

Tabel of Contents

Remarks from Rector USU.....	iii
Message from Chairman of Lembaga Penelitian USU.....	iv
Report from Chairperson of Organizing Committee.....	v
Acknowledgments.....	vi
Tabel of Contents.....	vii
1. ENERGY, ENGINEERING, AND MATERIALS	1
1.1. PROPERTIES OF DEGRADABLE AND GREEN LINEAR LOW DENSITY POLYETHYLENE (LLDPE)/SOYA POWDER BLENDS Hanafi Ismail1 and Sam Sung Ting.....	3
1.2. ENHANCEMENT OF REACTIVITY OF SORBENT Ca(OH) ₂ USING DIATOMACEOUS EARTH (DE) Mariana, Hisbullah, M. Falhan Qadri, Andrie Afryanda.....	12
1.3. ASH DEPOSIT BEHAVIOR ON THE TUBES SURFACE IN FLUIDIZED BED BOILER USING CO-FUEL OF LOW-RANK COAL AND PALM KERNEL SHELL Mahidin, Asri Gani, Ibrahim, and Khairil.....	18
1.4. GREEN SENSOR FROM SPINACH TO DETECT ACETONE VAPOR IN HUMAN BREATH Tulus Ikhsan Nasutiona, Irwana Nainggolan, Dwi Suryantod, Suwanto Ong, Zainal Arifin Ahmad.....	26
1.5. FEEDER RECONFIGURATION EFFECT TO SYSTEM RELIABILITY INDEX; A CASE STUDY OF FEEDER BUDUK AT SOUTH BALI DISTRIBUTION NETWORK IAD.Giriantari, RS.Hartati, W.Sukerayasa, N.Budiastra.....	34
1.6. GRAFTING NATURAL RUBBER WITH GLYCIDYL METHACRYLATE Eddiyanto.....	39
1.7. SOCIAL SYSTEM STUDY AND MODEL OF SUSTAINABLE HOUSING MANAGEMENT Dwira Nirfalini Aulia ,Indra Cahaya, and Lisa Suryani.....	45
1.8. FEEDER THE EVALUATION OF WASTE MANAGEMENT SYSTEM IN SUB- DISTRICT OF MEDAN BARAT (WEST MEDAN) Kimberly Febrina Kodrat.....	51
1.9. THE EFFECT OF FOLIAGE PLANTS ON COMFORTABLE ENVIRONMENT AND PRODUCTIVITY Listiani Nurul Huda, Hiroshi Matsumoto , Tsuyoshi Nakao.....	59
1.10. SOCIAL THE USE OF OSCILLATORY BAFFLED REACTOR IN WATER TREATMENT Taslim, Oktabani, J. Jayadi, Iriany & Siswarni MZ.....	65
2. HEALTH, FOOD AND AGRICULTURE, BIOTECHNOLOGY, AND ENVIRONMENT.....	73
2.1. OPTIMALIZATION OF IN VITRO PROPAGATION TO OBTAIN GOOD QUALITY OF CITRUS SEEDLING AS BIOCONSERVATION OF LOCAL VARIETY OF CITRUS IN NORTH SUMATERA Isnaini Nurwahvuni.....	75



