

Article Title	Authors and year
A Hybrid Approach to Improve Classification Accuracy of Mapping Perennial Crops in Bảo Lâm District, Lâm Đồng Province	Toan et al. (2017)
A Method for Detecting Coffee Leaf Rust Through Wireless Sensor Networks, Remote Sensing, And Deep Learning: Case Study of The Caturra Variety in Colombia	Velásquez et al. (2000)
A Novel Vegetation Index for Coffee Ripeness Monitoring Using Aerial Imagery	Martins et al. (2021)
Agrometeorological Model Estimating the Productivity of Two Varieties of Arabic Coffee Considering the Spatial Variability	Silva et al. (2011)
Analysis of Flight Parameters and Georeferencing Of Images with Different Control Points Obtained by RPA	Santos et al. (2019)
Analysis of Spatial Variability of Force Detachment of Coffee Fruits in Central Pivot	Figueiredo et al. (2017)
Application of Electrical Resistivity Tomography for Detecting Root Biomass in Coffee Trees	Paglis (2013)
Artificial Intelligence Approach for The Prediction of Robusta Coffee Yield Using Soil Fertility Properties	Kouadio et al. (2018)
Assessment of The Variability of The Nutritional Status and Yield of Coffee by Principal Component Analysis and Geostatistics	Silva & Lima (2012)
Biophysical Parameters of Coffee Crop Estimated By UAV, RGB Images	Santos et al. (2020)
Canopy Thermal Response to Water Deficit of Coffee Plants Under Drip Irrigation	Costa et al. (2020)
Coffee Crop Coefficient for Precision Irrigation Based on Leaf Area Index	Pereira et al. (2011)
Coffee Crop Coefficient Prediction as A Function of Biophysical Variables Identified from RGB UAS Images	Santos et al. (2020)
Coffee Crop Detection by Automatic Classification Using Spectral and Textural Attributes and Illumination Factor	Marujo et al. (2017)
Coffee Crop Yield Estimate Using an Agrometeorological-Spectral Model	Rosa et al. (2010)
Coffee Crop's Biomass and Carbon Stock Estimation with Usage of High-Resolution Satellites Images	Coltri et al. (2013)
Coffee Flower Identification Using Binarization Algorithm Based on Convolutional Neural Network for Digital Images	Wei et al. (2020)
Coffee Quality and Its Relationship with Brix Degree and Colorimetric Information of Coffee Cherries	Silva et al. (2014)
Comparing A Single-Sensor Camera with A Multisensory Camera for Monitoring Coffee Crop Using Unmanned Aerial Vehicles	Gomes et al. (2021)
Comparison Between Soil Sampling Methods for Conilon Coffee Liming and Fertilization Recommendation	Oliveira et al. (2008)
Comparison Between the Soil Chemical Attributes Sampled Conventionally and In Grid	Ferraz et al. (2017)
Crop Growth Monitoring with Drone-Borne DInSAR	Oré et al. (2020)
Definition of Management Zones in Coffee Production Fields Based on Apparent Soil Electrical Conductivity	Valente et al. (2012)

Delimitation of Management Zones for Macronutrients in Of Coffee Crop Conilon Intercropping with Rubber Trees	Santos et al. (2015)
Delineation of Specific Management Areas for Coffee Cultivation Based on The Soil-Relief Relationship and Numerical Classification	Sanchez et al. (2013)
Detecting and Mapping Root-Knot Nematode Infection in Coffee Crop Using Remote Sensing Measurements	Martins et al. (2017)
Detection, Classification, And Mapping of Coffee Fruits During Harvest with Computer Vision	Bazame et al. (2021)
Determination of Application Volume for Coffee Plantations Using Artificial Neural Networks and Remote Sensing	Oliveira et al. (2021)
Determining the Leaf Area Index and Percentage of Area Covered by Coffee Crops Using UAV RGB Images	Santos et al. (2020)
