Prof. Dr. Mariani Br. Sembiring, SP., MP.

Lecturer of Undergraduate Program in Agrotechnology Study Program
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Prof. Dr. Mariani Br Sembiring, S.P., M.P., born in Ujing Teran, is a lecturer at the Universitas Sumatera Utara with expertise in Soil Biology.

Education Profile:

- Bachelor's degree from Universitas Islam Sumatera Utara

- Master's degree from the Universitas Sumatera Utara

- Doctoral degree from the Universitas Sumatera Utara

As an expert in the field of Soil Biology, Mariani Br Sembiring has made valuable contributions to the development of science in the academic environment. Her profile reflects her dedication to education and research in soil biology, as well as her efforts to improve the understanding and continuous application of the science.

Publications

2025
Jurnal nasional

Studi Perbandingan Aplikasi Silikat dan Mikroba Pelarut Fosfat untuk Mengurangi Rentensi Fosfor serta Meningkatkan Pertumbuhan Tanaman Jagung (Zea mays L.) pada Andisol.

MUKHLIS , MARIANI BR SEMBIRING

2025
Jurnal internasional

Growth and Yield of Shallot Plants with the Application of Sp-36 Fertilizer and Poc from Red Devil Fish

REVANDY I M DAMANIK , MARIANI BR SEMBIRING , YEDIJA MANULLANG

2025
Jurnal internasional bereputasi

The physical and chemical characteristics of soil in different cropping patterns on potato production in Merek District, Karo Regency

POSMA MANGASI PINTARIA MARBUN , MARIANI BR SEMBIRING , ABDUL RAUF , Delima Napitupulu

2025
Jurnal internasional bereputasi

Exploring the diversity of cellulolytic microorganisms from tea factory waste and evaluating their potential in breaking down tea waste

RAZALI , MUKHLIS , BENNY HIDAYAT , MARIANI BR SEMBIRING

2024
Prosiding seminar nasional

Akselerasi Pembrondolan Tandan Buah Segar Kelapa Sawit Menggunakan Mikroba Selulotik dan Pengaruhnya Terhadap Kualitas Minyak

HOTNIDA SINAGA , ELISA JULIANTI , MARIANI BR SEMBIRING

2024
Jurnal internasional bereputasi

Physicochemical characteristics of andisols and their correlation to potato

yield based on land mapping units

POSMA MANGASI PINTARIA MARBUN , ABDUL RAUF , MARIANI BR SEMBIRING , DELIMA NAPITUPULU

2024
Jurnal internasional bereputasi

Diversity and distribution of nitrifying bacteria play an important role in the nitrogen cycle in mangrove sediments

MOHAMMAD BASYUNI , MARIANI BR SEMBIRING , BUDI UTOMO , EDY FACHRIAL , ETTI SARTINA SIREGAR

2024
Jurnal internasional

National Center for Biotechnology Information (NCBI) database for Pseudomonas aeruginosa

HOTNIDA SINAGA , ELISA JULIANTI , MARIANI BR SEMBIRING , GIYANTO

2024
Jurnal nasional

Pengaruh Aplikasi Fungi Mikoriza Arbuskula (Glomus sp.) dan Giberelin terhadap Pertumbuhan Fase Vegetatif Tanaman Porang (Amorphophallus oncophyllus) di Tanah Ultisol

REVANDY I M DAMANIK , MARIANI BR SEMBIRING , FENNY AGUSTINI

2024
Jurnal internasional bereputasi

Bioprospection of Endophytic Bacteria Isolated from Mangrove Ecosystems and their Potential Biotechnological Applications

MOHAMMAD BASYUNI , MARIANI BR SEMBIRING

2024
Buku referensi

Bioproses Limbah Agroindustri

DAVID SEPTIAN SUMANTO MARPAUNG , Rd. INDAH NIRTHA NILAWATI N.P. , MARIANI BR SEMBIRING , NURTANIA SUDARMI , DESEPTA ISNA ULUMI , DELA HERAINI

2024
Buku referensi

Pengantar Biologi Tanah

DEDY ANWAR , BENANG PURWANTO , INDAH APRILIYA , TIONER PURBA , SILVIA PERMATA SARI , ARSI , MARIANI BR SEMBIRING , ESNA DILLI NOVIANTO

