

### Scientist C - Agronomy / Soils

Name of the post	Subject	Syllabus
<b>Scientist C - Agronomy / Soils</b>	<b>Agriculture</b>	General Agriculture-All basic courses (Agronomy, Genetics & Plant Breeding, Soil Science & Agricultural Chemistry, Plant Physiology, Plant Pathology, Agricultural Economics & Agricultural Marketing, Statistics, Plant Biotechnology, Plant Biochemistry)
	<b>Agronomy</b>	<b>Principles of Crop Production:</b> Tillage, planting, crop establishment, crop physiology, photosynthesis, respiration, and yield factors. <b>Soil Fertility &amp; Nutrient Management:</b> Soil composition, essential nutrients, deficiency/toxicity, fertilizers (organic/inorganic), biofertilizers, nutrient dynamics, and balanced nutrition. <b>Water Management:</b> Soil-water-plant relationships, irrigation principles, drought management, water use efficiency, and watershed management. <b>Weed Management:</b> Weed identification, crop-weed competition, herbicide application, biological control, and integrated weed management. <b>Crop Ecology &amp; Geography:</b> Agro-ecological zones, crop adaptation, climate effects, and remote sensing.
	<b>Soil Science</b>	<b>Soil Science:</b> Soil properties, moisture, fertility, nutrient management, organic matter. <b>Soil Physics:</b> Texture, structure, porosity, water (potential, infiltration), temperature, aeration. <b>Soil Fertility &amp; Plant Nutrition:</b> Essential nutrients, fertilizer use, nutrient management, soil testing. <b>Soil Microbiology:</b> Microbial transformations, nutrient cycles, rhizosphere, biofertilizers, waste management. <b>Problem Soils:</b> Management of acidic, saline, alkali soils.
	<b>Agricultural Chemistry</b>	<b>Soil Chemistry Soil Colloids &amp; Surfaces:</b> Diffuse double layer, zeta potential, point of zero charge, surface charge characteristics, clay-organic interactions. <b>Ion &amp;</b>

		<b>Water Chemistry:</b> Cation/Anion exchange, adsorption isotherms, soil solution, thermodynamics, salt/acid soil chemistry. <b>Organic Matter:</b> Fractionation, humus formation, decomposition, soil enzymes.
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