Development and Testing of a Low-Cost Portable Apparent Soil Electrical Conductivity Sensor Using A Beagle bone Black	Queiroz et al. (2020)
Development of A Methodology to Determine the Best Grid Sampling in Precision Coffee Growing	Figueiredo et al. (2018)
Discrimination of Areas Infected with Coffee Leaf Rust Using A Vegetation Index	Katsuhama et al. (2018)
Economic Viability of The Variable Rate Technology Compared to The Traditional System of Fertilization in A Coffee Field: A Case Study	Ferraz et al. (2011)
Effects of Manual Harvesting on Coffee (Coffea Arabica L.) Crop Biannuality In Ijaci, Minas Gerais	Silva et al. (2010)
Empirical Modeling of Leaf Chlorophyll Content in Coffee (Coffea Arabica) Plantations with Sentinel-2 MSI Data: Effects of Spectral Settings, Spatial Resolution, And Crop Canopy Cover	Chemura et al. (2017)
Energy Consumption Evaluation of a Routing Protocol for Low-Power and Lossy Networks in Mesh Scenarios for Precision Agriculture	Sales et al. (2020)
Estimating Biophysical Properties of Coffee (Coffea Canephora) Plants with Above-Canopy Field Measurements, Using Cropspec (R)	Putra et al. (2018)
Estimating Vegetation Volume of Coffee Crops Using Images from Unmanned Aerial Vehicles	Cunha et al. (2019)
Estimation of Biophysical Parameters of Coffee Fields Based on High-Resolution Satellite Images	Ramirez & Zullu Júnior (2020)
Evaluation of A Variable Rate Fertilizer Application System Adapted to Coffee Crop	Barros et al. (2015)
Evapotranspiration and Crop Coefficient of Coffee Plants from Orbital Sensors Images	Dias et al. (2019)
Failure Detection in Row Crops from UAV Images Using Morphological Operators	Oliveira et al. (2018)
Feasibility of Monitoring Coffee Field Ripeness with Airborne Multispectral Imagery	Johnson et al. (2004)
Fuzzy Logic for Evaluation of The Fertility of Soil and Productivity of Conilon Coffee	Silva et al. (2010)
Fuzzy Logic in The Spatial and Temporal Distribution in The Quality of the Beverage in Conilon Coffee	Fonseca et al. (2019)
Fuzzy Logic to Map of Variables Indicative of Soil Fertility	Silva & Lima (2009)

Geostatistical Analysis of Arabic Coffee Yield in Two Crop Seasons	Carvalho et al. (2017)
Geostatistical Analysis of Fruit Yield and Detachment Force in Coffee	Ferraz et al. (2012)
Geostatistical Modeling of The Spatial Variability of Coffee Fine Roots Under Erythrina Shade Trees and Contrasting Soil Management	Mora & Beer (2013)
Imaging from An Unmanned Aerial Vehicle: Agricultural Surveillance and Decision Support	Herwitz et al. (2004)
Improving Nitrogen Assessment with An RGB Camera Across Uncertain Natural Light from Above-Canopy Measurements	Putra & Soni (2020)
Land Use Patterns for Driving Environmental Management of Tea Agricultural Croplands	Ozcelik & Nisanci (2016)
Leaf Area Index as An Indicator of Ecosystem Services and Management Practices: An Application for Coffee Agroforestry	Taugourdeau et al. (2014)
Leaf Water Potential of Coffee Estimated by Landsat-8 Images	Maciel et al. (2020)
Machine Learning Prediction of Coffee Rust Severity on Leaves Using Spectroradiometer Data	Chemura et al. (2018)
Management Areas Due to Soil Properties, Topography and Productivity of Coffee Plantations	Melo et al. (2017)
Management Zones in Coffee Cultivation	Jacintho et al. (2017)
Mapping Coffee Crops in Southeastern Brazil Using Spectral Mixture Analysis and Data Mining Classification	Kawakubo et al. (2016)
Mapping Spatial Variability of Foliar Nitrogen in Coffee (Coffea Arabica L.) Plantations with Multispectral Sentinel-2 MSI Data	Chemura et al. (2018)