2024
Buku referensi

Prinsip Dasar Pemupukan

MARIANI BR SEMBIRING

2024
Buku referensi

Prinsip Dasar Pemupukan

HIDA ARLIANI NUR ANISA , TIONER PURBA , ISWAHYUDI , MARIA PAULINA , DIMAS GANDA PERMANA PUTRA , SILVIA PERMATA SARI , SRI PURWANTI , INDAH APRILIYA , MARIANI BR SEMBIRING , Muhammad Abdul Aziz

2024
Buku referensi

Nutrisi Tanaman dan Pemupukan

AYU OSHIN YAP SINAGA , ADRIANI SAURNIDA ASIANNA SIAHAAN , HANIF FATUR ROHMAN , INDAH APRILIYA , MUHAMMAD ABDUL AZIZ , HALIMATUS SYAHDIA HASIBUAN , SILVIA PERMATA SARI , BAMBANG GUNAWAN , MARIANI BR SEMBIRING

2024
Buku referensi

Nutrisi tanaman dan Pemupukan

MARIANI BR SEMBIRING

2024
Prosiding seminar internasional

Isolation and Potential Testing of Cellulolytic Fungi from Tea Processing Waste

BENNY HIDAYAT , RAZALI , MARIANI BR SEMBIRING , MUKHLIS

2023
Jurnal internasional bereputasi

IOP Conference Series: Earth and Environmental Science PAPER • THE FOLLOWING ARTICLE ISOPEN ACCESS Effect of giving biochar and chicken manure compost enriched with phosphate solubilizing fungi to the growth and production of potato (Solanum tuberosum L.) in Andisol soil

MARIANI BR SEMBIRING

2023
Jurnal nasional terakreditasi

MEDIA TERBAIK UNTUKPERTUMBUHAN JENIS Azolla microphylla dan Azolla pinnata

MARIANI BR SEMBIRING , BENNY HIDAYAT

2022
Jurnal internasional bereputasi

Nitrogen Fertilization and Corn Growth (Zea mays) Effect in Andisols by Using Non-Symbiotic Nitrogen-Fixing Bacteria

T SABRINA , MARIANI BR SEMBIRING

2022
Jurnal internasional bereputasi

Effectiveness of Dyella japonica and Enterobacter cloacae as biofertilizers to increase maize (Zea mays) production on andisol soil

MARIANI BR SEMBIRING , T SABRINA

2022
Jurnal internasional bereputasi

Diversity of phosphate solubilizing bacteria and fungi from andisol soil affected by the eruption of Mount Sinabung, North Sumatra, Indonesia

MARIANI BR SEMBIRING , T SABRINA

2021
Jurnal internasional bereputasi

Potential and phylogenetic of superior bacterial isolates in biogas sludge from anaerobic digestion of palm oil mill effluent

ZULKIFLI , MARIANI BR SEMBIRING , NOVILDA ELIZABETH MUSTAMU

2021
Jurnal internasional bereputasi

Diversity of non-symbiotic nitrogen-fixing bacteria and their potential in andisols affected by the eruption of Mount Sinabung, North Sumatra, Indonesia

MARIANI BR SEMBIRING , T SABRINA

2021
Jurnal internasional bereputasi

Effect of giving triple super phosphate and dolomite fertilizer on mushroom media (baglog) on production of white oyster mushroom (Pleurotus ostreatus)

MARIANI BR SEMBIRING , T SABRINA

2021
Jurnal internasional

Isolation of potassium solubilizing bacteria in Andisol soil affected by the eruption of Sinabung

MARIANI BR SEMBIRING , HARDY

2021
Jurnal internasional bereputasi

Potential test of non-symbiotic nitrogen-fixing bacteria in increasing nitrogen in Andisol soil

MARIANI BR SEMBIRING , T SABRINA

2021

Jurnal internasional bereputasi

Soil macrofauna diversity in andisol after eight years of Mount Sinabung eruption in Sumatra, Indonesia

BENNY HIDAYAT , MUKHLIS , T SABRINA , MARIANI BR SEMBIRING , HIDAYATUL MUNAWAROH

2020
Jurnal internasional bereputasi

Effect of soil conditioner enriched with biofertilizers to improve soil fertility and maize (Zea mays L.) growth on andisols Sinabung area

