

# Index

- Actinomycetes, indigenous to poultry manure, 118
- Aldrin residues, fish national biomonitoring, 65, 90
- Anaerobic digesters, poultry manure, 124
- Anerobic digestion, poultry manure, 118
- Animal manures, animal refeeding, 121
- Antibiotic residues, poultry manure, 135, 136
- Aqueous theories, toxicity, 24
- Arkansas, leading poultry production, 108
- Aroclor residues, fish national biomonitoring, 90
- Arsenic, poultry manure residues, 133
- Arsenic residues, fish national biomonitoring, 75, 81
- BHC** (hexachlorocyclohexane, HCH) residues, fish national biomonitoring, 72, 92
- Bioconcentration factor/acute toxicity relationship (diag), 10
- Bioconcentration factor, toxicity, 6
- Bioconcentration kinetics, 7
- Bioconcentration mechanisms, 7
- Biogas, anaerobic digestion poultry waste, 123
- Biogas, combustible gas composition, 123
- Boron, poultry manure residues, 133
- Bovine spongiform encephalopathy, animal manure refeeding, 122
- Cadmium, poultry manure residues, 133
- Cadmium residues, fish national biomonitoring, 75, 77, 79
- Cattle poisoning, pasture poultry manure applications, 125
- Chicken manure, see Poultry manure, 109
- Chlamydia, poultry manure pathogen, 135
- Chlordane residues, fish national biomonitoring, 64, 91
- Chlorinated insecticide residues, fish, 43 ff.
- Chlorthal-dimethyl (dacthal) residues, fish national biomonitoring, 72, 73
- Cis-chlordane residues, fish national biomonitoring, 64, 91
- Clostridia* spp., poultry manure pathogen, 136
- Cobalt, poultry manure residues, 133
- Coccidiostat residues, poultry manure, 136
- Copper, poultry manure residues, 133
- Copper residues, fish national biomonitoring, 75, 87
- Creutzfeldt-Jacob disease, manure animal refeeding, 122
- Critical internal concentration, toxicity, 12
- Critical volume hypothesis, toxicity, 4
- Cyclodiene insecticide residues, fish national biomonitoring, 58, 62, 91
- Dacthal (DCPA) residues, fish national biomonitoring, 72, 92
- DCPA (dacthal) residues, fish national biomonitoring, 72, 92
- DDT metabolite residues, fish national biomonitoring, 54, 59, 90
- DDT residues, fish national biomonitoring, 54, 59, 90
- Dieldrin residues, fish national biomonitoring, 63, 91
- Dioxin residues, fish national biomonitoring, 71
- Effective tissue concentration, toxicity, 12
- Eggs, poultry production global, 105
- Elemental contaminants, fish national biomonitoring, 51, 58
- Elemental contaminants in fish, 43 ff.
- Endrin residues, fish national biomonitoring, 66, 91
- Enterohemorrhagic *Escherichia coli*, manure animal refeeding, 122
- Environmental contamination, poultry waste, 107, 124