Methodology for Selective Coffee Harvesting in Management Zones of Yield and Maturation	Kazama et al. (2021)
Methodology to Determine the Soil Sampling Grid for Precision Agriculture in A Coffee Field	Ferraz et al. (2017)
Methods of Interpolation for Estimating the Ph In Soil Under Two Management of Coffee Arabic	Silva et al. (2010)
Modeling Spatial Variability and Pattern of Rust and Brown Eye Spot in Coffee Agroecosystem	Alves et al. (2009)
Multi-Scale Measurements Show Limited Soil Greenhouse Gas Emissions in Kenyan Smallholder Coffee-Dairy Systems	Ortiz-Gonzalo et al. (2018)
Multispectral Radiometric Characterization of Coffee Rust Epidemic in Different Irrigation Management Systems	Pires et al. (2020)
Multispectral Radiometric Monitoring of Bacterial Blight of Coffee	Marin et al. (2019)
Multispectral Remote Sensing in The Identification and Mapping of Biotic and Abiotic Coffee Tree Variables	Marin et al. (2019)
Multivariate Analysis and Geostatistics Of the Fertility of a Humic Rhodic Hapludox Under Coffee Cultivation	Silva & Lima (2012)
Neural Network Algorithm for Coffee Ripeness Evaluation Using Airborne Images	Furfaro et al. (2007)
New Low-Cost Portable Sensing System Integrated with On-The-Go Fertilizer Application System for Plantation Crops	Putra (2020)
Nutritional Balance and Its Relationship to Yield in A Coffee Field: Inferences from Geospatial Analysis	Silva et al. (2020)
On the Use of Soil Hydraulic Conductivity Functions in The Field	Silva et al. (2007)

Performance of A Variable-Rate Distribution System for Simultaneous Fertilizer Application	Barros et al. (2016)
Physical Attributes of Soil and Its Relation with Space Productivity of Coffee Arabic	Silva & Lima (2013)
Planning Sample of Chemical Soil Properties on A Conilon Coffee Plantation	Santos et al. (2013)
Plant Sampling Grid Determination in Precision Agriculture in Coffee Field	Ferraz et al. (2018)
Precision Agriculture to Study Soil Chemical Properties and The Yield of a Coffee Field	Ferraz et al. (2012)
Precision Agriculture: An Alert to Imprecision - Case Study on Coffee Growing	Almeida & Guimaraes (2017)
Precision Techniques and Agriculture 4.0 Technologies to Promote Sustainability in The Coffee Sector: State of The Art, Challenges and Future Trends	Sott et al. (2020)
Principal Components in The Study of Soil and Plant Properties in Precision Coffee Farming	Ferraz et al. (2019)
Probabilistic Yield Forecasting of Robusta Coffee at The Farm Scale Using Agroclimatic And Remote Sensing Derived Indices	Kouadio et al. (2021)
Processing Multispectral Imaging Captured by Drones to Evaluate the Normalized Difference Vegetation Index of Castillo Coffee Plantations	Rivera et al. (2021)
Relationship Between Coffee Crop Productivity and Vegetation Indexes Derived from Oli / Landsat-8 Sensor Data with And Without Topographic Correction	Nogueira et al (2018)
Relationship Between Sentinel-2 Orbital Data and In Situ Monitoring of Coffee Rust	Cortez et al. (2020)
Remote Sensing Leaf Water Stress in Coffee (Coffea Arabica) Using Secondary Effects of Water Absorption and Random Forests	Chemura et al. (2017)
Remotely Piloted Aircraft and Random Forest in The Evaluation of The Spatial Variability of Foliar Nitrogen in Coffee Crop	Marin et al. (2021)
Remotely Sensed Phenology of Coffee and Its Relationship to Yield	Brunsell & Pontes (2009)
Sampling Density for Characterizing the Physical Quality of a Soil Under Coffee Cultivation in Southwestern Minas Gerais	Silvero et al. (2018)