MUKHLIS , MARIANI BR SEMBIRING , T SABRINA

2020
Jurnal internasional bereputasi

Phosphate solubilizing microbes and coffee skin compost to increase Robusta coffee plant growth in Andisol of Mount Sinabung Area

MARIANI BR SEMBIRING , T SABRINA , MUKHLIS

2020
Prosiding seminar internasional

Isolation of non-symbiotic Nitrogen-fixing bacteria on andisol land affected by Sinabung eruption

MARIANI BR SEMBIRING

2020
Prosiding seminar internasional

Identification of macrofauna on various volcanic ash thickness and different vegetation in andisol a

MARIANI BR SEMBIRING

2020
Prosiding seminar internasional

Various impacts of Sinabung eruption volcanic ash thickness with different vegetation on the microor

MARIANI BR SEMBIRING

2020
Jurnal internasional bereputasi

Effect of sound treatment on phosphate solubilizing microbial activity

T SABRINA , MARIANI BR SEMBIRING

2019
Prosiding seminar internasional

Microbe population in biofertilizer with vermicompost as a carrier during the process and storage

MARIANI BR SEMBIRING

2019
Jurnal nasional terakreditasi

Application of phosphate solvent microbes and coffee skin compost to increase nutrient uptake of Robusta coffee plants in Andisols

T SABRINA , MARIANI BR SEMBIRING , BENNY HIDAYAT

2019
Jurnal internasional bereputasi

Role of Elicitors in chlorophyll content and stomatal density of soybean cultivars by foliar applicatio

MARIANI BR SEMBIRING

2019
Prosiding seminar internasional

Application of phosphate solubilizing fungi and various sources of P-Fertilizers toward P-Available and P Nutrient content of soybean (Glycine max L. Merrill) in andisol soil

MARIANI BR SEMBIRING

2019

Jurnal internasional bereputasi

The inoculation of mycorrhiza and Talaromyces pinophilus toward the improvement in growth and phosphorus uptake of oil palm seedlings (Elaeis guineensis Jacq) on saline soil media

MARIANI BR SEMBIRING

2019
Prosiding seminar internasional

Application of phosphate solubilizing fungi and various sources of P-Fertilizers toward P-Available

MARIANI BR SEMBIRING

2019
Prosiding seminar internasional

The increasing of phosphorus availability and corn growth (Zea mays l.) with the application of phos

MARIANI BR SEMBIRING

2019
Prosiding seminar internasional

The effect of phosphate solubilizing microbes and chicken manure in increasing the P availability an

MARIANI BR SEMBIRING

2019
Prosiding seminar internasional

The effect of sulfur and Rhizobium sp application to the growth and nodulation of Mucuna bracteata

MARIANI BR SEMBIRING

2019
Prosiding seminar internasional

Application of phosphate solubilizing fungi and various sources of P-Fertilizers toward P-Available and P Nutrient content of soybean (Glycine max L. Merrill) in andisol soil

MARIANI BR SEMBIRING , POSMA MANGASI PINTARIA MARBUN

2019
Jurnal nasional

Pengaruh Konsentrasi Pupuk Organik Cair Buah-Buahan dan Cara Aplikasinya Terhadap Serapan N Dan Pertumbuhan Tanaman Sawi (Brassica Juncea L.) Pada Tanah Ultisol

JAMILAH , MARIANI BR SEMBIRING

2019
Prosiding seminar nasional

PROTEIN DAN ISOFLAVON KEDELAI VARIETAS WILIS DAN DEVON 1 DENGAN APLIKASI ELISITOR

YAYA HASANAH , MARIANI BR SEMBIRING

2018
Jurnal nasional

PENGARUH KACANGAN PENUTUP TANAH Mucuna bracteata TERHADAP BEBERAPA SIFAT FISIK DAN KIMIA TANAH ULTISOL PADA PERKEBUNAN KARET (Hevea brasiliensis)

MARIANI BR SEMBIRING

2018
Prosiding seminar internasional

Effect of foliar application of chitosan and salicylic acid on the growth of soybean (Glycine max (L.) Merr.) varieties

MARIANI BR SEMBIRING

2018
Jurnal internasional bereputasi

The inoculation of mycorrhiza and Talaromyces pinophilus toward the improvement in growth and phosphorus uptake of oil palm seedlings (Elaeis guineensis Jacq.) on saline soil media

MARIANI BR SEMBIRING

2018
Jurnal internasional

Role of elicitors in chlorophyll content and stomatal density of soybean cultivars by foliar application.