- Environmental impact, poultry manure, 124
- Escherichia coli*, enterohemorrhagic strains, manure animal refeeding, 122
- Eutrophication surface waters, poultry manure, 125
- Fish, chemical modes of toxic action, 16
- Fish collection stations, national biomonitoring, 47
- Fish, elemental contaminants, 43 ff.
- Fish kills, poultry waste, 106
- Fish, organochlorine residues, 43 ff.
- Fuel production, poultry manure, 123
- GABA (gamma-aminobutyric acid) receptors, 25
- Gamma-aminobutyric acid (GABA) receptors, 25
- Groundwater contamination, poultry waste pathogens, 106
- Groundwater, poultry manure nitrogen transport, 125
- Groundwater, poultry manure phosphorus transport, 130
- HCH (hexachlorocyclohexane, BHC) residues, fish national biomonitoring, 72, 92
- Heptachlor epoxide residues, fish national biomonitoring, 64, 91
- Hexachlorocyclohexane (BHC, HCH) residues, fish national biomonitoring, 72, 92
- Hormone residues, poultry manure, 136
- Human risk, poultry manure animal refeeding, 122
- ILC, internal lethal concentration, 2
- ILC relationship to chemical characteristics, 15
- ILC relationship to mode of toxic action, fish, 16
- ILC values, organic chemicals, fish, 14
- ILC values vs aqueous exposure concentrations, 15
- ILC values vs body size, 15
- ILC values vs exposure times, 14
- ILC values vs metabolic activity, 15
- ILC/Volume fraction estimation, toxicity, 12
- Internal burden, toxicity 12
- Internal concentration toxicity, 2
- Internal critical level nonspecific toxicity, 1 ff.
- Internal lethal concentration (ILC), aquatic organisms, 2
- Internal lethal concentration values, organic chemicals, fish, 14
- Internal toxic level concept, 3
- Internal toxicant concentration, toxicity, 12
- Intrinsic method, partial molar volumes, 13
- Iron, poultry manure residues, 133
- $K_B$  values, bioconcentration factor defined, 7
- Kinetics, bioconcentration, 7
- $K_{ow}$ , octanol-water partition coefficient, defined, 6
- Larvicide residues, poultry manure, 135
- Lead residues, fish national biomonitoring, 73, 75, 77
- LeBas method, partial molar volumes, toxicity, 13
- Lethal tissue concentration, toxicity, 12
- Linear relationships, toxicity vs octanol-water partition coefficient, 21
- Lipid fluidization hypothesis, toxicity, 23
- Listeria monocytogenes*, poultry manure pathogen, 135
- Manganese, poultry manure residues, 134
- Manure, poultry management, 105 ff.
- Mechanisms of nonspecific toxicity, 20
- Mercury residues, fish national biomonitoring, 75, 79
- Meyer-Overton lipid theory, toxicity, 3
- Microbial action, poultry manure digestion, 118
- Mirex residues, fish national biomonitoring, 69, 92
- Molecular weight/density method, partial molar volumes, toxicity, 13

- Molybdenum, poultry manure residues, 134
- Mycobacterium avium*, poultry manure pathogen, 135
- National biomonitoring, organochlorines fish, 43 ff.
- National contaminant biomonitoring, fish collection stations, 47
- National Contaminant Biomonitoring Program (NCBP), 43 ff.
- NCBP, National Contaminant Biomonitoring Program, 43 ff.
- Neurodegenerative diseases, manure animal refeeding, 122
- New Castle disease, poultry manure pathogen, 135
- Nitrogen/phosphorus mass poultry farm, 107
- Nitrogen source, poultry manure, 124
- Nonachlor residues, fish national biomonitoring, 64, 91
- Nonreactive toxicity, defined, 2
- Nonspecific toxicity, 1 ff.
- Nonspecific toxicity, defined, 2
- Nonspecific toxicity, mechanisms, 20
- Nonspecific toxicity, membrane expansion, 20
- Nonspecific toxicity, pressure reversal, 22
- Nonspecific toxicity, processes (diag), 6
- North Carolina, leading poultry production, 108
- Octanol-water partition coefficient ( $K_{ow}$ ), defined, 3
- Olive oil, cell lipid surrogate, 3
- Olive oil-water partition coefficient, 3
- Organochlorine insecticides, fish national biomonitoring, 56, 58
- Organochlorine monitoring, fish sampling methods, 45
- Organochlorine monitoring methods, fish, 45
- Organochlorine residues, fish, 43 ff.
- Organochlorine residues, fish national biomonitoring, 43 ff.
- Organochlorine residues, fish/percent lipid, 45
- Organochlorine residues, fish national biomonitoring, 56, 58
- Oxychlorodane residues, fish national biomonitoring, 64, 92
- Partial molar volumes determination, toxicity, 13
- Pathogenic microorganisms, poultry manure, 135
- PCA (pentachloroanisole) residues, fish national biomonitoring, 71, 92
- PCB residues, fish national biomonitoring, 58, 61
- PCDDs (polychlorinated dibenzo-*p*-dioxins) residues, fish national biomonitoring, 71
- PCDFs (polychlorinated dibenzo-*p*-furans) residues, fish national biomonitoring, 71
- PCP (pentachlorophenol) residues, fish national biomonitoring, 70
- Pentachloroanisole (PCA) residues, fish national biomonitoring, 71, 92
- Pentachlorophenol (PCP) residues, fish national biomonitoring, 70
- Pesticide residues, fish, 43 ff.
- Phosphorus adsorption/desorption, poultry waste soil effects, 128
- Phosphorus, poultry manure soil excess, 127
- Phosphorus source, poultry manure, 126
- Polychlorinated biphenyl (PCB) residues, fish national biomonitoring, 58, 61
- Polychlorinated dibenzo-*p*-dioxins (PCDDs) residues, fish national biomonitoring, 71
- Polychlorinated dibenzo-*p*-furans (PCDFs) residues, fish national biomonitoring, 71
- Poultry consumption, global, 106
- Poultry litter, characteristics as removed from houses, 115
- Poultry litter, characteristics as removed open stockpiles, 117
- Poultry litter production (U.S.), 112
- Poultry litter production, open stockpile storage, 116
- Poultry manure, amendments before soil application, 127

