**Wafiq Essop**

Cape Town

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Nationality: South African

Languages: English, Afrikaans



A driven and open-minded individual determined to make positive impact. I have an in depth and scientific understanding of the various aspects of agriculture. If something is broken or under-performing, then I can repair and optimize it. I am creative and love a challenge, since it gives me the opportunity to use both my theoretical and practical skill set. Just a decent and personable human being.



**Traits and Attributes**

* Excellent interpersonal skills
* Great sense of humour
* Can work under pressure
* Customer service skills
* Can Optimise anything (sales, technology, ergonomics, product manufacture, marketing etc.)
* Reverse Engineer
* Dynamic Speaker
* Can work well in a team or independently
* Can repair and build many things (computers, furniture, cars etc.)
* In depth understanding of Agriculture all related sciences
* Research and Development Skills
* Code B driver’s license
* Martial Artist
* Innovative, will find a solution no matter the circumstances
* Reliable, will get it done
* Well travelled
* Well read (History, Geography. Philosophy, Religion, Business, Fantasy etc.)
* Multilingual



**Education & Training**

* **BScAgric (Soil Sciences & Agronomy)** - (2015-2018) at the best Agricultural Sciences University in Africa; Stellenbosch University. Studies included:
	+ **Soil Sciences** - Soil fertility, Soil Chemistry, Soil Physics, Soil Classification, Salinity and Ion exchange, EC of soil, Determining pH of soil, Drainage and irrigation, Soil Hydrology, Basic Geology, Geomorphology, Soil Biome, Effects of water table on soil, Soil Genesis, Fertilizer application, Soil preparation for different crops, How soil chemistry and physics affects water-holding-capacity of soil and its nutrient availability, Effect of farming implements on soil compaction and erosion over time, Soil mapping (GIS), Identification of Soil Limitations and how to ameliorate them , Composting, Organic matter application and it’s management, How to determine soil composition (amounts of clay, silt and sand)
	+ **Agronomy** - Annuals (wheat, maize, canola), vegetables, saffron, potatoes, cannabis production, Legumes (lentils, Chickpeas, lupins, Faba beans), Bambara ground nut, peanuts, Herbs, fibre (hemp, cotton, flax) and their management. Diseases affecting them and how to manage them, planting dates and planting cycles, agronomic crop rotations and monoculture, water management, planting density, Mediterranean Climate production methods, Fertilizer interaction, Alien plant species and how to deal with them, Crop supply chain, carbon sequestration and how to use it.
	+ **Horticulture** - Deciduous fruits, pome, stone fruit and citrus, coffee, cuttings and pruning, rootstocks, ornamental flowers, seed vernalization and scarification
	+ **Plant Pathology** - Disease Diagnosis and identification (fungi, bacteria, viruses and oomycetes), Disease cycles and epidemiology, Disease resistance and how to counter it, trunk and root diseases, Soil borne pathogens, Seed borne pathogens, sterile working conditions, post harvest diseases, laboratory analysis of diseases, disease forecasting, cultural practices and how they impact diseases, chemical and biological control of diseases, fungicide and bactericides and their modes of action, how plant genes affects resistance and susceptibility to diseases, how diseases affect common crops in South Africa such as wheat, citrus, grape etc.
	+ **Plant Propagation** - Cuttings, tissue culture and cloning, Plant breeding and genetics, seed development and propagation, propagation via rootstock, Techniques around budding and Grafting, How plant hormones work
	+ **Biochemistry** – Genetics and how it affects organisms, proteins and protein synthesis, carbohydrate and starch production of plants and animals, Enzymes, Lipids, DNA analysis, Energetics of life, Glycolysis, Citric acid cycle and glyoxylate cycle, Integration of metabolism
	+ **Plant Physiology** - Plants reaction to environmental stresses, Pollination, Crop nutrition (macro & micro nutrients and their deficiency symptoms), water dynamics within plants and respiration, day and night cycles of different plants and how to exploit them to obtain maximum yield, management of fynbos, Integrated control of pathogens, Plants reaction to chemical stimulus
	+ **Chemistry**- Organic and Inorganic Chemistry, Nucleophilic addition to the carbonyl group, Delocalization and conjugation, Acidity, Basicity and pKa, Organometallic reagents, Stereochemistry, Reactions in solution, Coordination Chemistry, MO theory, Chemical synthesis and related laboratory training, Thermodynamics
	+ **Ecology** - Food webs and how plants, animals and humans are all connected, forest ecology, fynbos ecology, how to ameliorate an area after deforestation and overgrazing
	+ **Livestock farming** - Pastures and their maintenance, sheep and cattle production, Stocking rate, Forage crops and how they react to defoliation, bush encroachment, management of veld and veld fires, prevention of overgrazing, the main grazing lands in South Africa (grassland, savannah, karoo), poisonous plants, sweet and sour-veld, burning of veld, calculation of soil losses and gains over time
	+ **Entomology** – Functioning of insects and how to control/exploit them, biotic and abiotic factors affecting insects, Mating distribution, Resistant plants and their methods of resistance, manipulation of their genetics, How the different control methods (Chemical, Mechanical, Cultural) affects insect populations and mating patterns
	+ **Pesticide and Herbicide application methods** – How these chemicals work and how to use them effectively, limiting resistance build up of weeds and pests, how weeds affect yield and livestock, herbicide modes of action, calibration of sprayers, Health and Safety regarding these chemicals, Integrated control methods
	+ **Conservation Agriculture** - Crop diversification, soil covers, minimum tillage, Biological control agents and how to use them to replace standard chemical pesticides and herbicides, Agroforestry, Agroecology, Permaculture, sustainable cultural practices and machinery
	+ **Greenhouse Production Methods** – Hydroponics, Aquaponics and the maintenance of these systems including nutrient solutions, Different lighting and filtration systems, Nutrient uptake and disorders associated, mineral toxicity, growth of seedlings and how to harden them, lettuce, cucumber, tomatoes, ornamental flowers
	+ **Biometry** – Statistics and Statistical analysis, Joint distribution, Estimations, Descriptive statistics, Linear regression, Curvilinear regression, Distribution curves, Accurate conclusions from a given data set. Data analytics and analysis.
	+ **Mathematics** – Applied calculus for Business, Economics, and the Social and Life Sciences, Statistics, Trigonometry
	+ **Physics**- Kinematics, Laws of motion, Work and Energy, Momentum, Fluids, Elasticity and Fracture, Vibrations and Waves, Thermodynamics, Electricity and Magnetism, Optics
	+ **Research** – Writing up of seminars and presenting them in addition to writing up literature reviews. Scientific research, Scientific writing and interpretation of data/results for use in related industries.
	+ **Laboratory and in-field training related to agriculture** – Soil sampling, Fertilizer applications, Land/soil suitability for different uses, infiltration rates, calculating amount of water loss and gained throughout the year
* Completed Full Data Science bootcamp that included training in Statistics, Mathematics, Python, Tableau & Advanced statistics. Training in Machine learning and Artificial intelligence also done as this is becoming increasingly important.
* Registered with SACNASP as a **Professional Natural Scientist**
* Matriculated in 2014, in Strand with an average of 74%. Subjects included Mathematics, Science (Chemistry and Physics), Biology, Geography, English, Afrikaans and Arabic.
* Microsoft Office Proficient (Word, Excel, Power Point. Editing and creation of graphs, tables and charts used for presentations and reports. Using formulas in Excel, creating and maintaining databases)
* Have read many books and attended multiple workshops on business, marketing, property, sales and entrepreneurship