MARIANI BR SEMBIRING , YAYA HASANAH

2018
Jurnal nasional

Pemetaan Status Hara Fosfat Dan Kalium Pada Lahan Sawah IP 200 Di Desa Tanjung Rejo Kecamatan Percut Sei Tuan Kabupaten Deli Serdang

RAZALI , MARIANI BR SEMBIRING , ADE INE IMANSARI

2018
Prosiding seminar internasional

Entisol land characteristics with and without cover crop (Mucuna bracteata) on rubber plantation

MARIANI BR SEMBIRING

2018
Prosiding seminar internasional

Effect of foliar application of chitosan and salicylic acid on the growth of soybean (Glycine max (L

MARIANI BR SEMBIRING

2018
Jurnal internasional bereputasi

The inoculation of mycorrhiza and Talaromyces pinophilus toward the improvement in growth and phosph

MARIANI BR SEMBIRING

2018
Jurnal internasional bereputasi

Role of elicitors in chlorophyll content and stomatal density

YAYA HASANAH , MARIANI BR SEMBIRING

2018
Jurnal internasional bereputasi

Role of elicitors in chlorophyll content and stomatal density of soybean cultivars by foliar applica

MARIANI BR SEMBIRING

2017
Jurnal internasional bereputasi

Phosphate fertilization efficiency through the use of microbial phosphate solubilization to boost the growth of mustard (Brascica Juncea L.) in Andisol affected by

MARIANI BR SEMBIRING

2017
Jurnal nasional

RESPON PERTUMBUHAN BIBIT KELAPA SAWIT (Elaeis guineensis Jacq.) DENGAN PEMBERIAN Azotobacter dan PUPUK KOMPOS KULIT BUAH KAKAO PADA PEMBIBITAN UTAMA

MARIANI BR SEMBIRING

2017
Jurnal nasional

Aplikasi Mikroba Pelarut Fosfat dan Bebarapa Sumber Pupuk P Untuk Meningkatkan Serapan P dan Pertumbuhan Tanaman Jagung Pada Andisol Terdampak Erupsi Gunung Sinabung

MARIANI BR SEMBIRING

2017
Jurnal internasional bereputasi

Phosphate fertilization efficiency through the use of microbial phosphate solubilization to boost gr

MARIANI BR SEMBIRING

2017
Jurnal internasional bereputasi

Phosphate solubilization agents in increasing potatoes production on andisol Sinabung area

MARIANI BR SEMBIRING

2017
Jurnal internasional bereputasi

Bacterial and fungi phosphate solubilization effect to increase nutrient uptake and potatoes (Solanu

MARIANI BR SEMBIRING

2016
Jurnal nasional

Perubahan Beberapa Sifat Kimia Tanah, Serapan P dan Pertumbuhan Tanaman Jagung Pada Tanah Inceptisol Kwala Bekala Akibat Pemberian Pupuk Kandang Ayam dan Beberapa Sumber P

MARIANI BR SEMBIRING

2016
Jurnal internasional bereputasi

Effect of Burkholderia cepacia and SP36 on available phosphate and potato production on Andisol impacted by Mount Sinabung Eruption, North Sumatera, Indonesia

MARIANI BR SEMBIRING

2016
Jurnal internasional bereputasi

Effect of Burkholderia cepacia and SP36 on available phosphate and potato production on Andisol impa

MARIANI BR SEMBIRING

2015
Jurnal nasional

Perubahan Bentuk P Oleh Mikroba Pelarut Fosfat dan Bahan Organik Terhadap P-tersedia dan Produksi Kentang (Solanum tuberosum L.) pada Tanah Andisol Terdampak Erupsi Gunung Sinabung