Sampling Design of Soil Physical Properties in A Conilon Coffee Field	Santos et al. (2017)
Scaling of Pores In 3D Images of Latosols (Oxisols) With Contrasting Mineralogy Under A Conservation Management System	Carducci et al. (2014)
Seasonal Behavior of Vegetation Determined by Sensor on An Unmanned Aerial Vehicle	Felix et al. (2021)
Sensor Fusion of a Mobile Device to Control and Acquire Videos or Images of Coffee Branches and For Georeferencing Trees	Giraldo et al. (2017)
Separability of Coffee Leaf Rust Infection Levels with Machine Learning Methods at Sentinel-2 MSI Spectral Resolutions	Chemura et al. (2017)
Soil Moisture in The Root Zone and Its Relation to Plant Vigor Assessed by Remote Sensing at Management Scale	Santos et al. (2014)

Soil Moisture Space-Time Analysis to Support Improved Crop Management	Silva et al. (2015)
Soil Organic Matter Loss by Water Erosion in A Coffee Organic Farm	Lense et al. (2020)
Space Analysis of Water Erosion in The Red-Yellow Latosol Under Conilon Coffee Cultivation	Silvan, SD; Lima, JSD; de Oliveira, RB; de Souza, GS; Silva, MDE
Spatial and Temporal Variability of Phosphorus, Potassium and Of the Yield of a Coffee Field	Ferraz et al. (2012)
Spatial Distribution of Attack of Coffee Berry Borer in Conilon Coffee	Silva et al. (2017)
Spatial Distribution of The Root System of Conilon And Arabica Coffee Plants	Partelli et al. (2020)
Spatial Estimation of Foliar Phosphorus in Different Species of The Genus Coffea Based on Soil Properties	Silva & Lima (2014)
Spatial Relationship Between the Stock of Nutrients and Density of a Soil Cultivated with Coffee Plants	Silva & Lima (2013)
Spatial Variability of Aggregates and Organic Carbon Under Three Different Uses of Indian Black Earth in Southern Amazonas	Gomes et al. (2017)
Spatial Variability of Apparent Electrical Conductivity and Soil Properties in A Coffee Production Field	Valente et al. (2014)
Spatial Variability of Chemical Attributes and Coffee Productivity in Two Harvests	Silva et al. (2008)
Spatial Variability of Chemical Attributes and Productivity in The Coffee Cultivation	Silva et al. (2007)
Spatial Variability of Chemical Attributes of An Oxisol Under Coffee Cultivation	Silva et al. (2010)
Spatial Variability of Coffee Plant Water Consumption Based on The Sebal Algorithm	Costa et al. (2019)
Spatial Variability of Leaf Wetness Duration in Different Crop Canopies	Sentelhas et al. (2005)
Spatial Variability of Macronutrients in A Crop of Conilon Coffee in The North of Espirito Santo	Santos et al. (2015)
Spatial Variability of Particle Size Fractions of An Oxisol Cultivated with Conilon Coffee	Lima et al. (2012)
Spatial Variability of Ph In Coffee Plants Under Fertigation and Traditional System of Fertilizing	Rezende et al. (2012)
Spatial Variability of Physical Attributes of a Dystroferic Red Latosol Under Different Managements	Simoes et al. (2006)
Spatial Variability of Physical Attributes of The Soil in Amazonian Black Soil Under Coffee Cultivation	Mota et al. (2017)
Spatial Variability of Physical Properties: Relationship with Relief, Organic Matter and Productivity in Conilon Coffee	Burak et al. (2016)
Spatial Variability of Plant Attributes in A Coffee Plantation	Ferraz et al. (2017)
Spatial Variability of Pores in Oxidic Latosol Under A Conservation Management System with Different Gypsum Doses	Carducci et al. (2014)
Spatial Variability of Precompression Stress and Volumetric Water Content of a Red-Yellow Latosol (Oxisol)	Kamimura et al. (2020)

Spatial Variability of Soil Acidity Attributes and Liming Requirement for Conilon Coffee	Santos et al. (2014)
