (methyl 3,6-dichloro-o-anisate) is rapidly degraded during in vitro incubation with ovine rumen fluid. Metabolites characterized by GLC–mass spectral studies include methyl 3,6-dichlorosalicylate, 3,6-dichlorosalicylic acid, and 3,6-dichloro-o-anisis acid. Direct incubation of 3,6-dichloro-o-anisic acid with rumen fluid gave no degradation, indicating that the major metabolic pathway is via initial cleavage of the methyl ether, then hydrolysis of the ester. Although 4 unidentified diwgran metabolites were observed, the 3 identified compounds comprised about 95% of the quantity of metabolites generated. Rumen fluid from sheep fed a low-energy ration degraded diwgran faster and more extensively than fluid from sheep fed high-energy diets.

75-05051
Accumulation of dietary polychlorinated biphenyls (Aroclor 1254) by rainbow trout (*Salmo gairdneri*).
A. J. Lieb, D. D. Bills (Oregon State Univ., Dept. of Food Science and Technology, Corvallis, OR 97331), R. O. Sinnhuber.
JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, 22(4):638-642, July-Aug. 1974. Abs., illus., refs., from AA.
Grant: NOAA 04-158-4. Also in: Oregon. Agricultural Experiment Station, Corvallis. Technical Paper 3672.
Accumulation from a dietary level of 15 ppm was determined using a gas chromatograph equipped with an electron capture detector. The relative concentration of PCBs in the fish stabilized while absolute quantities increased as the fish grew. Total retention from the diet was 68% for a 32-wk feeding period. The distribution of PCBs was fairly constant in the lipid portion of various tissues; PCBs were not eliminated after exposure ceased even when the fish were starved. The fish were not adversely affected by the PCBs and no mortalities were attributed to PCB toxicity.

75-05052
Waste management, control, recovery and reuse.
N. Y. Kirov (Univ. of New South Wales, Dept. of Fuel Technology, P.O. Box 1, Kensington, N.S.W. 2033, Australia), ed.
Ann Arbor, Mich.: Ann Arbor Science Publishers, 1975. 217 pp. Price: $18.50. Abs., illus., refs. for various papers, from Book Jacket.
Advances in waste collection and handling techniques, treatment and disposal methods, industrial waste control, resource recovery, and waste management legislation are presented. Papers from Australia, Bangkok (Thailand), Singapore, the Philippines, and European countries examine the planning, collection, handling, and disposal of solid, liquid, and gaseous wastes; recyclable materials; composting; incineration; metals recycling from scrap automobiles; transfer station operation; packaging industry solid waste treatment; performance guarantees and acceptance testing; and pyrolysis of organic wastes.

75-05053
Development of the Sydney Region Waste Management Plan.
R. Conolly (Metropolitan Waste Disposal Authority, Sydney, N.S.W., Australia).
Waste management, control, recovery and reuse. Edited by N. Y. Kirov. Ann Arbor, Mich.: Ann Arbor Science Publishers, 1975. pp. 1-7. No abs., illus., no refs., from Text & SS.
Short and long-term solutions for regional waste disposal are discussed. The Metropolitan Disposal Authority, Sydney, Australia, waste management program includes a solid waste management plan, establishment of a central liquid waste treatment plant, and the licensing and registration of the generation, transportation, and disposal of waste. Solutions evaluated include regional landfills and depots, waste recycling, and incineration.

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