MARIANI BR SEMBIRING

2015
Jurnal nasional

Pengaruh pH Terhadap Pembentukan Bintil Akar, Serapan Hara N, Pdan Produksi Tanaman pada Beberapa Varietas Kedelai pada Tanah Inseptisol Di Rumah Kasa

MARIANI BR SEMBIRING

2015
Jurnal nasional

Peningkatan Ketersediaan Fosfat Dan Produksi Tanaman Kentang (Solanum Tuberosum L) Dengan Menggunakan Talaromyces Pinophilus Indigenous Dan Pupuk Sp36 Pada Andisol Terdampak

MARIANI BR SEMBIRING

2015
Jurnal nasional

Dampak Ketebalan Abu Vulkanik Erupsi Gunung Sinabung Terhadap Sifat Biologi Tanah Di Kecamatan Naman Teran Kabupaten Karo

MARIANI BR SEMBIRING

2015
Jurnal nasional

Evaluasi Kesesuaian Lahan dengan Metode Limit untuk Tanaman Kopi Arabika (Coffea Arabica) dan Kopi Robusta (Coffea robusta Lindl.) di Kecamatan Silima Pungga-pungga Kabupaten Dairi

MARIANI BR SEMBIRING , POSMA MANGASI PINTARIA MARBUN

2015
Jurnal nasional

Eksplorasi dan potensi jamur pelarut fosfat pada andisol terkena dampak erupsi Gunung Sinabung dengan beberapa ketebalan abu di Kecamatan Naman Teran Kabupaten Karo

MARIANI BR SEMBIRING

2015
Jurnal nasional

Aplikasi Mikroba Pelarut Fosfat dan Bahan Organik untuk Meningkatkan Serapan P dan Pertumbuhan Kentang pada Andisol Terdampak Erupsi Gunung Sinabung

MARIANI BR SEMBIRING

2015
Jurnal internasional bereputasi

Effect of Talaromyces pinophilus and SP36 on phosphate available and Potato (Solanum tuberosum L) production on andisol impacted by Mount Sinabung Eruption, North Sumatera

MARIANI BR SEMBIRING

2014
Jurnal nasional

Kajian Kesuburan Tanah di Desa Sihiong, Sinar Sabungan dan Lumban Lobu Kecamatan Bonatua Lunasi Kabupaten Toba Samosir

MARIANI BR SEMBIRING

2014
Jurnal nasional

Karakteristik beberapa sifat fisik, kimia, dan biologi tanah pada sistem pertanian organik

MARIANI BR SEMBIRING

2014
Jurnal nasional

Evaluasi kesesuaian lahan Kabupaten Dairi untuk tanaman kopi robusta (Coffea robusta Lindl.)

MARIANI BR SEMBIRING

2014
Jurnal nasional

Evaluasi Kesesuaian Lahan Untuk Padi Sawah Tadah Hujan (Oryza Sativa L.) Di Kecamatan Muara Kabupaten Tapanuli Utara

MARIANI BR SEMBIRING

2014
Jurnal nasional

Evaluasi Kesesuaian Lahan Untuk Padi Sawah Tadah Hujan (Oryza Sativa L.) Di Kecamatan Muara Kabupaten Tapanuli Utara

YOPIE P A SINAGA , RAZALI , MARIANI BR SEMBIRING

2013
Jurnal nasional

Dampak debu vulkanik letusan Gunung Sinabung terhadap kadar Cu, Pb, dan B tanah di Kabupaten Karo

MARIANI BR SEMBIRING

2013
Jurnal nasional

Survei Dan Pemetaan Status Fosfat Lahan Sawah Pada Daerah Irigasi Bahal Gajah/tiga Bolon Kecamatan Sidamanik Kabupaten Simalungun

MARIANI BR SEMBIRING

2013
Jurnal nasional

Morfologi Dan Klasifikasi Tanah Di Lereng Utara Gunung Sinabung Kabupaten Karo Sumatera Utara

MARIANI BR SEMBIRING

2013
Jurnal nasional

Evaluasi Kemampuan Lahan Desa Sihiong, Sinar Sabungan dan Lumbun Lobu Kabupaten Toba Samosir