2.2.	THE EFFECTIVENESS OF ANTAGONISTIC MICROORGANISMS TO CONTROL PINK DISEASE (<i>Upasia salmonicolor</i> B. et Br.) Tjokr. IN RUBBER PLANT Zaida Fairuzah and Aidi-Daslin	82
2.3.	ECOLOGICAL ASPECTS OF HEVEA PLANTATION Tumpal H.S Siregar and N.Siagian.....	89
2.4.	IMPACT OF FIELD SCHOOL OF INTEGRATED PEST MANAGEMENT(FS-IPM) TO EMPOWER FARMER WELFARE WITH REFERENCE TO SOCIAL AND CULTURE ASPECT (<i>Case study on Controlling of Panama Wilt Disease at Banana Crop</i>) Lita Nasution	96
2.5.	INTRA POPULATION GENETIC DIVERSITY BASED ON SSR MARKER ANALYSIS OF DURA PALM COLLECTIONS ORIGINATED FROM MARDI Lollie Agustina P. Putri, Sudarsono, Dwi Asmono, dan Norbert Billotte	107
2.6.	COMPARISON OF ORGANIC AND INORGANIC FERTILIZER TO HYBRID MAIZE VARIETIES Mulyadi Nurdin	110
2.7.	MULTINUTRIENT BLOCK SUPPLEMENTATION ON SAMBAR DEER (<i>Cervus unicolor</i>) GROWTH ON VELVET STAGE M. Tafsina, R. Handarinia, N.D. Hanafi.....	119
2.8.	GROWTH OF <i>Eucalyptus</i> spp SEEDLINGS TO THE APPLICATION OF COMPOST EKALIPTUS BARK1 Siti Latifah.....	123
2.9.	RESPONS OF THREE VARIETIES AT UPLAND RICE (<i>Oryza sativa</i> L.) TO THE RATIO OF VERMICOMPOST AND CHEMICAL FERTILIZERS Hapsoh and Asil Barus.....	132
2.10.	FOREST LAND USE CHANGE ACROSS THREE-TIME PERIODS Rahmawaty, T.R. Villanueva, M.G. Carandang, R.L. Lapitan, N.C. Bantayan, and A.J. Alcantara	137
2.11.	PROLIN CONTENT IN DROUGHT TOLERANT AND SENSITIVE OF TOBACCO (<i>Nicotiana tabacum</i>) Nurhayati	144
2.12.	IMPACT OF BIO-PESTICIDES USAGE TO INCREASE THE BIO DIVERSITY OF MACRO FAUNA AND INCOME OF RUBBER SMALLHOLDERS FARMERS Tavi Supriana, Syahnen, and Riantri Barus	148
2.13.	INFLUENCE OF THE MICROELEMENT ON BIOMASS AND ALKALOID PRODUCTION IN CELL CULTURES OF PASAK BUMI (EURYCOMA LONGIFOLIA JACK) Luthfi Aziz Mahmud Siregar	156
2.14.	EFFECT OF MODIFIED ATMOSPHERE PACKAGING ON POSTHARVEST QUALITY OF RAMBUTAN CV. BINJAI Elisa Julianti,Ridwansyah,Era Yusraini, Ismed Suhaidi	164
2.15.	ECOLOGY OF THE SUMATRAN SPECIES OF FREYCINETIA HABITAT STUDY & SPATIAL MODELING Nursahara Pasaribu	171
2.16.	CARBON EMISSION AND RESPONS OF RICE TO APPLICATION OF AMELIORANT DREGS IN THE PEAT SOIL WITH SATURATION AND UNSATURATION Nelvia, Idwar, Al-Ichsan Amri, and Isnaini Fatimah.....	184
2.17.	GREEN AGRICULTURAL PRODUCT BY USING KASCING ORGANIC FERTILIZER ON MUSTARD GREENS PLANT TO SUPPORT SUSTAINABLE AGRICULTURE Ahmad Nadhira.....	192



2.18.	ECONOMIC POTENTIALS IN THE WASTE OIL M Ali Musri. S. and Julia Reveny.....	198
2.19.	PHYSICO CHEMICAL ANALYSIS IN CACAO BEANS QUALITY (<i>Theobroma cacao</i> L.) Rita Hayati, Yusmanizar, Harir Fauzi.....	205
2.20.	MATERIALS FOR USE AS PLANT DISEASE PREVENTION FISH FRIENDLY ENVIRONMENT Siti Yuliawati.....	209
2.21.	INTEGRATED SYSTEM OF CATTLE AND PALM OIL AIMS TO MEAT SELF SUFFICIENT Hotman Manurung and Donald Siahaan.....	213
2.22.	APPEARANCE AND QUALITY OF BALI'S CATTLE FECES WHICH FEED ADDED WITH OIL PALM LEAF AND STEM N.D. Hanafi , Irvan, Bambang Trisakti, Yusuf Husni, Ma'ruf Tafsir	218
2.23.	MICROPROPAGATION OF STRAWBERRY PLANTS (<i>Fragaria chiloensis</i> and <i>F. vesca</i>) Eva Sartini Bayu	224
2.24.	IN VITRO BIOACTIVATION OF EXTRACT RED GALANGA OF SEVERAL SOLVENTS TO CANCER CELL Herla Rusmarilin and Linda Trimurni Maas.....	229
2.25.	EFFECT OF ARBUSCULAR MYCORRHIZAL AND EMPTY FRUIT BUNCHES OIL PALM COMPOST ON UPLAND RICE GROWTH AND PRODUCTION Chairani Hanum.....	237
2.26.	ECOTOURISM FEASIBILITY STUDY KIMBUN PONDOK BULU SUBDISTRICT DOLOK PANRIBUAN SIMALUNGUN Irwan Nasution	242