**Experience and Projects**

* Technical Support & Business Developer for AfriNat (Pty) Ltd (Feb 2021 – Present)
	+ Production plans for farmers
	+ Marketing
	+ Sales
	+ Finding and developing different sales channels
	+ Assist in R&D to produce new products and improve existing ones

* Worked at DFM technologies as a Technical consultant (Nov 2020 – Jan 2021)

➢ Sales
➢ Installation and building/fixing of soil moisture probes
➢ Irrigation Scheduling
➢ Line Setting for probes
➢ Soil Profiling

* Completed Full Data Science bootcamp that included training in Statistics, Mathematics, Python, Tableau & Advanced statistics. Training in Machine learning and Artificial intelligence also done as this is becoming increasingly important in almost every industry (May 2020 – September 2020)
* Started the Green Closet Raw Honey brand. We farm with honey bees and sell our product directly to the public. This requires sales, marketing and social media skills to run it effectively (June 2020 - Present).
* Junior Research and Development (R&D) agronomist at Ecosoil (October 2019 - February 2020). Job responsibilities:
	+ Designed, planed and built a pot trial to test the viability of different compost activator ingredients.
	+ Had to ensure that the different treatments were done in a timely manner on each of the pots in the trial and recorded results obtained every week (data capturing). There were more than 76 pots.
	+ The results were the recorded to determine the effect of different ingredients on plant growth and which ones were supposed to be taken out (Analysis).
	+ Data analytics was done to take the all the data and make an easy-to-understand format. A presentation was then done.
	+ Another trial was done to determine the effects of a chemical additive to alleviate soil compaction and salinity on saline soil (Karoo soils). I designed and built this trial.
	+ Tests to determine soil compaction and salinity was done after 2 months to see if the chemical (which the company wanted to launch) was indeed doing the job that it was supposed to.
	+ Data was processed and analysed and another presentation was given on this trial.
	+ Had to manage some labourers to assist me when needed.
	+ My third project was helping my colleague who was doing a trial to determine if anaerobic composting works for the business. Reports were written on all three of these trials which served as valuable IP for the business going forward.
	+ Assisted colleagues with data capture on a citrus farm trial.
* Worked as a Product Developer which entailed the Research and Development of various novel products with a focus within the agriculture sector (January 2019 – Present).
	+ Ideation
	+ Prototyping of the product
	+ Pilot projects
	+ Licensing of IP (2019-)
* Completed my Honours in Soil Sciences and Agronomy at Stellenbosch University in (2015-2018).
* Worked at Bemlab soil analysis laboratory (Strand) during vacations (2018). Did chemical analysis of soil samples in a laboratory to determine fertility, chemical composition, soil pH, Soil EC and Organic matter content
* Worked as a cashier at a retail store where I learnt customer service skills and how to work under pressure. Taking stock and procurement (2011-2018)
* Procured Computer parts and built many computers in addition to fixing them (2010-present)
* Sold car parts and furniture for two years, where I learnt sales and marketing tactics (2017-2019)
* Designed and built an outdoor gym, which is still used. I learnt how to design structures and collect materials from this on a limited budget (2015)
* Designed and built two of my own herb gardens with an added irrigation system (2016)
* Designed and built a Zinc storeroom in a fire prone area for a client (2018)



**References**

**Available on request**