- Poultry manure, anaerobic digesters, 124
- Poultry manure, animal refeeding, 121
- Poultry manure, antibiotic residues, 135, 136
- Poultry manure, application land crops, 119
- Poultry manure, characteristics, 109
- Poultry manure, characteristics as excreted, 113
- Poultry manure, characteristics as removed from storage, 114
- Poultry manure, chemical/physical composition, 111
- Poultry manure, chemical residues, 135
- Poultry manure, coccidiostat residues, 136
- Poultry manure, composting kills pathogens, 136
- Poultry manure, fuel production, 123
- Poultry manure, hormone residues, 136
- Poultry manure, land application crops, 119
- Poultry manure, management/utilization, 105 ff.
- Poultry manure, methods of management/utilization, 119
- Poultry manure, microbial composition, 118
- Poultry manure, nitrogen loss estimates, 125
- Poultry manure, nitrogen losses during handling/treatment, 118
- Poultry manure, nitrogen source, 124
- Poultry manure, pathogenic microorganisms, 135
- Poultry manure, phosphorus losses via runoff, 129
- Poultry manure, phosphorus soil excess, 127
- Poultry manure, phosphorus source, 126
- Poultry manure, phosphorus transport groundwater, 130
- Poultry manure, quantities produced (U.S.), 109
- Poultry manure, rainfall erosion, 120
- Poultry manure, trace element residues, 133
- Poultry production, global, 105
- Poultry waste, environmental impacts, 106, 124
- Poultry waste management, 105 ff.
- Poultry waste, methods of management/utilization, 119
- Poultry waste, nitrogen soil excess, 108
- Poultry waste, phosphorus soil excess, 108
- Poultry waste, phosphorus soil adsorption/desorption effects, 128
- Pressure reversal of nonspecific toxicity, 22
- Protein conformational change, toxicity, 24
- Protein kinase C, interaction with nonspecific toxicants, 25
- Protein unfolding theory, toxicity, 24
- Protein-binding theories, toxicity, 24
- Protein-binding theory, toxicity, 5
- QSAR, internal lethal concentration, toxicity, 29
- QSAR (quantitative structure-activity relationships), toxicity, 27
- Quantitative structure-activity relationships (QSARs), toxicity, 27
- Reactive toxicity, defined, 2
- Salmonella* spp., poultry manure pathogen, 136
- Scrapie, manure animal refeeding, 122
- Selenium, poultry manure residues, 134
- Selenium residues, fish national biomonitoring, 75, 83
- Sheep copper poisoning, poultry waste refeeding, 122
- Specific toxicity, defined, 2
- Subsurface phosphorus transport, poultry manure application, 131
- Surface water contamination, poultry manure pathogens, 137
- Surface waters, eutrophication via poultry manure, 125
- Surface waters, nitrogen transport poultry manure, 125
- Surface waters, phosphorus transport poultry manure, 130
- Tissue residue concentration, toxicity, 12

- Toxaphene residues, fish national biomonitoring, 67, 92
- Toxicity, nonreactive, defined, 2
- Toxicity, nonspecific, 1 ff.
- Toxicity, nonspecific, defined 2
- Toxicity, reactive, defined, 2
- Toxicity, specific, defined, 2
- Toxicity vs octanol-water partition coefficient, linear relationships, 21
- Trace elements, poultry manure residues, 133
- Trans*-chlordane residues, fish national biomonitoring, 64, 91
- Uptake/clearance, lipophilic compounds aquatic organisms (diag), 8
- Van der Waals method, partial molar volumes, toxicity, 13
- Zinc, poultry manure residues, 134
- Zinc residues, fish national biomonitoring, 75, 85