

**SENARAI TAJUK PROJEK PELAJAR TAHUN AKHIR DISERTASI BACELOR  
PRT4959 SEMESTER KEDUA 2023/2024  
JABATAN PENGURUSAN TANAH, FAKULTI PERTANIAN**

**A**

1. Nutrient content in washed rice water from various rice brands and rice types
2. Sugarcane by-product wastes as plant fertilizer
3. Evaporative and nutrient leaching losses from various soil textures
4. No batteries or electricity needed: Testing a nature-controlled fertigation method
5. Effectiveness of Bokashi composting as fertilizer
6. Soil stability against erosion

**B**

1. Identification of the best binding agent for organic-based granular fertilizers
2. Production of slow release fertilizer from selected organic and inorganic based materials
3. Promoting the growth ke Polyganum minus using organic and organo-mineral fertilizers
4. Identification of liquid-based fertilizers quality produced from selected waste materials

**C**

1. Immobilization of heavy metals in soils using biochar.
2. Designer biochar to improve soil fertility.
3. Competitive sorption of P between soil particles and biochar.

**D**

1. Bioprospecting of beneficial microbes to improve soil fertility.
2. Isolation and characterization of beneficial microbes from sewage.
3. Preservation of effective microbes using freezing method.
4. Isolation and identification of potential microbes for odor removal of sewage
5. treatment plant (STP).

**E**

1. Soil fertility index (SFI) study from selected UPM vegetable farms.
2. Peppermint plant growth and soil parameters under acidic soil condition.
3. Effect of calcium silicate (industrial by-product) on selected acidic soil parameters.
4. Soil-water quality from selected Brownfield area in Selangor.
5. Assessment of Visual Soil Indicator (VSI) for acid soil under sustainable farming.

**F**

1. Distribution patterns of potentially toxic elements in surface soils at an urban area
2. Assessment of heavy metals pollution and human risk in urban soils around manufacturing facilities
3. Soil quality assessment under different forest/plantation types.

**G**

1. Evaluation of organic liquid fertilizers on leafy vegetables
2. Evaluation of fermented organic juice on soil health and crop performance
3. Evaluation of organic growth medium for coconut seedlings in polybags

4. Evaluation of liquid organic fertilizers under soilless system
5. Impact of cropping system on soil organic status in organic farm

## H

1. Reducing soil compaction using selected soil amendments.
2. Development of soil media from POME sludge.
3. Utilization of POME sludge as a soil amendment to improve soil properties.
4. Effectiveness POME sludge mixture as fertilizer

## I

1. Effects of biochar quantum dots on growth of Brassica Juncea in potting soil
2. The impact of biochar quantum dots on growth of Brassica Juncea in the hydroponic culture
3. Effects of biochar quantum dots on soil microbial diversity in the potting soil grown with Brassica Juncea

## J

1. Turning waste to gold: Transforming oil palm waste to fertilizer and soil enhancer
2. Exploring beneficial effects of oil palm waste in growing crops and sustaining soil fertility
3. Utilization of new materials polyhalite to reduce fertilizer use in soils
4. Application of rock phosphate fertilizers to increase P-level in soils
5. Application of bio stimulant to increase uptake of nutrients in plants
6. Application of bio-K from agriculture waste to improve K nutrients in plants

## K

1. Isolation and characterization of plant growth-promoting rhizobacteria (PGPR) and their effect on crop

## L

2. Evaluating fertilizer additive effect on soil fertility status, growth and yield of leafy greens
3. Application of fertilizer additive and nutrient release interaction under soil incubation system
4. Fertilizer use efficiency and nutrient budget of indicator crops

## M

1. Role of Soil Amendments in Enhancing Fertility and Sustaining Crop Productivity
2. Effects of using wood vinegar as a stimulant for seed germination
3. Carbon Mineralization Dynamics of Selected Biochar
4. Biochar and Wood Vinegar Combinations: Optimizing Soil Health and Nutrient Retention
5. Impact of Organic vs. Inorganic Fertilizers on Soil Fertility and Crop Yield
6. Effect of Biochar Application at Different Rates of Inorganic Fertilizer on Soil Properties and Plant Growth for Pak Choi

## N

1. Application of fortified biochar pellets for improving sandy soil.
2. Development of an Arduino-based smart sprinkler irrigation system.
3. Soil carbon balance and nutrient dynamics of oil palm agroforestry
4. Soil microbial diversity and abundance of oil palm agroforestry

## O

1. Effects of different amendments on solubility of different source of Mg fertilizers.
2. Selection of the best ratios/formulations of different fertilizers with amendments and impacts on nutrient release.
3. Effects of different amendments with red gypsum on physicochemical properties of red gypsum.
4. Localization of nutrients in different depth of soil.
5. Effects of soil conditioner in enhancing performance and yield of paddy.
6. Nutrients release determination using different approaches.

## P

1. Soil Morphological and Chemical Properties in Homegardens on Ultisols
2. Influence Of Agricultural Activity on Soil Morphological and Physicochemical Properties on Ultisols
3. Influence Of Agricultural Activity on Soil Morphological and Physicochemical Properties on Oxisols
4. Influence Of Agricultural Activity on Soil Morphological and Physicochemical Properties on Alluvial soil