MARIANI BR SEMBIRING

2012
Jurnal nasional

Potensi bakteri azotobacter dan hijauan mucuna bracteata dalam meningkatkan hara nitrogen kompos tandan kosong kelapa sawit

MARIANI BR SEMBIRING

Researches

2025
Penelitian Dana Lokal Perguruan Tinggi

EVALUASI DAN DESAIN PERBAIKAN KESUBURAN TANAH ANDISOL SETELAH 15 TAHUN TERDAMPAK ERUPSI GUNUNG SINABUNG PADA BEBERAPA KETEBALAN ABU VULKANIK

WIDA AKASAH , MARIANI BR SEMBIRING , MUKHLIS , RAZALI

2024
Penelitian Tim Pasca Sarjana

Studi Mikrobia Rizosfer dan Toleransi Kekeringan Padi Gogo (Oryza sativa L.) Pendekatan Pada Pemahaman Mekanisme dan Interaksi

MARIANI BR SEMBIRING , CHAIRANI HANUM L

2023
Penelitian Fundamental

PENGUKURAN POTENSI MIKROORGANISME SELULOLITIK DAN MIKROBA FUNGSIONAL UNTUK MENINGKATKAN KUALITAS PUPUK ORGANIK

BENNY HIDAYAT , MARIANI BR SEMBIRING , MUKHLIS , RAZALI

2023
Penelitian Fundamental

Ketahanan tanaman terhadap cekaman Abiotik dengan menggunakan bakteri unggul penghasil enzim 1-aminocyclopropane-1-carboxylate (ACC) deaminase dan kemampuannya dalam meningkatkan kesuburan tanah

LUTHFI AZIZ MAHMUD SIREGAR , BENNY HIDAYAT , MARIANI BR SEMBIRING

2022
Penelitian Dana Lokal Perguruan Tinggi

EKSPLORASI MIKROBA UNGGUL PENGHASIL HORMON IAA, ACC (1-aminocyclopropane-1-carboxylate) DEAMINASE DALAM MENINGKATKAN PERTUMBUHAN TANAMAN PADA DAERAH CEKAMAN ABIOTIK

LUTHFI AZIZ MAHMUD SIREGAR , MARIANI BR SEMBIRING

2021
Penelitian Unggulan Perguruan Tinggi

KOMPOSTER 4.0 BERBASIS INTERNET OF THINGS DAN TENAGA SURYA

MARIANI BR SEMBIRING , TULUS IKHSAN NASUTION

2020

KOMPOSTER 4.0 BERBASIS INTERNET OF THINGS DAN TENAGA SURYA

MARIANI BR SEMBIRING , TULUS IKHSAN NASUTION

2019

Penelitian Fundamental

KARATERISTIK TANAH ANDISOL SETELAH 5 TAHUN TERTUTUP ABU VULKANIK ERUPSI GUNUNG SINABUNG

BENNY HIDAYAT , MARIANI BR SEMBIRING

2016

Penelitian Hibah Bersaing

Ubah Bentuk Fosfat dan Peningkatan Produksi Tanaman Kentang (Solanum tuberosum L.) pada Andisol Terdampak Erupsi Dunung Sinabung dengan Menggunakan Beberapa Sumber Asam-Asam Organik

MARIANI BR SEMBIRING , JAMILAH

Community Services

2012

Ipteks Bagi Masyarakat

Pelatihan Tehnik Bertanam Sayur dengan Sistem Vertikultur di Desa Percut, Kecamatan Percut Sei Tuan

MARIANI BR SEMBIRING , MARIATI

Intellectual Property Rights

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Hak cipta nasional

Pengantar Biologi Tanah

DEDY ANWAR , INDAH APRILIYA , TIONER PURBA , ARSI , MARIANI BR SEMBIRING , ESNA DILLI NOVIANTO , BENANG PURWANTO , SILVIA PERMATA SARI

2024

Hak cipta nasional

Prinsip Dasar Pemupukan

MARIANI BR SEMBIRING

2024

Hak cipta nasional

Nutrisi tanaman dan Pemupukan

MARIANI BR SEMBIRING

2022

Paten nasional

Komposisi Pupuk Hayati Prelarut Fosfat yang mengandung Talaromyces pinophilus

MARIANI BR SEMBIRING