Spatial Variability of Soil Chemical Attributes in Arabica Coffee (Coffea Arabica L.) Fields Under Different Management Systems	Silva et al. (2010)
Spatial Variability of Soil Chemical Attributes in Conilon Coffee Plantation: Relationships with Soil Texture, Organic Matter and Relief	Burak et al. (2012)
Spatial Variability of Soil Chemical Properties After Coffee Tree Removal	Vieira et al. (2009)
Spatial Variability of Soil Electrical Conductivity in An Area with Coffee (Coffea Arabica L.) Fertilized Via Fert irrigation And Traditional System	Rezende et al. (2010)
Spatial Variability of Soil Fertility Attributes and Productivity in A Coffee Crop Farm	Ferraz et al. (2019)
Spatial Variability of Soil Penetration Resist in Coffee Growing	Andrade et al. (2018)
Spatial Variability of Soil Physical Attributes and Agronomic Characteristics of Coffee Crop	Carvalho et al. (2013)
Spatial Variability of Soil Physical Properties in Archeological Dark Earths Under Different Uses in Southern Amazon	Brito et al. (2018)
Spatial Variability of The Chemical Properties of The Soil in The Coffee Yield and Quality	Rodríguez-Garay et al. (2016)
Spatial Variability of The Detachment Force of Coffee Fruit	Ferraz et al. (2014)
Spatial Variability of The Dosage of P2O5 And K2O To Fertilize in A Variable Rate and In A Conventional Way in A Coffee Field	Ferraz et al. (2015)
Spatial Variability of The Noise Generated by A Portable Harvester in A Coffee Field	Ferraz et al. (2013)
Spatial Variability of The Nutritional Condition of Canephora Coffee Aiming Specific Management	Oliveira et al. (2010)
Spatial Variability of The Physical Properties of a Red Yellow Latosol Under Coffee	Kamimura et al. (2013)
Spatial Variability of The Productivity and The Nutritional Condition of Coffee Canephora	Fonseca et al. (2015)
Spatio-Temporal Variability of Carbohydrate and Chlorophyll Content in The Coffee Canopy	Santini et al. (2019)
Spectral Analysis and Classification Accuracy of Coffee Crops Using Landsat And A Topographic-Environmental Model	Cordero-Sancho & Sader (2007)
Technical and Economic Viability of Manual Harvesting Coffee Yield Maps	Faria et al. (2020)
Temporal Variability of Soil Water Storage Evaluated for A Coffee Field	Timm et al. (2011)
Test Procedure for Variable Rate Fertilizer on Coffee	Molin et al. (2010)
The Relationship Between Apparent Soil Electrical Conductivity and Soil Properties	Valente et al. (2012)
The Use of Machine Learning in Digital Processing of Satellite Images Applied to Coffee Crop	Miranda & Alves (2020)
Unmanned Aerial Vehicle to Evaluate Frost Damage in Coffee Plants	Marin et al. (2021)
Use of Data Mining and Spectral Profiles to Differentiate Condition After Harvest of Coffee Plants	Lamparelli et al. (2012)

Use of Kriging Techniques to Estimate Conilon Coffee Productivity	Lima et al. (2016)
Using Unmanned Aerial Vehicle and Machine Learning Algorithm to Monitor Leaf Nitrogen in Coffee	Parreiras et al. (2020)
Variability and Spatial Correlation of Aggregates and Organic Carbon in Indian Dark Earth in Apuí Region, Am	Gomes et al. (2018)
Variation in The Flow Rate of Drip Emitters in A Subsurface Irrigation System for Different Soil Types	Nogueira et al. (2021)
Visual Analysis and X-Ray Computed Tomography for Assessing the Spatial Variability of Soil Structure in A Cultivated Oxisol	Carducci et al. (2017)
Water Erosion in Oxisols Under Coffee Cultivation	Henrique et al. (2018)
Yield Mapping of Arabic Coffee and Their Relationship with Plant Nutritional Status	Silva et al. (2013)