

CONTENTS

INTRODUCTION	5
BIOLOGY and ECOTOXICOLOGY	9
Determination of the effect of agrochemicals on the reproduction of Collembolans (<i>Folsomia candida</i>)	12
Determination of the effect of agrochemicals on the reproduction of Enchytraeids (<i>Enchytraeus crypticus</i>)	15
Determination of the effect of agrochemicals on the reproduction of predatory mites (<i>Hypoaspis aculeifer</i>)	18
Contact test using dehydrogenase activity of bacteria <i>Arthrobacter globiformis</i>	21
Plant test (root growth of <i>Lactuca sativa</i>)	24
Determination of the inhibitory effect of elutriates on the light emission of luminescent bacteria <i>Vibrio fischeri</i>	27
Growth inhibition test with freshwater algae <i>Pseudokirchneriella subcapitata</i>	30
Growth inhibition test with freshwater aquatic plants <i>Lemna minor</i>	33
Sampling of soil fauna	35
MICROBIOLOGY	37
Denitrifying enzyme activity (DEA) with differentiation of denitrification products N ₂ O and N ₂	39
Assessment of basal and substrate induced respiration in soil by gas chromatography	42
Determination of soil microbial biomass. Fumigation-extraction method	45
Assay of β -glucosidase activity	47
Assay of the dehydrogenase activity	49
Assay of CM cellulase activity	51
Assay of acid and alkaline phosphomonoesterase activity	54
Assay of urease activity	57
Evaluation of short-term nitrification activity	60
Evaluation of genetic diversity of ammonia oxidizing archaea (AOA) using terminal restriction fragment length polymorphism analysis (t-RFLP)	63
The estimation of soil microbial functional diversity using microbial community level physiological profiling (CLPP)	67
CHEMISTRY	73
Soil pH	75
Electrical conductivity and salinity of soil	77
Determination of total carbon and total nitrogen by dry combustion method (Dumas method) using a CN elemental analyzer	79
Determination of organic carbon in soil by oxidation with a mixture of potassium dichromate and sulphuric acid	81

Dissolved organic carbon as a simple measure of labile organic matter	85
Sorption capacity of soil	87
Determination of different forms of trace and macro elements	91
Determination of PCBs, OCPs, PBDEs and PAHs by GC-MS/MS	97
Determination of HBCD by LC-MS/MS	99
Determination of PFAS by LC-MS/MS	101
PHYSICS	103
Particle size distribution measured by laser diffraction method	104
Evaluation of sorptivity and water repellency of soil aggregates	106
Evaluation of soil water retention	108
Pore size distribution	110
Strength of soil aggregates	112
Infiltration in soil aggregates and saturated hydraulic conductivity of soil	113
Laboratorní manuál [in Czech]	115
Podręcznik metodyczny [in Polish]	119